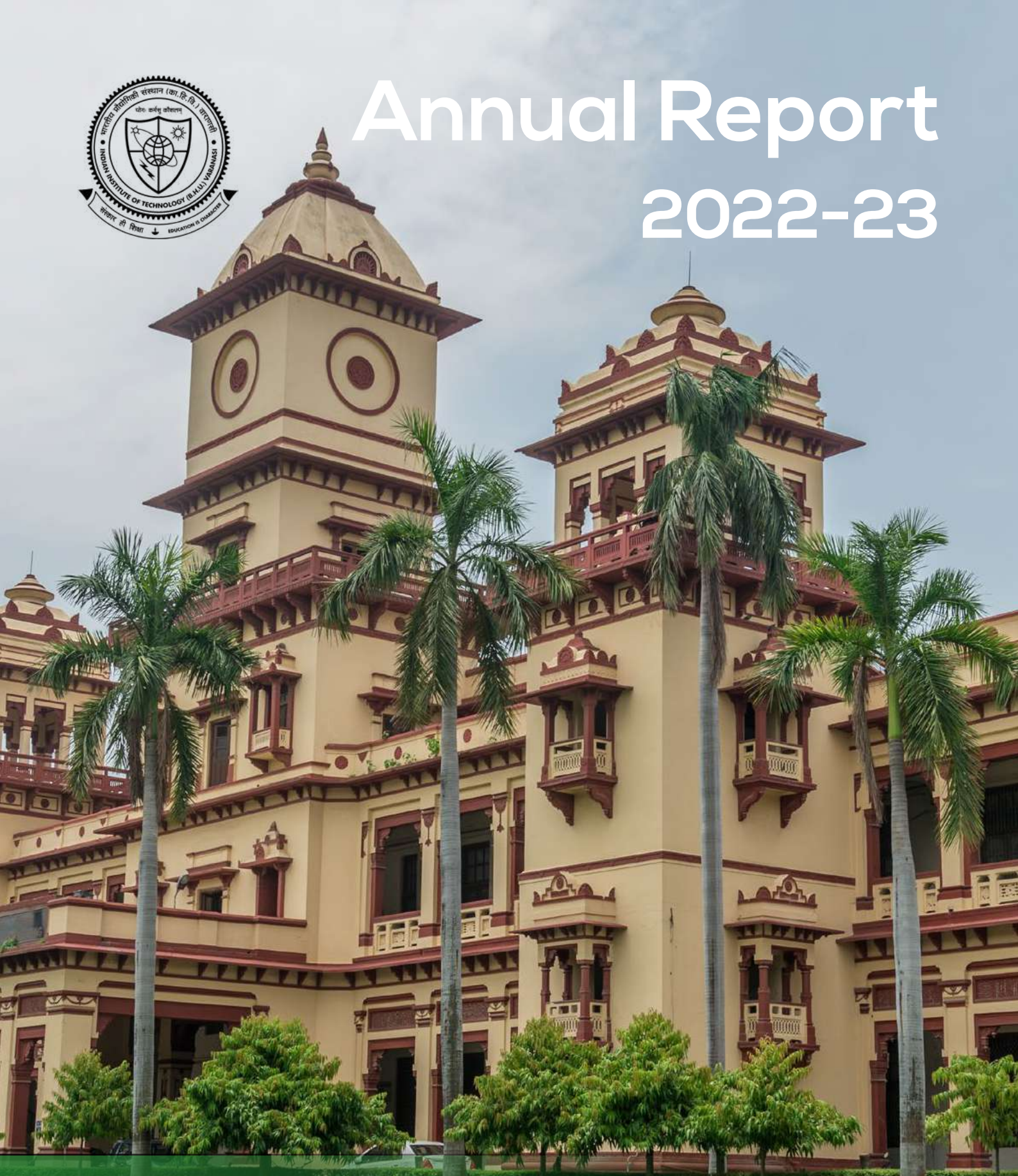
Annual Report 2022-23



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प्रौद्योगिकी
संस्थान
काशी हिन्दू विश्वविद्यालय

IIT

INDIAN
INSTITUTE OF
TECHNOLOGY
BANARAS HINDU UNIVERSITY

Annual Report

2022-23

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CONTENT

1. Director's Report

Prof. Pramod K Jain
Director, IIT(BHU) Varanasi

"The New IIT (BHU) Varanasi emerges from the old, building on its earlier strengths and transforming itself to meet the challenges of the future."

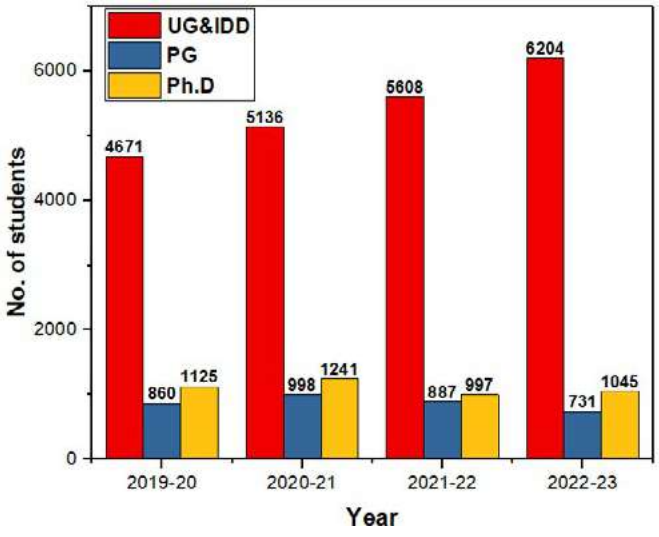
Indian Institute of Technology (BHU) Varanasi owes its existence to Mahamana Pandit Madan Mohan Malviya, Bharat Ratna -the founder of the first residential university of modern India, who could foresee the vital role of technical education in strengthening independent India. Engineering education at the Institute started in 1919 with the establishment of Banaras Engineering College (BENCO). The next stage of development saw the establishment of the College of Technology (TECHNO) and the College of Mining & Metallurgy (MINMET). In 1968, the erstwhile engineering colleges of BHU, namely BENCO, MINMET, and TECHNO, were merged to form the Institute of Technology (IT-BHU). The erstwhile IT-BHU was ranked consistently amongst the top engineering institutions in the country. IT-BHU became IIT (BHU) Varanasi on 29th June 2012 by an Act of Parliament.

Academic Activities

The Institute has maintained a high academic standard since its inception. It has produced luminary engineers and administrators who have served the nation with distinction.

IIT (BHU) Varanasi has started admitting students under a joint Ph.D. program with IIT Guwahati. The vision behind this unique academic program is to build a "Network of Excellence" of all IITs rather than each one striving to become a "Tower of Excellence.". Both institutes expect a significant boost in high-quality research and a foundation for further academic collaborations through this academic collaboration.

The current student strength is 7980 with 4359 B. Techs,1674 IDDs, and 74 B.Archs., 645 M. Techs, 97 M.Scs., 86 M. Pharms. and 1045 Ph.D. students after Ph.D. admission of even semester 2022-23. The student strength of the previous three years and its steady increase is shown in the figure below:



Considering the National Education Policy (NEP-2020), such educational reforms and academic collaborations between premier educational institutes will promote multidisciplinary academic programs and research for the country's knowledge-based economy. Both institutes

are also considering starting a Joint M. Tech. program on a similar line to provide multi-institutional and multidisciplinary M.Tech. Programs.

The Institute has also completely migrated to National Knowledge Network (NKN) 's 10 Gbps link harnessing high-speed, high-performance internet access and lending support to various online activities.

The current strength of regular faculty members of the Institute is 349. In addition to this, 07 visiting professors also contribute to the academic activities of the Institute. Further, under the alums visiting program, alumni also participate in teaching and help the students learn about latest industy practices and keep them abreast about the skill requirements in various industry sectors. This adds practical value to the overall education being imparted to the students.

At present, the Institute has 15 departments and three interdisciplinary schools. Central facilities in the Institute include the Supercomputing Centre, Computing and Information Services (CCIS), Central Instrumentation Facility (CIF), Main Workshop, Institute Main Library, and Industrial Consultancy & Testing Services. Besides, the Teaching and Learning Cell (TLC) extends expert training in pedagogy, course delivery, laboratory projects, and assessment.

Intending to expand its academic programs, the Department of Computer Science & Engineering has started the M.Tech. Courses specializing in Artificial Intelligence (AI) and Internet of Things (IoT) from the academic session 2021-22.

Implementation of National Education Policy (NEP-2020)

IIT (BHU) Varanasi is also making significant reforms in the educational ecosystem and is dedicated to implementing National Education Policy (NEP-2020), a government's vision for a paradigm change in Indian education. A few key highlights related to academics are listed below:

- The Institute is working on implementing NEP-2020 for quality and inclusive, multidisciplinary education. Recently, a Memorandum of Understanding has been signed between IIT Guwahati and IIT (BHU) Varanasi. Under this MoU, IIT (BHU) Varanasi and IIT Guwahati have started Joint Doctoral Programme in July 2021. The vision behind this is to build a "Network of Excellence" of IITs rather than each one striving to become a "Tower of Excellence." Through this academic collaboration, both institutes expect a significant boost in high-quality research and a foundation for further academic collaborations.
- The Institute promotes multidisciplinary academic programs and research for the country's knowledge-based economy. The Institute is also considering starting Joint MTech programs with other selected institutes of national importance to provide multi-institutional and multidisciplinary education.
- The Institute provides greater teaching flexibility with a highly "Student Centric" approach. The semester(s) drop option provides opportunity to students for startup/entrepreneurship / extended practical learning during regular academic programmes as per their interest. The student may re-enter the academic program and earn the degree. The Institute has made detailed guidelines for credit transfer of courses from other Institutes and through NPTEL/SWAYAM etc. This gives students greater flexibility to plan their careers and pursue academic interests. Students can even earn credit during semester drop and transfer the earned credit for the award of a degree following the credit transfer guideline of the Institute.
- In line with the recommendations of NEP-2020 for multidisciplinary learning, guidelines for open electives from another discipline are formulated to make the learning of open elective courses more meaningful. Further, a provision for "Minor Discipline" courses was also given to provide students an opportunity to learn another academic area for the students doing very well in their major academic Programme. It is expected to supplement learning in the major discipline and help in developing interdisciplinary knowledge for problem-solving in cutting-edge areas of Engineering, Technology, and Science. Integrated Dual Degree students will be allowed to change their discipline after 4 Years for B. Tech in the original discipline and M. Tech in the new discipline.

Research & Development activities

Our Institute has a mission to fulfill the nation's needs through Research and Innovation. Faculty members and students are engaged in cutting-edge research under various schemes. The Institute has set up Tinkering Labs in various departments to inculcate research culture in the students. Students are involved in research projects from almost the early stage of their education. The Institute extends partial support to the research initiatives of faculty members through grants like Seed Money and Research Support Grant. The Institute also provides Lab Grants for the up-gradation of teaching labs and supports Central Instrument Facility acquisitions.

(i) Sponsored Projects and MOUs

The Institute has proven expertise in steel, advanced materials, microwave technology, electrical and electronic devices, artificial intelligence, composite materials, novel reactor design, energy sources, new drugs, and sensors/biosensors. The Institute has identified thrust areas of Research in Hydrogen Energy, Environment and Water, Healthcare, Biomedical Devices, Biosensors, Smart microgrids, Smart e-mobility, Quantum Computing, Precision Engineering, Material Science, and Drone Technologies. Various technology development and research projects are going on in these research areas.

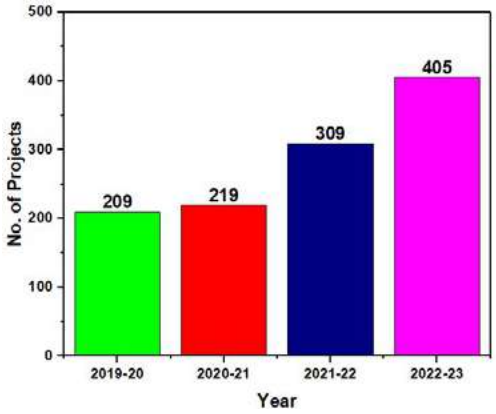
Significant numbers of projects have been initiated to address the national needs and social issues like the development of functional materials for energy, the development of compact hydrogen generation devices, and biofuel cells to energy. Key issues taken up for studies include real-time simulation of smart grids with distributed energy resources and integration/control of renewable energy systems. Faculty members are extensively involved in designing and developing new drugs, biomimetic materials for organs, and biosensors. Institute is also extensively working in the field of hydrogen energy in line with National Green Hydrogen Mission and has developed an 'on-site' ultra-pure hydrogen generation device. Institute is collaborating with various other institutions of high repute in India and abroad. In addition, leading industries like Tata Motors, Nissan Motors, Amazon AWS Educate, Power Grid Corporation of India Ltd., Indian Refractory Makers Association (IRMA), Indian Pharmacopoeia Commission (IPC), NCL, CISCO, UPEIDA, ISRO, GAIL (India) Limited, etc. also involved in high tech research.

This year institute has signed nine MoU from Micro, Small, and Medium Enterprises (MSME), Government of India, Defence Research Laboratory Tezpur, Banaras Hindu University, Varanasi, Delhi Rail Metro Corporation (DMRC) Delhi, DRDO, Project Management Unit, Ozone Cell, Ministry of Environment, Forest and Climate Change, Government of India, Bureau of Indian Standards, Ministry of Heavy Industries (MHI), and Ministry of Consumer Affairs, Food & Public Distribution.

Also in the current financial Year six International MoUs from renowned international Institutes viz. University of Siegen, Germany, University at Buffalo (UB), The State University of New York, IIT-Delhi, IIT-Kanpur, IIT-Bombay, IIT-Jodhpur, Ashoka University, Sonipat, Umbrella MoU- French Network of Engineering Schools members of the Federation Gay Lussac, Virginia Commonwealth University, Virginia, University of Electro-Communications, Japan, University of Buffalo (UB), the State University of New York.

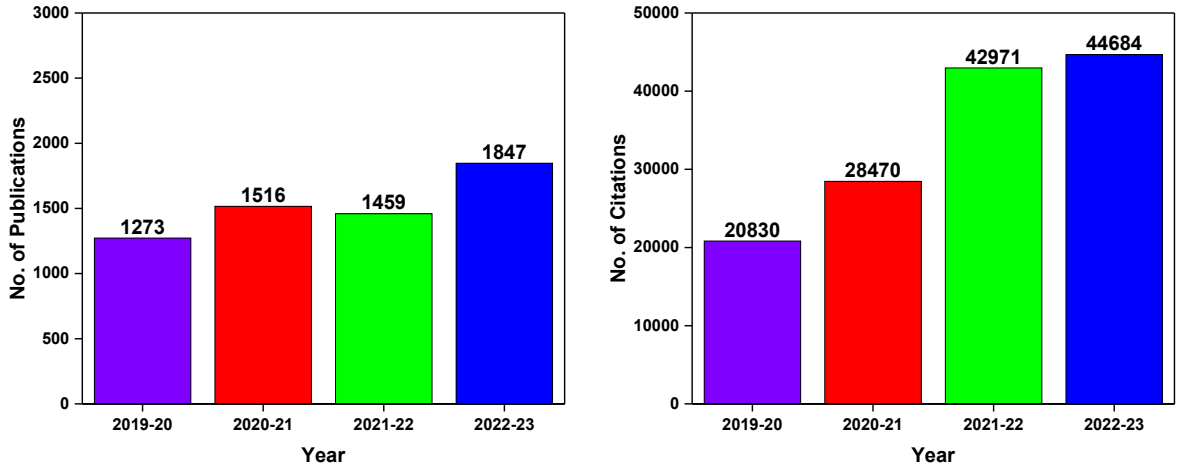
An MoU was also signed between the Ministry of Road Transport and Highways and IIT (BHU) Varanasi aiming to research, develop, and deploy innovative technologies in road and highway infrastructure. Under this MoU, an endowment fund for 10 years will be created to support Research and Development activities. IIT (BHU) Varanasi will support MoRTH officers to join Ph.D. and M. Tech. Programs and also created a Professorial Chair to promote the joint efforts.

Dispelling the doubts cast over by the pandemic, our faculty members have been very focused on research activities. The total amount of the fund received by the institute through sponsored Project/Scheme/Consultancy Project was Rs. 79.50 Crores during F.Y. 2022-23 against FY 21-22 i.e. Rs. 31.55. The institute is actively participating in several national research initiatives including DRDO Industry Academia - Centre of Excellence, Centre of Excellence on Machine Tool Design, BIS Standardization Chair Professorship, CoE for Tunnelling & Underground Space Engineering (DMRC), Software Innovation Lab and Chair Professor (Jay Chaudhary), Student Activity Centre (Sri Ramesh Shrinivashan), School of Decision Science and Engineering (Shri N C Jain) and several others with total budget of about Rs. 194 crores during FY 2022-2023. The Institute is actively participating in several national research initiatives, including ISRO Regional Academic Centre for Space, Collaborative Research Centre of the Indian Pharmacopoeia Commission, Centre of Excellence in Refractories, DST foundered Technology Innovation Hub (TIH) on interdisciplinary data analytics and predictive technology (IDAPT), Center of Energy and Resource Development (CERD), Knowledge partner of UP Defence Corridor, RKVY-RAFTAAR Agri-Business Incubator and several more with total budget of about 47.7 Crores. The number of projects in year 2022-23 was 405 in comparison to 309 in year 2021-2022.



The Figure below shows the no of projects over the years.

The faculty members in 2022-23 have published around 1847 research articles during the pandemic, and the total citations



were 44684. The figure below shows the progressive development in publications and citations over the years.

(ii) Central Instrumentation Facility (CIF)

Central Instrumentation Facility (CIF) is one of the Specialized Research Facilities at IIT (BHU) Varanasi. Our mission is to provide futuristic research infrastructure and quality education services supporting advanced instrumentation. The CIF offers facilities of sophisticated instruments and technical expertise to support faculty and students research and industrial R&D. The center has state-of-the-art facilities like Prototyping Machine for electronic circuits, Magnetic Property Measurement System, Tribometer, NMR (500 MHz), thin-film & powder XRD, BET, ICP-MS, high-resolution SEM, Confocal Microscope, and TEM. A few other sophisticated instruments like XPS and Tabletop SEM are recently added to the list, amongst others.

(iii) Centre for Computing and Information Services (CCIS)

Centre for Computing and Information Services (CCIS) offers high-end computational servers, web servers, and network services and provides a robust platform for various academic and research activities of the Institute. The Centre also manages licensed software, email services, and in-house software development for the Institute's needs. CCIS is a growing unit and poised horizontally to meet the crescent demand of the scientific and research community of the Institute.

(iv) Precision Engineering Hub

A Precision Engineering Hub (PEH) was inaugurated on 24th March 2021. The purpose of the hub is to serve as an ecosystem for product ideation and creation. The hub is built with the help of funds from the Defence Corridor, Design Innovation Centre, and Technology Innovation Hub. It is divided into 4 phases operating on a 24-hour basis. The main focus of PEH is aligned with the national objective to support the Make in India and Atma Nirbhar Bharat initiatives. The latest technology that the hub is equipped with includes laser cutting machines, CNC machines, high-strength color polymer 3D printers, composite 3D printers, and Ultimaker S5 Pro 3D printers.

(v) Design and Innovation Centre (DIC)

DIC, IIT(BHU) has been established to work on the possibilities of innovation in Technology and Humanities, Liberal Arts, Social Science, Art, Culture, Music, languages, and other relevant areas. DIC, IIT (BHU) Varanasi, and DIC, BHU work as HUB, and the center has three spokes; (i) Indian Institute of Information Technology, Allahabad, (ii) Motilal Nehru National Institute of Technology, Allahabad, (iii) University of Allahabad. The Center has established three labs, namely; Graphics and Digital Media Lab, Digital Innovation Gallery & Design Cafe (Prototype Lab and Workshop Place).

(vi) Intellectual Property Rights, Testing, and Consultancy

The extension of our expertise and laboratory facilities to the industries of this region is a crucial service activity of the Institute. All the major departments of the Institute actively engage in providing industrial consultancy and testing services to a large number of industries and entrepreneurs of the region and also to large industrial houses. During this Year, several consultancies and testing projects valued at approximately Rs.12.88 crores were completed successfully. Further, valuing

research and innovation, IIT (BHU) Varanasi has kept exploring ideas and continued experimenting with them. Shouldering its responsibility as one of the premier institutes of our country, the Institute has undertaken various initiatives in the Research and Development sector, including patents and IPR. During 2021-2022, a total of 20 patents have been filed, and a total of 55 patents published. In the current financial year, 2022-23 total of 32 patents have been filed, while a total of 49 patents have been published. Researchers of the Institute are continuously working towards them.

(vii) Research Centers

- ***Supercomputing Centre***

  A Supercomputing Center has been set up in the Institute under the National Supercomputing Mission. The supercomputer PARAM Shivay has a peak processing speed of 833 Tera FLOPS. Sixty percent of the processing power is for local use by the IIT (BHU) Varanasi and BHU research community and the rest is for other CFTIs and research labs across the nation. The system has been commissioned under the "Make in India" program. The system is a sophisticated mix of CPUs and GPUs with relevant systems and application software based on open source. IIT (BHU) Varanasi Supercomputing Centre was inaugurated by the honorable Prime Minister Shri Narendra Modi.

- ***Malaviya Centre of Excellence for Defence Corridor***

  The Government of Uttar Pradesh has also made IIT (BHU) Varanasi a primary knowledge partner in its prestigious defense corridor project, and Institute has thus inked an MOU with Uttar Pradesh Expressway Industrial Development Authority (UPEIDA). Uttar Pradesh Government has allocated Rs. 69 crores for the creation of R&D facilities in niche areas as Centre for Defense Materials and Precision Engineering. The proposal also envisages IIT (BHU) Varanasi as a hub for skill development for defense industrial needs.

- ***ISRO Regional Academic Centre for Space***

  ISRO has recognized IIT (BHU) Varanasi as Regional Academic Centre for Space (RAC-S). The RAC-S is pursuing advanced research in the areas of relevance to the future technological and programmatic needs of the Indian Space Programme and acts as a facilitator for the promotion of space technology activities in the central region comprising the states of Chattisgarh, Madhya Pradesh, and Uttar Pradesh. RAC-S is also engaging other institutes of excellence in the area of Science and Technology in the region to take part in the research and development activities of the Centre. ISRO & IIT(BHU) Varanasi has identified the associating institutes from these three states to take part in the Programme and to develop joint project proposals in the research areas of relevance to the space programme. A formal agreement between IIT(BHU) Varanasi and other state institute will be signed for the submission of the project. The Centre will work on both short- and long-term projects. Short term projects for B.Tech. and M. Tech students of up to one year duration. Long term R&D projects for a duration of more than 1 year. Long Term R&D projects will preferably leading to Ph. D Programme. Other events, such as conference, exhibition, and short courses, will also have conducted to create a knowledge base in the region.

- ***Sustainable Coal Mining in Northern Coalfields Limited***

  IIT (BHU) Varanasi and NCL joined hands to ensure a robust Industry-Institute partnership given mutual benefit and in the interest of mineral conservation, mine productivity, and advancement in clean technologies in the energy sector. Through this collaboration, NCL also ensures social upliftment of the region surrounding Varanasi, Singraulli, and Sonbhadra by planning and execution of dedicated CSR / welfare projects strictly in terms of the company's CSR policy by involving the Incubation Cell and Coal Research Lab of IIT (BHU) Varanasi.

- ***Collaborative research centre of the Indian Pharmacopoeia Commission***

  IIT (BHU) Varanasi is now recognized as a collaborative research center of the Indian Pharmacopoeia Commission (IPC) of Ministry of Health and Family Welfare, which will help to promote quality research in the area of pharmaceutical and medical devices. This will aim to develop new methods and procedures for the analysis of pharmaceutical substances and dosage forms. IIT(BHU) Varanasi also has a focus to reduce healthcare costs by developing low-cost methods of Active Pharmaceutical Ingredients (APIs) to make India self-reliant (Atmnirbhar Bharat) in the sector of bulk drugs. As the regulatory landscape in the health sector has been dynamically evolving in the country to protect the safety, rights, and wellbeing of the patients, the current scientific innovations in drug development and medical devices would play an important role in the healthcare profession. Therefore, IIT(BHU) Varanasi is striving hard to strengthen the standard setting processes in the sector of pharmacovigilance and medical devices.

- ***Centre of Excellence in Refractories***

  The primary aims and objectives of the center are to build up a self-sustaining center for hands-on ceramic research & training at the Institute for contributing to our country's knowledge economy. The Centre also aims at extending the testing facilities of refractories/high-temperature ceramics and composites for industries as well as national labs/ institutes and government organizations nationwide. The Centre is involved in industrial-training programs in key emerging areas that lead to technology-driven innovations for future generation technologies. This center and its facilities are dedicated to implementing various national missions, including, "Make in India", "Creative India Innovate India", "Startup India", "Kaushal Bharat Kushal Bharat" and "Atmanirbhar Bharat (self-reliant India)".

- ***Center of Energy and Resource Development (CERD)***

  The Centre for Energy and Resources Development was established under the Frontier Areas of Science & Technology (FAST) scheme of MHRD. The broad aim of this Centre is to undertake world-class research that integrates the scientific, technological, economic, policy, and socio-technical aspects of energy to deliver key tools needed to enable, enhance and accelerate the transition toward sustainable energy systems. The Centre is developing cutting-edge technologies in the energy sector for rural, urban, SMEs, and other industries of the region. The center's research activities also include solar-based energy systems, future energy technologies, fuel cells, hydrogen energy, etc.

- **Centre of Excellence on Machine Tools Design (CoEMTD)**

  Indian Institute of Technology (BHU) Varanasi is going to establish a Centre of Excellence on Machine Tools Design (CoEMTD) with HMT Machine Tools Limited under the aegis of the Ministry of Heavy Industries, Govt. of India's Scheme on Enhancement of Competitiveness in the Indian Capital Goods Sector, Phase-II. The MoU for the CoE was inked between IIT (BHU) Varanasi and the Ministry of Heavy Industries on December 30, 2022, at Udyog Bhawan, New Delhi.The Prime Minister, Shri Narendra Modi, laid the foundation stone of the Centre of Excellence (CoE) on Machine Tools Design worth 45 Crore at IIT (BHU) Varanasi on March 24, 2023.

  This Centre of Excellence will boost the country's capital goods sector through *Make in India* technology development and transfer and discontinuing abroad procurement and encouraging domestic sourcing in a calibrated manner. This CoE is proposed to provide:

  - A vibrant and world-class Centre of Excellence on Machine Tools Design with cutting-edge experimental and testing facilities for machine tools.
  - Make in India design and development of three highly import machine tools.
  - A dedicated computational research facility for designing and optimizing machine tool components and assembled parts.
  - A state-of-art non-invasive measurement facility and quality assurance centre.
  - A modern facility to support in incubating companies that provide alternatives to imported technologies.
  - A cutting-edge instrumentation and demonstration facility to conduct skill development programs to train young technocrats for industry-ready.

- ***DRDO Industry Academia-Centre of Excellence (DIA-CoE) IIT(BHU) Varanasi***

  DRDO Industry Academia - Centre of Excellence (DIA-CoE) is established at IIT(BHU). This Centre will conduct Directed Research in three research verticals – Powder Metallurgy; Electronic and Functional materials; High Power Microwave Sources and Devices; and other identified verticals for critical and futuristic defence technological requirements of DRDO. The DIA-CoE will facilitate focused basic and applied research by utilizing the knowledge base of faculties and researchers at IIT-BHU and also engage other academic institutions, technology centres, start-ups and industries in the country. For progressing the intended scientific investigations and development of advanced technologies, DRDO scientists with requisite research & technology expertise will be associated along with the academic faculties/ researchers. In addition, for critical and emerging technology investigations and developments, researchers from multiple institutes/centres, start-ups & industries may join together for finding solutions. The DIA-CoE at IIT(BHU) will enable such collaborative research through appropriate program definition, workshare and MoUs which would lead to develop new technologies; and enhance technology maturity for cutting-edge future defence systems. The research facilities created in this centre will be a common facility for all the departments of IIT(BHU). In addition, other Institutes may also join this centre under the umbrella of MoUs. The outcome of these

research activities shall promote the indigenous defence technologies to reduce India's defence imports and make India 'Atmanirbhar' in the defence sector.

The focus of DIA-CoE will be towards directed basic and applied research in Powder metallurgy, Electronic and Functional materials, and High power Microwave sources and Devices. Based on present needs and opportunities available, research verticals are identified to take up many interesting projects. The CoE has three research verticals, namely:

i) Powder metallurgy
ii) Electronic and Functional Materials
iii) High Power Microwave Sources and Devices

- ***Technology Innovation Hub (TIH)***

The Department of Science and Technology, Government of India has identified Data Analytics and Predictive Technologies (DAPT) as one of the domain areas of Technology Innovation Hub (TIH) under India's National Mission on Interdisciplinary Cyber Physical System (NM-ICPS). DST has identified IIT (BHU) Varanasi as one of the institutes for establishing TIH under this scheme. As a part of this development, I-DAPT Hub Foundation, IIT (BHU), a non-profit section 8 company is established. In order to meet the mandate of IDAPT Hub Foundation in terms of better societal outreach and Industry 4.0 functioning, five thrust areas 1) Telecommunications, 2) Power, 3) Defence Research and Development, 4) Road Transport and Highways, and 5) Health and Family Welfare have been identified. The activities envisioned under the I-DAPT Hub Foundation will provide impetus to smart cities mission, smart and optimized energy/power management, state-of-art defense infrastructure development, and the health and family welfare of the country. It helps in manufacturing via the invention of new products, services and the creation of skilled young human resources at all levels (technicians, researchers, scientists, and entrepreneurs) and will become a key contributor to realizing the vision of "Digital India."

Ideation, Innovation and Incubation Foundation (I-3F)

Ideation, Innovation and Incubation Foundation (I-3F), earlier known as Technology Innovation and Incubation Center (TIIC), is an umbrella organization at IIT (BHU) Varanasi for fostering an entrepreneurial ecosystem and nurturing startups in the East UP region. It administers various units which provide 'Start to Scale' support for entrepreneurship and facilitates research activities to convert into commercial ventures. Different units under I-3F are:

NCL-IIT(BHU) Incubation Centre: NCL-IIT(BHU) Incubation Centre (NIIC) is a joint collaboration of the Indian Institute of Technology (Banaras Hindu University) and Northern Coalfields Limited. NCL – IIT (BHU) Incubation Centre, is a Technology Business Incubator for fostering entrepreneurship and nurturing tech startups of IIT(BHU) Varanasi. The business incubator provides 'Start to scale' support for technology-based entrepreneurship and facilitates the conversion of research activity.

RKVY-RAFTAAR Agri Business Incubator (R-ABI): R-ABI is a scheme funded by the Ministry of Agriculture and Farmers' Welfare (MoA & FW) which is working in close collaboration with other incubators. This scheme aims at strengthening the infrastructure in agriculture and allied areas in order to promote agripreneurship and agri business by providing financial support and nurturing the incubation ecosystem in and around Uttar Pradesh.

CISCO thing Qbator Makerspace Program: As a part of a CSR initiative, Cisco Systems along with NASSCOM Foundation has established a "thingQbator" makerspace at IIT (BHU). This AI and IoT-based makerspace program helps to accelerate innovation and entrepreneurship among the student community of IIT (BHU) Varanasi. Students not only play with the ideas but become creative problem solvers and strengthen the startup ecosystem of India.

E-Cell: The Entrepreneurship Cell (E-Cell) is an institute body run by the students of IIT(BHU) Varanasi helps in creating a Startup Ecosystem, building relations for the promotion of Startups and Entrepreneurship at IIT (BHU) Varanasi. E-Cell organized several business plan competitions, workshops, hackathons, and interactive sessions from high-end speakers and entrepreneurs. One flagship event, Founder's Speak is a monthly event to connect aspiring entrepreneurs with successful founders and serial entrepreneurs with great exits. Research Innovation and Entrepreneurship Unit (RIEU) is a dedicated unit under the helm of E-Cell, IIT(BHU) Varanasi that aims to promote innovation-driven research entrepreneurship in various fields of science and technology. RIEU focuses on cultivating artistic research culture on the campus by seeking industrial collaborations to build a concrete connection between the Institute and the industry. CiscothingQbator under the helm of E-Cell, IIT(BHU) Varanasi is the bridge of communication between the student and the thingQbator community, making the interaction more obvious. Another big event organized under E-cell was "Fusion'21" an inter-thingQbator idea storm providing an opportunity to work on mind-boggling ideas.

Team AVERERA

The Team AVERERA of the Institute is a group working on next generation automotive and energy-efficient car. Team AVERERA secured the first position at the Shell Eco-marathon Global League 2021 season among 235 teams from 50 nations. Team AVERERA also won the Virtual Technical Inspection, which was among the competitions conducted throughout the Year under the hood of the Global League. Other accomplishments include success in Autonomous Programming and Virtual Off-Track awards for Vehicle Design, Engineering Simulation Practices, and Driver Safety competitions. The accomplishments advanced them to the first position in the Virtual League Table.

Unnat Bharat Abhiyan

Unnat Bharat Abhiyan (UBA) is a Ministry of Education initiative with a total sanctioned cost of Rs 3.50 crore and aimed at solving the technological problems of the common man. This project is a joint venture of all IITs and many other Institutes of National Importance. UBA is conceptualized as a movement to connect institutes of higher education with local communities to address the development challenges of rural India through appropriate technological inventions. IIT (BHU) Varanasi is also identified as one of the Regional Coordinating Institutions (RCIs) on the basis of their earlier experience and infrastructural competence. Several villages in and around Varanasi and Mirzapur were adopted and IIT(BHU) Varanasi students are actively involved in counseling and providing the necessary technical inputs (such as preservation and promotion of rural crafts, advice for sanitation and hygiene, rainwater harvesting, solar lights for the community, forestation, drinking water quality, etc.) to the villagers.

Main Library and E-resource

The IIT(BHU) Varanasi library system consists of the Main Library and five departmental libraries, which collectively support teaching, research, and extension programs of the Institute. The library system, besides having an excellent print collection of over 1,50,000 volumes of books, journals, theses, reports, pamphlets, also provides access to over 15,000 electronic journals and more than 3,500 electronic books, e-standards, and databases in science, engineering, and technology. Library provides reading room facilities, access to Digital Library, web OPAC, remote access of e-resources, discussion room facility, and reference services related to research and teaching. The library has also created the Indian Research Information Network System (IRINS) database of institute researcher's profile and institutional repository. Library also supports research activities by providing the Research Support Tools (Anti-Plagiarism software, Grammarly, InSite, JCR, reference management tools, etc.). Recently the library organized an author(s) workshop by Wiley, Taylor & Francis, and Workshop cum User Awareness Program on InSite and Turnitin.

Alumni Connect, Endowment, Scholarship and Resource Generation

The Institute is proud of its Alumni Community which has always come forward in times of need and volunteered for providing support and guidance. With the mission to strengthen the bond between the alumni and the students, frequent engaging sessions and formal/informal meets were organized in the form of Student Alumni Interactive Cell (SAIC) guidance sessions, and the alumni lectures series. The yearly Student-Alumni Mentorship Program, aimed at providing personalized guidance to students from the Alumni, was launched in March 2021. The program provided one-on-one mentorship to students from 250+ Alumni mentors in 8 different domains.

To increase engagement and update on our alumni community about the various developments in the Institute more frequently, SAIC changed the release of the official alumni newsletter - Alma Communiqué - from bi-annual to monthly and has an overall readership of 3,000+ alumni from all across the globe. In addition, the 'IIT BHU Alumni Startup Showcase Series' was initiated to celebrate IIT (BHU) entrepreneurs, covering their life journeys. The stories of startups like Aquvio, Eye-D, ZestMoney, and iMumz, had been published.

SAIC's website acted as the single-point platform for all alumni services and updates throughout the Year. IIT (BHU) Varanasi signed an MoU with Media.net Software Services (India) Pvt. Ltd. to establish 'Media.net Emerging Scholars Program', an endowment merit-cum-means scholarship for B.Tech. students at IIT (BHU) in pursuance of the Grantor's Corporate Social Responsibility initiatives. IIT (BHU), Varanasi, and IIT (BHU) Foundation, USA signed a Memorandum of Understanding (MoU) on 1st January 2021 to raise funds for the Institute. The Reliance Foundation has offered 40 scholarships to the students of IIT (BHU) Varanasi in the areas of AI and Computer Science from the academic session

2020-21 onwards which was launched by Reliance Industries Limited Chairman Mr. Mukesh Ambani and Reliance Foundation Chairperson Mrs. Nita Ambani. The total endowment fund received from our alumni during 2020-21 was Rs 1,91,87,632/-. During the current financial Year 2022-23, contributions received from Alumni and others for Endowment Scholarships/ Awards/Medals and other general-purpose donations is Rs. 15,31,45,371/- Some recent contributions are given in the table below:

Sl. No.	Name of Person/ Trust	Amount of Donation (Rs. in Lakhs)	Purpose
1.	Sri R. N. Tripathi Ved Sassomedhanica Pvt. Ltd, Kanpur	100	For Establishment of Mechatronics and Automation Lab
2.	Sh. Jay Chaudhary (CEO and Founder, Z Scalar) through IIT (BHU) Foundation, USA	158.17750	For Establishment of Software Innovation Centre and Faculty Chair (Total Pledged Donation: USD 1 Million)
3.	Sri Sh. Desh Pandey Through IIT (BHU) Foundation, USA	730.55	For Srinivas Desh Pandey Library (Institute's Main Library) (USD 1 Million)
4.	M/S Alpha Greph Securities Pvt. Ltd.	14	Alpha grep Security Awards under CSR
5	Alumni of 1997 Batch (Chemical Engineering)	33.2	Dilip Iyer Memorial Scholarship

In addition to the above contributions, the Institute is proud of its illustrious alumni Shri Sh. Krishen Kanta Jain for supporting INR 5 lakhs to the students' scholarship, M/S Ansys Software Pvt. Ltd. for supporting INR 7.2 lakhs for Ansys Fellowship to MTech students under CSR, Sharman Foundation, USA for giving a support of INR 13.18 lakhs for Sharman Foundation Scholarship, and Shri Ramesh Srinivasan for USD 1,300,000 support to construct Students activity Centre. SAIC is dedicated to providing avenues for three-fold interaction among students, alumni, and the Institute to develop a vibrant community, creating opportunities to thrive for the benefit of the commonwealth. The Alumni Visiting Faculty (AVF) Program was continued in the online semesters with renowned alumni from different industries teaching full-credit courses as visiting faculty. The initiative saw 15 alumni faculty teach five different courses in the odd & even semester of 2022-23. The program was a success with 570+ students opting for these alumni-taught courses. Moving forward, SAIC aims to build more alumni connections and closely knit the Institute's vast alumni network together. SAIC shall continue to grow at the same rate and endeavor towards the realization of its goal to bring together the student and alumni fraternity of IIT (BHU) Varanasi.

Distinguished Alumnus/Alumna Awards 2021-22

Alumni are an important part of any institute. The distinguished Alumnus/ Alumna Award is the highest award given by IIT (BHU) Varanasi to its alumni in recognition of their achievements in Profession, Industry/ Entrepreneurship, Academics, Research & Innovation and Public Life. The following table shows the details of the distinguished Alumnus/ Alumna Awards 2021-22:

Name of Alumni	Area
Prof. Bir Bhanu Academics	Academics
Sh. Raj Yavatkar	Research and Innovation
Dr. Ajit Singh	Industry/Entrepreneurship
Sh. Deepak Ahuja	
Sh. Ramesh Srinivasan	Profession
Dr. Deep Manoj Jariwala	Young Alumnus achiever awards
Sh. R. N. Tripathi	Distinguished Service to the Institute

Best Teachers Award

In order to recognize the teaching, research and outreach services performed by the faculty members, the Institute has given the best teachers/educator for academic session 2021-22 award as given in the following table.

Sl. No.	Category	Name & Designation	Department/School
1	I : UG 1st Year	Dr. Sanjeev Kumar Mahto Associate Professor	School of Bio-Medical Engineering, IIT(BHU)
2	II : PG Classes	Dr. Santanu Das Assistant Professor	Department of Ceramic Engineering, IIT(BHU)
3	III : UG Sciences & Humanities	Dr. Rakesh Kumar Singh Associate Professor	Department of Physics, IIT(BHU)
4	IV : UG Engineering	Dr. Gyan Prakash Modi, Assistant Professor	Department of Pharmaceutical Engineering & Technology, IIT(BHU)

Institute Works Department (IWD) & Infrastructure Development

Infrastructure development is the need of the hour. Repair and maintenance work of many units such as hostels, guest house, faculty apartments/ quarters, academic buildings, roadside development, maintenance of the pavements/bituminous roads are duly undertaken by IWD. In addition, at present, following major construction projects are ongoing in the Institute.

Major construction works completed by CPWD under HEFA-1st loan scheme during the period from 01st April' 2022 to 31st March' 2023:

1. Supply, Installation, Testing and Commissioning (SITC) of 2 nos. 2x1600 KVA Compact Substations at IIT(BHU), Varanasi
2. Construction of Director's Residence at IIT(BHU), Varanasi

Major construction works in progress by NBCC (India) Ltd. under HEFA-2nd loan scheme during the period from 01st April' 2022 to 31st March' 2023:

1.Construction of Morvi Hostel-II (S+10) and Dining block (2nd, 3rd & 4th Floor) at IIT(BHU), Varanasi

2. Construction of Faculty Apartments (S+10) (Two Blocks) near Vishwakarma Hostel at IIT(BHU), Varanasi

Major construction works in progress by CPWD during the period from 01st April' 2022 to 31st March' 2023:

1. Construction of Dhanraj Giri Hostel-II (S+7) with Dining block (G+1) behind Dhanraj Giri Hostel at IIT(BHU) Varanasi.
2. Construction of student wing (G+7) of Dhanraj Giri Hostel at IIT (BHU) Varanasi.
3. Construction of Morvi Hostel-II (S+10) with 3 floors dining block behind Morvi Hostel at IIT (BHU) Varanasi.
4. Construction of Student Activity Centre with Indoor Sports Facilities (G+2) in Rajputana Ground at IIT (BHU) Varanasi.
5. Construction of Apartments (S+8) for Faculty and Officers behind Vivekanand Hostel at IIT (BHU) Varanasi.
6. Construction of guest house extension (G+4) besides the GTAC, IIT (BHU) Varanasi.
7. Construction of lecture theatre (G+2) with 12 big lecture halls.
8. Construction of academic building for department of architecture, planning & design and Naresh C. Jain School of Decision Science & Engineeing (G+5) at IIT (BHU), Varanasi.
9. Construction of Lecture Hall Complex (G+2) at IIT (BHU), Varanasi

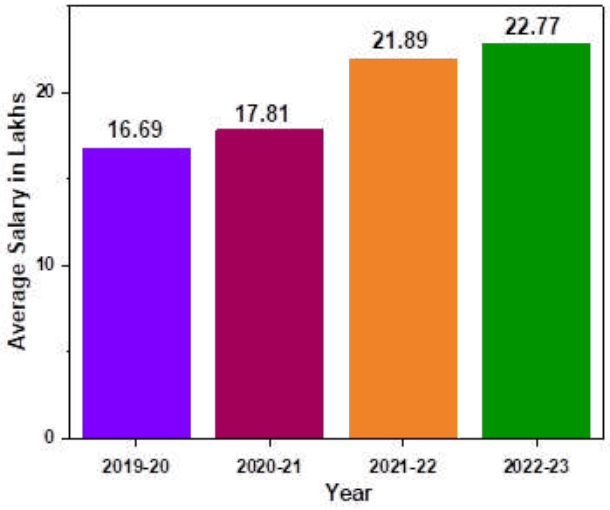
Training and Placement

The Training and Placement Cell of IIT (BHU) Varanasi facilitates the process of placement of students passing out of the Institute. During the academic session 2022-23, 308 companies visited the campus for holding campus interviews and made a total of 1240 offers. The average pay package has increased by ~ 5.40% compared to that in the last Year. The industries visiting were of varied nature: Core Engineering, IT & IT-enabled Services, Manufacturing, Consultancy, Finance, Management, R & D, etc.

The Institute boasts of some of the best placement packages among the IITs. The Cell also collaborates with leading organizations and institutes in setting up internship and training programs for our students. The Cell has managed to arrange 543 paid internships through campus selection during 2022-23, and this saw an increase of 1.65% compared to 534 selections in 2021-22. Improvement in placement during the last three years is shown in the figure below:

Student Activities and Achievements

The Institute nurtures technical, social, cultural, and sporting activities pursued by the Students' Gymkhana through different councils, Students' Parliament, and other student groups. Besides games and sports, the artistic and creative talents of



students are encouraged through various activities like dramatics, debates, music, visual arts, etc., and clubs like Radio, Audio, Photography, Automobile, Aero-Modeling, Cine and Computer Club. Students Gymkhana successfully organized its annual techno-management festival Technex, cultural festival Kashiyatra. Apart from these, students of IIT (BHU) participated in various IIT meets and brought laurels to the Institute.

(i) Cultural Activities

The Cultural Council, one of the established bodies in Gymkhana, is the beating heart and melodious soul of IIT (BHU) Varanasi. During the 2022-23 session, the 7 clubs of the Cultural Council, Dance Club, Fine Arts Cub, Indian Music Club, Quiz Club, Theatre Club, The Literary Club and Western Music Club successfully organized a number of workshops, showcases, events and competitions in the online mode to promote and enhance the cultural activities among the students. The Cultural Council is indebted to Hon. Dean of Student Affairs Dr. LP Singh, Hon. Associate Dean of Student Affairs Dr. Rajesh Kumar, Hon. Cultural Councillor Dr. Amitesh Kumar, Acting Vice President Mr. Ajay Kumar Redu, Acting Astt. Vice President Mr. Srikanth Pawar, General Secretary Mr. Ajitesh Pandey, Joint General Secretary Debarati Bandopadhyay, and the respective club position holders for their consistent support and direction in the organizing of the activities.

AAGMAN: INTRA FRESHERS EVENT (25-26th March' 23) The annual intra-freshers cultural competition Aagman'22 was organized with immense success for the first-year students in the Swatantrata Bhawan Theatre hall. Conducted in offline mode, this 2-day long extravaganza, by the 7 clubs of the cultural council, witnessed an all-time high, 850+ participation from first-year students in 31 different categories of the cultural events and received huge participation and applause.

KASHI UTSAV' 23:

The Cultural Council together with AIBA, the Association of IIT BHU Alumni, initiated the Kashi Utsav Cultural Event, Kashi Utkarsh is an initiative taken up by the IIT (BHU) students to ease the hardships and challenges encountered by individual belonging to the less privileged segments of the community. We make persistent efforts to help such people in areas (basties) like Patiya, Kakarmatta, and Lahartara. We strive to raise awareness about the importance of improved hygiene practices and education among the less fortunate to uplift their living standards.

IIT BHU MUN'22:

A total of 300 delegates from across the globe experienced international diplomacy through academic debating in this year's conference. The Opening Ceremony was held on the 3-5 February 2023. It was endorsed by Narendra Modi, chief guest Dr Ajay Kumar, former defence secretary of India, Notably, it received endorsements from the Indian Ambassador to Uzbekistan, Shri Manish Prabhat H.E. Mr. KD Dewal, Ambassador of India to Armenia and Georgia, Mr. Oliver Frank, Deputy Head of Mission, Embassy of Switzerland to India and Bhutan, and Mr. Amish Tripathi, best-selling Indian author of the Shiva Trilogy.

ONLINE EVENTS:

During the summer of 2022 when there were no on-campus activities, the clubs conducted various online events without losing enthusiasm and used the opportunity to its full potential. With the Literary club's Kalam se Kagaz tak, Hindi Mahotsav, Memefest'23, Dance club's Move 5.0, Indian music club's Symphony'22, Fine arts club's Kalakriti'22 and Quiz Club's Environment day quiz, all the clubs kept their cultures alive.

WORKSHOPS:

The Western Music Club, the Literary club, the Dance Club and the Fine arts club conducted interactive workshops to increase the scope of knowledge and learning throughout the session. They served the purpose of educating the students on the various art forms existing in each club and the ways through which one could improve their skills and excel in these fields.

KASHIYATRA'23 (21st-23rd JANUARY 23):

Kashiyatra, IIT BHU Varanasi, the Annual Socio-Cultural fest of IIT BHU Varanasi, the 3-day fest brimming with Indian culture fused with the enthusiasm of the youth was held successfully in full swing. The three-day extravaganza sent a wave of hysteria and zeal all over the campus of IIT BHU Varanasi. Safarmana, the theme launch event of Kashiyatra, marked an evening filled with jaw-dropping showcases by various clubs, including the Dance club, Masquerades, and the Western music club, while famous artists like Darshan Rawal, Anubhav Bassi, Anurag Halder, MJ5, Raftaar and so on, graced the stages during the fest and gave dazzling performances for the crowd. Some of the events organized by the clubs during the fest are as follows –Literary club, masquerades, dance freakz, fine arts club, quiz club, western music, indian music club.

EBSB:

The Cultural Council also helped in the conduction of Central Government Scheme of 'EBSB' or 'Ek Bharat Shreshth Bharat' in collaboration with IIT Delhi. Many competitions were held under the event such as constitutional day celebration (26th January 23), Janajatiya Gaurav diwas (15th November 22).

(ii) Games and Sports Activities

Although the year 2021 was full of problems because of the pandemic, where our college was fully held online. But this didn't stop the Games and Sports Council from being active. After that in the beginning of year 2022, games and sports council organized annual sports festival of IIT BHU Spardha, Intra-freshers, inter IIT sports meet, general championship, and inter hostel annual athletics meet.

Spardha'22 (14th to 16th October 2022): Spardha is the annual sports festival of the Indian Institute of Technology (IIT) BHU, organized by the Sports Council of IIT BHU. The event aims to promote sportsmanship, encourage healthy competition, and provide a platform for students from various colleges to showcase their athletic talents. Spardha 2023 took place between the 14th and 16th of October 2023, with a series of sports events and activities. The opening ceremony of Spardha 2023 was held on 13th October at the Gymkhana Ground of IIT BHU. The ceremony commenced with great enthusiasm and energy, captivating the audience. Spardha 2023 witnessed impressive participation of nearly 2500 students from 20 renowned colleges across India.

Intra-Freshers (November 2022):

The council conducted an Intra-Fresher tournament for all the sports in the council to promote the sports spirit and enthusiasm among freshers in the institution. Every sport saw very good participation from the freshers and thrilling competition. It also provided the freshers clarity to join the sports they are interested in and where they can excel as an athlete and represent the institute with pride in Inter-IIT sports meet and other sports out-festivals.

Inter -IIT Sports-Meet:

The teams participated in Inter-IIT Sports Meet held at IIT Delhi and IIT Roorkee. The Hockey team bagged a silver medal. The IIT-BHU contingent had an overall position of 19th among all participating 23 IITs.

General Championship (January to February 2023):

The council conducted an Inter-Hostel General Championship tournament to promote the sporting culture in the institute. Each sport conducted a tournament, in which the teams of every hostel participated.

(iii) Activities by Science and Technology Council

The students under the Science and Technology council took the various new initiatives in the Institute. Science and technology council achieved many **Inter College Achievements such as** National Finalist in Flipkart Grid 4.0 Robotics (Autonomous Drone) Challenge, Won first prize in case study and second prize CosmoMath competition @ NSSC'22, IIT KGP, Won first prize in Tryst'23 case study competition @ IIT Delhi**,** Grabbed 7th position at InterIIT Tech Meet 11.0 for ISRO's problem statement.**,** Bronze medal in INTER IIT Kharagpur Tech meet'23.**,** First position among all the IITs in the Grow Simplee Event in Inter IIT Tech Meet 11.0**,** Bronze medal The Paradime Product Case Challenge INTER IIT Tech Meet 11.0**,** Silver medal in CloudPhysician problem statement in INTER IIT Tech Meet 11.0**,** Silver medal in ConsenSys problem statement in INTER IIT Tech Meet 11.0**,** Silver Medal Ground-Zero, The Red Brick Summit @ IIM Ahmedabad **,** 1st, 2nd and 3rd in PMx @ IIT Guwahati**,** Gold medal in Indian Case Challenge @ IIT KGP**,** 3rd and Finalists Impetus 4.0 @ MICA Ahmedabad **,** 3rd in PM School Case Challenge, DineOut Case Challenge**,** Rank 1 in ICPC Amritapuri and Kanpur 2021 regional rounds.

Events organized by science and technology council such as Telescope handling workshop, obervation session and theoretical session on evolution of universe**,** Astrophotography Workshop - mobile astrophotography and camera handelling**,** Workshop series on OpenSource and Astronomy - Code to Cosmos**,** Tracking, observing and photographing "Green Commet" week.**,**Workshop on evolution of Universe, Workshop on Disrupting Travel through Crypto**,** Case Study Event:Innovation quest**,** Industrial Visit**,** Weekly release of reports:Innosights**,** Organised COPS CTF for freshers**,** Organized COPS Week for all the freshers in 4 domains **,**Organized CSOC 2023 with over 8 different tracks,Organized Multiverse of Languages for freshers, Workshop on SolidWorks and Intro to Automotive Engineering, Organized SAE Mentorship Program, Organized Hardwired and (workshops for the event on Ros and computer vision basics),Organized Vision (for freshers) and (workshops for the event - Computer vision and pybullet workshop).

Technex, the annual Techno-Management festival of IIT BHU was also organized successfully during March (17-23th) 2023. Technex events are as follows -

SUPERNOVA: AstroQuiz, Scientist of Utopia, Exploring the Interstrellar, Astrophotography

SHE, TreasHawks, Fake Investors, Dragon Pitch; Industrial Visit.

SAE Extreme Engineering: Build It, Bridge The Gap, Axelerate, Hydracs

ROBONEX: Robowars, MazeX, Robotics Conclave

Riqueza: VCIC, Prodomania, StrategyWise, Techanalytics

Ascension: Momentum, DroneTech, Aeroglisseur, LaTrajectoire

Byte the Bits: MLWare, Hack It Out, Capture The Flag, International Coding Marathon, Polyglot, GameJam

(iv) Activities by the Film & Media Council

The council conducted surveys on popular mainstream topics like National Education Policy and directed several Outreach series. It started a special series for the council's official social media handle called Product Photography that featured pictures of simple products in the most unique way. Another contemporary series called Virtuoso was revealed where the life stories and magnum opus of the greatest out-of-the-box creators will be appreciated. In addition to these initiatives, the council members also won prestigious inter-college digital arts events.

(v) Social Service

The Institute believes that the inherent humaneness and the spirit of volunteerism already existent in every individual needs to be nurtured and further developed, thereby blooming out with the full potential to benefit society as a whole. Nourishing these values and skills will foster an all-pervasive sense of social service amongst the student fraternity, catering to our society's needs and challenges.

Jagriti

The 5th edition of the Annual Socio-Awareness weekend of IIT (BHU) Varanasi: Jagriti'23 was held from 7th April to 9th April 2023, with an average footfall of 30000. Jagriti aimed to spread awareness about social issues and encourage individuals to come forward and make a difference in their communities. **Guest talks in Jagriti –** On the first day of Jagriti, a guest talk on 'Impact Consulting' featuring Mr. Venkatesh Chaturvedi, a prominent professional working in the CEO office of Samagra Governance, a renowned government consulting firm was successfully organized. On the second day, we organized a guest talk featuring Mr. Pulkit Singh, an esteemed alumnus of IIT (BHU) and the All India Rank 26 holder in the UPSC examination for the IAS batch of 2020. Jagriti'23 was concluded with this engaging talk with Mr. Ashish Mishra, a distinguished alumnus of IIT (BHU) and the All India Rank 52 holder in the UPSC examination for the IAS batch of 2021. Jagriti, in collaboration with E-CELL IIT (BHU), successfully organized a guest talk featuring Mr. Ravi Teja Akondi, the CEO and co-founder of iMumz and an alumnus of IIT (BHU). Jagriti, in collaboration with E-CELL IIT (BHU), organized a guest talk featuring Mr. Suhas Motwani, the esteemed co-founder of The Product Folks. The event aimed to provide valuable insights into scaling and building communities for early-stage startups.

Sahyog-

Sports day: Celebrated on Major Dhyan Chand's birthday (August 27th) in the school playgrounds.

- Engaged students in a wide range of indoor and outdoor games, promoting physical fitness, teamwork, and sportsmanship.

Gram mela: Conducted on January 28th at the government school in Tikari village.

- Based on a pre-survey conducted in Tikari village, volunteers planned and organized stalls to address specific community needs.
- Showcased various government schemes, providing explanations on eligibility criteria, required documents, and registration processes.

Health and Hygiene club-

Medicine collection: The Medicine Collection Drive organized by the Health and Hygiene Club of IIT-BHU (Indian Institute of Technology, Banaras Hindu University) was an initiative aimed at collecting spare medicines from students' homes and bringing them to the institute. The drive was likely conducted to address the issue of medication shortages or to assist individuals who may not have access to necessary medications.

Monkeypox awareness: The Monkeypox Awareness Instagram post by the Health and Hygiene Club aimed to educate and inform the audience about the viral disease known as monkeypox.

Spot the green: The Spot the Green Treasure Hunt organized by Health and Hygiene Club, was a highly anticipated event during Jagriti, with a substantial participant count of 50-60 individuals. It took place on April 7th, providing an exciting and thrilling experience for all involved. The Spot the Green Treasure Hunt had a significant impact on the participants, providing them with a platform to develop and showcase their skills.

Survey in sahyog (gram mela): Some of the members from HHC visited Grammela'23, organized by the Sahyog Club, for a primary health survey. The survey found that the villagers did not understand basic hygiene practices and often suffered from preventable diseases.

- **Events**
- **Daan Utsav -**The best way to celebrate the birth anniversary of the "Father of Nation" is to celebrate the joy of giving. People come together to donate their time, skills, resources, knowledge and education to celebrate India's most prominent festival **f**rom October 2 to October 8. We came forward and celebrated this week with students too as 'Daan Utsav'. Collaborated with NGOs, schools, corporates, and government organizations to make a positive impact and support

those in need.

- **Abhipraya 2022:** Abhipraya is the annual freshers' competition to introduce the club to the freshers. It consists of a series of events to showcase and glimpse work at the Social Projects' Club. This year a case study event was held with 4 case studies. The topics of the case studies were: saving electricity, value chain of agriculture, plastic maneuver and reclaiming e-waste.

Achievements:

Hult

Team Vasanam, led by 5 students from the socials project club, made it to the on-campus final. Vasanam focused on Fashion-Oriented bio textiles called "Biofibril" - a speculative aesthetic fabric.

Smart and Innovative Solution

Some of our volunteers participated in Smart and Innovative Solution conducted by United Nations India, in which we pitched an idea for helping blind people cross the road, Our vision was in Early stage Innovation, and our team came in 8th place overall under the leadership of professor Dr. Agnivesh Pani.

Projects:

Krishi: -

Small and marginal farmers with less than two hectares of land account for 86.2% of all farmers in India but own just 47.3% of the crop area.

- **Motive: -** The main motive behind Krishi Project is to connect farmers with wagers and those who rent agricultural equipment. Giving employment to local laborers and agricultural machinery owners.
- **Social Impact: -** It will help the farmers get wagers and agricultural machinery at any time, reducing the loss of crops. It will provide a platform where farmers can get information about all new schemes launched by the government, weather reports, pesticide and insecticide indicators, a guide for careers in the agriculture stream, and free consultants for any queries in farming.
- **Progress: -** The website is built with the help of the MERN stack. we used MongoDB as the database, NodeJS as the backend, and HTML, CSS, JavaScript, and ReactJs as a framework for the front-end development of the website.

Concluding Remarks:

My concluding remarks, in fact, point towards a new beginning for IIT (BHU) Varanasi which is continuously striving to make this world a better place through sustainable development with humane technological intervention. The new IIT (BHU) Varanasi emerges from the old, building on its earlier strengths and transforming itself to meet the challenges of the future.

The major highlights of this Year's (2022-23) achievements of IIT (BHU) Varanasi are:

- Total number of publications was 1847 in 2022-23 in journals of high repute. The number of citations has increased to 44684 compared to 42971 in the previous Year.
- The Institute has maintained its high placement record even during the pandemic time. The average pay package has increased by ~ 5.40 % and an increase of 1.65% was witnessed in the internship offer during the Year 2022-23 (22nd January) compared to that of the previous Year.
- The total amount of the fund generated by the Institute through sponsored Projects and Schemes was 133.39 crores during 2022-23. The Institute is actively participating in several national research initiatives including ISRO Regional Academic Centre for Space, Collaborative Research Centre of the Indian Pharmacopoeia Commission, Centre of Excellence in Refractories, DST foundered Technology Innovation Hub (TIH) on interdisciplinary data analytics and predictive technology (IDAPT), Center of Energy and Resource Development (CERD), Knowledge partner of UP Defence Corridor, RKVY-RAFTAAR Agri Business Incubator and several more with total budget of about 271 Crores
- During the current financial Year 2022-23, overall financial contributions from Alumni including Endowment Scholarships/ Awards/Medals and other general-purpose donations is about **Rs**. **15.31** Crores. Some key contributors are Shri Jay Chaudhry, Shri Krishen Kanta Jain, Shri R.N. Tripathi Ved and Shri Ramesh Srinivasan.

- IIT BHU has achieved a place in the QS ranking first time in the range of 651-700 globally in QS World University Ranking and 261-270 in Asia in year 2022-23.
- The institute has achieved 13th rank in NIRF ranking in year 2022-23 for engineering.
- During the current financial Year 2022-23 the Institute has established three Chair Professor positions namely: Bureau of Indian Standards (BIS) Chair, Ministry of Road Transportation and Highways (MoRTH) Chair & Jay Chaudhry Chair of Software Innovation.

  IIT (BHU) Varanasi has been and will continue to be a major contributor to the epochal transformation of our country and the world.

*********JAI HIND, JAI BHARAT **********

2. Apex Committees

Members of Board of Governors (BoG) (2022-23) as on 31.03.2023

Sl. No.	Name	Duration
1	**Chairman** Dr. Kota Harinarayana	
2	Prof. Pramod Kumar Jain Director (ex-officio) IIT Director (ex-officio) IIT (BHU), Varanasi – 221 005	Continuing
Council Nominee		
3(a)	Prof. Praveen Kumar Transportation Engineering Group, Department of Civil Engineering, Indian Institute of Technology Roorkee, Roorkee-247667 (Uttarakhand)	Continuing
3(b)	Additional Secretary/Joint Secretary (TE), Ministry of Education, ex-officio Ministry of Education	Continuing
State Government Nominee (Uttar Pradesh Government Nominee)		
4(a)	Prof. Vinay Kumar Pathak, Vice-Chancellor CSJM UNIVERSITY, KANPUR, Office of the Vice Chancellor Chhatrapati Shahu Ji Maharaj University, Kanpur-208024 (U.P.)	Continuing
IIT (BHU) Senate Nominee		
5(a)	Prof. Sunil Mohan, Department of Metallurgical Engineering, IIT (BHU)	Continuing
5(b)	Prof. Vikash Kumar Dubey School of Bio-Chemical Engineering, IIT (BHU)	Continuing
6.	Shri Rajan Srivastava Registrar I/c (ex-officio) Secretary Registrar, Indian Institute of Technology (BHU), Varanasi – 221 005	Continuing

Members of Senate (2022-23)

A. Senate Nominee:

1. General Manager, Bharat Heavy Electrical Ltd., Heavy Equipment Repair Plant, Tarna, Shivpur, Varanasi-221003 (included vide mail dated 19.05.2020)
2. Mr. Manish Bhardwaj, Director, DRDO Transit Facility, 3/240, Vishal Khand, Gomti Nagar, Lucknow-226010 (included vide mail dated 19.05.2020)

B. BoG Nominee

1. Prof. Sunil Jha, Dept. of Mechanical Engineering, IIT Delhi (suniljha@gmail.com, suniljha@mech.iitd.ac.in)
2. Prof. Sudip Kumar Ghosh, Department of Biotechnology, IIT Khargapur, (sudip@bt.iitkgp.ac.in)
3. Prof. T. Prasad, NITIE Mumbai (nitieprasad@gmail.ocm, tprasad@nitie.ac.in)

C. Senate Nominee (Member of Academic from each Department and Schools)

4. Dr. Surya Deo Yadav, Dept. of Metallurgical Engineering
5. Dr. Rajesh Rai, Dept. of Mining Engineering
6. Dr. Shivam Verma, Dept. of Electronics Engineering
7. Dr. Chinmaya K.A., Dept. of Electrical Engineering
8. Dr. Shishir Gaur, Dept. of Civil Engineering
9. Dr. Saurabh Pratap, Dept. of Mechanical Engineering
10. Dr. Prasenjit Chanak, Dept. of Computer Science & Engineering
11. Dr. Ashutosh Kumar Dubey, Dept. of Ceramic Engineering

12. Dr. Gyan Prakash Modi, Dept. of Pharmaceutical Engineering & Tech.
13. Dr. (Mrs.) Bhawna Verma, Dept. of Chemical Engineering & Tech.
14. Dr. Pranjal Chandra, School of Biochemical Engineering
15. Dr. Sanjiv Kumar Mahto, School of Biomedical Engineering
16. Dr. Nikhil Kumar, School of Materials Science & Technology
17. Dr. Lavanya Selvaganesh, Dept. of Mathematical Sciences
18. Dr. Anita Mohan, Dept. of Physics
19. Dr. Jeykumar Kandasamy, Dept. of Chemistry
20. Dr. Sukhada, Dept. of Humanistic Studies
21. Dr. Aaditya Pratap Sanyal, Dept. of Architecture, Planning & Design

D. Professor and Heads/Coordinators

Department of Ceramic Engineering

22. Prof. Vinay Kumar Singh

Department of Chemical Engineering And Technology

23. Prof. Pradeep Kumar Mishra
24. Prof. Pradeep Ahuja
25. Prof. Manoj Kumar Mondal
26. Prof. Ram Saran Singh
27. Prof. (Mrs.) Vijaya L. Yadava
28. Prof. Satya Vir Singh
29. Prof. Hiralal Pramanik
30. Prof. R. K. Upadhyay

Department of Civil Engineering

31. Prof. Goutam Banerjee
32. Prof. Devendra Mohan
33. Prof. Prabhat Kumar Singh
34. Prof. Prabhat Kumar Singh Dixit
35. Prof. Sasankasekhar Mandal
36. Prof. Rajesh Kumar
37. Prof. Shyam Bihari Dwivedi
38. Prof. K.K. Pathak
39. Prof. Arun Prasad
40. Prof. Brind Kumar

Department of Computer Science And Engineering

41. Prof. A.K. Tripathi
42. Prof. K.K. Shukla
43. Prof. Rajeev Srivastava
44. Prof. S. K. Singh

Department of Electrical Engineering

45. Prof. Shiva Pujan Singh
46. Prof. R. K. Pandey
47. Prof. Rakesh Kumar Srivastava
48. Prof. Rakesh Kumar Mishra
49. Prof. Ranjeet Mahanty
50. Prof. Devender Singh
51. Prof. Mitresh Kumar Verma
52. Prof. Ram Khelawan Saket

Department of Electronics Engineering

53. Prof. P. Chakrabarti **(On Deputation w.e.f. 10.05.2018)**
54. Prof. P.K. Jain **(On Deputation w.e.f. 21.11.2017)**
55. Prof. V. N. Mishra
56. Prof. Satyabrat Jit
57. Prof. M. K. Meshram

Department of Mechanical Engineering

58. Prof. A. K. Agrawal
59. Prof. Santosh Kumar
60. Prof. K. S. Tripathi
61. Prof. A. P. Harsha
62. Prof. Sanjay Kumar Sinha
63. Prof. Sandeep Kumar
64. Prof. Rajesh Kumar
65. Prof. Prashant Shukla
66. Prof. Pradumna Ghosh
67. Prof. Shailendra K. Shukla
68. Prof. Rajnesh Tyagi
69. Prof. Saroja Kanta Panda
70. Prof. Prabhash Bhardwaj
71. Prof. R. K. Gautam

Department of Metallurgical Engineering

72. Prof. R. K. Mandal
73. Prof. N. K. Mukhopadhyay
74. Prof. Sunil Mohan
75. Prof. (Mrs.) N.C. Shanti Srinivas
76. Prof. B. Nageshwar Sarma
77. Prof. Kamlesh Kumar Singh

Department of Mining Engineering

78. Prof. B. K. Shrivastava
79. Prof. Netai Chandra Karmakar
80. Prof. Aarif Jamal
81. Prof. Piyush Rai
82. Prof. Sanjay Kumar Sharma
83. Prof. Suprakash Gupta

Department of Pharmaceutical Engg. & Technology

84. Prof. B. Mishra
85. Prof. S.K.Singh
86. Prof. Sanjay Singh **(On Deputation w.e.f. 23.02.2019)**
87. Prof. S.K. Shrivastava
88. Prof. (Mrs.) S. Hemalatha
89. Prof. Sairam Krishnamurthy

Department of Chemistry

90. Prof. Prem Chandra Pandey
91. Prof. Syed Hadi Hasan
92. Prof. (Mrs.) Vandana Srivastava
93. Prof. Yogesh Chandra Sharma
94. Prof. D. Tiwary
95. Prof. K.D. Mandal

Department of Mathematical Sciences

96. Prof. Tanmoy Som
97. Prof. Lal Pratap Singh
98. Prof. Sanjay Kr. Pandey
99. Prof. (Mrs.) S. Mukhopadhyay
100. Prof. S.K. Upadhyay
101. Prof. Subir Das
102. Prof. Murali Krishna Vemuri

Department of Humanistic Studies

103. Prof. Prasant Kumar Panda
104. Dr. Ajit Kumar Mishra (Head)

Department of Physics

105. Prof. D. Giri
106. Prof. Prabhakar Singh
107. Prof. Sandeep Chatterjee
108. Prof. Rajendra Prasad

School of Bio-Chemical Engineering

109. Prof. Pradeep Srivastava **(On Deputation w.e.f. 18.02.2020)**
110. Prof. Vikash Kumar Dubey

School of Bio-Medical Engineering

111. Prof. Neeraj Sharma
112. Dr. Sanjeev Kumar Mahto **(Coordinator)**

School of Materials Science & Technology

113. Prof. Rajiv Prakash
114. Prof. Pralay Maiti
115. Dr. Chandana Rath **(Coordinator)**

Department of Architecture, Planning & Design

116. Prof. Rajesh Kumar (Head)

Members of Finance Committee (2022-23)

Sl. No.	Name	Duration
1.	**Chairman** Dr. Kota Harinarayana, Chairman, BoG, IIT(BHU), ex-officio	Continuing
2.	Prof. Pramod Kumar Jain Director (ex-officio), IIT (BHU), Varanasi – 221 005	Continuing
Members Nominated by the Central Government (ex-officio)		
3(a)	Additional Secretary (TE), Ministry of Education, Shastri Bhawan, New Delhi – 110 001	Continuing
3(b)	Joint Secretary, Integrated Finance Division, Ministry of Education, Department of Higher Education, New Delhi	Continuing
Board Nominee Members		
4(a)	Prof. S.B. Dwivedi, Department of Civil Engineering, IIT (BHU), Varanasi – 221 005	Continuing
4(b)	Prof. Rajnesh Tyagi, Department of Mechanical Engineering, IIT (BHU), Varanasi – 221 005	Continuing
5.	Shri Rajan Srivastava, Registrar (I/C), IIT(BHU) Registrar (ex-officio) Secretary Registrar, Indian Institute of Technology (BHU) Varanasi – 221 005	Continuing

Members of Building & Works Committee (B&WC) (2022-23)

Sl. No.	Name	Designation	Address	Duration
1	Prof. Pramod Kumar Jain Director (ex-officio)	**Chairman**	IIT (BHU), Varanasi – 221 005	Continuing
2	Prof. A. K. Jain	**Member**	Head, Dept. of Civil Engg., IIT Delhi, New Delhi- 110 016.	Continuing
3	Prof. S. Y. Kulkarni Ex-Professor & Head, Dept. of Architecture & Planning, IIT-Roorkee	**Member**	Prof.S.Y.Kulkarni 103 Palm Green Apartments, Milap Nagar,Delhi Road, Roorkee, 247667	Continuing
4	Shri Shyam Mohan Garg	**Member**	General Manager (Mech.) UP State Bridge Corporation Ltd., Setu Bhawan, 16 MM Malaviya Marg, Lucknow – 226 001.	Continuing
5	Shri Vijay Pal	**Member**	Superintending Engineer Urban Electric Distribution Circle Meerut, Pashchimanchal Vidyut Vitaran Nigam Limited Rangoli Substation, Shastri Nagar Meerut 250004	Continuing
6	Prof. S. B. Dwivedi	**Member**	Dept. of Civil Engg., IIT (BHU), Varanasi	Continuing
7	Kamal Nain Rai Former Chief Executive (CW&E) and Advisor (Special Projects), DRDO, Min. of Defence	**Member**	C 4/ 4112, Vasant Kunj New Delhi 110070.	Continuing
8	Shri Rajan Srivastava, Registrar (I/C), IIT(BHU)	**Secretary**	Registrar, Indian Institute of Technology (BHU) Varanasi – 221 005	Continuing

List of Deans in the Institute (Session 2022-23)

Sl. No.	Name	Designation	Department
1.	Prof. Shyam Bihari Dwivedi	Dean (Academic Affairs)	Department of Civil Engineering
2.	Prof. Rajnesh Tyagi	Dean (Faculty Affairs)	Department of Mechanical Engineering
3.	Prof. Vikash Kumar Dubey	Dean (Research & Development)	School of Biochemical Engineering
4.	Prof. Rajeev Kumar Srivastava	Dean (Resource & Alumni)	Department of Computer Science and Engineering
5.	Prof. L. P. Singh	Dean (Student Affairs)	Department of Mathematical Sciences

List of Conveners of Under Graduate Committees (DUGC) and Post Graduate Committees (DPGC) of the Departments/Schools for the Session 2022-2023 (w.e.f. 01.09.2022)

Department/School	DUGC Conveners	DPGC Conveners
Bio-Chemical Engineering	Dr. Abhishek Suresh Dhoble	Dr. Pranjal Chandra
Bio-Medical Engg.	Dr. A.R. Jac Fredo	Dr. Shiru Sharma
Ceramic Engineering	Dr. Preetam Singh	Dr. P. K. Roy
Chemical Engineering & Technology	Dr. Ankur Verma	Dr. J. P. Chakarborty
Chemistry	Dr. Manisha Malviya	Dr. Sundram Singh
Civil Engineering	Dr. Medha Jha	Dr. P. R. Maiti
Computer Science and Engineering	Dr. Mayank Swarnkar	Dr. Ravi Shankar Singh
Electrical Engineering	Dr. Sandip Ghosh	Dr. Kalpana Chauhary
Electronics Engineering	Dr. Somak Bhattacharyya	Dr. Amritanshu Pandey
Humanistic Studies	Dr. Manhar Charan	Dr. Shail Shankar
Materials Science & Technology	Dr. Sanjay Singh	Dr. Nikhil Kumar
Mathematical Sciences	Dr. A. K. Jha	Dr. Ashok Ji Gupta
Mechanical Engineering	Prof. P. Ghosh	Dr. Arnab Sarkar
Metallurgical Engineering	Dr. Bratindra Nath Mukherjee	Dr. Randhir Singh
Mining Engineering	Dr. Rajesh Rai	Dr. Amrendra Kumar
Pharmaceutical Engineering and Technology	Dr.(Mrs.) Ruchi Chawla	Dr. M.S. Muthu
Physics	Dr. S. Patil	Dr. R. K. Singh
Architecture, Planning and Design	Dr. Rabi Narayan Mohanty	Dr. Aditya Pratap Sanyal

3. Faculty Administration

2.1 Faculty Position as on 31.03.2023

Faculty Members	349
Visiting Faculty/Institute Professor/Emeritus Professor	07 + 00 + 00 = 07

2.2 Faculty Members appointed during 2022-23

Professors	03
Associate Professors	10
Assistant Professors	32
Visiting Faculty/Institute Professor	03 + 00 = 03
Contractual Faculty	Nil

2.3 List of Faculty Members appointed during 1st April 2022-31stMarch 2023

Sl.No.	ID No.	Name of Faculty/Staff	Designation	Department/Section	Date of Joining
1	50299	Dr. Samim Mustafa	Assistant Professor	Civil Engineering	01.04.2022
2	50301	Dr. Bhagavatula NVSSR Dinesh	Assistant Professor	Chemical Engineering & Technology	18.04.2022
3	50302	Dr. Rabindra Mohanty	Assistant Professor	Electrical Engineering	04.05.2022
4	50303	Dr. Bishwanath Bhoi	Assistant Professor	Physics	01.06.2022
5	50304	Dr. Ravendra Gundla Palli	Assistant Professor	Chemical Engineering & Technology	01.06.2022
6	50306	Dr. Bidyut Kumar Patra	Associate Professor	Computer Science & Engineering	16.06.2022
7	50307	Dr. Aditya Kumar Padhi	Assistant Professor	Bio-Chemical Engineering	20.06.2022
8	50308	Dr. Sudip Mukherjee	Assistant Professor	Bio-Medical Engineering	27.06.2022
9	50310	Dr. Basuraj Bhowmik	Assistant Professor	Civil Engineering	27.06.2022
10	50309	Dr. Anoop Singh	Assistant Professor	Mathematical Sciences	29.06.2022
11	50312	Dr. Saravanakumar Elangovan	Assistant Professor	Chemistry	04.07.2022
12	50311	Dr. Kul Deep Verma	Assistant Professor	Physics	12.07.2022
13	50313	Dr. Vignesh Sivaraman	Assistant Professor	Computer Science & Engineering	19.07.2022
14	50314	Dr. Rakesh Arora	Assistant Professor	Mathematical Sciences	01.08.2022
15	50315	Dr. Obbattu Sai Lakshmi Bhavana	Assistant Professor	Computer Science & Engineering	29.08.2022
16	50316	Dr. Ravi Panwar	Assistant Professor	Materials Science & Technology	08.09.2022
17	50317	Dr. Rohit Kumar	Assistant Professor	Chemical Engineering & Technology	30.09.2022
18	50318	Dr. Amit Kumar	Assistant Professor	Mathematical Sciences	22.11.2022
19	50319	Dr. Prabhat Tripathi	Assistant Professor	Chemistry	22.11.2022(AN)
20	50320	Dr. Manogna Karthik Gangaraju	Assistant Professor	Mechanical Engineering	30.11.2022
21	50321	Dr. Bhardwaj Pandit	Assistant Professor	Mining Engineering	08.12.2022
22	50324	Dr. Bhuvaneshwari B	Assistant Professor	Chemistry	12.12.2022
23	50322	Dr. Oppili Prasad L	Assistant Professor	Electronics Engineering	13.12.2022(AN)
24	50323	Dr. Jaya Jha	Assistant Professor	Electronics Engineering	15.12.2022
25	50325	Dr. Ankit Arora	Assistant Professor	Electronics Engineering	18.01.2023
26	50329	Dr. Kumar Abhishek	Assistant Professor	Architecture, Planning & Design	20.01.2023
27	50326	Dr. Sneha	Assistant Professor	Architecture, Planning & Design	24.01.2023(AN)

Sl.No.	ID No.	Name of Faculty/Staff	Designation	Department/Section	Date of Joining
28	50328	Dr. Brijesh Kumar	Assistant Professor	Bio-Medical Engineering	25.01.2023(AN)
29	50330	Dr. Rakesh Kumar Saunthwal	Assistant Professor	Chemistry	15.02.2023(AN)
30	50331	Dr. Manish Kumar Khandelwal	Assistant Professor	Mathematical Sciences	16.02.2023
31	50332	Dr. Gowri Manohari Balachander	Assistant Professor	Bio-Medical Engineering	22.02.2023
32	50334	Dr. Vishal Chettry	Assistant Professor	Architecture, Planning & Design	06.03.2023
33	50336	Dr. Satyabrata Behera	Assistant Professor	Mining Engineering	11.03.2023

2.4 List of internal faculty members who joined during the period from 1st April 2022-31st March 2023

Sl. No.	ID No.	Name of Faculty/Staff	Designation	Department / Section	Date of Joining with (FN/AN)
1	16816	Dr. Brind Kumar	Professor	Civil Engineering	24.05.2022
2	17388	Dr. Jahar Sarkar	Professor	Mechanical Engineering	24.05.2022
3	19845	Dr. Ravindranath Chowdary C	Associate Professor	Computer Science & Engineering	14.06.2022 (AN)
4	50031	Dr. Hari Prabhat Gupta	Associate Professor	Computer Science & Engineering	21.06.2022
5	50062	Dr. Shyam Kamal	Associate Professor	Electrical Engineering	16.08.2022
6	50042	Dr. Preetam Singh	Associate Professor	Ceramic Engineering	17.08.2022
7	50235	Dr. Rajesh Kumar Upadhyay	Professor	Chemical Engineering & Technology	29.08.2022
8	50237	Dr. Pranjal Chandra	Associate Professor	Bio-Chemical Engineering	22.11.2022
9	50069	Dr. Sunil Kumar	Associate Professor	Mathematical Sciences	22.11.2022
10	50207	Dr. Vinod Tiwari	Associate Professor	Pharmaceutical Engineering & Technology	22.11.2022
11	50044	Dr. Gyan Prakash Modi	Associate Professor	Pharmaceutical Engineering & Technology	22.11.2022
12	18365	Dr. Manisha Malviya	Associate Professor	Chemistry	22.11.2022

2.5 Faculty members who resigned/were relieved

Sl. No.	ID No.	Name of Faculty	Designation	Department/Section	Date of Relieve (with FN/AN)
1	50039	Dr. Akansha Dwivedi	Assistant Professor	Ceramic Engineering	04.01.2021(FN)
2	50122	Dr. Nikhil Saboo	Assistant Professor	Civil Engineering	30.06.2021(AN)
3	50223	Dr. Laltu Chandra	Associate Professor	Mechanical Engineering	06.03.2022(AN)
4	17101	Dr. Manish Kumar	Assistant Professor	Electrical Engineering	13.05.2022(AN)
5	50142	Dr. Marshal	Associate Professor	Bio-Medical Engineering	27.12.2022(AN)

2.6 Faculty members who retired between 1st April 2022-31st March 2023

Sl. No.	ID No.	Name of Faculty	Designation	Department	Date of Birth	Date of Retirement (with FN/AN)
1	13862	Dr. B. K. Shrivastav	Professor	Mining Engineering	20.06.1957	30.06.2022
2	13783	Dr. Shiv Pujan Singh	Professor	Electrical Engineering	05.09.1957	30.09.2022
3	13819	Dr. Anil Kumar Agrawal	Professor	Mechanical Engineering	15.01.1958	31.01.2023
4	13803	Dr. Parthasarathi Chakrabarti	Professor	Electronics Engineering	18.01.1958	31.01.2023

2.7 Faculty members/officers/staff members on long leave (On Deputation)

Sl. No.	Name	Designation	Department	From	To	Details	Remarks
1	Dr. P K Jain	Professor	Electronics Engineering	21.11.2017 (AN)	31.07.2023	On Deputation	Date of Retirement: 31.07.2023
2	Dr. P. Chakrabarti	Professor	Electronics Engineering	09.05.2018 (AN)	31.01.2023	On Deputation of 5 years	Date of Retirement: 31.01.2023
3	Dr. Sanjay Singh	Professor	Pharmaceutical Engg. & Tech.	23.02.2019 (AN)	23.02.2024	On Deputation for 5 years	
4	Dr. Pradeep Srivastava	Professor	Bio-Chemical Engineering	18.02.2020 (AN)	18.02.2025	On Deputation for 5 years	
5	Dr. P.K. Mishra	Professor	Chemical Engg. & Tech.	14.01.2022 (AN)	08.02.2023	On Deputation	Re-joined the Institute on 09.02.2023
6	Dr. Rajiv Prakash	Professor	Materials Sciences & Technology	26.09.2022(AN)	26.09.2027	Om deputation for 5 years	
7	Dr. Jeyakumar Kandasamy	Associate Professor	Chemistry	31.08.2022(AN)	31.08.2023	On Lien for 1 year	

a. Faculty/staff members on extraordinary leave

Sl. No.	Name	Designation	Department	From	To	Details	Remarks
1	Dr.Ruchir Gupta	Associate Professor	Computer Science & Engineering	17.11.2020 (AN)	13.07.2022	To join on the post of Professor at JNU, New Delhi	Re-joined the Institute on 14.07.2022
2	Dr. Ajinkya Nandkumar Tanksale	Assistant Professor	Mechanical Engineering	25.08.2022(AN)	03.07.2023	To join full time regular tenure track position of Assistant Professor at David Reh School of Business, Clarkson University, NY, USA	
3	Dr. Anil Kumar Singh	Associate Professor	Computer Science & Engineering	21.10.2022	10.02.2023	Personal ground	Re-joined the Institute on 13.02.2023

b. Faculty members on sabbatical leave

Sl. No.	Name	Designation	Department	From	To	Remarks
1	Dr. Anil Kumar Singh	Associate Professor	Computer Science & Engineering	21.10.2021	20.10.2022	Re-joined the Institute on 13.02.2023
2	Dr. Prasanta Kumar Nayak	Assistant Professor	Pharmaceutical Engineering & Technology	07.05.2022	06.05.2023	Re-joined the Institute on 08.05.2023
3	Dr. Shailendra Kumar Shukla	Professor	Mechanical Engineering	02.12.2022	01.06.2023	Re-joined the Institute on 02.06.2023

4. Non-Faculty Administration

1. Brief Introduction: Indian Institute of Technology (BHU)

2. Staff Position (as on 31st March 2023): Non-faculty members

2.1. Staff members in Position

Group A Staff	25
Scientific Officers	5
Technical Staff	199
Administrative Staff	124

2.2. Staff Members appointed during 2022-23

Administrative Staff	5
Contractual Staff	0

2.3. List of Staff Members appointed during 1st April 2022-31st March 2023

Sl. No.	ID No.	Name of Staff	Designation	Department/Section	Date of Joining
1.	19877	Dr. Devendra Pratap	Deputy Registrar	Finance	26.12.2022 (AN)
2.	19843	Dr. Amit Kumar Singh	Deputy Registrar	Academic Affairs	26.12.2022 (AN)
3.	50333	Ms. Nisha Baloria	Deputy Registrar		28.02.2023 (AN)
4.	50327	Shri Dheeraj Kumar	Junior Engineer (Electrical)	IWD	25.01.2023 (FN)
5.	50335	Shri Rahul Kumar Yadav	Junior Engineer (Electrical)	IWD	02.03.2023 (FN)

2.4. Staff members who resigned/were relieved during 1st April 2022-31st March 2023

Sl. No.	ID No.	Name of Staff	Designation	Department/Section	Date of Relief (FN/AN)
1.	50126	Ms. Katyayani	Junior Assistant	Internal Audit Wing	09.06.2022 (AN)
2.	50083	Shri Atul Kumar Verma	Junior Assistant	Finance-Trade Bill	31.01.2023(AN)

2.5. Staff members who retired between 1st April 2022-31st March 2023

Sl. No.	Name	Employee ID	Designation	Department/Section/ Unit	Date of Birth	Date of Superannuation
1.	Shri Anil Kumar Pandey	14085	Senior Technical Superintendent	Mining Engineering	08.04.1962	30.04.2022
2.	Shri Shankar Ram	15497	Junior Technical Superintendent	Civil Engineering	01.07.1962	30.06.2022
3.	Shri Mansha Ram	13712	Senior Technical Superintendent (Gr-II)	Ceramic Engineering	22.07.1962	31.07.2022
4.	Shri Ram Adhar Yadava	13981	Senior Technical Superintendnet	Mechanical Engineering	01.08.1962	31.07.2022
5.	Shri Mool Chand	13974	Junior Technical Superintendent	Mechanical Engineering	01.08.1962	31.07.2022
6.	Shri Lal Bahadur Singh	13623	Senior Technical Superintendent (Gr-II)	Main Workshop	22.07.1962	31.07.2022
7.	Shri Anil Kumar Vishwakarma	14099	Senior Technical Superintendent (Gr-II)	Metallurgical Engineering	20.07.1962	31.07.2022
8.	Shri Bhuwaneshwari Sharan	14017	Senior Technical Superintendent	Bio-Medical Engineering	30.07.1962	31.07.2022

Sl. No.	Name	Employee ID	Designation	Department/Section/ Unit	Date of Birth	Date of Superannuation
9.	Shri Bansh Narayan Pal	10111	Junior Technical Superintendent	Mining Engineering	01.09.1962	31.08.2022
10.	Dr. Bhola Nath Singh	18985	Senior Scientific Officer	Civil Engineering	18.09.1960	30.09.2022
11.	Shri Rajesh Kumar Rai	16566	Technical Superintendent	Electronics Engineering	01.10.1962	30.09.2022
12.	Shri Bhaiya Lal Singh	18657	Senior Technical Superintendent	Electical Engineering	10.10.1962	31.10.2022
13.	Dr. Ashok Kumar Sharma	17019	Senior Scientific Officer	Electronics Engineering	24.12.1960	31.12.2022
14.	Shri Lalji	13923	Senior Technical Superintendent (Gr-II)	Civil Engineering	02.01.1963	31.01.2023
15.	Shri Bhanu Pratap Prasad	16557	Senior Technical Superintendent	Physics	08.02.1963	28.02.2023

2.6. Staff members who expired while in service

Sl. No.	ID No.	Name of Staff	Designation	Department/Section	Date of Birth	Date of Expiry (with FN/AN)
1.	14185	Shri Madan Lal	Senior Technical Superintendent	Pharmaceutical Engineering and Technology	14.04.1974	26.03.2023 (FN)

5. ACADEMIC PROGRAMMES AND AWARD OF DEGREES

The Institute offers Ph.D. programmes in 17 departments (Department of Humanistic Studies established in 2015-16), M.Tech. programme in 13 streams/specializations, M.Pharm. programme in one stream/specialization (M.Tech. programme started in Decision Sciences and Engineering instead of Industrial Management from the session 2020-21), B.Tech. programmes in 10 engineering departments, Dual Degree (B.Tech. and M.Tech.) programmes in 14 engineering departments/schools/science departments, B.Arch. programme in 1 department (Department of Architecture, Planning and Design, established in 2019-20), besides a preparatory course for SC/ST/PwD students during the year under report.

The Institute developed online registration portal, fee deposition portal as well as declaration of results etc. through the online mode. The registration portal started from the session 2014-15 and onwards in the Institute to facilitate the students. The fee deposition portal has been designed and institute fees is being continuously and successfully deposited in online mode by the students from even semester 2019-20 and onwards. After COVID-19 all academic programmes related to admission, verifications, registration, teaching etc. has been done through the online as well as physical mode.

An academic section, examination unit and scholarship section are under the Dean (Academic Affairs) of the Institute. Three smart lecture theatre complexes have been established and equipped with LCD projector in each class rooms alongwith the backup of the electricity. The classes for the Institute core courses, HULM and Institute Open elective are being held centrally in the lecture theaters of the Institute. The Examination unit publishes the online application forms for the admission to PG programmes annually and for Ph.D. Programmes biannually every year. Online profile registration, add/drop courses, department-wise/subject-wise students list, grade submission, declaration of results, transcripts has keen automated and taken care by the examination unit. The Scholarship section administers the fellowships (Institute or other) of the students. Academic Section administers the works related to Ordinances, admissions process for B.Tech./B.Pharm./IDD through JEE(Advanced) and M.Sc. through JAM jointly conducted by the IITs, students leave, conducting semester examinations, preparation of academic calendar, class time-tables under supervision of Dean (Academic Affairs)/Associate Dean (Academic Affairs), UG/Core Courses. The office of the Dean (Academic Affairs) has totally automated for the Ph.D. submission as well as for the submission of grades on the portal, overload, physical registration also.

Admissions 2022–2023

Candidates for admission to the 4-Year B.Tech., 5-Year B.Arch. and 5-Year Dual Degree programmes were selected through JEE(Advanced) and on the basis of the All India Rank. 2-Year M.Sc. programmes started from the session 2019-20 and onwards in the Department of Physics and Chemistry, the candidates were selected through JAM, jointly conducted by the IITs. 2-Year M.Tech./M.Pharm. programmes, candidates get admitted on the basis of GATE/GPAT score. Quite a few candidates were also selected for the M.Tech. programme under the Sponsored and Q.I.P. programmes through interviews and/or written tests. Selection for the Ph.D. programmes was done through tests/interviews, they must qualify the GATE or GPAT or UGC/CSIR-NET. To attract the foreign national students for studies in India, the Institute has also taken admission in PG and Ph.D. Programmes through the Study in India Portal as well as ASEAN Fellowship programmes conducted by the Govt. of India. The Institute also takes admission of foreign nationals for the PG and Ph.D. programs from the session 2021-22 onwards through the newly started A2A Scholarship Scheme under ICCR, Govt of India.

The number of students and scholars admitted to the various programmes in July 2022 and in January 2023 are listed in Table as shown below.

Table: Fresh admissions

Sl. No.	Department/School	B.Tech.	Dual Degree (B.Tech. & M.Tech.)	B.Arch.	M.Sc.	M.Tech.	M.Pharm.	Ph.D.	Total
1	Architecture Planning and Design	---	---	21	---	---	---	---	21
2	Biochemical Engineering	---	27	---	---	8	---	5	40
3	Biomedical Engineering	---	20	---	---	9	---	13	42
4	Ceramic Engineering	77	17	---	---	13	---	1	108

Sl. No.	Department/School	B.Tech.	Dual Degree (B.Tech. & M.Tech.)	B.Arch.	M.Sc.	M.Tech.	M.Pharm.	Ph.D.	Total
5	Chemical Engineering	152	---	---	---	59	---	8	219
6	Chemistry	---	22	---	24	---	---	13	59
7	Civil Engineering	117	29	---	---	47	---	12	205
8	Computer Science and Engineering	98	33	---	---	21	---	12	164
9	Electrical Engineering	113	27	---	---	46	---	7	193
10	Electronics Engineering	131	---	---	---	34	---	12	177
11	Humanistic Studies	---	---	---	---	---	---	17	17
12	Decision Science and Engineering	---	---	---	---	9	---	---	9
13	Industrial Management	---	---	---	---	---	---	---	---
14	Materials Science and Technology	---	27	---	---	21	---	4	52
15	Mathematical Sciences	---	48	---	---	---	---	11	59
16	Mechanical Engineering	146	33	---	---	34	---	12	225
17	Metallurgical Engineering	111	30	---	---	7	---	9	157
18	Mining Engineering	139	27	---	---	26	---	2	194
19	Pharmaceutical Engineering and Technology	83	22	---	---	---	47	5	157
20	Physics	---	27	---	24	---	---	31	82
21	Systems Engineering	---	---	---	---	2	---	---	02
	Total	**1167**	**389**	**21**	**48**	**336**	**47**	**174**	**2182**

In addition, 08 students (SC – 0; ST – 5; GEPD – 3; OBCPD – 0; EWPD – 0 and SCPD - 0) joined the preparatory course.

Category/Gender-wise students among fresh admissions

Sl. No.	Programme	General		OBC		EWS		SC		ST		PD		Total		
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total
1	B.Tech.	344	83	247	62	102	23	140	44	89	23	9	1	**931**	**236**	**1167**
2	Dual Degree (B.Tech. & M.Tech.)	105	32	83	15	37	8	46	19	36	6	2	---	**309**	**80**	**389**
3	B.Arch.	7	---	3	---	1	---	4	2	4	---	---	---	**19**	**2**	**21**
4	M.Sc.	14	6	10	4	4	1	3	3	1	2	---	---	**32**	**16**	**48**
5	M.Tech.	102	14	80	13	45	5	43	7	24	1	2	---	**296**	**40**	**336**
6	M.Pharm.	5	8	9	5	3	4	3	4	3	1	2	---	**25**	**22**	**47**
7	Ph.D.	41	23	43	15	17	7	16	3	5	2	2	---	**124**	**50**	**174**
Total		**618**	**166**	**475**	**114**	**209**	**48**	**255**	**82**	**162**	**35**	**17**	**1**	**1736**	**446**	**2182**

The students admitted during the year included the following:

Foreign national	04		EWS		257
OBC	589		Sponsored	M.Tech.	04
Scheduled Castes	337			Ph.D.	01
Scheduled Tribes	197		Q.I.P.		08
Physically handicapped	18		Project		---
Women Students	446		External registration	Ph.D.	01

Enrolment of Students/Scholars

The total numbers of students on roll in various programmes of the Institute in the academic year 2022–2023 are provided in Table.

Table: Students on roll

Sl. No.	Department/School	B.Tech.	Dual Degree (B.Tech. & M.Tech.)	B.Arch.	M.Sc.	M.Tech.	M.Pharm.	Ph.D.	Total
1	Architecture Planning and Design	0	0	74	0	0	0	0	**74**
2	Biochemical Engineering	0	83	0	0	16	0	37	**136**
3	Biomedical Engineering	0	75	0	0	13	0	42	**130**
4	Ceramic Engineering	206	62	0	0	16	0	16	**300**
5	Chemical Engineering	675	0	0	0	110	0	56	**841**
6	Chemistry	0	85	0	48	0	0	73	**206**
7	Civil Engineering	483	141	0	0	93	0	53	**770**
8	Computer Science and Engineering	411	162	0	0	42	0	63	**678**
9	Electrical Engineering	479	146	0	0	86	0	81	**792**
10	Electronics Engineering	551	0	0	0	66	0	47	**664**
11	Humanistic Studies	0	0	0	0	0	0	59	**59**
12	Decision Sciences and Engineering	0	0	0	0	17	0	0	**17**
13	Industrial Management	0	0	0	0	0	0	12	**12**
14	Materials Science and Technology	0	102	0	0	38	0	57	**197**
15	Mathematical Sciences	0	236	0	0	0	0	68	**304**
16	Mechanical Engineering	611	157	0	0	68	0	104	**940**
17	Metallurgical Engineering	347	119	0	0	19	0	58	**543**
18	Mining Engineering	392	98	0	0	57	0	38	**585**
19	Pharmaceutical Engineering and Technology	204	67	0	0	0	86	66	**423**
20	Physics	0	141	0	49	0	0	108	**298**
21	Systems Engineering	0	0	0	0	4	0	7	**11**
	Total	**4359**	**1674**	**74**	**97**	**645**	**86**	**1045**	**7980**

Category/Gender-wise students on roll

Sl. No.	Programme	General		OBC		EWS		SC		ST		PD		Total		
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total
1	B.Tech.	1358	343	959	215	368	87	535	125	275	61	29	4	**3524**	**835**	**4359**
2	Dual Degree (B.Tech. & M.Tech.)	545	152	364	70	124	28	206	47	107	19	10	2	**1356**	**318**	**1674**
3	B.Arch.	24	6	16	2	5	0	9	4	7	1	0	0	**61**	**13**	**74**
4	M.Sc.	29	11	19	9	8	2	9	4	3	3	0	0	**68**	**29**	**97**
5	M.Tech.	206	30	160	18	74	8	89	8	42	3	6	1	**577**	**68**	**645**
6	M.Pharm.	13	15	16	8	4	5	7	6	5	3	4	0	**49**	**37**	**86**
7	Ph.D.	292	152	244	83	88	25	87	28	25	9	10	2	**746**	**299**	**1045**
Total		**2467**	**709**	**1778**	**405**	**671**	**155**	**942**	**222**	**464**	**99**	**59**	**9**	**6381**	**1599**	**7980**

The students on roll including the following:

Foreign national	18		EWS		826
OBC	2183		Sponsored	M.Tech.	8
Scheduled Castes	1164			Ph.D.	7
Scheduled Tribes	563		Q.I.P.		23
Physically handicapped	68		Project		18
Women Students	1599		External registration	Ph.D.	56

The branch-/discipline-wise and year-wise details of students enrolled in the 4-Year B.Tech., 5-Year Dual Degree B.Tech.-M. Tech. programmes are provided here:

4-Year B.Tech. students on roll

Sl. No.	Branch	Year 2022	Year 2021	Year 2020	2019 and earlier batches	Total
1	Ceramic Engineering	63	56	38	49	**206**
2	Chemical Engineering	172	172	172	159	**675**
3	Civil Engineering	111	132	132	108	**483**
4	Computer Science and Engineering	109	109	109	84	**411**
5	Electrical Engineering	127	127	127	98	**479**
6	Electronics Engineering	146	146	146	113	**551**
7	Mechanical Engineering	163	163	163	122	**611**
8	Metallurgical Engineering	93	79	87	88	**347**
9	Mining Engineering	107	96	81	108	**392**
10	Pharmaceutical Engineering and Technology	75	40	40	49	**204**
	Total	**1166**	**1120**	**1095**	**978**	**4359**

5-Year B.Arch. students on roll

Sl. No.	Branch	Year 2022	Year 2021	Year 2020	Year 2019	2018 and earlier batches	Total
1.	Architecture Planning and Design	21	20	18	15	--	**74**

5-Year Dual Degree (B.Tech. and M.Tech.) students on roll

Sl. No.	Branch	Year 2022	Year 2021	Year 2020	Year 2019	2018 and earlier batches	Total
1	Biochemical Engineering	23	15	14	18	13	**83**
2	Biomedical Engineering	20	14	13	15	13	**75**
3	Ceramic Engineering	16	13	10	12	11	**62**
4	Chemistry	20	20	17	15	13	**85**
5	Civil Engineering	29	33	33	22	24	**141**
6	Computer Science and Engineering	38	37	37	28	22	**162**
7	Electrical Engineering	33	33	33	23	24	**146**
8	Materials Science and Technology	23	27	14	22	16	**102**
9	Mathematical Sciences	56	57	57	43	23	**236**
10	Mechanical Engineering	35	35	35	27	25	**157**
11	Metallurgical Engineering	26	23	28	25	17	**119**
12	Mining Engineering	19	24	16	25	14	**98**
13	Pharmaceutical Engineering and Technology	19	11	11	11	15	**67**
14	Physics	31	31	31	25	23	**141**
	Total	**388**	**373**	**349**	**311**	**253**	**1674**

2-Years M.Tech. students on roll

Sl. No.	Branch	Year 2022	Year 2021	Total
1	Biochemical Engineering	8	8	**16**
2	Biomedical Engineering	9	4	**13**
3	Ceramic Engineering	13	3	**16**
4	Chemical Engineering	59	51	**110**
5	Civil Engineering	47	46	**93**
6	Computer Science and Engineering	21	21	**42**
7	Electrical Engineering	46	40	**86**
8	Electronics Engineering	34	32	**66**
9	Decision Sciences and Engineering	9	8	**17**
10	Materials Science and Technology	21	17	**38**
11	Mechanical Engineering	34	34	**68**
12	Metallurgical Engineering	7	12	**19**
13	Mining Engineering	26	31	**57**
14	Systems Engineering	2	2	**4**
Total		**336**	**309**	**645**

2-Years M.Pharm. students on roll

Sl. No.	Branch	Year 2022	Year 2021	Total
1	Pharmaceutical Engineering and Technology	47	39	**86**

2-Years M.Sc. students on roll

Sl. No.	Branch	Year 2022	Year 2021	Total
1	Chemistry	24	24	**48**
2	Physics	24	25	**49**
	Total	**48**	**49**	**97**

Ph.D. scholars on roll

Sl. No.	Branch	Year 2022	Year 2021	Year 2020	Year 2019	2018 and earlier batches	Total
1	Biochemical Engineering	5	8	5	11	8	37
2	Biomedical Engineering	13	7	3	12	7	42
3	Ceramic Engineering	1	5	1	2	7	16
4	Chemical Engineering	8	11	4	16	17	56
5	Chemistry	13	11	2	20	27	73
6	Civil Engineering	12	9	5	11	16	53
7	Computer Science and Engineering	12	19	3	8	21	63
8	Electrical Engineering	7	18	10	15	31	81
9	Electronics Engineering	12	6	6	8	15	47
10	Humanistic Studies	17	16	9	11	6	59
11	Industrial Management	0	3	1	2	6	12
12	Materials Science and Technology	4	16	18	10	9	57
13	Mathematical Sciences	11	12	11	21	13	68
14	Mechanical Engineering	12	25	15	23	29	104
15	Metallurgical Engineering	9	8	11	9	21	58
16	Mining Engineering	2	8	1	10	17	38

Sl. No.	Branch	Year 2022	Year 2021	Year 2020	Year 2019	2018 and earlier batches	Total
17	Pharmaceutical Engineering and Technology	5	16	10	18	17	66
18	Physics	31	23	12	24	18	108
19	Systems Engineering	0	2	1	1	3	7
	Total	**174**	**223**	**128**	**232**	**288**	**1045**

Students Intake in different programmes

The Institute offered the following programmes in various departments/school. The Department/School-wise Intake is given below:

Department/Programme-wise Intake capacity of Session 2022-23

COURSES	Students Intake										
	GE	OBC	EWS	SC	ST	PwD					Total
						GE	OBC	EWS	SC	ST	
Four-Years B.Tech. Programmes											
1. Ceramic Engineering	29	19	7	11	5	2	1		1		**75**
2. Chemical Engineering	60	40	15	22	11	3	2	1	1	1	**156**
3. Civil Engineering	46	31	11	17	9	2	2	1	1		**120**
4. Computer Science & Engg.	39	25	9	14	7	2	1		1	1	**99**
5. Electrical Engineering	44	30	11	16	8	2	2		1	1	**115**
6. Electronics Engineering	51	34	13	19	9	3	2	1		1	**133**
7. Mechanical Engineering	57	38	14	21	11	3	2	1	1		**148**
8. Metallurgical Engineering	41	27	10	15	8	2	1	1	1		**106**
9. Mining Engineering	53	36	13	20	9						**131**
10. Pharmaceutical Engineering and Technology	31	20	8	11	6	2	1		1		**80**
Total	**451**	**300**	**111**	**166**	**83**	**21**	**14**	**5**	**8**	**4**	**1163**
Five-Years Integrated M.Tech. Dual Degree Programmes											
11. Biochemical Engineering with M.Tech. in Biochemical Engineering and Biotechnology	9	6	2	4	2	1	1				**25**
12. Bioengineering with M.Tech. in Biomedical Technology	8	5	2	3	1	1			1		**21**
13. Ceramic Engineering	8	5	2	3	1		1				**20**
14. Civil Engineering	12	8	3	4	2				1		**30**
15. Computer Science & Engineering	13	9	3	5	3		1				**34**
16. Electrical Engineering with M.Tech. in Power Electronics	12	8	3	5	2						**30**
17. Engineering Physics	11	7	3	4	2	1					**28**
18. Industrial Chemistry	8	5	2	3	2	1					**21**
19. Materials Science & Technology	11	7	3	4	1	1			1		**28**
20. Mathematics & Computing	20	13	5	7	4	1	1	1			**52**
21. Mechanical Engineering	12	8	3	4	2	1	1			1	**32**
22. Metallurgical Engineering	11	7	3	4	2			1			**28**
23. Mining Engineering	13	8	2	5	2						**30**
24. Pharmaceutical Engineering and Technology	8	5	2	3	2	1					**21**
Total	**156**	**101**	**38**	**58**	**28**	**8**	**5**	**2**	**3**	**1**	**400**

COURSES	Students Intake										
	GE	OBC	EWS	SC	ST	PwD					Total
						GE	OBC	EWS	SC	ST	
Five-Years B.Arch. Degree Programme											
25. Architecture	10	7	2	4	2	1					**26**
Two-Years M.Sc. Programmes											
26. Chemistry	9	6	2	4	2	1	1				**25**
27. Physics	10	7	3	3	1					1	**25**
Total	**19**	**13**	**5**	**7**	**3**	**1**	**1**			**1**	**50**

COURSES	Students Intake						
	GE	OBC	EWS	SC	ST	PC#	Total
Two-Years M.Tech. Programmes							
28. Biochemical Engineering	5	3	1	2	1	(1)	**12**
29. Biomedical Engineering	5	3	1	2	1	(1)	**12**
30. Ceramic Engineering	10	6	2	4	2	(1)	**24**
31. Chemical Engineering	25	15	6	9	4	(3)	**59**
32. Civil Engineering	33	21	8	11	6	(4)	**79**
33. Electrical Engineering	25	15	6	9	4	(3)	**59**
34. Electronics Engineering	25	15	6	9	4	(3)	**59**
35. Decision Sciences and Engineering	5	3	1	2	1	(1)	**12**
36. Materials Science & Technology	10	6	2	4	2	(1)	**24**
37. Mechanical Engineering	25	15	6	9	4	(3)	**59**
38. Metallurgical Engineering	25	15	6	9	4	(3)	**59**
39. Mining Engineering	15	9	4	5	3	(2)	**36**
40. Systems Engineering	5	3	1	2	1	(1)	**12**
Two-Years M.Pharm. Programme							
41. Pharmaceutical Engineering and Technology	20	13	5	7	4	(2)	**49**
Grand Total of 2-Years M.Tech. Courses	**233**	**142**	**55**	**84**	**41**	**(29)**	**555**

Student intake numbers for PC (5%) category has not been added in calculating total number of seats, as provision for the physically challenged candidate will be made from within the respective category.

Convocation

The 11th Convocation was held on October 10, 2022. Dr. V.K. Saraswat, Chancellor, Jawaharlal Nehru University, Delhi and Member NITI Aayog was delivered the convocation address. A total of 1769 various degrees were awarded in 11th Convocation of the Institute. Duri ng 11th Convocation, approximately 1236 candidates were received their degrees in person. The department-wise details of the degrees awarded are provided in Table.

Degrees awarded

Branch	Ph.D.	M.Tech.	M.Pharm.	M.Sc.	Dual Degree				B.Tech.	B.Pharm.	Total
					B.Tech.	M.Tech.	B.Pharm.	M.Pharm.			
Biochemical Engineering	4	7	0	0	11	11	0	0	0	0	**33**
Biomedical Engineering	1	7	0	0	15	15	0	0	0	0	**38**
Ceramic Engineering	7	20	0	0	19	19	0	0	36	0	**101**
Chemical Engineering	3	40	0	0	0	0	0	0	127	0	**170**

Branch	Ph.D.	M.Tech.	M.Pharm.	M.Sc.	Dual Degree				B.Tech.	B.Pharm.	Total
					B.Tech.	M.Tech.	B.Pharm.	M.Pharm.			
Chemistry	4	0	0	19	18	18	0	0	0	0	**59**
Civil Engineering	6	37	0	0	22	22	0	0	84	0	**171**
Computer Science & Engg.	8	0	0	0	16	16	0	0	73	0	**113**
Decision Sciences & Engg.	0	8	0	0	0	0	0	0	0	0	**8**
Electrical Engineering	4	32	0	0	23	23	0	0	95	0	**177**
Electronics Engineering	7	29	0	0	0	0	0	0	100	0	**136**
Humanistic Studies	1	0	0	0	0	0	0	0	0	0	**1**
Industrial Management	0	0	0	0	0	0	0	0	0	0	**0**
Materials Science & Tech.	10	13	0	0	18	18	0	0	0	0	**59**
Mathematical Sciences	7	0	0	0	21	21	0	0	0	0	**49**
Mechanical Engineering	12	37	0	0	22	22	0	0	120	0	**213**
Metallurgical Engineering	3	19	0	0	23	23	0	0	55	0	**123**
Mining Engineering	5	23	0	0	19	19	0	0	73	0	**139**
Pharmaceutics	3	0	24	0	24	24	0	0	28	0	**103**
Physics	10	0	0	23	20	20	0	0	0	0	**73**
Systems Engineering	0	3	0	0	0	0	0	0	0	0	**3**
TOTAL	**95**	**275**	**24**	**42**	**271**	**271**	**0**	**0**	**791**	**0**	**1769**

With this convocation, the total number of degrees awarded so far by the Institute is **46,207**. Total 17,544 degrees awarded by IIT(BHU) and before conversion of IT-BHU into IIT(BHU), the IT-BHU was awarded total number of degrees is 28,663:

Sl. No.	Programme	No. of degrees awarded		
		After conversion	Before conversion	Total
1	Ph.D.	1067	854	**1921**
2	M.Tech.	3051	3119	**6170**
3	M.Pharm.	482	653	**1135**
4	M.Sc.	78	0	**78**
5	I.M.D.	266	0	**266**
6	Dual Degree B.Tech.	1995	0	**1995**
	M.Tech.	1995	0	**1995**
7	Dual Degree B.Pharm.	76	0	**76**
	M.Pharm.	76	0	**76**
8	B.Tech.	8334	22947	**31281**
9	B.Pharm.	124	1090	**1214**
Total		**17544**	**28663**	**46207**

Award of Medals and Prizes to Students

Convocation prizes

Medals and Prizes awarded to students at the 11th Convocation:

1. **Shri Sibashis Misra**

   He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Biochemical Engineering Examination, 2022.

2. **Ms. Abirami S**

   She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Biomedical Engineering Examination, 2022.

3. **Ms. Lakshmi R**

   She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Ceramic Engineering Examination, 2022.

4. **Shri Rituraj Bhardvaj**

   He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Chemical Engineering Examination, 2022.

5. **Ms. Eshwaree P Shingwekar**

   She is awarded:

   a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Civil Engineering Examination, 2022.

   b) R.P. Singh, IRSE (Retired) Gold Medal for securing highest marks at the M.Tech. in Civil Engineering Examination, 2022.

6. **Shri Shaikh Sohel Fajalmahimud**

   He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Decision Sciences and Engineering Examination, 2022.

7. **Shri Amritanshu Ruhela**

   He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Electrical Engineering Examination, 2022.

8. **Shri Gourishankar Kara**

   He is awarded T.N. Srivastava Memorial Centenary Award for the best thesis on Power Systems Applications at the M.Tech. in Electrical Engineering Examination, 2022.

9. **Mrs. Madhavi Chandra**

   She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Electronics Engineering Examination, 2022.

10. **Shri Vishal Goyal**

    He is awarded Sanjeev Memorial Gold Medal for securing First position at the M.Tech. in Electronics Engineering (Digital Technology and Instrumentation) Examination, 2022.

11. **Shri Dipesh Kumar Dubey**

    He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Materials Science and Technology Examination, 2022.

12. **Ms. Deeksha Garg**

    She is awarded:

    a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Mechanical Engineering Examination, 2022.

    b) Prof. (Dr.) Mahendra Kumar Jain Nyayacharya Gold Medal for securing highest CPI at the M.Tech. in Mechanical Engineering Examination,2022.

13. Shri Pramod Kumar Yadav

He is awarded S.K. Memorial Gold Medal for standing First position at the M.Tech. in Mechanical Engineering (Machine Design) Examination,2022.

14. Ms. Ganapathiraju Padmini

She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Metallurgical Engineering Examination, 2022.

15. Ms. Ankita

She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Mining Engineering Examination, 2022.

16. Shri Yogendra Chhabil Sapkale

He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Systems Engineering Examination, 2022.

17. Shri Ajay Modi

He is awarded:

a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Pharm. Examination, 2022.

b) Shri J.N. Kapoor Gold Medal for securing First Position at the M.Pharm. Exam.,2022.

18. Ms. Akanksha Sharma

She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Sc. in Chemistry Examination, 2022.

19. Ms. Nilakshi Senapati

She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Sc. in Physics Examination, 2022.

20. Shri Neeraj Moitra

He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Biochemical Engineering (Biochemical Engineering and Biotechnology) Examination, 2022.

21. Ms. Palak Chaudhry

She is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Bioengineering (Biomedical Technology) Examination, 2022.

22. Shri Anjit Kumar

He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Ceramic Engineering Examination, 2022.

23. Ms. Akanksha Rajput

She is awarded:

a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Industrial Chemistry Examination, 2022.

b) Shri Taj Ahmad Quraishi Gold Medal for securing First position at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Industrial Chemistry Examination, 2022.

24. Shri Ayush Kumar Singh

He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Civil Engineering Examination, 2022.

25. Shri Mihil Gupta

He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Computer Science & Engineering Examination, 2022.

26. Shri Chandra Kant

He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Electrical Engineering (Power Electronics) Examination, 2022.

27. Shri Abhinav Sharma

He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Materials Science & Technology Examination, 2022.

28. Shri Shourrya Srivastava

He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Mathematics and Computing Examination, 2022.

29. Shri Naman Kaushik

He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Mechanical Engineering Examination, 2022.

30. Shri Arpit Gupta

He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Metallurgical Engineering Examination, 2022.

31. Shri Dhruva Karir

He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Mining Engineering Examination, 2022.

32. Shri N Narashiv Shenoy

He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Pharmaceutical Engineering and Technology Examination, 2022.

33. Shri Abhinav Prasad

He is awarded I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5-Year I.D.D. (B.Tech.-M.Tech.) in Engineering Physics Examination, 2022.

34. Shri Aditya Chandra

He is awarded:

a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Ceramic Engineering Examination, 2022.

b) Harbans Gokul Memorial Gold Medal for standing first at the B.Tech. among the Electrical, Electronics and Ceramic Engg. Exam. 2022 and Best Project work in the area of Electrical, Electronics and Ceramics.

35. Shri Yash Balraj Ippakayal

He is awarded:

a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Chemical Engineering Examination, 2022.

b) The R.B.G. Modi Medal for standing First at the B.Tech. in Chemical Engineering Examination, 2022.

c) Manishi Sharma Memorial Gold Medal for securing First position at B.Tech. Chemical Engineering Examination, 2022.

d) Mrs. Gargi Devi Trivedi Memorial Gold Medal for securing highest marks in B.Tech. Chemical Engineering Examination, 2022.

e) Prof. Y.D. Upadhya Memorial Gold Medal for securing highest CPI at B.Tech. Chemical Engineering Examination, 2022.

f) Dr. R.J. Rathi Financial Award Rs. 1000/= cash for standing First at the B.Tech. in Chemical Engineering Examination, 2022.

g) Manishi Sharma Memorial Cash Prize Rs. 2000/= for securing First position at the B.Tech. in Chemical Engineering Examination, 2022.

36. Ms. Tejaswita Som

She is awarded:

a) Prof. B.B. Bansal Memorial Gold Medal for being involved in Social Services/Co-curricular activities and having highest CPI at the undergraduate engineering Examination, 2022 among such students.

b) Smt. Indira Tripathi Gold Medal for securing highest CPI among the girl students at the B.Tech. in Chemical Engineering Examination, 2022.

37. Shri Rajat Kushwaha

He is awarded:

a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Civil Engineering Examination, 2022.

b) CRS Iyengar Memorial Gold Medal for securing highest marks in B.Tech. 4-Year Civil Engineering Examination, 2022.

c) Rai Bahadur Taracharan Gue Memorial Award Rs. 500/= cash for standing First at the B.Tech. in Civil Engineering Examination, 2022.

d) Late Prof. Manoranjan Sengupta Platinum Jubilee Merit Award Rs. 1000/= cash for securing highest marks in B.Tech. in Civil Engineering Examination, 2022

38. Ms. Priyasha Verma

She is awarded Meenakshamma Shankaranaramappa Prize Rs. 500/= cash for securing highest marks in Environmental Engineering (Theory) at the B.Tech. Civil Engineering Examination, 2022.

39. Shri Ganesh Jaiswal

He is awarded:

a) Smt. Bimla Aggrawal Medal for securing $\geq$ 8.00 CPI and having lowest family income out of the top 4 students at the B.Tech. in Civil Engineering Examination, 2022.

b) Smt. Bimla Aggrawal Cash Prize Rs. 15000/= for securing $\geq$ 8.00 CPI and having lowest family income out of the top 4 students at the B.Tech. in Civil Engineering Exam., 2022.

40. Ms. Avani Singh

She is awarded Smt. Indira Tripathi Gold Medal for securing highest CPI among the girl students at the B.Tech. in Civil Engineering Examination, 2022.

41. Shri Ashish Kumar

He is awarded:

a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Computer Science & Engineering Examination, 2022.

b) C. Raja Gopal Memorial Gold Medal for securing highest marks in B.Tech. 4-Year Computer Science & Engineering Examination, 2022.

c) Prof. V.V. Chalam Prize (The Prize shall be in the form of books by Mr. J. Krishnamurti) for standing Second position among all the branches of B.Tech. Examination, 2022.

42. Ms. Agrawal Shalini Nareshkumar

She is awarded Smt. Indira Tripathi Gold Medal for securing highest CPI among the girl students at the B.Tech. in Computer Science & Engineering Examination, 2022.

43. Shri Ashwin Srivastav

He is awarded:

a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Electrical Engineering Examination, 2022.

b) The R.B.G. Modi Medal for standing First at the B.Tech. in Electrical Engineering Examination, 2022.

c) Lala Balak Ramji Kohinoor Memorial Gold Medal for securing highest marks at the B.Tech. Examination, 2022 among the branches of Civil, Mechanical, Electrical and Electronics Engineering.

d) Himmat Narayan Singh Memorial Gold Medal for securing the First position and First Division in B.Tech. Electrical Engineering Examination, 2022.

e) CRS Iyengar Memorial Gold Medal for securing highest marks in B.Tech. 4-Year Electrical Engineering Examination, 2022.

f) N.V.R. Nageshwar Iyer (Prize Rs. 100/= in the form of books) for standing First in B.Tech. in Electrical Engineering Examination, 2022.

g) Late Prof. Manoranjan Sengupta Platinum Jubilee Merit Award Rs. 1000/= cash for securing highest marks in the B.Tech. in Electrical Engineering Examination, 2022.

44. Shri Prateek Chaturvedi

He is awarded:

a) Shri Om Prakash Aggrawal Medal for securing ≥ 8.00 CPI and having lowest family income out of the top 4 students at the B.Tech. in Electrical Engineering Exam., 2022.

b) Shri Om Prakash Aggrawal Cash Prize Rs. 15000/= for securing ≥ 8.00 CPI and having lowest family income out of the top 4 students at the B.Tech. in Electrical Engineering Examination, 2022

45. Ms. Manu Gupta

She is awarded Smt. Indira Tripathi Gold Medal for securing highest CPI among the girl students at the B.Tech. in Electrical Engineering Examination, 2022.

46. Shri Piyush Sharan

He si awarded:

a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Electronics Engineering Examination, 2022.

b) Late Prof. Nagesh Chandra Vaidya Gold Medal for standing First at the B.Tech. in Electronics Engineering Examination, 2022.

c) Dr. (Late) Nandita Saha Roy Memorial Gold Medal for securing First position in B.Tech. Electronics Engineering Examination, 2022.

d) C. Raja Gopal Memorial Gold Medal for securing highest marks in B.Tech. 4-Year Electronics Engineering Examination, 2022.

e) Dr. Ayyagari Sambasiva Rao Prize Rs. 1000/= cash for standing First at the B.Tech. in Electronics Engineering Examination, 2022.

f) Late Prof. Manoranjan Sengupta Platinum Jubilee Merit Award Rs. 1000/= cash for securing highest marks in B.Tech. in Electronics Engineering Examination, 2022

47. Shri Achintya Kulshrestha

He is awarded Prof. A.K. Ghosh Silver Medal for standing Second Position in B.Tech. in Electronics Engineering Examination, 2022.

48. Ms. Ishita Asthana

She is awarded Director's Gold Medal for outstanding all-round performance and excellent organizational abilities and leadership qualities among all B.Tech. graduates of 2022.

49. Ms. Astha Maurya

She is awarded:

a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Mechanical Engineering Examination, 2022.

b) The Prince of Wales Medal for standing First at the B.Tech. in Mechanical Engineering Examination, 2022.

c) Sudhir Kumar Sharma Memorial Gold Medal for securing highest marks in B.Tech. Mechanical Engineering Examination, 2022.

d) CRS Iyengar Memorial Gold Medal for securing highest marks in B.Tech. 4-Year Mechanical Engineering Examination, 2022.

e) Smt. Indira Tripathi Gold Medal for securing highest CPI among the girl students at the B.Tech. in Mechanical Engineering Examination, 2022.

f) Late Prof. Manoranjan Sengupta Platinum Jubilee Merit Award Rs. 1000/= cash for securing highest marks in B.Tech. in Mechanical Engineering Examination, 2022.

50. Shri Kshitiz Gupta

He is awarded:

a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Metallurgical Engineering Examination, 2022.

b) The Bishan Das Basil Medal for securing First position among B.Tech. in Mining and Metallurgical Engineering Examination 2022.

c) Swarnamma Memorial Gold Medal for securing highest marks in B.Tech. 4-Year Metallurgical Engineering Examination, 2022.

d) Shri Aditya Kumar Awasthi Endowment Award Rs. 1.0 lakh for securing First position at the B.Tech. in Metallurgical Engineering Examination, 2022.

51. Ms. Ami Indurkhya

She is awarded Smt. Indira Tripathi Gold Medal for securing highest CPI among the girl students at the B.Tech. in Metallurgical Engineering Examination, 2022.

52. Shri Gopi Kumar

He is awarded Ms. Indira Ananthachari Endowment Fund Prize Rs. 10,000/= cash for securing highest CPI more than 7.50 and family income is less than Rs. 5 lacs per annum at the B.Tech. Metallurgical Engineering Examination, 2022.

53. Shri Sanjay Kumar

He is awarded:

a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Mining Engineering Examination, 2022.

b) Dr. B.S. Verma Memorial Gold Medal for securing highest marks in B.Tech. Mining Engineering Examination, 2022.

54. Ms. Shloka Negi

She is awarded:

a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Pharmaceutical Engineering & Technology Examination, 2022.

b) President's Gold Medal for outstanding performance in academics among all disciplines of B.Tech. Examination 2022.

c) Late Shri Shyam Sunder Lal Razdan Memorial Gold Medal for securing highest percentage of marks in B.Tech. Examination, 2022.

d) Prof. Gopal Tripathi Memorial Gold Medal for securing highest marks at the B.Tech. Examination, 2022.

e) Smt. Arati Paul and Prof. Binod Bihari Paul Gold Medal for securing highest marks in IV Year Examination among all the students of B.Tech. Examination, 2022.

f) Umesh Pratap Singh Gold Medal for First Rank at the B.Tech. Examination, 2022 among all the branches.

g) Late Dr. R.N. Singh and Mrs. Uma Singh Medal for securing highest CPI among the girl students at the B.Tech. Examination, 2022.

h) Aruna and Malviya Medal for standing First at the B.Tech. in Pharmaceutical Engineering & Technology Examination, 2022.

i) Late Sundari Devi Gold Medal for securing highest CPI > 8.50 as a girl student in Pharmaceutical Engineering and Technology at the B.Tech. Examination, 2022.

j) Shri J.N. Kapoor Gold Medal for securing First position at the B.Tech. in Pharmaceutical Engineering & Technology Examination, 2022.

k) Shri Raj Kishore Kapoor Silver Medal for securing highest marks at the B.Tech. Examination, 2022.

l) Dr. Annie Besant Prize (in the forms of books by Dr. Annie Besant including copy of the 'Bhagavadgita') for standing First position among all the branches of B.Tech. Examination, 2022.

m) Late Prof. G.P. Srivastava (Prize Rs. 200/= in the form of books) for standing First at the B.Tech. in Pharmaceutical Engineering & Technology Examination, 2022.

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6. Department of Architecture, Planning and Design

Complete Name of Department: Department of Architecture, Planning and Design IIT (BHU) Varanasi

Year of Establishment: 2019

Head of the Department: Prof. Rajesh Kumar **w.e.f.** 17.12.2021

Brief Introduction of the Department:

The Department of Architecture, Planning and Design was established in 2019. It aims at addressing essential challenges faced by our country's infrastructure industry and academia. Students should not only have the creative urge to ideate a better built environment, but also develop confidence to experiment and invent technologies to execute those ideas. The program will essentially prepare students for a career in mainstream architectural practice in private and public domains, there will be a significant thrust to encourage them to take up other careers in research, academics, journalism, outreach and advocacy which are becoming increasingly relevant and even critical to the continuation of a habitable world as will be progressively defined through the lens of the universally accepted Sustainable Development Goals (SDG).

Now-a-days none of the subjects are completely independent. They are interdisciplinary and trans-disciplinary in nature. IIT (BHU) is one of the best centre for setting up a new department of architecture and planning because here we have other well-established departments which will support interdisciplinary research and projects, e.g. the Electronics Department will help the planners know about the sensors, similarly the Department of Material science and Ceramic Engineering will let us know about the new materials as substitute, Electrical Department will support in Energy management, Computer Department in developing compatible software development, Mechanical Department will help in developing devices etc. Therefore, having all well-established departments will definitely help the new department grow in a faster and better way.

Major areas of Research

Built Environment, Urban Sustainability, Heritage Conservation, Urban & Rural Planning, Augmented & Virtual Reality in Architecture, Development Policies.

Area of the Department (in square meters): 900.00

Infrastructure

Sl. No.	Particulars	Number
1	No. of Classrooms	02 (Studios)
2	No. of Lecture Halls	01
3	No. of Laboratory	01
4	No. of Computers available for students in the Department	25

Students on Roll *(From 1st April 2022 to 31st March 2023) (Please give No. of students only in respective years)*

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1.	B. Tech/B.Arch	20	18	18	14	Nil

Names of students/scholars who got prizes and awards outside the Institute *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	Anshveer Singh Bhatia	21218003	Special Mention, Thapar Model United Nations	24 April 2022	Thapar Institute
2	Anshveer Singh Bhatia	21218003	2nd Runner Up, Pitch Tank, GIM	17 Dec 2022	Goa Institute of Management, Goa
3	Anshveer Singh Bhatia	21218003	2nd Runner Up, Transcend 2.0, NIT Surathkal	01 May 2022	NIT Surakhtal
4	Anshveer Singh Bhatia	21218003	1st Runner Up, Avishkaar, IIM Lucknow	03 Feb 2023	IIM Lucknow

Sl. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
5	Aman Singh	19218002	Top 5-Gunasheela Hospital Facade Redesign Competition 2022	December 2022	BMS College of Architecture, Bangalore
6	Aman Singh	19218002	Winner XIMB "Pitch it Abroad" 2023 Research Preseantion	January 2023	XIMB, Bhubaneswar
7	Aman Singh	19218002	Finalist, Ayodhya Chowk Design Competion 2022	August 2022	Ayodhya Development Authority
8	Kaushaki Bhadauria	19218008	Winner XIMB "Pitch it Abroad" 2023 Research Preseantion	January 2023	XIMB, Bhubaneswar
9	Kaushaki Bhadauria	19218008	Finalist, Ayodhya Chowk Design Competion 2022	August 2022	Ayodhya Development Authority
10	Aman Singh	19218002	Winner AICTE IITB Mapathon 2022	April 2023	IITB-ISRO-AICTE Mapathon
11	Shinde Prathamesh Sharadrao	20218015	Winner AICTE IITB Mapathon 2022	April 2023	IITB-ISRO-AICTE Mapathon
12	Aditya Sharma		Winner AICTE IITB Mapathon 2022	April 2023	IITB-ISRO-AICTE Mapathon
13	Gomati Goswami	19218006	Winner AICTE IITB Mapathon 2022	April 2023	IITB-ISRO-AICTE Mapathon

Faculty & their Activity: Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
ASSOCIATE PROFESSORS			
1	Ar. Indra Kumar Singh (FAC-VF28) (M.Arch)	-	Industrial Design
ASSISTANT PROFESSORS			
1	Dr. Aaditya Pratap Sanyal	June 2019	Construction Management, Green Building, Climatology
2	Dr. Rabi Narayan Mohanty	23 October 2020	Urban Design, Heritage Conservation and Travel Behaviour
3	Dr. Harsimran Kaur	29 November 2020	Urban Sustainability, Heritage Conservation, Spatial Data Analytics
4	Dr. Kumar Abhishek	15 May 2020	Urban & Rural Planning, Industrial Ecology, Social Sustainability
5	Dr. Rewati Raman	27 April 2020	Sustainable Architecture, Urban and Rural Planning, Intelligent Buildings
6	Dr. Sneha	08 September 2022	Urban Land development and Management, Housing, Urban Governance
7	Dr. Vishal Chettry	December 2021	Urban Sprawl, Urban Growth Boundary, Urban Heat Island
8	Ar. Akhil Nawani (M. Arch)	-	Contemporary Architecture, Architectural History, Urban Climate Studies
9	Ar. Renuka Singh (FAC-VF24) (M.Arch.) Relieved on 02.01.2023	-	Urban Design, Architectural Design, Affordable Housing, Nature Based Solutions, Conservation

Technical and Non-Teaching Staff

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
1	Ravi Kumar Sonkar, B.Tech, MBA	Senior Assistant 50090	05.12.2020
2	Abhishek Tiwari, MBA	Data Entry Operator (Outsourcing)	05.08.2019

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

(From 1st April 2022 to 31st March 2023)

Sl. No.	Cordinator	Title	Period
1	Dr Rabi Narayan Mohanty	"Urban Design- Dimensions and Processes" by Dr Gayatri Nanda	4th November 2022
2	Dr. Harsimran Kaur and Ar. Akhil Nawani	World Heritage Day – Sharing Perspectives for Climate Risk Preparedness Using Intangible Cultural Heritage as a Knowledge Resource, By Department of Architecture, Planning and Design, IIT (BHU) Varanasi, NSC ICH and NSC CL, ICOMOS India	24th April 2022
3	Ar. Indra K. Singh, Dr. Harsimran Kaur and Ar. Renuka Singh	World Environment Day – A Student Competition on World Environment Day (Theme: Only One Earth)	5th June 2022
4	Dr. Harsimran Kaur and Ar. Akhil Nawani	Digital in Architecture by Ar. Priyank Soni	25th July 2022
5	Dr. Harsimran Kaur	Sustainable Architecture by Dr. Pawan Kumar	19th September 2022
6	Ar. Renuka Singh	An Exhibition – Reconnect with Building Materials	10th to 18th November 2022
7	Dr. Harsimran Kaur and Ar. Akhil Nawani	Paper to Parametric – A Two-day Workshop on "Origami in Architecture"	27th and 28th September 2022
8	Dr. Harsimran Kaur, Ar. Akhil Nawani (Event Coordinator)	3D Mapping and Modeling using Drone and GIS Software, a one - week High-End Workshop (KARYASHALA) under the ABHYAAS Scheme–A SERB Initiative (fully funded)	5th to 11th December 2022
9	All faculty of the department	'Grand-Finale' of 'Student Thesis Competition' on 'Re-imagining Urban Rivers' NIUA, NMCG, Govt. of India	28- 29 July 2022

Short-term courses/workshops/seminars/symposia/conferences/training programmes *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Ar. Indra Kumar Singh	Acoustics and Lighting Design in Built Environment	June 17-19, 2022, IIT Kharagpur(Online mode)
2	Ar. Indra Kumar Singh	Application of Building Science & Services in Built Environment	June 21-23, 2022, Theigarajar College of Engineering, Madurai (Online mode)
3	Aaditya Pratap Sanyal	Sustainable Repair and Rehabilitation of Constructed Facilities	Feb. 13-17, 2023; organised by Vellore Institute of Technology, Chennai
4	Aaditya Pratap Sanyal	Training-of-Trainers Workshop on Architecture Design Studio	Jan. 17-19, 2023; organised by IIT Bombay in association with GGSIPU, New Delhi
5	Aaditya Pratap Sanyal	Disaster Risk Reduction and Resilience	Dec. 27-29, 2022; organised Online by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in collaboration with Amity University, Lucknow
6	Aaditya Pratap Sanyal	Disaster Resilient Housing and Built Environment Imperatives for better policy,planning and sustainable cities	Dec. 13-15, 2022; organised Online by National Institute of Disaster Management, Ministry of Home Affairs, Govt. of India in collaboration with IMPRI
7	Aaditya Pratap Sanyal	Machine Learning and its Applications using Python	Dec. 05-19, 2022; organised Online by EduxLabs in association with Mechanica IIT Madras
8	Aaditya Pratap Sanyal	International Workshop on Construction Materials	Dec. 13-17, 2022; organised Online by NIT Calicut
9	Aaditya Pratap Sanyal	Resilient, Affordable and Comfortable Housing	Sep 01-03, 2022; organised by CEPT University, Ahmedabad
10	Aaditya Pratap Sanyal	Disaster Resilient Healthcare Infrastructure	Jul. 11-15, 2022; organised by School of Planning and Architecture, New Delhi

Sl. No.	Name of Faculty Member	Title	Period and Venue
11	Dr. Rabi Narayan Mohanty	Introduction to AR & VR	1st to 11th February 2023, C-DAC Pune
12	Dr. Harsimran Kaur	Making River Sensitive Master Plan organized by National Institute of Urban Affairs (NIUA) and the National Mission for Clean Ganga (NMCG) at Ramada by Wyndham Gurgaon Central, Gurugram	July 14-15, 2022
13	Dr. Rewati Raman	Resilient, Affordable and Comfortable Housing through National Action (RACHNA) training for Trainers	Sep 01-03, 2022; organised by CEPT University, Ahmedabad
14	Ar. Akhil Nawani	Making River Sensitive Master Plan organized by National Institute of Urban Affairs (NIUA) and the National Mission for Clean Ganga (NMCG) at Ramada by Wyndham Gurgaon Central, Gurugram	July 14th -15th, 2022
Meetings			
1	Dr. Harsimran Kaur	IKS, SPA Delhi	27th May 2022 (Online)
2	Dr. Harsimran Kaur	NIUA	24th May 2022, APD
3	Dr. Harsimran Kaur	AICTE	24th Nov. 2022 (Online)

Special lectures delivered by faculty members in other institutions *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1	Ar. Indra Kumar Singh	Thesis Presentation	ADA's Minerva College of Architecture, Pune	Feb 25, 2023
2	Aaditya Pratap Sanyal	Sustainable Benefits of Lighting due to Green Rehabilitation and Retrofitting	Sathyabama Institute of Science and Technology, Chennai, Tamil Nadu,	Mar. 28, 2023
3	Aaditya Pratap Sanyal	An introduction to the application of Case-Based Reasoning in Architectural research	Aayojan School of Architecture, Jaipur.	Dec. 21, 2022
4	Aaditya Pratap Sanyal	Architectural Photography	School of Architecture Urban Development and Planning, SSPU	Sept. 13, 2022
4	Aaditya Pratap Sanyal	Demonstration workshop on Dialux software	IIT Kharagpur	Jun. 17-19, 2022
5	Dr. Rabi Narayan Mohanty	Understanding Living Urban Heritage Through Vernacular/ Traditional Local Architecture	SSMS College of Architecture, Pune	13th Sep 2022 to 16th Sep 2022
6	Dr. Harsimran Kaur	Command and Control Governance in the Smart Cities of India: Perceptions and Reality-check	T*wo Week Faculty Development Programme on* "Advances in Smart Cities and IoT" by Department of Computer Science and Engineering, Deenbandhu Chhotu Ram University of Science & Technology, Murthal	10th March 2023
7	Dr. Harsimran Kaur	The Spatial Association of Demographic and Population Health Characteristics with COVID-19 Prevalence Across Districts in India	T*wo Week Faculty Development Programme on* "Advances in Smart Cities and IoT" by Department of Computer Science and Engineering, Deenbandhu Chhotu Ram University of Science & Technology, Murthal	10th March 2023
8	Dr. Kumar Abhishek	Research Methods in Architecture	KLE Technological University, Karnataka	21 July 2022

Honours and awards *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Award
1	Aaditya Pratap Sanyal	Session Chair in "Student National Conference on "My City Through My Lens - Volume 2" on Sept. 13, 2022
2	Aaditya Pratap Sanyal	Review Committee of PMRF Fellows under Architecture on June 20, 2022
3	Aaditya Pratap Sanyal	Examiners for The Evaluation of Project Planning and Scheduling Studio (BEM-1.05), School of Planning and Architecture, New Delhi on Dec. 15-16, 2022
4	Aaditya Pratap Sanyal	Member, Technical Committee to Oversee Redevelopment of Dr. Sampoorand Sigra Stadium Project, 2022.
5	Dr. Rabi Narayan Mohanty	Mentored four students on AICTE-funded research internship programs
6	Dr. Rabi Narayan Mohanty	Session Chair at ICCF' 22 organized at Manipal University Jaipur.
7	Dr. Harsimran Kaur	Shortlisted for IIA National Awards for Excellence in Architecture, 2021 under Research Papers Category, The Indian Institute of Architects (IIA) 20
8	Dr. Harsimran Kaur	Outstanding contribution by Young Professional Award, Indian Concrete Institute (ICI) Varanasi Chapter.
9	Dr. Harsimran Kaur	Mentored the teams in the "IITB- AICTE Mapathon" (one team declared champion, four declared winner)
10	Dr. Rewati Raman	Faculty Innovation Ambassador, Ministry of Education's innovation Council, Govt. of India.
11	Dr. Kumar Abhishek	Invited Juror, Smart India Hackathon (SIH) 2022, Ministry of Education's innovation Council, AICTE, Govt. of India.
12	Dr. Rabi Narayan Mohanty	Invited Juror, Smart India Hackathon (SIH) 2022, Ministry of Education's innovation Council, AICTE, Govt. of India.
13	Dr. Rewati Raman	Invited Juror, Smart India Hackathon (SIH) 2022, Ministry of Education's innovation Council, AICTE, Govt. of India.
14	Ar. Akhil Nawani	Invited Juror, Smart India Hackathon (SIH) 2022, Ministry of Education's innovation Council, AICTE, Govt. of India.
15	Ar. Renuka Singh	Invited Juror, Smart India Hackathon (SIH) 2022, Ministry of Education's innovation Council, AICTE, Govt. of India.

Fellowships of academic and professional societies *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Fellowship
1	Dr. Rabi Narayan Mohanty	ICOMOS annual membership
2	Dr. Harsimran Kaur	Member - Indian Institute of Engineers (IEI)
3	Dr. Harsimran Kaur	Member - Indian Concrete Institute (ICI)
4	Dr. Kumar Abhishek	International Society for Industrial Ecology(ISIE),USA-Member

Design and Development Activities New facilities added *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Details (Infrastructure, Equipment etc.)	Value (in Lakhs of Rupees)
1	Nikon 22 MP DSLR Camera	0.90
2	Voltric Smart Television 65' LED Backlit	1.34
3	Nikon 14 MP DSLR Camera	0.62
4	Robust Make Laser 3" Electronic Theodolite	0.55
5	Vassan Laser 2" Electronic Theodolite	0.75
6	Gimbal for DSLR and Smartphone	0.84
7	Kyocera Multifunction Machine (A4 colour Printer)	0.50
8	Bosch Laser Meter 50 meter	0.14
9	VR Machine	.43
10	Drone	2.9
11	Mirrorless Camera	0.55

Sl. No.	Details (Infrastructure, Equipment etc.)	Value (in Lakhs of Rupees)
12	Audio recorder	0.06
13	Laser distance measuring device	0.07
14	Pocket weather meter	0.35
15	Workstation	3.3
16	HTC VIVE Pro 2	1.85
17	3DI Stereo Hand Tracking System	0.3

Research and Consultancy Sponsored research projects *(Ongoing only)*

Note: Sponsored project name is to be given only in case a faculty member is Project Incharge

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1	Non Destructive Structural Testing Lab.	Nov. 2022 - Oct. 2024	IIT (BHU) Varanasi	10 Lakh	Aaditya Pratap Sanyal
2	Assessment of Built Environment and Visitors' Spatial Experiences in Unframed Heritage Sites of Varanasi	April 2022 to March 2024	IIT (BHU)	10 Lakh	Dr Rabi Narayan Mohanty
3	3D Modeling and Virtual Reality	September 2022 - August 2024	IIT(BHU) Seed Grant	10 Lakhs	Dr. Harsimran Kaur

Industrial consultancy projects *(Ongoing only)*

Sl. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
1	Aaditya Pratap Sanyal	Design, Provision of working drawings and supervision for the public space at Maidagin Crossing, Varanasi	Varanasi Smart City Limited (VSCL)	5 lakhs.
2	Dr. Harsimran Kaur	Heritage Consultation of Heritage Bye-Laws of Centrally Protected Monuments & Protected Areas	National Monument Authority, Ministry of Culture, GoI	15.44 Lakhs

Research Publications *(From 1st April 2022 to 31st March 2023)*

Sl. No.		No.
1	Total Number of Papers Published in Refereed International Journals	04
2	Total Number of Papers Presented in International Conferences	07

Refereed International Journals *(From 1st April 2022 to 31st March 2023)*

1. Sanyal, A. P. and Bhattacharya S. P. (2023) A Comparative Analysis between CBR Based Prediction Models and MRA Models for High-Rise Construction Delay Prediction. International Journal of Construction Management. https://doi.org/10.1080/15623599.2023.2211461.
2. Prashar, N., Lakra, H.S., Kaur, H. and Shaw R. (2023) Urban Flood Resilience: Mapping knowledge, trends and Structure through bibliometric Analysis. International Journal of Environment, Development and Sustainability.
3. Kaur, H. and Garg, P. (2023) Urban Sustainability Assessment Tool for Hillside Planning, Design and Development. International Journal of Urban Planning and Development. 149(2): 04023003-1-17. https://doi.org/10.1061/JUPDDM/UPENG-3590
4. Praharaj, S. and Kaur, H. (2022) The spatial association of demographic and population health characteristics with COVID-19 prevalence across districts in India. International Journal of Geographical Analysis. 0:1-23

Proceedings of International Conferences *(From 1st April 2022 to 31st March 2023)*

1. Indra Kumar Singh and Aaditya P. Sanyal. 2023. Sustainable mitigation measures to counter challenges in urban areas. Proceedings of 9th Zero Energy Mass Custom Home International Conference (ZEMCH 2022), Bangalore, India, November 2022.

2. Aaditya P. Sanyal, Indra Kumar Singh and Ratna Ghosh. 2023. A study of the relation between room aspect ratio and the WWR on various daylight metrics. Proceedings of 9th Zero Energy Mass Custom Home International Conference (ZEMCH 2022), Bangalore, India, November 2022.
3. Aaditya P. Sanyal, Supriya Mohanty and Arnab Sarkar. 2023. Application of recycled aggregates generated from waste materials towards improvement in acoustical and thermal conductivity of concrete. Materials Today: Proceedings - 2nd International Conference on Construction Materials and Structures, Calicut, India, December 2022.
4. Mohanta, A. and Mohanty, R. 2023. Users' Spatial Experiences in a Public Plaza Developed Under the Bhubaneswar Smart City Project, *Smart Innovation, Systems and Technologies*, Springer Singapore, January 2023 (Accepted to publish, *Scopus*)
5. Mohanty, R. and Mohanta, A. 2023. A Chronological Review of Urban Design, *Smart Innovation, Systems and Technologies*, Springer Singapore, January 2023 (Accepted to publish, Scopus)
6. Abhishek, K. and Biswas, A. 2022. Understanding Industrial Ecology: An approach for sustainable industrial development. Flexibility, Innovation, and Sustainable Business 299–306, Springer Singapore, August 2022. https://doi.org/10.1007/978-981-19-1697-7_21
7. Raman, Rewati & Datta, Ushnata. 2023. The Role of 'Unmanned Aerial Vehicles' in Smart City Planning and Management. Proceedings of UASG 2021: Wings 4 Sustainability: Unmanned Aerial System in Geomatics, Greater Noida, India, April 2021.

Kindly Provide Brief Details of 5 Articles from the Department with maximum no. of Citations in last 5 years

1. Kaur, H. and Garg, P. (2019). Urban Sustainability Assessment Tools: A Review. *Journal of Cleaner Production* 210, February 2019, pp 146-158.https://doi.org/10.1016/j.jclepro.2018 .11.009.
2. Kaur, H. and Garg, P. (2020). City Profile: New Tehri. *Cities* 102, 102718. https://doi.org/10.1016 /j.cities.2020. 102718.
3. Praharaj, S., Kaur, H. and Wentz, E. (2022). The Spatial Association of Demographic and Population Health Characteristics with COVID-19 Prevalence Across Districts in India. *Geographical Analysis*. https://doi.org/10.1111/gean.12336.
4. Mohanty, R.N. & Chani P. S. (2020) Assessment of pedestrians' travel experience at the religious city of Puri using structural equation modelling, Journal of Urban Design, 25:4, 486-504, DOI: 10.1080/13574809.2019.1677147
5. Mohanta A., Das S. & Mohanty, R.N (2021) Building envelope trade-off method integrated with BIM-based framework for energy-efficient building envelope, Architectural Engineering and Design Management, 17:5-6, 516-536, DOI: 10.1080/17452007.2021.1941741

Distinguished Visitors *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of the visitor & Designation	Date of Visit	Purpose of Visit
1	Prof. Sandeep Agarwal, Professor and Director at School of Urban and Regional Planning, University of Alberta, Canada	16th December 2022	To interact with faculties and students for possible international collaboration
2	Dr. Pawan Kumar, Associate TCP, Town and Country Planning Organization, Ministry of Housing and Urban Affairs, Govt. of India, New Delhi	19th September 2022	To interact with the students and faculty and deliver a guest lecture on "Sustainable Architecture"
3	Ar. Priyank Soni. Architect, Scenographer and Digital Fabrication Expert, Spatial Concept Designer, Uniplan GmbH & Co KG Cologne, Germany	25th July 2022	To interact with the students and faculty and deliver a guest lecture on "Digital in Architecture"
4	Ar. Gita Balakrishnan, Founder of Ethos Kolkata and ACEEDGE	24th March 2023	To interact with students and faculty on various projects by ETHOS

Other activities International collaboration/achievements by the Department *(From 1st April 2022 to 31st March 2023)*

1. YouthMappers IIT(BHU), ASU (Arizona State University, USA) are partnering with the Indian Institute of Technology (IIT) BHU in Varanasi, India to create a student led-mapping initiative.
2. NASA - The department is an Observer Member of the NASA (National Architects Student Association) [June 2022]

Foreign Faculty Visits in the Department *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. Sandeep Agarwal, Professor and Director at School of Urban and Regional Planning, University of Alberta, Canada	To interact with faculties and students for possible international collaboration	16.12.2022 DAPD

Key Instruments:

Robust Make Laser3" Electronic Theodolite & Vassan Laser 2" Electronic Theodolite

Nikon 22 MP DSLR Camera, *Nikon Mirrorless Camera* & Gimbal for DSLR and Smartphone

7. Department of Ceramic Engineering

Complete Name of Department: Department of Ceramic Engineering

Year of Establishment: 1924

Head of the Department: Prof. Vinay Kumar Singh w.e.f. 01.09.2021

Brief Introduction of the Department:

The founder of Banaras Hindu University, Pandit Mandan Mohan Malviyaji instituted courses in Glass and Ceramic Technology as early as 1924 with the noble objective of advancing glass and ceramic technology in India. The Department offers B. Tech, B. Tech - M. Tech. (Dual Degree), M. Tech. and Ph. D. degrees in Ceramic Engineering. M. Tech. and Ph. D. programs are interdisciplinary and are also open to those students of allied branches of Engineering and Sciences, who qualify GATE or NET. Sponsored candidates from industries and R&D organizations are also admitted in the PG Programs. The Department is pursuing active research in the emerging areas of glass, glass ceramics, bio-glass and bio-glass ceramics, refractories, ceramic white-wares, pottery & porcelain, cement, electrical and electronic ceramics. Research papers are being published in reputed national and international Journals regularly. The Department regularly works in collaboration with Academic and Research institutions, National Laboratories and various Ceramic industries through regular contacts, visits, seminars, symposia, workshops and conferences. The Department has also been rendering technical advice and consultancy to the industries under Industrial Consultancy and Testing Services of the Institute from time to time. The contribution of this very Department of Ceramic Engineering during the past is unparalleled to the entire industrial, research and development and educational areas in the country. The Department is having a number of projects funded by different government and private organizations. For enhancing collaboration with Academic and Research Institutions globally, the Department has MOU with University of Connecticut and Oklahoma USA, to create research and testing facilities for industrial development established IIT (BHU) – IRMA Centre of Excellence for Refractory with participation of Industrial Organizations and to work for technology up-gradation and support for Small and Medium sized ceramic and glass industries created Mahamana Glass and Ceramic Technology Skill Development Centre.

Teaching programs

- Years B. Tech. - Ceramic Engineering
- Years B. Tech. - M. Tech. Dual Degree (IDD), Ceramic Engineering
- 2 Years M. Tech. - Ceramic Engineering
- Ph.D. - Ceramic Engineering

Major areas of Research

- Glass and Glass Ceramics
- Refractories
- Electrical and Electronic Ceramics
- Cement and Advanced Building Materials
- Bio Ceramics
- Ceramic Micronutrients
- Energy Materials; Fuel cell, Solar cell, and Batteries
- Ceramic Waste Management
- Ultra-High Temperature & Light Weight Ceramics

Area of the Department (in square meters): ~5000m^2

Infrastructure

Sl. No.	Particulars	Number
1	No. of Classrooms	2
2	No. of Lecture Halls	2
3	No. of Laboratory	8
4	No. of Computers available for students in the Department	2

Students on Roll *(From 1st April 2022 to 31st March 2023) (Please give No. of students only in respective years)*

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1.	B. Tech/B.Arch	67	54	40	38	-
2.	Dual Degree	16	13	10	10	10
3.	M. Tech/ M. Pharm	13	3	-	-	-
4.	Ph. D (Under Institute Fellowship)	1	3	-	2	7
5.	Ph. D (Under Project Fellowship)	-	-	-	-	1
6.	Ph. D (Under Sponsored Category)	-	-	1	-	-

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
India					
1	Tuhin Sarkar	20032018	International conference on Advances in Glass and Glass-Ceramics (ICAGGC 2022)	23-25th August 2022 at CGCRI, Kolkata, India.	Self
2	Satyendra Kumar Singh	18031005	International conference on Advances in Glass and Glass-Ceramics (ICAGGC 2022)	23-25th August 2022 at CGCRI, Kolkata, India.	Institute
3	Satyendra Kumar Singh	18031005	International Conference on "Global Trends in Traditional to Space Ceramics (GT-TSC'22)	8-9th December 2022 at the Department of Ceramic Engineering, IIT (BHU), India	Self
4	Krishna Gopal Nigam	19031001	International Conference on "beyond Fossil Fuels, the future of alternative energy technology" (B-FAT 2020)	23 to 25 July 2022	Self

Faculty & their Activity

Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
PROFESSORS			
1	Prof. Vinay Kumar Singh, 17365	1994	Bio-Ceramics, Cements, Dental Materials, Glass, Refractories
ASSOCIATE PROFESSORS			
1	Dr. Anil Kumar,16730	1991	Glass Technology & Furnaces
2	Dr. M. R. Majhi,18295	2012	Refractory Technology, Bio Ceramics, Composite Material
3	Dr. P. K. Roy, 19780	2009	Magnetic & ferroelectric ceramics, Size dependent properties of nano materials, Synthesis-structure-property correlation in materials, Refractories, Waste management
4	Dr. Ashutosh Kumar Dubey,50037	2012	Piezoelectric Biomaterials, Functionally graded materials, Nanoporous bioceramics
5	Dr. Preetam Singh, 50042	2010	Energy Materials, Rechargeable Battery, Fuel Cells
ASSISTANT PROFESSORS			
1	Dr. Mohammad Imteyaz Ahmad, 50043	2009	Inorganic photovoltaic materials, Composites, Materials Processing

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
2	Dr. Santanu Das, 50055	2012	Synthesis and characterizations of various functional nanostructures, including, 2D graphene and transition metal di-chalcogenides (TMDC), CNT, ferrite-nanoparticles, quantum dots etc for applications in the field of transistors, hydrogen energy, light sensor diode, energy storage, sensors, energy generations, and other optoelectronic device applications.
3	Dr. Subrata Panda, 50252	2018	Advanced Materials Processing, Metal Hydrides, Powder Processing, Advanced Ceramics etc.
4	Dr. Kundan Kumar, 50300	2022	High Temperature Ceramics, Nanomaterials Synthesis, Processing and Characterizations, Advanced Ceramics, Materials Chemistry
Senior Scientific Officer			
1	Dr. Sudama Singh,18991	1992	Pollution Control and Refractory
2	Dr. R. K. Chaturvedi, 18989	1991	Corrosion and Glass Nutrients

Technical and Non-Teaching Staff

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
1	Shri R. K. Sharma Intermediate	Senior Technical Superintendent Gr II, 16662	22.12.1989
2	Shri Madan Kumar Intermediate	Senior Technical Superintendent 13710	22.02.1985
3	Shri Pankaj Kumar Singh Intermediate	Senior Technical Superintendent 18750	15.12.2008
4	Shri Subash Singh Intermediate	Technical Superintendent 13723	15.10.1998
5	Shri Barun Kumar Singh Intermediate	Junior Technical Superintendent 13722	15.10.1998
6	Shri Shiv Jatan Intermediate	Junior Technical Superintendent 14203	12.08.1991
7	Shri Gopal Yadav Intermediate	Junior Technical Superintendent 16213	20.04.1995
8	Shri Raj Kumar Mishra Intermediate	Senior Technician 18656	05.08.2008
9	Shri Ashish Tripathi, Graduation	Senior Technician 19607	21.07.2012
10	Shir Vinod Kumar High School	Junior Technical Superintendent 13707	16.05.1997
11	Shri Pawan Kumar, Post Graduation	Junior Superintendent 50165	08.08.2017
12	Shri Shailendra Kumar, Post Graduation	Junior Assistant 50093	08.05.2017

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

(From 1st April 2022 to 31st March 2023)

Sl. No.	Cordinator	Title	Period
1	Dr. Preetam Singh, (Convenor)	International Conference on "beyond Fossil Fuels, the future of alternative energy technology" (B-FAT 2020)	23 to 25 July 2022

Short-term courses/workshops/seminars/symposia/conferences/training programmes *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Dr. Pradip Kumar Roy	International conference on smart materials for sustainable technology - II (SMST 2022), at IIT Bombay, India	13 – 16th October 2022
2	Dr. Subrata Panda	23rd World Hydrogen Energy Conference (WHEC-2022)	26-30th June, 2022 Istanbul, Turkey
3	Dr. Subrata Panda	International Conference on Advances in Glass & Glass-ceramics (ICAGGC-2022)	23-25th August, 2022 Kolkata, India
4	Dr. Subrata Panda	9th International Hydrogen & Fuel Cell Conference (IHFC-2022)	4-6th December, 2022 New Delhi, India
5	Dr. Subrata Panda	International Conference on Global Trends in Traditional to Space Ceramics (GT-TSC'22)	8-9th December, 2022 Varanasi, India
6	Prof. Vinay Kumar Singh	Indian Ceramics Asia Conference	Gandhinagar, 16 Feb 2023,
7	Dr. M. R. Majhi	Indian Ceramics Asia Conference	Gandhinagar, 16 Feb 2023,
8	Dr. Preetam Singh	Indian Ceramics Asia Conference, Panel Discussion on "*Alternative Fuels For Ceramic Industries*".	Gandhinagar, 16 Feb 2023
9	Dr. Preetam Singh	Invited Talk, 2nd Conference on Heterogeneous Catalysis (ChemCat Con2.0),.	IIT Gandhinagar, 14-16 May 2022
10	Dr. Preetam Singh	Invited Talk, *HYDROGEN FROM BIOMASS Webinar*, World Resources Institute(WRI), India	New Delhi 18 January 2022

Special lectures delivered by faculty members in other institutions *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1	Dr. Pradip Kumar Roy	DTA/TGA and XRD	Workshop on High-end Equipment's:Fabrication & Characterization of Electronic Devices at IIT Patna, India	21st – 27th July 2022
2	Dr. Pradip Kumar Roy	Synthesis and characterizations of novel Y-type hexaferrite materials for sustainable applications in various fields	FDP (AICTE) on "Novel materials for sustainable development" at IIT Patna, India	14th September 2022
3	Dr. Pradip Kumar Roy	Chromium substituted barium hexaferrite (CO_2-Y): a replacement of traditional soft ferrite for hyperthermia application	International conference on smart materials for sustainable technology - II (SMST 2022), at IIT Bombay, India	13 – 16th October 2022
4	Dr. Santanu Das	Two-dimensional hybrid materials for functional applications:New archetypes of nanoscale engineering	University of Calicut	27th June, 2022
5	Dr. Santanu Das	Synthesis and Characterizations of Nanomaterials	University of Calicut	01st August, 2022
6	Dr. Santanu Das	Two-dimensional Functional Materials for Hydrogen Generation	Govt. College of Technology Coimbatore	27th June, 2022
7	Dr. Santanu Das	Emerging two-dimensional nanomaterials for functional applications: New archetypes of nano-scale engineering	Defence Material and Stores Research and Development Establishment, Kanpur	March 21st, 2023
8	Dr. Santanu Das	2D-metal di-chalcogenides as electrocatalysts for green hydrogen generation: Issues and challenges	Jadavpur university	January 14th, 2023

Honours and awards *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Award
1	Dr. Santanu Das	11th National Petrochemicals Awards: BEST INNOVATION 2022, from *Department of Chemicals and Petrochemicals, Ministry of Chemicals & Fertilizers, Government of India*, 27th September 2022
2	Dr. Santanu Das	'Best Teacher Awards' 2022, Indian Institute of Technology (BHU) Varanasi, 05th September 2022

Fellowships of academic and professional societies *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Fellowship
1	Dr. Pradip Kumar Roy	Fellow of the Institution of Engineers (IEI) (India) [Membership No: F-1284033]

Books, monographs authored/co-authored *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Author/Co- Author	Title	Publisher
1	K Kumar, YJ Park, MJ Kim, HN Kim, HJ Ma, JW Lee, JW Ko	Influence of ternary oxide additives on thermal conductivity of pressureless sintered Si_3N_4	Materials Letters 328, 133189
2	K Kumar, MJ Kim, HM Oh, YJ Park, HN Kim, HJ Ma, JW Lee, JW Ko	Fabrication of highly dense Si3N4 via record low-content additive system for low-temperature pressureless sintering	Journal of the American Ceramic Society, 1-12
3	K Kumar, MJ Kim, YJ Park, HN Kim, HJ Ma, JW Lee, JW Ko	Twofold Increase in Weibull Modulus of Hot-pressed Si3N4 Ceramic by Modified Pressing Profile	Materials Today Communications 32, 103979
4	HJ Ma, S Hong, HM Oh, K Kumar, MJ Kim, HN Kim, JW Ko, JW Lee, HC Lee, YJ Park	Correlation with the Microstructure and Synergistic Physiochemical Etching Resistance of Nanocomposites under Fluorine-Containing Plasma Conditions	ACS Applied Materials & Interfaces 14 (38), 43771-43782
5	A Arun, K Kumar, A Chowdhury	Monoclinic phase-free, low temperature spark plasma sintering of CeO_2-doped ZrO_2 ceramics and its associated benefits on mechanical properties	Journal of the European Ceramic Society 43 (5), 2069
6	A Arun, K Kumar, A Chowdhury	Influence of a grain-locking morphology on properties of doped ZrO_2 ceramics made with ultrafine (~3 nm) nanoparticles	Journal of Materials Research, 1-13

Editorial boards of journals *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Dr. Ashutosh Kumar Dubey	Associate Editor	International Journal of Applied Ceramic Technology (@ American Ceramic Society), Wiley
2	Dr. Ashutosh Kumar Dubey	Review Editor	on the Editorial Board of Regenerative Technologies for the journal Frontiers in Medical Technology
3	Dr. Ashutosh Kumar Dubey	Editorial Board Member	PLOS ONE journal (PLOS, California, USA).
4	Dr. Ashutosh Kumar Dubey	Editorial board member	EC Orthopedics.
5	Dr. Ashutosh Kumar Dubey	Editorial board member	Journal of Mineral, Metal and Material Engineering.

Design and Development Activities

New facilities added *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	High Speed Zirconia Ball Mill	5.0

Patents filed *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title of Patent
1	Dr. Pradip Kumar Roy	"Enhancement of hard magnetism in strontium hexaferrite based non-rare-earth magnets" (Indian Patent Application: 202211031284, Date: 31-05-2022)
2	Dr. Santanu Das	A METHOD OF SYNTHESIZING 2D IN-SITU FUNCTIONALIZED SO_3H/SO_3-MOS_2 NANOSHEETS FOR PHOTOCATALYTIC DYE DEGRADATION
3	Dr. Santanu Das	IN-SITU -SO_3H FUNCTIONALIZED TWO-DIMENSIONAL MOS2 NANOSHEETS AND METHOD OF PREPARATION THEREOF
4	Dr. Preetam Singh	High Performance Aqueous asymettric supercapacitor device using ABO_2 type pseudocapacitor electrodes (Indian Patent Application: 202311015019, Date: 06.03.2023)

Research and Consultancy

Sponsored research projects *(Ongoing only)*

Note: Sponsored project name is to be given only in case a faculty member is Project Incharge

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1	"Pressure Assisted Flash Joining of Ceramic Materials" Core Research Grant,	2022-2025	DST-SERB CRG/2022/008407	INR 46 Lakh)	Principal Investigator: Dr. Imteyaz Ahmad)
2	Development of nano bonded magnesium borate refractory castable application for petrochemical industry	2023-2026	SERB(DST)	INR 43 Lakh	Principal Investigator: Dr. Manas Ranjan Majhi

Faculty members' participation with other universities under MoUs *(Ongoing only)*

Research Publications *(From 1st April 2022 to 31st March 2023)*

Sl. No.		No.
1	Total Number of Papers Published in Refereed International Journals	73
2	Total Number of Papers Presented in International Conferences	01

Refereed International Journals *(From 1st April 2022 to 31st March 2023)*

1. Deepshikha Shekhawat, **P. K. Roy, "**Investigate the effect of synthesis method on the magnetic dynamic properties of $SrAl_4Fe_8O_{19}$ hexaferrite" Materials Science & Engineering B 293 (2023) 116461.
2. Deepak Kumar Gorai, Saikat Kumar Kuila, Akash Oraon, Anurag Kumar, Mukesh Suthar, Rahul Mitra, Krishanu Biswas, **P. K. Roy**, Md. Imteyaz Ahmad, Tarun Kumar Kundu, "A facile and green synthesis of Mn and P functionalized graphitic carbon nitride nanosheets for spintronics devices and enhanced photocatalytic performances under visible-light," Journal of Colloid and Interface Science 644 (2023) 397–414.
3. Mukesh Suthar, **P. K. Roy**, **"**Evaluation of magnetic & humidity-dielectric response of tungsten substituted Y-type barium hexaferrite ($Ba_2Co_2W_xFe_{12-x}O_{22}$, $0.0 \leq x \leq 2.0$) synthesized by solid-state reaction route" Inorganic Chemistry Communications 150 (2023) 110554.
4. Mukesh Suthar, Arup Kumar De, Arindam Indra, Indrajit Sinha, **P. K. Roy**, **"**Synthesis and characterization of titanium substituted nanocrystalline Co_2-Y hexaferrite: magnetically retrievable photocatalyst for treatment of methyl orange contaminated wastewater" Environmental Science and Pollution Research 30 (2023) 44457–44479.
5. Vishwas Acharya, Nila Pal, Anand Sharma, Utkarsh Pandey, Mukesh Suthar, **P. K. Roy,** Sajal Biring, Bhola Pal, "Solution processed low operating voltage SnO_2 thin film transistor by using Li_2SnO_3/TiO_2 stacked gate dielectric" Materials Science & Engineering B 289 (2023) 116270.
6. Mukesh Suthar, Deepak Khare, Asnit Gangwar, Samya Banerjee, N. K. Prasad, A. K. Dubey, **P. K. Roy**, "Structural, magnetic, and biocompatibility evaluations of chromium substituted barium hexaferrite (Co_2-Y) for hyperthermia application" Materials Chemistry and Physics 296 (2023) 127348.
7. Vishwas Acharya, Nila Pal, Utkarsh Pandey, Akhilesh Kumar Yadav, Mukesh Suthar, **P. K. Roy,** Sajal Biring, Bhola Pal, "High-κ $SrTiO_3$ thin film as Gate dielectric of a Solution processed SnO_2 thin film transistor" Materials Science in Semiconductor Processing 155 (2023) 107228.
8. SK S. Hossain, Chang-Jun Bae, **P. K. Roy, "**Recent progress of wastes derived nano-silica: synthesis, properties, and applications" Journal of Cleaner Production 377 (2022) 134418.
9. Akanksha Gupta, Manoranjan Kar**, P. K. Roy,** "Substitutional effect of Ni-Al in electromagnetic properties of Sr-hexaferrite based non-rare earth magnet with high energy density for motor applications" Materials Chemistry and Physics 292 (2022) 126842.
10. Mukesh Suthar, Avinash K. Srivastava, Charu Sharma, Raj K. Joshi, **P. K. Roy, "**Nano-sized Ce-substituted hexagonal Co_2-Y ferrite; a valuable catalyst for heterogeneous reduction of toxic nitro-organic pollutants" Ceramic International 48 (2022) 37370–37382.

11. Mukesh Suthar, **P. K. Roy**," Structural, electromagnetic, and Ku band absorption characterization of La-Mg substituted Y-type barium hexaferrite for EMI shielding application" Materials Science & Engineering B 283 (2022) 115801.
12. Arun, A., Kumar, K., & Chowdhury, A. (2022). Influence of a grain-locking morphology on properties of doped ZrO2 ceramics made with ultrafine (~ 3 nm) nanoparticles. *Journal of Materials Research, 37*(23), 4255-4267.
13. Arun, A., Kumar, K., & Chowdhury, A. (2023). Monoclinic phase-free, low temperature spark plasma sintering of CeO2-doped ZrO2 ceramics and its associated benefits on mechanical properties. *Journal of the European Ceramic Society, 43*(5), 2069-2077.
14. Kumar, K., Kim, M. J., Oh, H. M., Park, Y. J., Kim, H. N., Ma, H. J., . . . Ko, J. W. (2022). Fabrication of highly dense Si3N4 via record low-content additive system for low-temperature pressureless sintering. *Journal of the American Ceramic Society, 105*(7), 4669-4680.
15. Kumar, K., Kim, M. J., Park, Y. J., Kim, H. N., Ma, H. J., Lee, J. W., & Ko, J. W. (2022). Twofold increase in Weibull modulus of hot-pressed Si3N4 ceramic by modified pressing profile. *Materials Today Communications, 32*.
16. Kumar, K., Park, Y. J., Kim, M. J., Kim, H. N., Jin Ma, H., Lee, J. W., & Ko, J. W. (2022). Influence of ternary oxide additives on thermal conductivity of pressureless sintered Si3N4. *Materials Letters, 328*.
17. Ma, H. J., Hong, S., Oh, H. M., Kumar, K., Kim, M. J., Kim, H. N., . . . Park, Y. J. (2022). Correlation with the Microstructure and Synergistic Physiochemical Etching Resistance of Nanocomposites under Fluorine-Containing Plasma Conditions. ACS Applied Materials and Interfaces, 14(38), 43771-43782.
18. Singh V.K., Jain P., Panda S., Kuila B.K., Pitchaimuthu S. and Das S. (2022) Sulfonic acid/sulfur trioxide (SO3H/SO3) functionalized two-dimensional MoS2 nanosheets for high-performance photocatalysis of organic pollutants. New Journal of Chemistry. 46(28): 13636-13642.
19. Khan D., Zou J., Muhammad S., Khan N.A., Saud S., and Panda S. (2023) The adaptable effect of Ru on hydrogen sorption characteristics of the MgH2 system. Materials Chemistry and Physics. 301: 127583.
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72. Anurag Kumar, and Md. Imteyaz Ahmad, Role of Defects in the Electronic Properties of Al Doped ZnO Films Deposited by Spray Pyrolysis, J. Mater Sci. 57 (2022) 7877-
73. Avnish Singh Pal, Aman Kumar Lal Das, Ankit Singh, Kevin M. Knowles, Md. Imteyaz Ahmad, and Joysurya Basu, Evolution of a self-assembled chessboard nanostructure spinel in a CoFeGaMnZn multicomponent oxide, Phil. Mag. (2022) Accepted for Publication

Proceedings of International Conferences *(From 1st April 2022 to 31st March 2023)*

1. Vaibhv Singh, Asoutosh Gupta, Abhishek Singh,,Manish kumar, Vinay Kumar Singh, Manas R. Majhi, effect of tharmal treatmentof physical and mechanical extraction of magnesium borate nano rod whisker preparation via hydrothermal cum reactionsintering process. REFIS 4.0, Bokaro steel plant, sept,2022

Kindly Provide Brief Details of 5 Articles from the Department with maximum no. of Citations in last 5 years

Sl. No.	Title	Authors	Journal Name	Volume, Date, Page No	Publisher	Impact Factor	Citation
1	Rice husk/rice husk ash as an alternative source of silica in ceramics: A review	SK Saddam Hossain, Lakshya Mathur, **P. K. Roy**	Journal of Asian Ceramic Societies	6 (4) (2018) 299–313	Taylor & Francis	2.546	235
2	Tunable Graphene-Based Metasurface for Polarization-Independent Broadband Absorption in Lower Mid-Infrared (MIR) Range	SK Ghosh, VS Yadav, S Das, S Bhattacharyya	IEEE Electromagnetic Compatibility Society	VOL. 62, NO. 2, APRIL 2020	IEEE	**2.006**	67
3	Synthesis of nano-crystalline forsterite (Mg2SiO4) powder from biomass rice husk silica by solid-state route	Mathur L.; Saddam Hossain S.; Majhi M.; Roy P.	Boletin de la Sociedad Espanola de Ceramica y Vidrio	Volume 57, Year 2018, Pages 112-118	Elsevier	3.483	32

Sl. No.	Title	Authors	Journal Name	Volume, Date, Page No	Publisher	Impact Factor	Citation
4	Graphene-based metasurface for a tunable broadband terahertz cross-polarization converter over a wide angle of incidence	SD Vinit Singh Yadav, Sambit Kumar Ghosh, Somak Bhattacharyya	Applied Optics	57 (29), 8720-8726, 2019	Optica	1.95	70
5	Graphene oxide-ferrite hybrid framework as enhanced broadband absorption in gigahertz frequencies	Rajarshi Bhattacharyya, Om Prakash, Somnath Roy, Akhilendra Pratap Singh, Tapas Kumar Bhattacharya, Pralay Maiti, Somak Bhattacharyya, Santanu Das	Scientific reports	9 (1), 12111, 2019	Nature Publishing Group UK	4.997	42

8. Department of Chemical Engineering & Technology

Complete Name of Department: Department of Chemical Engineering & Technology

Year of Establishment: 1921

Head of the Department: Prof. Monoj Kumar Mondal **w.e.f.** 01.01.2023

Brief Introduction of the Department:

Department of Chemical Engineering and Technology (ChE) at IIT (BHU) Varanasi with a long-standing reputation for excellence, began its journey in 1921 as the Department of Industrial Chemistry. We offer an exceptional educational experience, cutting-edge research opportunities, diverse degree options, and a strong alumni network. We have evolved into the Department of Chemical Engineering and Technology, constantly updating our programs to deliver education in the latest areas of chemical engineering.

At ChE@IIT (BHU) Varanasi, we are committed in providing the highest quality education and fostering an environment that stimulates the growth of our students. We strive for excellence in chemical engineering education, research, and socioeconomic impact. With dedicated faculty members and an ambitious student body, we are proud of the contributions our graduates make both within India and on the international stage, excelling in academia and industry.

Our department is equipped with world-class experimental research facilities, supported by the esteemed ParamShivay Supercomputer, which ranks among the best in the country. This advanced infrastructure enables our students and faculty to pursue impactful research, attracting extramural funding, forging industry collaborations, and achieving high-impact publications and patents.

To strengthen our expertise in emerging areas, we have expanded our faculty while maintaining our core strengths in fluid mechanics, reaction engineering, process design and intensification, thermodynamics, and molecular simulations. Additionally, we actively foster entrepreneurial activities among our students, resulting in numerous successful ventures supported by the department.

As a member of ChE@IIT (BHU) Varanasi, one will have the opportunity to shape the future of chemical engineering education and research. In all of our programmes, B.Tech., M.Tech., or Ph.D., we offer a wide range of courses. Our department encompasses state-of-the-art research facilities, a well-equipped workshop, smart classrooms, an auditorium, and a library, making it one of the largest in the country. Moreover, as a DST-FIST Sponsored Department, we have established strong ties with industrial organizations, engaging in consultancy projects and industry-funded research. A vibrant and thriving ChE@ IIT (BHU) Varanasi community is synnonumus to IIT (BHU) Varanasi.

Major areas of Research

Currently major areas of research in the department are Advacned Energy Solutions, Bioscience & Technology, Catalysis and Reaction Engineering, Pollution Control Technology, Nanoscience & Technology, Renewable Energy, Soft and Active Matters, and theory and Compuation. The department has identified three major thrust areas for future research as energy, environment and nanotechnology with emphasis on developing affordable solutions for the problems in the country such as drinking water, energy (harvesting, production and storage) and healthcare.

Area of the Department (in square meters): 4002 sq m.

Infrastructure

Sl. No.	Particulars	Number
1	No. of Classrooms	07
2	No. of Lecture Halls	03
3	No. of Laboratory	29
4	No. of Computers available for students in the Department	44

Unique Achievement/Preposition of the Department:

i. Development of proton exchange membrane (PEM) based electrolyzer stack for production of ultra-pure Hydrogen and also a device for on-site production of ultra-pure Hydrogen.

ii. World ranking of top 2% scientists from India in the field Chemical Engineering as per the latest data and statistics released by Elsevier and Stanford University USA, 2022

Students on Roll *(From 1st April 2022 to 31st March 2023) (Please give No. of students only in respective years)*

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1	B. Tech/B.Arch	172	172	172	145	Nil
2	M. Tech/ M. Pharm	59	51	Nil	Nil	Nil
3	Ph. D (Under Institute Fellowship)	6	3	2	15	9
4	Ph. D (Under Project Fellowship)	Nil	2	Nil	Nil	Nil
5	Ph. D (Under Sponsored Category)	Nil	1	Nil	Nil	Nil

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
INDIA					
1	Ahmad Nawaz	17041501	International Conference on Biotechnology, Sustainable Bioresources and Bioeconomy	07.12.2022 to 11.12.2022 IIT Guwahati	Institute
2	Kanhaiya Lal Maurya	18041003	International conference on technological interventions for sustainability MNNIT Allahabad	14.04.2022 to 16.04.2022 MNNIT Allahabad	NA
3	Kanhaiya Lal Maurya	18041003	International Conference on Biotechnology for Sustainable Bioresources and Bio-economy (BSBB 2022)	03.12.2022 to 05.12.2022 SMVDU Katra	Yes
4	Nidhi Agnihotri	18041005	Chemical Engineering: Enabling Transition Towards Sustainable Future (CHEMTSF 2022)	08.09.2022 to 10.09.2022 IIT Roorkee	Self
5	Nidhi Agnihotri	18041005	Advances in Biopolymers and Composites: Health, Environment and Energy (ABC-HEE 2022)	20.10.2022 to 22.10.2022 NIT Allahabad	RSGF
6	Nidhi Agnihotri	18041005	Advances in Smart Materials, Chemical & Biochemical Engineering (CHEMSMART 2022)	16.12.2022 18/12.2022 NIT Rourkela	Self
7	Nidhi Agnihotri	18041005	CHEMCON 2022	27.12.2022 to 30.12.2022 HBTU Kanpur	RSGF
8	Pranjal Tripathi	18041008	International Conference on Technological Interventions for Sustainability (CHEMCONFLUX 2022)	14.04.2022 to 16.04.2022 Virtual	Self
9	Pranjal Tripathi	18041008	International Conference on Biotechnology for Sustainable Bioresources and Bioeconomy (BSBB 2022).	07.12.2022 to 11.12.2022 IIT Guwahati	Institute
10	Pranjal Tripathi	18041008	National Conference on "Advances in Chemical Engineering and Science **(**ACES-2023)	31.03.2023 to 01.04.2023 IISER Bhopal	Institute
11	Abhishek Anand	19041002	CHEMCON 2022	HBTU Kanpur	RSGF
12	Abhishek Anand	19041002	Seminar on "LABVIEW" software	ECE IIT BHU	No fees

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
13	Akanksha Soni	19041003	16th Complex Fluids Symposium (COMFLU 2022)	19.12.2022 to 21.12.2022 IIT Kharagpur	STGS & RSGF
14	Ashish Gautam	19041007	Chemical Engineering: Enabling Transition Towards Sustainable Future (CHEMTSF 2022)	08.09.2022 to 10.09.2022 IIT Roorkee	Self
15	Ashish Gautam	19041007	Advances in Biopolymers and Composites: Health, Environment and Energy (ABC-HEE 2022)	20.10.2022 to 22.10.2022 NIT Allahabad	RSGF
16	Ashish Gautam	19041007	Advances in Smart Materials, Chemical & Biochemical Engineering (CHEMSMART 2022)	16.12.2022 to 18.12.2022 NIT Rourkela	Self
17	Ashish Gautam	19041007	CHEMCON 2022	27.12.2022 to 30.12.2022 HBTU Kanpur	RSGF
18	Veeresh Verma	19041021	Advances in Smart Materials, Chemical, and Biochemical Engineering (CHEMSMART 22)	16.12.2022 to 18.12.2022 NIT Rourkela	Self
19	Veeresh Verma	19041021	International Conference on Nanotechnology: Opportunities & Challenges	28.11.2022 to 30.11.2022 JMI New Delhi	Self
20	Ayush Sharma	22041002	16th Complex Fluids Symposium, (COMFLU 2022)	19.12.2022 to 21.12.2022 IIT Kharagpur	STGS
21	Prateek Chowdhury	22041003 (Ph.D.) 20042034 (M.Tech.)	ME@75: Research Frontiers (Conference) Presented during M.Tech. at IIT (BHU)	29.06.2022 to 01.07.2022 IISc Bangalore	STGS
22	Rishav Kumar	22042046	GIAN COURSE (Interfacial Transport Phenomena and Solution Techniques)	13.01.2023 to 17.01.2023 IIT Kanpur	Self
23	M.V.R. Sudheer	21042026	ME@75: Research Frontiers (Conference)	29.06.2022 to 01.07.2022 IISc Bangalore	STGS
24	Beemanadhuni Hemanth	21042016	16th Complex Fluid Symposium (COMFLU 2022)	19.12.2022- 21.12.2022 IIT Kharagpur Research Park, Kolkata	STGS
25	Chandra Kant	21042010	16th Complex Fluid Symposium (COMFLU 2022)	19.12.2022- 21.12.2022 IIT Kharagpur Research Park, Kolkata	STGS

Names of students/scholars who got prizes and awards outside the Institute *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	Ashish Gautam	19041007	Best Paper Awardee	27.12.2022 to 30.12.2022 HBTU Kanpur	Indian Chemical Engineering Congress (CHEMCON-2022)
2	Prateek Chowdhury	22041003	Ambuja Young Researcher Award	27.12.2022 to 30.12.2022 HBTU Kanpur	Indian Institute of Chemical Engineers (IIChE)

Names of scholars/students who won Convocation/Institute Day prizes *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
1	Rituraj Bhardvaj	20042041	IIT(BHU) Varanasi Medal for standing First at the M.Tech.	IIT(BHU)
2	Yash Balraj Ippakayal	18045132	IIT(BHU) Varanasi Medal for standing First at the B.Tech.	IIT(BHU)
3	Yash Balraj Ippakayal	18045132	The R.B.G. Modi Medal for standing First at the B.Tech.	IIT(BHU)
4	Yash Balraj Ippakayal	18045132	Manishi Sharma Memorial Gold Medal for securing First position at B.Tech.	IIT(BHU)
5	Yash Balraj Ippakayal	18045132	Mrs. Gargi Devi Trivedi Memorial Gold Medal for securing highest marks in B.Tech.	IIT(BHU)
6	Yash Balraj Ippakayal	18045132	Prof. Y.D. Upadhya Memorial Gold Medal for securing highest CPI at B.Tech.	IIT(BHU)
7	Yash Balraj Ippakayal	18045132	Dr. R.J. Rathi Financial Award Rs. 1000/= cash for standing First at the B.Tech.	IIT(BHU)
8	Yash Balraj Ippakayal	18045132	Manishi Sharma Memorial Cash Prize Rs. 2000/= for securing First position at the B.Tech.	IIT(BHU)
9	Ms. Tejaswita Som	18045107	Smt. Indira Tripathi Gold Medal for securing highest CPI among the girl students at the B.Tech.	IIT(BHU)
10	Ms. Tejaswita Som	18045107	Prof. B.B. Bansal Memorial Gold Medal for being involved in Social Services/ Co-curricular activities and having highest CPI at the undergraduate engineering Examination, 2022 among such students.	IIT(BHU)

Faculty & their Activity

Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
PROFESSORS			
1	Dr. Pradeep Kumar Mishra Ph.D., 13747	20.11.1995	Bioenergy, Wastewater Treatment, Biopolymer
2	Dr. Pradeep Ahuja, Ph.D., 13748	05.06.1996	Modeling and Simulation, Thermodynamics and Kinetics
3	Prof Vijay Laxmi Yadav, Ph.D., 13745	05.06.2002	Polymer composites, Reaction Engg., Waste water treatment
4	Prof. Monoj Kumar Mondal Ph.D., 13749	21.06.2004	Environmental Chemical Engineering, Nano-adsorbents/ composites for Wastewater Treatment, Biomass Waste to Energy and Chemicals
5	Dr. Ram Sharan Singh Ph.D., 16729	2007	Chemical Engineering, Environmental Biotechnology, Aerosol particularly black carbon and Its Impact on Environment and Health
6	Dr. Satya Vir Singh, Ph.D. 18210	01.03.2006	Adsorption, Catalysis, Food processing
7	Dr. Hiralal Pramanik, Ph.D.,17500	29.02.2008	Fuel Cell Technology, Energy Engineering, Pyrolysis of Plastics
8	Dr. Rajesh Kumar Upadhyay, Ph.D., 50235	02.07.2010	Hydrogen Energy, Membrane Reformer, Multiphase Flows, Flow Measurement, Techniques, CFD
ASSOCIATE PROFESSORS			
1	Dr. Bhawna Verma, Ph.D., 18152	07.10.2013	Heat Transfer in Narrow Tubes; Biodiesel; Catalysis; Carbon Materials/ Nanocomposites Materials for Enhanced Capacitance
2	Dr. Pradeep Kumar, Ph.D., 18479	08.11.2008	Wastewater treatment
3	Dr. Manoj Kumar, Ph.D., 50027	17.08.2009	Smart Nanomaterials, Nanomedicine, Waste water remediation
ASSISTANT PROFESSORS			
1	Durga Prasad A, Ph.D., 18151	19.12.2021	Process Dynamics and Control, Bioremediation, Microbial Fuel Cells

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
2	Dr. Sweta, Ph.D., 19770	04.08.2012	Environmental Catalysis, Reaction Kinetics, Polymer Blends, Diesel Exhaust Treatment
3	Dr. Jyoti Prasad Chakraborty, Ph.D., 19844	27.07.2011	Chemical Reaction Engineering; Pyrolysis of biomass, Gasification of biomass
4	Dr. Ravi P. Jaiswal, Ph.D., 50025	01.12.2008	Solar Energy, Semiconductor Device Fabrication, Nanoscience and Technology
5	Dr. Ankur Verma, Ph.D., 50026	26.10.2011	Nanofabrication, Microfluidics, Soft Matter
6	Dr. Vijay Shinde, Ph.D., 50171	14.12.2013	Solid state and material chemistry, Heterogeneous catalysis for energy application, sustainability and green chemistry
7	Dr. Debdip Bhandary, Ph.D., 50229	13.07.2016	Self-assembly, Interfacial Science, Molecular Simulations
8	Dr. Abir Ghosh, Ph.D., 50261	02.09.2018	Complex Fluids, Thin Films, Li-ion Batteries
9	Dr. Sanjay Katheria, Ph.D., 50265	28.06.2018	Heterogeneous catalysis and reaction engineering
10	Dr. Udita Uday Ghosh Ph.D.,50273	15.05.2018	Complex Fluids, Interfacial phenomena, Microscale transport processes.
11	Dr. Nitai Chandra Maji, Ph.D., 50298	17.01.2020	Nanomaterials, Colloids, Heat transfer, Interfacial Catalysis
12	Dr. Bhagavatula NVSSR Dinesh, Ph.D., 50301	15.03.2019	Advanced transport phenomena, multiphase flows: Microfluidics and microgravity
13	Dr. Ravendra Gundlapalli Ph.D., 50304	16.12.2019	Energy storage with redox flow batteries, CFD applications in Energy systems
14	Rohit Kumar, Ph.D., 50317	13.11.2021	Heterogeneous catalysis, CO_2 conversion, H_2 production

Technical and Non-Teaching Staff

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
1	Sri Arvind Kumar, M.Sc. (Information Technology)	Sr. Technical Superintendent Grade II, 14069	22.03.1997
2	Sri Umesh Pratap Singh, Intermediate	Sr. Technical Superintendent 17688	23.01.2006
3	Sri Ram Chandra Sachiv, Intermediate, I.T.I.	Sr. Technical Superintendent Grade II, 14123	28.10.1985
4	Sri Arjun Prasad Gond, M.A.	Technical Superintendent 14144	05.04.1990
5	Sri Sudhir Kumar, Intermediate	Sr. Technical Superintendent 14145	21.12.1990
6	Sri Om Prakash Patel, Intermediate	Technical Superintendent 14148	28.09.1993
7	Sri Surendra Kumar Verma, Intermediate	Technical Superintendent 14147	02.06.1994
8	Shri. Murli Dhar Mishra, B.Sc., Diploma in Electrical Engineering	Technical Superintendent 18024	15.01.2007
9	Sri Sudhir Kumar, B.Sc.	Sr. Technical Superintendent 18094	20.02.2007
10	Sri Rajesh Kumar, I.T.I., Diploma	Jr. Technical Superintended 18622	07.08.2008
11	Sri Vinay Kumar, Intermediate, DMLT	Jr. Technical Superintended 18625	05.08.2008
12	Sri Ajay Kumar Pandey, B.A., DTP	Jr. Technical Superintended 18623	05.08.2008

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
13	Sri Shailendra Kumar Upadhyay Intermediate	Jr. Technical Superintended 18629	05.08.2008
14	Sri Raj Kumar, B.Sc., PGDCA	Jr. Technical Superintended 18626	05.08.2008
15	Sri Ankit Kumar, M.Sc. (Information Technology), ACHNP	Jr. Technical Superintended 18627	05.08.2008
16	Sri Dhirendra Kumar Pandey B.A., I.T.I., Diploma in Mechanical Engineering	Jr. Technical Superintended 19272	10.02.2011
17	Sri Anand Prakash Upadhyay, L.L.B.	Jr. Technical Superintended 11579	14.04.2012
18	Sri Lal Bahadur Ram, B.Sc.	Sr. Technician 19602	11.07.2012
19	Shir Zishan Ahmed, B.Sc.	Sr. Assistant 50104	09.05.2017

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

(From 1st April 2022 to 31st March 2023)

Sl. No.	Coordinator	Title	Period
1	Abir Ghosh, Sanjay Katheria, Debdip Bhandary, Udita Uday Ghosh	A talk series entitled Young Investigator Talks (YIT)	01.04.2022 to 31.03.2023 Every Friday

Short-term courses/workshops/seminars/symposia/conferences/training programmes *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Prof. Hiralal Pramanik	International Online Conference on Reuse, Recycling, upcycling, Sustainable Waste Management and Circular Economy (ICRSC 2022)	09.09.2022 to 11.09.2022 Mahatma Gandhi University, Kottayam, Kerala
2	Prof. Rajesh Kumar Upadhyay	RRU-2022	06.05.2022 to 07.05.2022 BARC Mumbai
3	Prof. Rajesh Kumar Upadhyay	NICSTAR-2023	09.01.2023 to 12.01.2023 Kochi
4	Prof. Rajesh Kumar Upadhyay	Workshop on Hydrogen Valley	23.02.2023 Kerala
5	Prof. Rajesh Kumar Upadhyay	Vision for Hydrogen Valley in Maharashtra	15.12.2022 Pune
6	Prof. Rajesh Kumar Upadhyay	International Platform on Hydrogen Economy-An Industry-Academia Conclave 2022	30.09.2022 New Delhi
7	Dr. Abir Ghosh	Degradation of Ni-rich Positive Electrodes (NMC811) in Li-ion Batteries (Oral Presentation)	28.04.2022 to 29.04.2022 CSIR-NAL Bengaluru
8	Dr. Abir Ghosh	COMPFLU 2022 Fabrication of Liquid Crystal Nanostructures Employing Electronematodynamic Instabilities of Thin Nematic Films (Oral Presentation)	19.12.2022 to 21.12.2022 IIT Kharagpur Research Park, Kolkata
9	Dr. Abir Ghosh	COMPFLU 2022 Electric-Field Induced Instabilities of a Thin Confined Viscoelastic-Porous Bilayer (Poster)	19.12.2022 to 21.12.2022 IIT Kharagpur Research Park, Kolkata
10	Dr. Abir Ghosh	COMPFLU 2022 On-Demand Electric-Field Mediated Anchoring of Thin Nematic Liquid Crystals	19.12.2022 to 21.12.2022 IIT Kharagpur Research Park, Kolkata

Sl. No.	Name of Faculty Member	Title	Period and Venue
11	Dr. Abir Ghosh	Fabrication of Laboratory Prototype to Investigate Solid State Electrochemical Devices	April 2022 IIT Guwahati Assam
12	Dr. Udita Uday Ghosh	Transition from Postdoc to an Academic position; Young Researchers' Symposium	29.04.2022 to 30.04.2022 IISc. Bangalore
13	Dr. Udita Uday Ghosh	Weissenberg effect and wetting of shear thickening fluids. Soft Matter Young Investigators Meeting (SMYIM)	15.06.2022 to 17.06.2022 Mysuru, Karnataka
14	Dr. Udita Uday Ghosh	COMPFLU 2022 De-pinning of contact line in rod-climbing effect 16th Complex Fluid Symposium	19.12.2022 to 21.12.2022 IIT Kharagpur Research Park, Kolkata
15	Dr. Debdip Bhandary	CUCHE Alumni Symposium 2022 Self-Assembly Driven Ripening of Nanocrystals	16.12.2022 to 18.12.2022 University of Calcutta
Meetings			
1	Prof. Monoj Kumar Mondal	Selection Committee Meeting for the Post of Assistant Professor, Associate Professor and professor at HBTU Kanpur	07.05.2022 HBTU Kanpur
2	Prof. Monoj Kumar Mondal	Departmental Promotion Committee (DPC) Meeting at AKTU	08.04.2022 AKTU Lucknow
3	Prof. Monoj Kumar Mondal	Selection Committee Meeting for the Post of Assistant Professor and Associate Professor at RGIPT, JAIS	17.06.2022 RGIPT JAIS
4	Prof. Monoj Kumar Mondal	Selection Committee Meeting for the Post of Assistant Professor and Associate Professor at NIT Patna	28.07.2022 to 29.07.2022 NIT Patna
5	Prof. Monoj Kumar Mondal	BOG Meeting at REC Azamgarh	03.08.2022 REC Azamgarh
6	Prof. Monoj Kumar Mondal	Selection Committee Meeting for the Post of Assistant Professor and Associate Professor at IIT Patna	30.08.2022 IIT Patna
7	Prof. Monoj Kumar Mondal	NBA Visit	24.03.2022 to 26.03.2023 NIT Durgapur
8	Prof. Hiralal Pramanik	COAP-2023 meeting for the admission in M.Tech Program in IITs	20.02.2023 IIT Kharagpur
9	Prof. Hiralal Pramanik	Selection Committee Meeting for the Post of Assistant Professor, Associate Professor and professor at HBTU Kanpur	11.05.2022 to 13.05.2022 HBTU Kanpur
10	Prof. Hiralal Pramanik	Departmental Promotion Committee (DPC) Meeting	15.07.2022 CIPET Head office, Chennai
11	Prof. Hiralal Pramanik	Expert For RDC Meeting	21.03.2023 HBTU Kanpur
12	Prof. Hiralal Pramanik	Expert For RDC Meeting	21.09.2022 HBTU Kanpur
13	Prof. Rajesh Kumar Upadhyay	AE-BRNS Two-Day Theme Meeting on Strategic Planning for Enhancing Research Reactor Utilization (RRU-2022)	06.05.2022 to 07.05.2022 BARC
14	Prof. Rajesh Kumar Upadhyay	Selection Committee Meeting GGU Bilaspur	03.11.2022 Bilaspur

Special lectures delivered by faculty members in other institutions *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1	Prof. Ram Sharan Singh	Microbial Fuel Cell (MFC): Waste Management along with Energy Production (24.01.2023) Keynote speaker in DST sponsored one week Training Programme on Utilizing the Scientific and Technological Infrastructure (STUTI) on Challenges and opportunities in Water Sanitation & Hygiene (WASH)	Department of Bioengineering, National Institute of Technology Agartala, Tripura	23.01.2023 to 29.01.2023

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
2	Prof. Ram Sharan Singh	Potential of MFC; waste management with energy production (20/12/2022) A week Faculty Development Program on Microbes' Potential to Bail out the Energy Crisis	Department of Biochemical Engineering, School of Chemical Technology, Harcourt Butler Technical University Kanpur	15.12.2022 to 20.12.2022
3	Prof. Ram Sharan Singh	Bioremediation Techniques for Organic Waste Management 30/11/2022 FDP on Green Process Protocols for Chemical and Pharmaceutical Industries	Chemical Engineering and Department of Pharmaceutical Science and Technology, Madan Mohan Malaviya Technical University, Gorakhpur	30.11.2022 to 01.12.2022
4	Prof. Ram Sharan Singh	Sustainable Technologies 01/12/2022 FDP on Green Process Protocols for Chemical and Pharmaceutical Industries	Chemical Engineering and Department of Pharmaceutical Science and Technology, Madan Mohan Malaviya Technical University, Gorakhpur	30.11.2022 to 01.12.2022
5	Prof. Ram Sharan Singh	Taiwan-India 2022 Exchange Workshop and Symposium on Intensifying the Connection of Sustainable Technology	National Science and Technology Council, Taiwan and Research and Development Section, IIT Guwahati	04.09.2022 to 05.09.2022
6	Prof. Ram Sharan Singh	Microbial Fuel Cells (MFCs): Prospects and Challenges National Conference on Environmental and Industrial Biotechnology NCEIB-2022	Dr. Ambedkar Institute of Technology for Handicapped, Kanpur	10.11.2022 to 12.11.2022
7	Prof. Hiralal Pramanik	Reusability study of catalyst for the production of valuable aromatics benzene, toluene and ethylbenzene via multiphase catalytic pyrolysis of waste expanded polystyrene (*Delivered Plenary Note Lecture) (ICRSC – 2022)	Mahatma Gandhi University, Kottayam, Kerala	09.11.2022
8	Prof. Rajesh Kumar Upadhyay	Development of On-Site Hydrogen Generation Device	IIT Delhi	14.10.2022 to 15.10.2022
9	Dr. Bhawna Verma	Utility of Biodiesel	Vigyan Bharati, Kanpur	05.06.2022
10	Dr. JP Chakraborty	Biofuel production potential from renewable biomass: an Indian perspective	Acharya Narendra Dev University of Agriculture and Technology, Kumarganj, Faizabad	09.06.2022
11	Dr. Ravi P. Jaiswal	Enhancement of Solar Light Utilization in Crystalline Silicon Photovoltaic Modules	IIT Patna	12.11.2022
12	Dr. Dinesh Bhagavatula	GIAN course on Spectral methods	IIT Ropar	11.07.2022 to 24.07.2022
13	Dr. Ravendra Gundlapalli	Batteries for Large scale and long duration energy storage	NIT Srinagar	

Honours and awards *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Award
1	Prof. Monoj Kumar Mondal	World ranking of top 2% scientists from India in the field Chemical Engineering as per the latest data and statistics released by Elsevier and Stanford University USA, 2022
2	Prof. Monoj Kumar Mondal	Member, Board of Governors. Rajkiya Engineering College, Azamgarh
3	Prof. Ram Sharan Singh	Member, Academic Council, IET Lucknow
4	Prof. Ram Sharan Singh	Member, BOS, IET Lucknow
5	Prof. Ram Sharan Singh	Member, RDC, AKTU
6	Prof. Ram Sharan Singh	Member, Selection Committee, IIT Patna
7	Prof. Ram Sharan Singh	Member, Selection Committee, RGIPT
8	Prof. Ram Sharan Singh	Member, Screening Committee, AKTU
9	Prof. Ram Sharan Singh	Member, Executive Committee, BRSI
10	Prof. Ram Sharan Singh	Member, Technical Committee, JAL JIVAN MISSION
11	Prof. Ram Sharan Singh	Member, Selection Committee, Faculty Recharge Scheme, UGC, India
12	Prof. Hiralal Pramanik	Member of Scientific Advisory Board (SAB) of SDEWES 2022, Vlore, Albania May 22-26, 2022

Sl. No.	Name of Faculty Member	Details of Award
13	Dr. Jyoti Prakash Chakraborty	Best oral presentation award in ChEM-SPARK, Heritage Institute of Technology, Kolkata during on September 9, 2022
14	Dr. Dinesh Bhagavatula	Ramanujan Fellowship Awarded by SERB-DST

Fellowships of academic and professional societies *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Fellowship
1	Prof. Monoj Kumar Mondal	Fellow, The Royal Society of Chemistry, London, 2022
2	Prof. Monoj Kumar Mondal	Life Fellow, Indian Institute of Chemical Engineers, 2022
3	Prof. Ram Sharan Singh	Fellow of the Biotech Research Society, India, 2022
4	Prof. Rajesh Kumar Upadhyay	Life Fellow, Indian Institute of Chemical Engineers
5	Dr. Durga Prasad A.	Life Member, Indian Institute of Chemical Engineers (IIChE) Membership No. LM-27330

Books, monographs authored/co-authored *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Author/Co- Author	Title	Publisher
1	Srivastava M., P.K Mishra	NanoBioenergy: Application and Sustainability Assessment	Springer
2	Madhav S., Singh P., Mishra P.K., Ahmed S.	Recent Trends in Wastewater Treatment	Springer
3	Rakshit A., Chakraborty S., Parihar M., Meena V.S., Mishra P.K., Singh H.B.	Innovation in Small-Farm Agriculture	Taylor & Francis
4	Sonwani, R., Jaiswal, R., Rai, B.N., and Singh, R.S.	Moving bed biofilm reactor- (MBBR-) based advanced wastewater treatment technology for the removal of emerging contaminants [Book: Removal of Emerging Contaminants from Wastewater Through Bio-nanotechnology, pg. 349-370]	Elsevier
5	Srivastava N., Verma B., Mishra P.K.	Agro-industrial Waste for Green Fuel Application	Springer
6	Gupta N., Kumar D., Verma B.	Enzymatic Biodiesel Production from Biomass (Utilization of Waste Biomass in Energy, Environment and Catalysis)	CRC Press
7	Verma S., Verma B.	Graphene-Based Nanomaterial for Supercapacitor Application (Nanostructured Materials for Supercapacitors)	Springer
8	Verma S., Verma S., Kumar S., Verma B.	Nanowires for Supercapacitors (Nanowires: Applications, Chemistry, Materials & Technologies)	CRC Press
9	Das T., Verma S., Pandey V.K., Verma B.	Nanowires for flexible electrochemical Devices (Nanowires: Applications, Chemistry, Materials & Technologies)	CRC Press
10	Srivastava S., Agrawal S.B., Mondal M.K.	Biological based methods for the removal of volatile organic compounds and heavy metals, In: An innovative role of biofiltration in wastewater treatment plants (WWTPs)	Elsevier
11	Sonwani R.K., Jaiswal R.P., Rai B.N., Singh R.S.	Development in Wastewater Treatment Research and Processes, 349-370, 2022, DOI: 10.1016/B978-0-323-85583-9.00020-X	Elsevier
12	Chaturvedi A., Singh R.S., Jaiswal R.P.	Hybrid bioreactor in combination with ozone-based technologies for industrial wastewater treatment, Development in Wastewater Treatment Research and Processes, 629-650, 2022, https://doi.org/10.1016/B978-0-323-85583-9.00017-X	Elsevier
13	Tiwari S., Kushwah R., Tripathi P., Singh R.S., Mohan D.,	Emerging Pollutants: Occurrence, Fate, Impacts and Removal Technologies, An Innovative Approach of Advanced Oxidation Processes in Wastewater Treatment, DOI**:** https://doi.org/10.52305/DBMP3480	Nova Publisher
14	Tiwari H., Singh R.S.	Biotechnological Approaches for Microbial Treatment of Textile Wastewater and Resource Recovery: Opportunities, Challenges, and Future Perspectives, Microbial Technologies for Wastewater Recycling and Management, 269-279, 2022, eBook ISBN9781003231738	CRC Press
15	Bharti P., Verma S., Kumar M., Devnani G.L.	Bast Fibers and their composites-Processing, Properties and Applications	Springer Nature
16	Sonwani R.K, Jaiswal R.P., Rai B.N., Singh R.S.	Moving bed biofilm reactor-(MBBR-) based advanced wastewater treatment technology for the removal of emerging contaminants	Elsevier

Editorial boards of journals *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Prof. Monoj Kumar Mondal	Member Editorial board	Biomass Conversion and Biorefinery SPRINGER (Impact Factor: 4.103 SCI)
2	Prof. Monoj Kumar Mondal	Academic Editor	Adsorption Science & Technology (Impact Factor: 4.232 SCI)
3	Prof. Ram Sharan Singh	Guest Editor of Special Issue "Research on Bioremediation of Hazardous Wastes"	Toxics 2021 IF : 4.472 Ranking Q2 in "Toxicology" (24/94) and "Environmental Sciences"
4	Dr. Ravendra Gundlapalli	Guest Editor	Batteries, MDPI-Open Access Journals

Design and Development Activities

New facilities added *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Spectroscopic reflectometer	3.20
2	High-performance workstations	6.00
3	Centrifuge	2.75
4	Natural Gas based Membrane Reformer	22.00
5	On-site Hydrogen Generation Device	18.00
6	PM10 Sampler	1.25
7	COMSOL Multiphysics software	10.00

Patents filed *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title of Patent
1	Prof. Rajesh Kumar Upadhyay	Device For On-Site Generation of Ultra-Pure Hydrogen and Method Thereof Application No.: 202211068058
2	Dr. Ravi Prakash Jaiswal	An Improved Photovoltaic Module with Direct Internal Cooling Feature [No. 202211050095]
3	Dr. Manoj Kumar	Substrate-Assisted Synthesis of Diverse Morphologies of Upconverting Nanomaterials

Research and Consultancy

Sponsored research projects *(Ongoing only)*

Note: Sponsored project name is to be given only in case a faculty member is Project Incharge

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Coordinator
1	Regional Characterization of Atmospheric Aerosol at Varanasi Region, 30 Lakhs, Vikram Sarabhai Space Center (VSSC), ISRO	2019 – 2025	VSSC, ISRO	80.00	Prof. Ram Sharan Singh
2	Effect of Ceria Support Morphology for the Synthesis of Bimetallic Catalysts for NOx Reduction through H2-SCR	2022 – 2025	SERB Govt. of India	52.47	Dr. Sweta
3	Production, characterization and combustion studies on sustainable aviation fuel	2023 – 2026	SERB Govt. of India	46.00	Dr. Jyoti Prakash Chakraborty
4	Crack modulation in dried colloidal films by soft additives.	2022 – 2025	SERB Govt. of India	46.00	Dr. Udita Uday Ghosh
5	Preparation of Dense Pd/Pd-Alloy Membrane and Optimization of Multi-Pass Membrane Separator to Separate Ultra-Pure Hydrogen for Onsite Application	2021 – 2024	SERB Govt. of India	42.57	Prof. Rajesh Kumar Upadhyay
6	Novel integrated engineering approach for effective tar decomposition and its last-minute removal to fuel gas reforming in biomass pyro-gasification	2020 – 2023	SERB Govt. of India	35.63	Prof. Monoj Kumar Mondal

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Coordinator
7	Women Scientist project -Improved Biomass to Biohydrogen Production Technology Using Graphene as a Catalyst Prepared from Waste Biomass Synthesis, Characterization ,Application"	3 years	DST	35.14	Dr. Bhawna Verma
8	Thermo-catalytic conversion of carbon dioxide into ethanol and higher alcohols	2022 – 2024	SERB Govt. of India	33.00	Dr. Sanjay Katheria
9	Catalyst Development for Reforming of Biomass Tar model Compounds for Hydrogen and Syngas Production	2022 – 2024	SERB Govt. of India	30.44	Dr. Rohit Kumar
10	Design and Development of Kinetically Stable Electrolytes for Next-gen Li-ion Batteries (ElectroLiion)	2022 – 2024	SERB Govt. of India	29.40	Dr. Abir Ghosh
11	Investigation on Hydrogels and Development of Multi-Responsive Polymers for Healthcare Applications	2022 – 2024	SERB Govt. of India	22.14	Dr. Debdip Bhandary
12	Novel integrated engineering approach for effective carbon dioxide removal using biphasic amine blends for coal-based thermal power plant	2021 – 2024	SERB Govt. of India	21.67	Prof. Monoj Kumar Mondal
13	TAP scheme for MSME's	2 years	TIFAC	20.00	Dr. Bhawna Verma
14	BioCNG production potential of different feedstocks	April 2021 to March 2024	TransBhar Biofuels Pvt. Ltd., Gorakhpur	10.09	Dr. Jyoti Prakash Chakraborty
15	Numerical Modeling and Optimisation of Isothermal Chemical Vapor Infiltration(CVI) Process for C/SiC Composites using MTS/H_2 Mixture	2022 – 2023	ISRO	24.78	Dr. Vijay Shinde

Industrial consultancy projects *(Ongoing only)*

Sl. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
1	Prof. Rajesh Kumar Upadhyay	Development of Natural Gas Based Membrane Reformer for Fuel Cell Grade Hydrogen Production	GAIL (India) Limited	121.541
2	Prof. Rajesh Kumar Upadhyay	Design and operation of Fluidized Bed Reactor for Methane Pyrolysis	Clean Hydrogen Technology, USA	42.00
3	Prof. Rajesh Kumar Upadhyay	Possibility of Replacing Coal with Hydrogen in Cement Industry	Johnson Prism Cement, Amount	7.50
4	Prof. Rajesh Kumar Upadhyay	Screening of Catalyst for Natural Gas Pyrolysis	Clean Hydrogen Technology, USA	7.50
5	Dr. Vijay Shinde	Demonstration and process optimisation of CNTs synthesis in fluidised bed chemical vapour deposition reactor	ABSTC Mumbai	20.55

Faculty members' participation with other universities under MoUs *(Ongoing only)*

Research Publications *(From 1st April 2022 to 31st March 2023)*

Sl. No.		No.
1	Total Number of Papers Published in Refereed National Journals	01
2	Total Number of Papers Published in Refereed International Journals	91
3	Total Number of Papers Presented in National Conferences	04
4	Total Number of Papers Presented in International Conferences	08

Refereed International Journals *(From 1st April 2022 to 31st March 2023)*

1. Chowdhury P. and Bhandary D. (2023) Evolution, Stability, and Applicability of Surfactant Aggregates in Targeted Delivery. Journal of Physical Chemistry B. 127(13): 3001–3009.
2. Dinesh, B., Livesay, J., Ignatius, I. B., and Narayanan, R. (2023). Pattern formation in Faraday instability—experimental validation of theoretical models. Philosophical Transactions of the Royal Society A, 381(2245), 20220081.
3. Kumar M., Prasad D. and Singh R.S. (2023) Level Control in Conical Tank Using IMC-PID Controller, Journal of Engineering Science and Technology Review, 16 (2) 71 – 81
4. Verma, A. and Pramanik, H., (2023) Production of gasoline octane booster aromatics benzene, toluene and ethylbenzene from multiphase catalytic pyrolysis of mixed waste expanded polystyrene and high-density polyethylene, Progress in Rubber, Plastics and Recycling Technology, https://doi.org/10.1177/14777606231174919;.
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5. Vikrant K., Kailasa S.K., Tsang D.C.W., Lee S.S., Kumar P., Giri B.S., Singh R.S. and Kim Ki-H. (2018) Biofiltration of hydrogen sulfide: trends and challenges, Journal of Cleaner Production, 187, 131-147 [Citations: 97]

Distinguished Visitors *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of the visitor & Designation	Date of Visit	Purpose of Visit
1	Raja Venkateswar	27.07.2022	1991 Batch Alumni Meet
2	Shankar Ramamurthy	04.11.2022	1982 Batch Alumni Meet
3	Nilesh K.V. Kamsary	04.11.2022	1982 Batch Alumni Meet
4	Dinesh Goel	04.11.2022	1982 Batch Alumni Meet
5	Anil Kumar Tiwari	04.11.2022	1982 Batch Alumni Meet
6	V. Subramainan	04.11.2022	1982 Batch Alumni Meet
7	Sunil Mukul	04.11.2022	1982 Batch Alumni Meet
8	Aandn Gorey	04.11.2022	1982 Batch Alumni Meet
9	Shiva Gulvady	04.11.2022	1982 Batch Alumni Meet
10	Makarana Gopal Pathankar	04.11.2022	1982 Batch Alumni Meet
11	Vijay S. Agashe	04.11.2022	1985 Batch Alumni Meet
12	Deepak Tandon	15.11.2022	1987 Batch Alumni Meet
13	Jaspreet Singh	17.11.2022	1983 Batch Alumni Meet
14	Pradeep Jain	17.11.2022	1983 Batch Alumni Meet
15	Rani Mohan	17.11.2022	1983 Batch Alumni Meet
16	Milind K. Kamat	17.11.2022	1983 Batch Alumni Meet
17	Ashok Rao	17.11.2022	1983 Batch Alumni Meet
18	Shashi Kant	17.11.2022	1983 Batch Alumni Meet
19	Bhisham Kumar Chhatwari	12.12.2022	Alumni Meet
20	Summet Chandna	29.12.2022	1997 Batch Alumni Meet
21	Deepak Ravindran	29.12.2022	1997 Batch Alumni Meet
22	Alok Gupta	29.12.2022	1997 Batch Alumni Meet
23	Ashutosh Gupta	29.12.2022	1997 Batch Alumni Meet
24	Vishal Anand	29.12.2022	1997 Batch Alumni Meet
25	Anupam Jain	29.12.2022	1997 Batch Alumni Meet
26	Vishal Bhardwaj	29.12.2022	1997 Batch Alumni Meet
27	Sanjeev Gupta	29.12.2022	1997 Batch Alumni Meet
28	Sumi Jain	29.12.2022	1997 Batch Alumni Meet
29	Atul Kumar	29.12.2022	1997 Batch Alumni Meet
30	Rajesh Mishra	29.12.2022	1997 Batch Alumni Meet
31	Ramaswamy Sreenivasan	29.12.2022	1997 Batch Alumni Meet
32	Shashidhar Bhat	29.12.2022	1997 Batch Alumni Meet
33	Rajeev Nandan	29.12.2022	1997 Batch Alumni Meet

Sl. No.	Name of the visitor & Designation	Date of Visit	Purpose of Visit
34	Paresh Parekh	01.03.2023	Alumni Meet
35	Pradeep Varshney	03.02.2023	Alumni Meet
36	N.R. Shenoy	03.02.2023	Alumni Meet
37	Rao Saheb N. Patil	03.02.2023	Alumni Meet
38	Ranjan Bose	03.02.2023	Alumni Meet
39	Kamalhar Sawant	03.02.2023	Alumni Meet
40	Mayor M. Shah	03.02.2023	Alumni Meet
41	Shakuntala Battacharya	03.02.2023	Alumni Meet
42	Harsh Veer Chopra	03.02.2023	Alumni Meet
43	Chandra Prakash Jain	27.02.2023	1973 Batch Alumni Meet
44	Arvind Kumar Agarwal	27.02.2023	1973 Batch Alumni Meet
45	Prof. S.K. Gary	27.02.2023	1973 Batch Alumni Meet
46	Padam Chand Agrawal	27.02.2023	1973 Batch Alumni Meet
47	K.R. Rohadia	27.02.2023	1973 Batch Alumni Meet
48	G.G. Tandon	27.02.2023	1973 Batch Alumni Meet
49	S.K. Porwal	27.02.2023	1973 Batch Alumni Meet
50	Anil Gupta	27.02.2023	1973 Batch Alumni Meet
51	Jagat Kumar Singh	27.02.2023	1973 Batch Alumni Meet
52	Alokmoy De	27.02.2023	1973 Batch Alumni Meet
53	Yogi V. (Yagyaualkya) Shukla	27.02.2023	1973 Batch Alumni Meet
54	Arun Banerji	27.02.2023	1973 Batch Alumni Meet
55	Ashok Kumar Gupta	27.02.2023	1973 Batch Alumni Meet
56	Mool Chandra Agarwal	27.02.2023	1973 Batch Alumni Meet
57	U. Dhrshit	27.02.2023	1973 Batch Alumni Meet
58	Bwarnath Chaturvedi	27.02.2023	1973 Batch Alumni Meet
59	Pran Verma	27.02.2023	1973 Batch Alumni Meet
60	Pratyush Dayal	03.03.2023	1998 Batch Alumni Meet
61	Rahul Chauhan	03.03.2023	1998 Batch Alumni Meet
62	Devesh Kumar Singh	03.03.2023	1998 Batch Alumni Meet
63	Brijesh Pandey	03.03.2023	1998 Batch Alumni Meet
64	Amit Lunic	03.03.2023	1998 Batch Alumni Meet
65	Sushil Gupta	03.03.2023	1998 Batch Alumni Meet
66	Gokul Singh	03.03.2023	1998 Batch Alumni Meet
67	Jatin Kakkar	03.03.2023	1998 Batch Alumni Meet
68	Aditya Satyadev	03.03.2023	1998 Batch Alumni Meet
69	Anil Rao	03.03.2023	1998 Batch Alumni Meet
70	Kapil Mehta	03.03.2023	1998 Batch Alumni Meet
71	Shantanu Pandey	03.03.2023	1998 Batch Alumni Meet
72	Anupama Gupta	03.03.2023	1998 Batch Alumni Meet
73	Chhavi Agarwal	03.03.2023	1998 Batch Alumni Meet
74	Sharad Agarwal	03.03.2023	1998 Batch Alumni Meet
75	Shekhar Bhartiya	03.03.2023	1998 Batch Alumni Meet
76	Yogesh Sharma	03.03.2023	1998 Batch Alumni Meet
77	Amit Agarwal	03.03.2023	1998 Batch Alumni Meet
78	Manish Maheswari	03.03.2023	1998 Batch Alumni Meet
79	Niraj Mansingha	03.03.2023	1998 Batch Alumni Meet
80	Pramod Doshi	16.03.2023	Alumni Meet

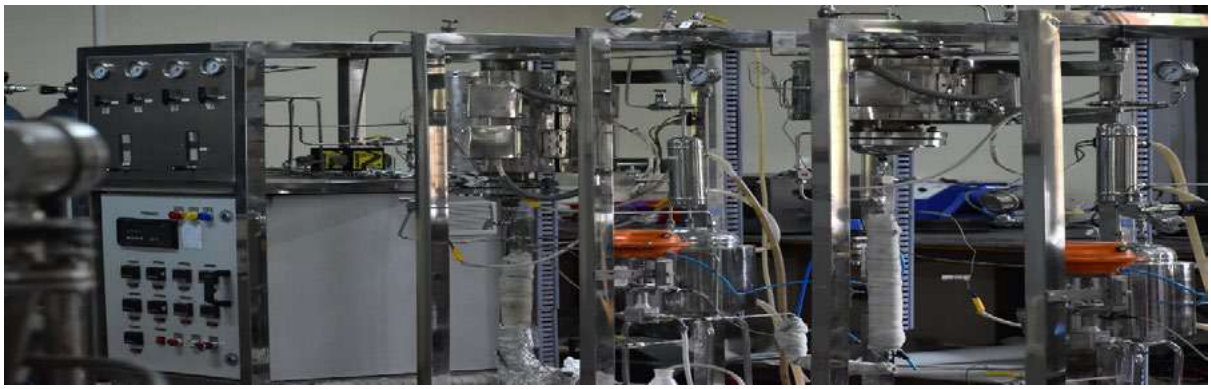
Other activities

International collaboration/achievements by the Department *(From 1st April 2022 to 31st March 2023)*

Indian Faculty visits in the Department *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. N.S. Gajbhiye, IIT Kanpur	Viva-Voce	April 2022
2	Prof. Ashok M. Raichur, IISc. Bengaluru	Viva-Voce	April 2022
3	Prof. A.K. Dikshit, IIT Bombay	Viva-Voce	August 2022
4	Prof. Jitendra Sangwi, IIT Madras	Viva-Voce	September 2022
5	Prof. Chandan Das, IIT Guwahati	Viva-Voce	October 2022
6	Prof. Saswati Chakraborty, IIT Guwahati	Viva-Voce	October 2022
7	Prof. Ethayaraja Mani, IIT Madras	Viva-Voce	February 2023

Key Instruments:



Membrane reformer for ultra-pure Hydrogen generation

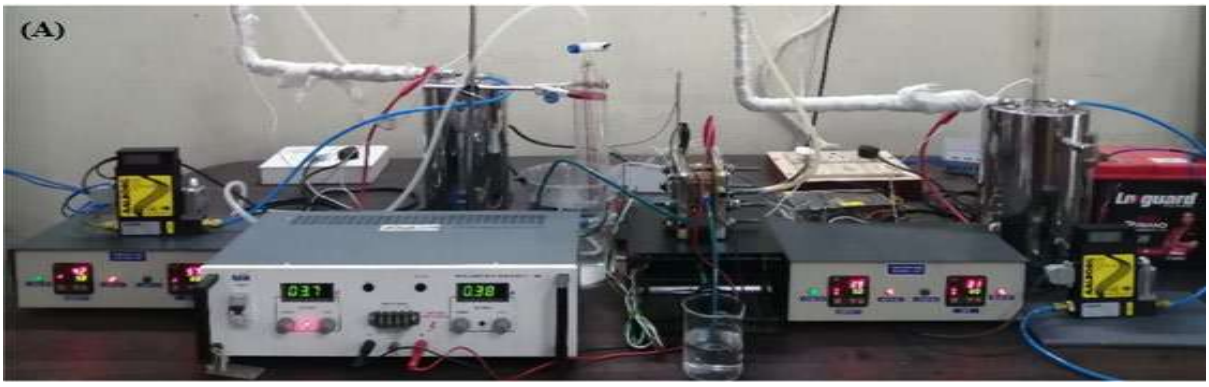


Fig. 1. Photographic view of (A) Unitized Regenerative Fuel Cell (URPEMFC) for the Production of ultrapure hydrogen

Fig. 2. Photographic view of (B) URPEMFC stack for hydrogen production in electrolysis mode and simultaneous power generation in Fuel cell mode showing LED light and (C) URPEMFC stack for hydrogen production in electrolysis mode and simultaneous power generation in Fuel cell mode showing array of LED light glowing with high intensity.

9. Department of Civil Engineering

Complete Name of Department: Department of Civil Engineering

Year of Establishment: 1949

Head of the Department: Prof. Sasankasekhar Mandal w.e.f. 01/01/2023

Brief Introduction of the Department:

The Civil Engineering Department was established in 1949 (then known as Civil and Municipal Engineering) in BENCO (Banaras Engineering College) which was a part of BHU. The formal sanction of the Visitor of the University to create this Dept. was received in 1956 and the B.Sc. Engineering (Civil & Municipal) Degree was recognized by the Govt. of India in 1958. The department was rechristened to the present name in the year 1975. Presently, it caters its student with seven specialized Post Graduate courses like Environment al Engineering, Engineering Geoscience, Geo-informatics, Hydraulics and water resources Engineering, Structural Engineering, and Transportation Engineering. The department has taken up various research programmes apart from regular teachings and the research activities, namely CSIR, UGC, SAP, HUDCO, DST and AICTE. It has a created cooperation with industries to work for the various tasks given by Govt., Semi-Govt. and other Private organisations. It is particularly dedicating in providing solutions to the people of the country with technical solutions and guidelines. It conducts short-term courses, training courses, seminars, workshops and conferences for enrichment in quality of students and entrepreneurs. The department has its own Civil Engineering Society which is dedicated in organising lectures by various experts in their respective field, group discussions, competitions, sports and various other extra-curricular and cultural activities so that there would be an holistic all round development of students. Also this society conducts a separate fest for the Civil Engineering Students, known as, Shilp.

Major areas of Research

Group A: Structural Engg., Geotechnical Engg., Transportation Engg. and Engineering Geoscience:

Thrust Areas: Development and characterization of Smart materials and Construction Technologies for sustainable infrastructure.

Group B: Hydraulics & Water Resources Engg., Environmental Engg., Geoinformatics Engg.

Thrust Areas: Water Resources Management, River Modelling, Water quality monitoring and treatment, River Health Restoration, Waste Management and Pollution Control

Infrastructure

Sl. No.	Particulars	Number
1	No. of Classrooms	10
2	No. of Laboratory	10
3	No. of Computers available for students in the Department	60

Students on Roll *(From 1st April 2022 to 31st March 2023)*

(Please give No. of students only in respective years)

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1.	B. Tech.	117	132	131	108	-
2.	Dual Degree (IDD)	27	32	32	30	24
3.	M. Tech/ M.Pharm	45	38	-	-	-
4.	Ph. D (Under Institute Fellowship)	7	5	9	8	23
5.	Ph. D (Under Project Fellowship)	-	3	2	2	5
6.	Ph. D (Under Sponsored Category)	2	2	3	2	1

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
			ÌNDIA		
1	Amarendra Nath Shandilya	19061001	17 SEE Symposium on Earthquake Engineering	14-17 Nov. 2023 at Roorkee	IIT (BHU)
2	Ashish Singh	18061004	9th National Conference on Wind Engineering	03-04 March 2023, BITS Pilani Hyderabad	IIT (BHU)
3	Abhijeet Kumar	21061502	8th Asian Conference on Mechanics of Functional Materials and Structures, 11-14 Dec. 2022, Guwahati, Assam	IIT Guwahati	IIT(BHU)
4	Nitin Ranjan	18061008	Conference/ Workshop	February 20- 22, 2023; Coimbatore, Tamil Nadu	STGS
5	Rohit Kushwaha	19061008	BSB2-2022 - International Conference on Biotechnology, Sustainable Bioresources and Bioeconomy	December 7-11, 2022	IIT (BHU)
6	Rohit Kushwaha	19061008	'CHEM-CONFLUX22' on Technological Interventions for Sustainability in online mode	April 14-16, 2022	None
7	Aryan Singh	19065024	Conference: Recent Advances in Traffic Engineering (4th Edition)	11th-12th November-2022, SVNIT Surat	IIT-BHU (STGS) Rs. 4331/-
8	Sher Bahadur Singh	21061501	WORKSHOP	22/5/2023-30/5/2023 IIT BHU VARANASI	SERB
9	Mohit Kumar Srivastava	19061006	National Conference on Sustainable Development of Smart Cities Infrastructure (SDSCI – 2023)	27-28 May 2023, National Institute of Technology, Kurukshetra,Haryana	RSGF
10	Amit Kumar Ram	18061002	Uses of Advanced Instruments and Tools for Dynamic Characterization and Seismic Response Analysis of Soil and Waste Materials	12-18 December 2022 & IIT(BHU), Varanasi	NA
11	Amit Kumar Ram	18061002	Uses of Advanced Instruments in Civil Engineering Projects	11-17 July 2022 & IIT(BHU)	NA
12	Ishan Jha	18061506	9-Day workshop on Laboratory Testing and Characterization of Construction Materials (Karyashala), sponsored by SERB	Indian Institute of Technology (BHU), Varanasi, India, 22-30 May, 2023.	sponsored by SERB
13	Ishan Jha	18061506	1-Day seminar- on Offshore Structures and Offshore Wind Energy	Indian Institute of Technology (BHU), Varanasi, India, 25th Feb, 2023	IIT (BHU)
14	Ishan Jha	18061506	5-days workshop on Smart Manufacturing & Heavy Industries 4.0	Indian Institute of Technology (BHU), Varanasi, India, 11th -15th Oct. 2022.	Sponsored by Ministry of Heavy Industries (MHI), Government of India.
15	Ishan Jha	18061506	1-week Short term training program on Research Methodology: Tools and Techniques	SVNIT, Surat, 05-09 September, 2022.	IIT (BHU)

Sl. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
16	Ishan Jha	18061506	1-week DST-STUTI training program on Uses of Advanced Instruments in Civil Engineering Projects	Indian Institute of Technology (BHU), Varanasi, India, 11th -17th July, 2022.	IIT (BHU)
17	Ishan Jha	18061506	International conference on Recent Advancements in Civil Engineering (RACE), 2022	Oriental Institute of Science & Technology, Bhopal, India.	IIT (BHU)
18	Ashutosh Kumar	18061 005	Traffic & amp; Granular Flow	15th to 17th October 2022,Indian Institute of Technology Delhi (India)	STGS
19	Amit Kumar Ram	18061002	Uses of Advanced Instruments and Tools for Dynamic Characterization and Seismic Response Analysis of Soil and Waste Materials	12-18 December 2022 & IIT(BHU), Varanasi	IIT (BHU)
20	Amit Kumar Ram	18061002	Uses of Advanced Instruments in Civil Engineering Projects	11-17 July 2022 & IIT(BHU)	IIT (BHU)
21	Aryan Singh	19065024	Conference: Recent Advances in Traffic Engineering (4th Edition)	11th-12th November-2022, SVNIT Surat	IIT-BHU (STGS) Rs. 4331/-
22	Uday	19065092	Sircle Student Growth Symposium	ABLT 4, IIT(BHU),23/05/2023	IIT (BHU)
23	Saroj Kanta Behera	18061510	2nd International Conference on Transportation Infrastructure Project: Conception to Execution (TIPCE-2022)	14-17 September 2022 & IIT Roorkee	STGS (Form No. 4)
ABROAD					
1	Abhijit Debnath	17061001	8th European Bioremediation Conference (EBC-VIII), Greece	June 12-17, 2022 & Chania Greece	SERB International Travel Scheme (ITS) Grant, DST

Names of students/scholars who got prizes and awards outside the Institute *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	Mangeshkumar Rajkumar Shendkar	18061508	ICI Awards 2022 for the best paper on construction techniques published in ICI Journal	23.09.2022, New Delhi	Indian Concrete Institute
2	Aditya Garg	19065002	Third Position in Design Different	24th to 26th December, Online	INTER IIT Civil Conclave, IIT ROORKEE
3	Kanderi Sai Prashritha	19064010	Third Position in Design Different	24th to 26th December, Online	INTER IIT Civil Conclave, IIT ROORKEE
4	Shyam Sunder Singh	20065130	Third Position in Design Different	24th to 26th December, Online	INTER IIT Civil Conclave, IIT ROORKEE
5	Aryan Singh	19065024	Best Summer Project Presentation (SPARK – IIT Roorkee)	12/07/2022 IIT Roorkee	Prof. Ajit Kumar Chaturvedi (Director, IIT Roorkee)
6	Uday	19065092	LOA for Building website from scratch for NRIDA Conference.	06/06/2022, Venue:Pragati Maidan, New Delhi	NRIDA, Ministry of Rural Development, Govt of India

Names of scholars/students who won Convocation/Institute Day prizes *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
1	Ms. Eshwaree P Shingwekar	20062017	a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Civil Engineering Examination2022 b) R.P. Singh, IRSE (Retired) Gold Medal for securing highest marks at the M.Tech. in Civil Engineering Examination, 2022.	Dr. V.K. Saraswat, Chancellor, JNU & Member, NITI, Aayog
2	Shri Ayush Kumar Singh	17064004	Medal for standing First at the 5- Year I.D.D. (B.Tech.-M.Tech.) in Civil Engineering Examination, 2022.	Dr. V.K. Saraswat, Chancellor, JNU & Member, NITI, Aayog
3.	Shri Rajat Kushwaha	18065055	a) I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Civil Engineering Examination, 2022. b) CRS Iyengar Memorial Gold Medal for securing highest marks in B.Tech. 4-Year Civil Engineering Examination, 2022. c) Rai Bahadur Taracharan Gue Memorial Award Rs. 500/= cash for standing First at the B.Tech. in Civil Engineering Examination, 2022. d) Late Prof. Manoranjan Sengupta Platinum Jubilee Merit Award Rs. 1000/= cash for securing highest marks in B.Tech. in Civil Engineering Examination, 2022.	Dr. V.K. Saraswat, Chancellor, JNU & Member, NITI, Aayog
4.	Ms. Priyasha Verma	18065054	Meenakshamma Shankaranaramappa Prize Rs. 500/= cash for securing highest marks in Environmental Engineering (Theory) at the B.Tech. Civil Engineering Examination, 2022.	Dr. V.K. Saraswat, Chancellor, JNU & Member, NITI, Aayog
5.	Shri Ganesh Jaiswal	18065089	a) Smt. Bimla Aggrawal Medal for securing > 8.00 CPI and having lowest family income out of the top 4 students at the B.Tech. in Civil Engineering Examination, 2022. b) Smt. Bimla Aggrawal Cash Prize Rs. 15000/= for securing > 8.00 CPIand having lowest family income out of the top 4 students at the B.Tech. in Civil Engineering Examination, 2022.	Dr. V.K. Saraswat, Chancellor, JNU & Member, NITI, Aayog
6.	Ms. Avani Singh	18065090	Smt. Indira Tripathi Gold Medal for securing highest CPI among the girl students at the B.Tech. in Civil Engineering Examination, 2022.	Dr. V.K. Saraswat, Chancellor, JNU & Member, NITI, Aayog

Names of Students/Scholars who went for foreign Internship *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of the Organization	Place of Internship	Country	Duration
1	Adyasha Mohapatra	19065005	University of Zurich. Got Think Swiss Scholarship	Zurich	Switzerland	2 months 20 days

Faculty & their Activity

Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
PROFESSORS			
1	Dr. Gautam Banerjee	Nov 1994	Environmental Engineering (Water, Wastewater, EIA & EA)
2	Dr. Devendra Mohan	2004	Environmental Engineering
3	Dr. Prabhat Kumar Singh	2000	Environmental Engineering
4	Dr. Prabhat Kumar Singh Dikshit	2009	Hydraulics and Water Resources Engineering, R S and GIS
5	Dr. Sasankasekhar Mandal	2002	Structural Engineering
6	Dr. Rajesh Kumar	May, 2004	Structural Engineering, Soil-Structure Interaction under Earthquake Excitation, Finite Element Analysis, RCC Design of Buildings and Bridges, Concrete Material and Structural Optimization
7	Dr. Shyam Bihari Dwivedi	Dec,1992	Engineering Geosciences
8	Dr. Arun Prasad	2000	Geotechnical Engineering (Soil stabilization, Unsaturated soil mechanics, Slope stability)
9	Dr. Krishna Kant Pathak	2001	Structural Engineering
10	Dr. Brind Kumar	19.10.2001	Transportation Engineering
ASSOCIATE PROFESSORS			
1	Dr. Anurag Ohri	04.01.2012	Geoinformatics Engineering, Municipal Solid Waste Management, Surveying
2	Dr. Ankit Gupta	29 th June, 2012	Transportation Engineering, Sustainable Pavement Materials, Traffic Engineering
3	Dr. Kamlesh Kumar Pandey	2015	Hydraulics & Water Resources Engineering
4	Dr. Medha Jha	December, 2003	Engineering Geosciences
5	Dr. P. Bala Ramudu	12.10.2007	Geotechnical Engineering- Environmental Geotechnics; Geopolymers; Remediation of Contaminated Sites; Electreo Osmotic consolidation
6	Dr. Pabitra Ranjan Maiti		Structural Engineering
ASSISTANT PROFESSORS			
1	Dr. Kesheo Prasad	2012	Hydraulics & Water Resources Engineering
2	Dr. Abhisek Mudgal	2011	Transportation Engineering
3	Dr. Manash Chakraborty	31st July, 2015	Geotechnical Engineering, Finite Element Analysis
4	Dr. Agnivesh Pani	April 9, 2020	Transportation Planning, Freight Transportation, Travel Behaviour, City Logistics
5	Dr. Rosalin Sahoo	26-03-2015	Composite Plates/Shells, CNT/Smart/FGM, Uncertainty Analysis
6	Dr. Shishir Gaur	July, 2010	Numerical Modelling, Optimization, GIS & Remote Sensing
7	Dr. Supriya Mohanty	18-Jun-2014	Geotechnical Earthquake Engineering, Liquefaction Potential Evaluation, Nonlinear Dynamic Response Analysis.
8	Dr. Suresh Kumar	2018	Geotechnical Engineering
9	Dr. Abhisek Mudgal	Dec. 2011	Geotechnical Engineering
10	Dr. Ayan Haldar	09.10.2019	Adaptive meta-materials, Origami and Krigami based adaptive structures, Mechanics of slender biological structures, Elastic instabilities in shells, Snap-through in multistable structures
11	Dr. Kshitij Kumar Yadav	20-07-2020	Stability of thin shell structures, Computational Mechanics, Stability of wind turbine towers and gas pipelines, Structural dynamics, Characterization of ground motions, Continuum mechanics
12	Dr. Mahendra Kumar Pal	Sep 25, 2015	Computational Solid Mechanics, Structural Dynamics and Disaster Mitigation and Planning
13	Dr. Samim Mustafa	22.03.2017	Structural health monitoring, Bayesian method and uncertainty quantification, Bridge weigh-in-motion

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
14	Dr. Vishwajit Anand	2021	Earthquake Engineering, Soil-Structure Interaction, Rupture-to-Rafters Simulation, Dynamics of Offshore Wind Turbine Structures, Machine Learning Applications in Earthquake Engineering
15	Dr. Basuraj Bhowmik	2018	Structural Engineering
Visiting Faculty			
Prof. V. Sundar, IIT Chennai			Engineering Geosciences
Prof. V.S. Raju, Former Director, IIT Delhi			Hydraulic & Water Resources Engg.
Prof. Kavita Shah			Environmental Engineering

Technical and Non-Teaching Staff

Sl. No.	Name, Qualifications	Designation	Date of Appointment in the department
1.	Shri Bipin Kumar Pandey	Superintendent	31/03/2023
2	Shri Rajesh Prasad	Senior Assistant	07/03/2019
3	Shri Ajit Kumar	Skilled Clerical Staff (Ex-Cadre)	16/04/2015
5	Shri Lalji	Technical Superintendent	30/05/1987
6	Shri Sharada Prasad	Technical Superintendent	12/01/1989
8	Shri Basanta Prasad	Jr. Technical Superintendent	28/12/1990
9	Shri Vinod Kumar Singh	Senior Technician	14/10/1993
11	Shri A. K. Jaiswar	Senior Technician	22/02/2007
12	Shri R. B. Bhandari	Senior Technician	16/05/2007
13	Shri Yashwant Singh	Senior Technician	06/06/2007
14	Shri Amit Kumar Singh	Senior Technician	11/11/2011
15	Shri Shankar Ram	Junior Technician	13/06/2012
16	Shri Netrapal	Junior Technician	13/06/2012
17	Shri Rama Shankar Singh	Skilled Worker	01/01/2010
18	Shri Jai Singh Yadav	MTS-Skilled Worker	01/01/2015
19	Shri Deepak Kharwar	Unskilled Worker	22/01/2015
20	Shri Mintoo Lal Srivastava	MTS-Skilled Worker	13/12/2016
21	Shri Suraj Kharwar	Daily Wager	-

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

(From 1st April 2022 to 31st March 2023)

Sl. No.	Coordinator	Title	Period
1	Prof. Prabhat Kumar Singh	International Workshop on 'Varanasi as Water Smart City, IIT (BHU) Varanasi	Nov. 25-26, 2022
2	Prof. Prabhat Kumar Singh	International Workshop on Health Restoration of Water Bodies in Varanasi	May 31, 2022
3	Dr. Supriya Mohanty (Event Organizer)	Hands-on Training Workshop on "Uses of Advanced Instruments and Tools for Dynamic Characterization and Seismic Response Analysis of Soil and Waste Materials" under Accelerate Vigyan- KARYASHALA scheme, SERB Division, Department of Science & Technology, New Delhi, India at Civil Engineering Department, IIT(BHU).	12-18 December 2022
4	Dr. Supriya Mohanty (Co-Coordinator)	One-week Training Program on "Uses of Advanced Instruments in Civil Engineering Projects", Training Program, STUTI, sponsored by DST, Government of India at Civil Engineering Department, IIT(BHU) in collaboration with IIT(ISM) Dhanbad.	11-17 July 2022.

Sl. No.	Coordinator	Title	Period
5	Prof. Arun Prasad, Dr. Bala Ramudu Paramkusam, Dr. Suresh Kumar, Dr. Manash Chakraborty & Dr. Supriya Mohanty	One-Day Online Workshop on "Geosynthetics and its Application", By IGS Varanasi Chapter, Department of Civil Engineering, IIT(BHU), Varanasi.	25th June, 2022
6	Dr. Manash Chakraborty	Accelerate Vigyan-Vrittika	May-June 2022
7	Dr. Manash Chakraborty	One-Day Online Workshop on Geosynthetics and its Application	25th June 2022
8	Dr. Basuraj Bhowmik and Prof. S. Mandal	1 day seminar on Offshore Structures and Offshore Wind Energy	Feb. 25, 2023
9	Dr. Basuraj Bhowmik	Special Session in the Engineering Mechanics Institute Conference Symposium, EMI 2022 Georgia Tech, Atlanta, USA. Advances in bridge health monitoring: Data-driven and machine learning methods, indirect monitoring, crowdsourced mobile sensing	June 06-09, 2022
10	Dr. Ayan Haldar, Dr. BN Rao	Mini symposium on Advanced structural mechanics of smart and adaptive structures at the World Congress of Computational Mechanics (WCCM) Yokohoma Japan	31/07/22 to 05/08/22
11	Dr. Rosalin Sahoo	Advanced Composite Materials: Mechanics and Applications	25th Nov. to 31st Dec. 2022
12	Prof A. Rajagopal (IIT Hyderabad) and Dr. Mahendra Kumar Pal, IIT(BHU)	Indo Japan workshop on Seismic Vulnerability of Building systems	12th - 13th May, 2022
13	Dr. P.R. Maiti	Training Program on Uses of Advanced Instruments in Civil Engineering Project (UAICEP-22) DST-STUTI Program of IIT(ISM) Dhanbad	11-17 July 2022

Short-term courses/workshops/seminars/symposia/conferences/training programmes *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Prof. Prabhat Kumar Singh	**International Conference for Water Safety--** "Water and Sanitation Safety Planning for Varanasi –A case study in middle Ganga Basin (India)"	June 22-24, 2022 Narvik, Norway
2	Prof. Prabhat Kumar Singh	**International Workshop on 'Varanasi as Water Smart City, IIT (BHU) Varanasi** – "Visions for Varanasi as Water Smart City"	Nov. 25, 2022
3	Dr. Supriya Mohanty	17th Symposium on Earthquake Engineering (17SEE)	November 14-17, 2022 at IIT Roorkee, India.
4	Prof. Anurag Ohri	SERB sponsored High-End Workshop (KARYASHALA) on 3D Mapping and Modeling using Drone and GIS Software	December 5-11, 2022.
5	Prof. Anurag Ohri	One day workshop on Green and Sustainable Technologies Initiatives at IIT(BHU)	November 26, 2022
6	Prof.K.K. Pathak	SEC-2022	19-22 Dec.2022 MNIT, Jaipur
7	Prof. Anurag Ohri	Technical discussion of experts on Geospatial Data Quality Certification	June 27, 2022
Meetings			
1	Prof. P. K Singh	IRP Review Meeting on River water quality: Finetuning of Biotic Indicators for River Health Assessment	July 08, 2022 University of Lyon, (France)
2	Dr. Supriya Mohanty	Technical Discussion wit h "Geo-Hazard Risk Reduction Group" at CSIR-CBRI, Roorkee on 15th November 2022.	15th November 2022, CSIR-CBRI, Roorkee

Special lectures delivered by faculty members in other institutions *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1	Dr. Supriya Mohanty	"Study on Utilization of Municipal Solid Waste (MSW Fines) for Geotechnical Purposes"	5 days Workshop on "Sustainable Geo-environmental Practices: Hazard Mitigation and Environment Protection" during March 27-31, 2023 at IIT Indore under the SERB VAJRA initiative.	30 March 2023
2	Dr. Samim Mustafa	Vibration-based structural health monitoring and Bridge Weigh-in-motion for in-service condition assessment	Siksha 'O' Anusandhan	01.10.2022
3	Prof. Goutam Banerjee	Cost-effective Wastewater Management in Integrated Steel Plant with an emphasis on Environmentally Balanced Industrial Complexing toward Zero Pollution	Tata Steel Limited	08-12-2022
4	Dr. Basuraj Bhowmik	Advances in bridge health monitoring: Data-driven and machine learning methods, indirect monitoring, crowdsourced mobile sensing.	Georgia Tech, USA	08-06-2023
5	Dr. Basuraj Bhowmik	Single-sensor-based real-time filtering and condition monitoring of dynamical systems	MNIT Jaipur	19-12-2022
6	Prof. Devendra Mohan	AICTE-Induction Programme-2022	Rajkiya Engineering College Sonbhadra	18/11/2022
7	Prof. Devendra Mohan	(1) Air Pollution in Metro Cities: Some Observations (2) Sustainable and Environment-Friendly Technology Customization to Remove Trace Toxins	JSS Academy of Technical Education, Noida	07/12/2022 and 08/12/2022
8	Dr. Ayan Haldar	Wind Turbine Structural Design Concept under Workshop on Basics of Wind Turbine Foundations	National Institute of Wind Energy (To M/s Sembcorp Green Infra Ltd.)	08/07/22022
9	Dr. Ayan Haldar	Wind Energy Technology and its Applications	National Institute of Wind Energy (To NTPC Employees.)	18/08/2022
10	Shishir Gaur	Advances in Groundwater Management	SGWB, U.P.	27 Feb. 2023
11	Dr. Mahehdra Kumar Pal	Development of Higher Order Particle Discretization Scheme and its Applications,	IIT Hyderabad, Telangana India	08th June, 2022,
12	Dr. Mahendra Kumar Pal	Post-Earth Quake fire effects on RCC structures - Experimental Studies and Computational Modeling	IIT Hyderabad	13th May 2022

Visits abroad by faculty members *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Prof. Prabhat Kumar Singh	France	18.06.2022	10.07.2022	IRP Review Meeting on River water quality: Fine-tuning of Biotic Indicators for River Health Assessment at University of Lyon, (France)	CPDA
2	Dr. Ayan Haldar	Ireland	12/06/22	15/07/22	Research Visit	European Union (through Marie Curie Fellowship)
3	Shishir Gaur	France	25/06/2022	23/07/2022	Collaborative Research	CPDA

Honours and awards *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Award
1	Dr. Supriya Mohanty	Received "Best Researcher Award" in the International Research Awards 2022 on Science, Technology and Management - INSO, Organized by VDGOOD Professional Association, November 30, 2022.
2	Dr. Supriya Mohanty	Received "ISET Shamsher Prakash Early Career Research award for Significant Contribution in Geotechnical Earthquake Engineering" for the year 2022 by Indian Society of Earthquake Technology (ISET), November 15, 2022, Roorkee.
3	Dr. Basuraj Bhowmik	Best Reviewer Award CTCS 2022 International Conference, Bangalore.
4	Prof. Sasankasekhar Mandal	ICI Awards 2022 for the best paper on construction techniques published in ICI Journal 23rd September, 2022

Fellowships of academic and professional societies *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Fellowship
1	Dr. Samim Mustafa	The Institution of Engineers (India)
2	Dr. Samim Mustafa	International Association for Life-Cycle Civil Engineering (IALCCE)
3	Dr. Ayan Haldar	Marie Skłodowska-Curie Postdoctoral Fellowship
4	Dr. Vishwajit Anand	Young Professional Member, EERI
5	Dr. Vishwajit Anand	Member, IStructE
6	Dr. Basuraj Bhowmik	Management Committee Member, Cost Action EU CA 18203
7	Prof. Arun Prasad	LIFE FELLOW, Indian Geotechnical Society: LF-0643
8	Prof. Arun Prasad	LIFE FELLOW, Institution of Engineers (India): F-1294489

Books, monographs authored/co-authored *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Author/Co- Author	Title	Publisher
1	Maruyama K, Yoshida I, Sekiya H, Mustafa S	Uncertainty quantification of axle weight estimated by Bayesian bridge weigh-in-motion	CRC Press
2	Bhowmik B., Hazra B., Pakrashi V.	Real-time Structural Health Monitoring of Vibrating Systems	CRC Press
3	Sasankasekhar Mandal, Vishwajit Anand, Sushil Kumar Agarwala	Concrete Technology : Theory and Pactice	AICTE: e-KUMBH, AICTE, New Delhi
4	Shankar Y.S., Mohan D.	Fluoride contamination and abatement measures	CRC Press
5	Shubham Srivastava, Deepti Verma, Shreya Thusoo, Aswani Kumar, Varun Pratap Singh and Rajesh Kumar	Nanomanufacturing for Energy Conversion and Storage Devices; Nanomanufacturing and Nanomaterials Design	Taylor & amp; Francis Group, Imprint: CRC Press, Pages:9, Year: 2022, eBook ISBN: 9781003220602
6	Pabitra Ranjan Maiti, Amitava Bhattacharyya and Vikash Khatri	Mechanics of Solids	ISBN 9789390620692, I K International Publishing House Pvt Ltd

Editorial boards of journals *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Prof. Sasankasekhar Mandal	Editor	INTERNATIONAL JOURNAL OF ENGINEERING RESEARCH AND GENERAL SCIENCES(IJERGS)

Design and Development Activities New facilities added *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Truss Bridge Model	0.3
2	Composite core cutter	2.0

Research and Consultancy

Sponsored research projects *(Ongoing only)*

Note: Sponsored project name is to be given only in case a faculty member is Project Incharge

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1	Strategic Planning for Water Resources and Implementation of Novel Biotechnical Treatment solutions and Good Practices(SPRING) 2020	2020-2023 (Ongoing)	Indo- EU Collaborative Research Project, funded by 'Horizon 2020' and DBT, GOI	71.28 lakhs	Prof. Prabhat Kumar Singh
2	Effects of River-Aquifer Exchanges on Riverine Ecosystem Resilience to Global Change: Comparative Approach of the Ganga and Rhône River Basin Networks **(Co-PI)**	2021-2026 (Ongoing)	Indo- French International Research Project	45 Lakhs	Dr. Shishir Gaur
3	Bringing Global Sustainable Solutions for Clean Rivers in India through the Concept of Living Lab **(Co-PI)**	Jan 16, 2023-Oct. 31, 2023 (Ongoing)	Indo-Danish collaboration project, funded by Danish Embassy, New Delhi	59.45 Lakhs	Dr. Shishir Gaur
4	Development of fly ash brick from the waste generated from Grasim Industries Ltd., Renukoot (U.P)	12-11-2022 to 11-11-2023	Grasim Industries Ltd.-Chemical Division, Renukoot, Uttar Pradesh, India	6.375 Lacs	Dr. Supriya Mohanty (PI)
5	Making Transit Accessible To All: Ensuring Fairness And Equity In Data-Driven Transit Planning	2023-2024	Department of Science and Technology (DST) and national science foundation (NSF)	19.92 lakhs	Dr. Agnivesh P.
6	Developing A Data-Driven Practice Guidebook On Mid-Term And Long-Term Freight Demand Modelling For National Highways	2023-2025	Ministry of Road Transport and Highways (MoRTH)	21.25 lakhs	Dr. Agnivesh P.
7	A Data-Driven Toolkit For Enabling Multimodal Freight Transportation In India And Austria	2023-2026	Department of Science and Technology through the India-Austria Bilateral Research Programme	7.12 lakhs	Dr. Agnivesh P.
8	Developing Implementable Passenger Car Units (Pcu) For Indian Traffic	2023-2026	Ministry of Road Transport and Highways (MoRTH)	20.45 lakhs	Dr. Agnivesh P.
9	A System for Quality Control and Certification of Geospatial Data for NSDI	2021-23	DST	36.03 lakh	Dr. Shishir Gaur, Dr. Abhsek Mudgal
10	Automatic Map Generation from High Resolution Images Applying Deep Learning Techniques	2021-24	DST	33.23 lakh	Dr. Shishir Gaur, Dr. S.P. Maurya
11	Design and Analysis of adaptive tow steered laminate	2022-24	SERB	31.8 Lakhs	Dr. Ayan Haldar

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
12	A Novel Meso- Micro Scale Coupling Approach of Wind Resource Assessment	2022-24	SERB	46.5 Lakhs	Dr. Ayan Haldar
13	"Improvement of delamination fracture toughness in nano-graphene particles reinforced polymer composite laminates: An Experimental-numerical approach.	2021-24	SERB	18.3	Dr. Rosalin Sahoo
14	Bringing Global Sustainable Solutions for Clean Rivers in India through the Concept of Living Lab	2022-23	The Danish Embassy, New Delhi	59.05	Dr Shishir Gaur
15	Development of 3-D DIC System for Seismic Response of Deployable Structures	2023-2024	IIT BHU	9.9	Dr. Vishwajit Anand
16	Sustainable and Resilient Strengthening Solutions for Unreinforced Masonry structures in Rural India	Jan 2023-Dec 2024	JICA	18.64	Dr. Mahendra Kumar Pal (Co-PI) and Prof. A. Rajagopal, IITH (PI)
17	Development of an inexpensixe high-fidelity technique for the prediction of failure capacity of thin shell structures	2022-2024	SERB	23 Lakhs	Dr. Kshitij Kumar
18	Vibration based structural health monitoring & in- service condition monitoring using bridge weigh-in-motion system	2022-2023	IIT(BHU)	10 Lakhs	Dr. Samim Mustafa

Industrial consultancy projects *(Ongoing only)*

Sl. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
1	Prof. Brind Kumar	Investigation into damage of concrete in a pot hole of 1mx0.75m at ROB at Km 38+925 (LP6-LP7) (LHS) on Varanasi-Gorakhpur section of NH-29, Pkg. II.	NHAI	4.15
2	Prof. Brind Kumar	Study of the rutting distress of the main carriageway (LHS) on NH-56 bypass, 16.980 km length, as a part of Varanasi ring road (Phase-II, Pkg-I) in the state of Uttar Pradesh under NHDP.	NHAI	15.64
3	Prof. Brind Kumar	Third party quality controller for the Prayagraj Smart City	Prayagraj Smart City Limited	39.96
4	Prof. Brind Kumar	Design of cement concrete pavement for 4 Nos. roads under PD, PWD, Sonebhadra	PD, PWD, Sonebhadra	14.16
5	Dr. Samim Mustafa	Vetting of structural design and drawings of RCC and Zinc Alumne Water tanks	M/s LC Infra Projects Pvt Ltd.	32.04
6	Prof. Sasankasekhar Mandal	Vetting of various over head water tanks, buildings and bridges	Different Private and government	50.00

Sl. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
7	Dr. Basuraj Bhowmik	Design and vetting of overhead water tanks	Buildsworth Pvt. Solutions Noida	30.00
7	Prof.K.K.Pathak	Proof checking of structural design and drawings	Construction Industries	45.00
8	Prof. K.K.Pathak	Third party quality inspection of construction projects	Construction Industries	30.00
9.	Prof. Arun Prasad	Proof checking and auditing of ash disposal units of various thermal power plants	Construction Industries	20.00
10.	Prof. Rajesh Kumar and Prof. Sasankasekhar Mandal	Planning and Design of R&R Colony of Amelia Coal Mine Project at Singrauli, M.P.	Through MOU Between undersigned,Department of Civil Engineering, IIT (BHU) and THDCIL (221-23), Govt. of India, Expected Consultancy	150.00
11	Dr. P.R. Maiti	Vetting of structural design and drawing of 5SRX (River Crossing Tower) for Wing Zone 5 with ACSR Single Moose conductor for UPPTCL project.	M/s R. S. Infra Projects Private LimitedA-53/2, Sikandrabad Industrial Area, Sikandrabad, Bulandshahar, UP	1.41
12	Prof. Arun Prasad	Ash dyke design	Hindalco Industries Ltd., Mahan, Singrauli	10
13	Prof. Arun Prasad	Ash dyke raising	Reliance Industries, Singrauli	5

Faculty members' participation with other universities under MoUs *(Ongoing only)*

Research Publications *(From 1st April 2022 to 31st March 2023)*

Sl. No.		No.
1	Total Number of Papers Published in Refereed National Journals	07
2	Total Number of Papers Published in Refereed International Journals	86
3	Total Number of Papers Presented in National Conferences	
4	Total Number of Papers Presented in International Conferences	

Refereed International Journals *(From 1st April 2022 to 31st March 2023)*

1. A Garg, T Mukhopadhyay, HD Chalak, MO Belarbi, L Li, R Sahoo (2022), Multiscale bending and free vibration analyses of functionally graded graphene platelet/fiber composite beams, Steel and Composite Structures, An International Journal 44 (5), 707-720
2. Abhay Kumar Verma, Arun Prasad, Niteesh Singh Bonal, Investigation of the long-term shear strength behavior of municipal solid waste fines stabilized with biopolymer: An experimental study, Journal of Environmental Chemical Engineering, Volume 11, Issue 3, 2023, DOI: https://doi.org/10.1016/j.jece.2023.109805.
3. Agrahari, R. K., Jha, I., & Pathak, K. K. (2022). Seismic acceleration amplification factor for pin supported moment resisting RC frame structures for Chi-Chi earthquake.
4. Akhil, K.S., Anilkumar, P.M., Haldar, A. and Rao, B.N., (2022). Vibration Analysis of Bistable Unsymmetric Laminates with Curvilinear Fiber Paths. International Journal of Structural Stability and Dynamics, p.2350089.
5. Anand V. and Satish Kumar S. R. (2022) Sensitivity of strength reduction factors for structures considering soil-structure interaction. Structures. 39: 593-606.
6. Anand V., Vishnu Lakshmi K. and Putcha C. (2023) Passive buildings: A state-of-the-art review. Journal of Infrastructure Preservation and Resilience. 4:3.
7. Anilkumar, P.M., Haldar, A., Scheffler, S., Jansen, E.L., Rao, B.N. and Rolfes, R., ((2022). Morphing of bistable variable stiffness composites using distributed MFC actuators. Composite Structures, 289, p.115396.
8. Anilkumar, P.M., Rao, B.N, Scheffler, S., Haldar, A., Wolnaik. M, Rolfes, R, Haldar, A and Jansen, E.L.(2023), Refined Semi-Analytical Framework to Predict the Natural Vibration Characteristics of Bistable Laminates, AIAA Journal, 1-14.

9. Anilkumar, P.M., Scheffler, S., Haldar, A., Brod, M., Rao, B.N., Jansen, E.L. and Rolfes, R., (2023). Nonlinear dynamic modeling of bistable variable stiffness composite laminates. Journal of Sound and Vibration, 545, p.117417.

10. Bajpai, M.,Mishra, S., Gaur, S., Ohri, A., Piégay, H., Graillot, D., (2022) optimization of groundwater pumping and river-aquifer exchanges for management of water resources, Water Resources Management, 36 (6), 1863-1878.

11. Balla, B.S., Sahu, P., and Pani, A., Sharma, S., and Majumdar, B. (2023) "Comparison of Parametric and Non-Parametric Methods for Modeling Establishment-Level Freight Generation", Transportation Research Record, DOI: https://doi.org/10.1177/03611981221116369

12. Bhattacharjee, R., Gaur, S., Das, N., B, Agnihotri, A.K, Ohri, A., (2023), Analysing the relationship between human modification and land surface temperature fluctuation in the Ramganga basin, India, Environmental Monitoring and Assessment, 195, 104.

13. Bhowmik B. (2023). Adaptation and Mitigation Practices for Building Climate-Resilient Civil Infrastructure, Sustainable Cities and Society, In-Press.

14. Bhowmik B., Okosun F., Guerin S., Pakrashi V. (2022). A Statistical Approach for Vibration-Based Leak monitoring in Water Pipes with Energy Harvesting Sensors". Philosophical Transactions of the Royal Society: Part A, Royal Society. In-Press.

15. Bonal N. S., Prasad, A., and Verma, A. K (2022) Effect of Thermogelation Biopolymers on Geotechnical Properties of Red Mud Tailings Exposed to Freeze and Thaw. Journal of Cold Regions Engineering. 36(3). https://doi.org/10.1061/(ASCE)CR.1943-5495.0000281

16. Bonal, N.S., Prasad, A., and Verma, A.K. (2022). Effect of Thermogelation Biopolymers on Geotechnical Properties of Red Mud Tailings Exposed to Freeze and Thaw, Journal of Cold Regions Engineering, Volume 36, Issue 3.DOI: 10.1061/(ASCE)CR.1943-5495.0000281.

17. Chanda, A. G., & Sahoo, R. (2022). Finite element analysis of smart composite plate structures coupled with piezoelectric materials: Investigation of static and vibration responses. Mechanics of Advanced Materials and Structures, 29(27), 6118-6143.

18. Chanda, A. G., Kontoni, D. P. N., & Sahoo, R. (2023). Development of analytical and FEM solutions for static and dynamic analysis of smart piezoelectric laminated composite plates on elastic foundation. Journal of Engineering Mathematics, 138(1), 12.

19. Chandra, A., Pani, A., Sahu, P., Majumdar, B., and Sharma, S. (2022) "Identifying Large Freight Traffic Generators and Investigating the Impacts on Travel Pattern: A Decision Tree Approach for Last-Mile Delivery Management", Research in Transportation Business and Management, Vol. 43 DOI: https://doi.org/10.1007/s11067-021-09530-z

20. Chandra.A, Pani, A., Sahu, P., and Sharma, S. (2021) "Integrating Commodity-Based and Trip-Based Approaches of Freight Demand Modelling Using Trip Length Distributions", Journal of The Institution of Engineers (India): Series A, DOI: https://doi.org/10.1007/s40030-023-00712-1

21. Chivukula S. and Chakraborty M. (2022) Numerical analysis of one-dimensional consolidation of soft clays subjected to cyclic loading and non-Darcian flow. Computers and Geotechnics. 146: 104742.

22. Cuccia N., Yadav K.K., Serlin M., Virot E., Rubinstein S., & Gerasimidis, S. (2023). Hitting the Mark: Probing at the Initiation Site Allows for Accurate Prediction of a Thin Shell's Buckling Load. Philosophical Transactions of the Royal Society A. 381:20220036. (Featured on the cover of the issue)

23. Das, N., Bhattacharjee, R., Gupta, A., N Das, Agnihotri, A., Ohri, A., Gaur, S., (2022), Analysis of algal bloom intensification in mid-Ganga river, India using satellite data and neural network techniques, Environmental Monitoring and Assessment, 194 (8), 1-20.

24. Das, N., Sagar, A., Bhattacharjee, R., Choubey, A., Agnihotri, A., Ohri, A., Gaur, S., (2022), Time series forecasting of temperature and turbidity due to global warming in river Ganga at and around Varanasi, India, Environmental Monitoring and Assessment, 194 (9), 1-27.

25. Dheeresh Kumar Nayak, Gaurav Verma, Akshat Dimri, Rajesh Kumar and Veerendra Kumar (2023), "Predicting the twenty-eight day compressive strength of OPC- and PPC-Prepared Concrete through Hybrid GA-XGB Model, ASCE, ISSN 1084-0680, Practice Periodical on Structural Design and Construction, 2023, 28(3): 04023020.

26. Dheeresh Kumar Nayak, P.P. Abhilash, R. Singh, R. Kumar, and V. Kumar, "Fly ash for sustainable construction: A review of fly ash concrete and its beneficial use case studies,, Clean. Mater, Vol.6, no. August, p. 100143, 2022, doi: 10.1016/j.clema.2022.100143.

27. Dheeresh Kumar Nayak, P.P. Abhilash, R. Singh, R. Kumar, and V. Kumar,"Compatibility of Ether-Based Poly –Carboxylate Superplasticizer with Mineral Admixture Blended with OPC," Civ. Eng.Archit., vol.10, no. 6pp.2686-2705, 2022,, doi: 10.13189/cea.2022.100633.

28. Garg, A., Chalak, H. D., Zenkour, A. M., Belarbi, M. O., & Sahoo, R. (2022). Bending and free vibration analysis of symmetric and unsymmetric functionally graded CNT reinforced sandwich beams containing softcore. Thin-Walled Structures, 170, 108626.

29. Garg, A., Mukhopadhyay, T., Chalak, H. D., Belarbi, M. O., Li, L., & Sahoo, R. (2022). Multiscale bending and free vibration analyses of functionally graded graphene platelet/fiber composite beams. Steel and Composite Structures, An International Journal, 44(5), 707-720.

30. Gaur, S., Das, N., Bhattacharjee, R., Patra, D., Ohri, A., (2023), A novel band selection architecture to propose a built-up index for hyperspectral sensor PRISMA, Earth Science Informatics, Accepted, I.F=2.447.

31. Gond S., Gupta N., Patel J. and Dikshit P.K.S., Dwivedi S.B., (2023) Pattern Characterization of Meteorological Drought Using Multivariate Drought Index Over Mirzapur in Middle Gangetic Plains of India. Nature Environment and Pollution Technology. 22(1), 15-28

32. Gond S., Gupta N., Patel J., and Dikshit P.K.S., (2023) Spatiotemporal evaluation of drought characteristics based on standard drought indices at various timescales over Uttar Pradesh, India. Environmental Monitoring and Assessment, 195:439

33. Gupta N., Patel J., Gond S., Tripathi R.P., Omar P.J., Dikshit P.K.S., (2023) Projecting Future Maximum Temperature Changes in River Ganges Basin Using Observations and Statistical Downscaling Model (SDSM). In: Pandey, M., Azamathulla, H., Pu, J.H. (eds) River Dynamics and Flood Hazards. Disaster Resilience and Green Growth. Springer, Singapore. https://doi.org/10.1007/978-981-19-7100-6_31

34. Gupta, S., and S. Kumar. (2023) A state-of-the-art review of the deep soil mixing technique for ground improvement. *Innovative Infrastructure Solutions*, 8 (4): 129.

35. Gyani Jail Singh, Amit Kumar, Shashi Bhushan Kumar and Rajesh Kumar (2023), "Performance-Based Quality Optimization Approach for Mechanically Treated Recycled Concrete Aggregates", Journal of Materials in Civil Engineering, ASCE, Ref: Ms. No. MTENG-15284R2 (Accepted for publication)

36. Hirose, R., Mehran, B., and Pani, A. (2022) "Investigating Combined Impact of Adverse Road-Weather Conditions and Heavy Vehicles on Saturation Headway", Transportation Research Record, DOI: https://doi.org/10.1177/03611981221089303

37. Jha, I., & Pathak, K. K. (2023). Synergetic concrete shape and cable layout optimization of pre-stressed concrete beams. Structural and Multidisciplinary Optimization, 66(4), 1-13.

38. Jha, I., Pathak, K. K., Jha, M., & Ranjan, A. (2022). A comparative study of gradient descent method and a novel non-gradient method for structural shape optimization. International Journal of Mathematical, Engineering and Management Sciences, 7(2), 258.

39. Kumar A., Mohan D., Paramkusam B.R., and Singh A.P. (2023). Efficacy of surfactants in the sustainable restoration of the geotechnical properties of diesel-contaminated soil. International Journal of Environmental Science and Technology,8. https://doi.org/10.1007/s13762-023-04875-z

40. Kumar B., Patra S., Pandey M., Dikshit P.K.S., (2023) A Review on Hydrodynamics of Vegetated Streams In: Pandey, M., Azamathulla, H., Pu, J.H. (eds) River Dynamics and Flood Hazards. Disaster Resilience and Green Growth. Springer, Singapore. https://doi.org/10.1007/978-981-19-7100-6_23

41. Kumar, A., and Mudgal, A. (2023). Effect of vehicle size on crash risk in a heterogeneous traffic scenario: a bivariate extreme value approach. Transportation Letters, 1-16.

42. Kumar, A., Mohan, D., Paramkusam, B.R. Singh, A.P. (2023). Efficacy of surfactants in the sustainable restoration of the geotechnical properties of diesel-contaminated soil. International Journal of Environmental Science and Technology (2023). https://doi.org/10.1007/s13762-023-04875-z.

43. Kumar, A.P., Anilkumar, P.M., Haldar, A., Scheffler, S., Dorn, O., Rao, B.N. and Rolfes, R., (2022). Investigations on the multistability of series-connected unsymmetric laminates. Composites Science and Technology, 229, p.109635.

44. Kushwaha R., Singh R.S. and Mohan, D. (2023). Comparative study for sorption of arsenic on peanut shell biochar and modified peanut shell biochar. Bioresource Technology, 375:128831. https://doi.org/10.1016/J.BIORTECH.2023.128831

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80. Upadhyay S., Parida M., Kumar P., and Kumar B. 2023. Development of a novel mid-block urban traffic noise prediction model using the Improved Artificial Neural Network-based African Vulture Optimization Algorithm. International Conference on Environmental Sustainability (ICES-2023), March 6-17. Mumbai.

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82. Yadav K.K. , Sloance Z., and Gerasimidis, S. Probing the buckling of axially compressed cylindrical shells: Stability landscape and nondestructive prediction, Proceedings of the Annual Stability Conference Structural Stability Research Council (SSRC), Denver, Colorado, April 21-24, 2022.

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Proceedings of National Conferences *(From 1st April 2022 to 31st March 2023)*

1. Abhijeet Kumar, Ayan Haldar 2022, Shape-Adaptive Metamaterials Using Bistable Laminates, 8th Asian Conference on Mechanics of Functional Materials and Structures, 11-14 Dec. 2022, IIT Guwahati, Assam

2. Amarendra Nath Shandhilya, M. Shendkar, Ayan Haldar, P.R. Maiti, S. Mandal (2023), Response Reduction Factor of Open Ground Storey Reinforced Concrete Buildings with and without Haunch at 17 Symposium on Earthquake Engineering (14-17 Nov 2022), India organised by IIT Roorkee, Proceedings of 17th Symposium on Earthquake Engineering (Vol.1).

3. P.M Anilkumar., Ayan Haldar, B.N. Rao, (2022). Effect of snap-through force location on morphing bistable variable stiffness laminates, Proceedings of the 12th Structural Engineering Convention SEC 2022, MNIT Jaipur, 19-22 December 2022.

4. Shandilya, A. N., Shendkar, M. R., Mandal, S. (2022). Response reduction factor of open ground storey reinforced concrete buildings with and without haunch., Proceedings of 17th Symposium on Earthquake Engineering, Vol. I, IIT Roorkee, DOI : 10.1007/978-981-99-1608-5.

5. Singh, A., Mandal, S. (2023). Shear lag effect in framed-tube buildings due to torsional wind load. 9th National Conference on Wind Engineering, BITS Pilani Hyderabad.

Distinguished Visitors *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of the visitor & Designation	Date of Visit	Purpose of Visit
1	Prof. Sarat Kumar Das, Professor, Department of Civil Engineering, IIT (ISM) Dhanbad.	11-17 July 2022	One-week Training Program on "Uses of Advanced Instruments in Civil Engineering Projects", Training Program, STUTI, sponsored by DST, Government of India at Civil Engineering Department, IIT(BHU) in collaboration with IIT(ISM) Dhanbad

Other activities

International collaboration/achievements by the Department *(From 1st April 2022 to 31st March 2023)*

1. Collaboration with Danish Embassy under the project for the development of Smart Living Lab on Clean Rivers.

Indian Faculty visits in the Department *(1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. Sarat Kumar Das, Professor, Department of Civil Engineering, IIT (ISM) Dhanbad.	One-week Training Program on "Uses of Advanced Instruments in Civil Engineering Projects", Training Program, STUTI, sponsored by DST, Government of India at Civil Engineering Department, IIT(BHU) in collaboration with IIT(ISM) Dhanbad	11-17 July 2022, Department of Civil Engineering, IIT(BHU), Varanasi

Foreign Faculty Visits in the Department *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. V. Kodur, University Distinguished Professor Director, Center on Structural Fire Engineering and Diagnostics Dept. of Civil & Environmental Engineering, Michigan State University	Delivering a lecture and interaction with faculty members	Tuesday, 26th July 2022,

10. Department of Computer Science and Engineering

Complete Name of Department: Computer Science and Engineering

Year of Establishment: 1983

Head of the Department: Prof. Sanjay Kumar Singh w.e.f. 01.01.2021.

Brief Introduction of the Department:

The Department of Computer Science and Engineering was established in July 1983. The department offers a 4 year course, B.Tech. in Computer Sc. & Engineering, 5 year Integrated Dual Degree (B.Tech. and M.Tech.) in Computer Science and Engineering from 2005-2006, and Ph.D. degree in various specializations of Computer Science and Engineering. Computer Science and Engineering is the most sought- after branch for the JEE (Advanced) selected students that come to the Institute. Our graduates have distinguished themselves in higher studies at the top Universities. They also occupy positions of eminence in the computer industry. Our Alumni remain in constant touch with us and are contributing in the development of the department. Placements for our graduates are the best in the Institute. The faculty members of the department have international experience and training. The departmental research is focused in the areas of Artificial Intelligence, Parallel and Distributed Computing, Software Engineering, Image Processing and Computer Vision, Machine Learning\Deep Learning, Medical Image Processing, Pattern Recognition, Data mining and Web mining, semantic web, Natural Language Processing (NLP), IoT, Communications, Security and Information Extraction. The department has all the facilities to carry out the related teaching and research work.

Major areas of Research:

1. Image Processing, Computer Vision and Pattern Recognition
2. Artificial Intelligence, Natural Language Processing, and Information Retrieval
3. Software Engineering
4. Computer Networks
5. Machine Learning
6. Cyber Security
7. High Performance Computing
8. IoT
9. Security
10. Communication

Area of the Department (in square meters): 1454.66 Square Meters

Infrastructure

Sl. No.	Particulars	Number
1	No. of Classrooms	5
2	No. of Lecture Halls	3
3	No. of Laboratory	15
4	No. of Computers available for students in the Department	200+

Unique Achievement/Preposition of the Department:

Department has started two M.Tech programs in AI and IoT from July 2021.

Academic Programmes offered New Courses Introduced *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Course Code	Course name	Course credit
1		Software Architecture	9

Students on Roll *(From 1st April 2022 to 31st March 2023)*

(Please give No. of students only in respective years)

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1.	B.Tech/B.Arch	109	109	109	92	00
2.	Dual Degree	37	37	37	32	22
3.	M.Tech/M. Pharm	17	20	00	00	00
4.	Ph.D. (Under Institute Fellowship)	03	09	01	02	07
5.	Ph.D.(Under Project Fellowship)	01	01	00	00	00
6.	Ph.D.(Under Sponsored Category)	00	01	00	00	01
7.	Ph.D.(Under QIP)	04	02	01	00	00

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
ÌNDIA					
1	Himanshu Singh	21071507	*24th International Conference on Distributed Computing and Networking*	4-7th January, 2023, IIT Khargpur	ICDCN Conference
2	Moirangthem Biken Singh	21071005	*24th International Conference on Distributed Computing and Networking*	4-7th January, 2023, IIT Khargpur	ICDCN Conference
3	Archana Ojha	21071001	IEEE Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation (IATMSI)	21-23 December, 2022	IIT(BHU)
4	Archana Ojha	21071001	IEEE 6th Conference on Information and Communication Technology (CICT)	18-20 Nov. 2022	IIT(BHU)
5	Shashank Kumar Singh	17071508	The 4th International Conference on Communication and Intelligent Systems ICCIS 2022 (Springer)	19-20 December 2022, NIT Delhi	IIT(BHU)
6	Rakesh Kumar	18071011	The 29th International Conference on Neural Information Processing (ICONIP 2022), Communications in Computer and Information Science (CCIS)	22-26 November 2022, IIT Indore	IIT(BHU)
7	Pankaj Kumar Jha	17074010	The 29th International Conference on Neural Information Processing (ICONIP 2022), Communications in Computer and Information Science (CCIS)	22-26 November 2022, IIT Indore	IIT(BHU)
ABROAD					
1	Dhritimaan Das (Dept. of EEE)	17085092	Real-World Surveillance: Applications and Challenges in conjunction with European Conference on Computer Vision (Attended in Online Mode)	24 October, 2022	Paper Registration done from CPDA
2	Ankit Sinha	18075076	International Conference on Image Analysis and Processing (Attended in Online Mode)	27-28 October, 2022	Paper Registration done from CPDA
3	Vandana Bharti	17071011	IEEE WORLD CONGRESS ON COMPUTATIONAL INTELLIGENCE, 2022 Italy	July 18-23 2022	Paper Registration done from CPDA

Names of scholars/students who won Convocation/Institute Day prizes *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
1.	Shri Siddharth Sahay	16074016	I.I.T.(B.H.U.) Varanasi Medal	Mr. Somnath S., Secretary, Department of Space & Chairman, Indian Space Research Organization
2.	Shri Pranav Dalal	17075066	I.I.T.(B.H.U.) Varanasi Medal, Late Shri Shyam Sunder Lal Razdan Memorial Gold Medal, Prof. Gopal Tripathi Memorial Gold Medal, Smt. Arati Paul and Prof. Binod Bihari Paul Gold Medal, C. Raja Gopal Memorial Gold Medal, Umesh Pratap Singh Gold Medal, Shri Raj Kishore Kapoor Silver Medal and Dr. Annie Besant Prize	
3.	Ms. Janhavi Gupta	17075061	Smt. Indira Tripathi Gold Medal and Late Dr. R.N. Singh and Mrs. Uma Singh Medal	
4.	Shri Mihil Gupta	17074009	I.I.T.(B.H.U.) Varanasi Medal	Dr.V.K.Saraswat, Chancellor, Jawaharlal Nehru University, Delhi and Member, NITI Aayog
5.	Shri Ashish Kumar	18075068	I.I.T.(B.H.U.) Varanasi Medal, C. Raja Gopal Memorial Gold Medal and Prof. V.V. Chalam Prize	
6.	Ms. Shalini Nareshkumar Agrawal	18075007	Smt. Indira Tripathi Gold Medal	

Faculty & their Activity

Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
PROFESSORS			
1	Dr. Anil Kumar Tripathi (13770)	1992	Parallel/Distributed Computing and Software Engineering
2	Dr. Kaushal Kumar Shukla (13772)	1993	Artificial Intelligence, Neural Networks, Data Mining
3	Dr. Rajeev Srivastava (18363)	April 2011	Image Processing, Computer Vision, Pattern Recognition, Machine Learning, Video Surveillance, and Medical Image Analysis.
4	Dr. Sanjay Kumar Singh (18362)	August 2004	Artificial Intelligence, Data Science, Machine Learning
ASSOCIATE PROFESSORS			
1	Dr. Bhaskar Biswas (16832)	2010	Data Mining, Web Mining and Social Networks
2	Dr. Ravi Shankar Singh (17184)	2010	Data Structures, Algorithms and High Performance Computing
3	Dr. Anil Kumar Singh (50014)	July 2010	Natural Language Processing, Computational Linguistics, Information Retrieval
4	Dr. Ruchir Gupta (50126)	18.06.2014	Peer-to-peer network, Social Networks, Game Theory, NLP and Machine Learning
5	Dr. Sukomal Pal (50052)	10.09.2012	Information Retrieval, Recommender Systems, Text Mining, Data Science
6	Dr.Ravindranath Chowdary C, (19845)	31.07.2009	Information Extraction, Text Summarization, Web Mining
7	Dr. Hari Prabhat Gupta (50031)	31.10.2014	Computer Networks, WSN, Ubiquitous Computing, and IoT
8	Dr. Bidyut Kumar Patra (50306)	25.04.2012	Data Mining, Machine Learning, Anomaly Detection, Recommender Systems
ASSISTANT PROFESSORS			
1	Dr. Vinayak Shrivastava (13773)	07.03.2009	Software Engineering, Software Re-engineering
2	Dr. Lakshmanan Kailasam, (50127)	28.06.2013	Reinforcement Learning, Network Science
3	Dr. Tanima Dutta (50075)	16.10.2014	Computer Vision, Deep Neural Networks, Digital Forensics, IoT
4	Dr. Amrita Chaturvedi (50125)	12.01.2016	Software Architecture and Design Patterns, Ontologies, Artificial Intelligence, Semantic Web, Big Data Analytics and Machine Learning
5	Dr. Pratik Chattopadhyay, (50151)	06.11.2015	Image and Video Processing, Pattern Recognition, Machine Learning, Cyber-security, Generative Neural Networks
6	Dr. Ajay Pratap (50243)	16.07.2018	IoT, Fog Computing, Design and Analysis of Algorithms, Cellular Wireless and 6G networks

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
7	Dr. Mayank Swarnkar (50244)	30.09.2019	Network Security, System Security, Network Penetration Testing, IoT Security
8	Dr. Prasenjit Chanak (50248)	12.02.2016	Wireless Sensor Networks, Internet of Things (IoT), Cyber-Physical Networks (CPN), Consumer electronics
9	Dr. Vignesh Sivaraman (50313)	31.01.2021	Self-learning networks, 6G networks, Quantum Internet, and User Privacy
10	Dr. Obbattu Sai Lakshmi Bhavna (50315)	29.05.2020	Theoretical Computer Science, Security and Privacy

Technical and Non-Teaching Staff

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
1	Dr. Roshan Singh (Ph.D.)	System Analyst (50008)	27.06.2015 (F/N)
2	Shri Mahesh Pandey (MCA)	System Analyst (50013)	27.06.2015 (F/N)
3	Shri Ravi Kumar Bharti (Bachelor of Arts)	Junior Superintendent (50004)	27.04.2015 (F/N)
4	Shri Prakhar Kumar (MA - Economics Honours)	Senior Assistant (50132)	10.07.2017 (A/N)
5	Shri Shubham Pandey (M.Sc.- Physics)	Senior Assistant (50189)	13.06.2018 (F/N)
6	Dr. Ram Prasad Meena Ph.D. (Botany)	Senior Technical Superintendent (18756)	06.01.2009 (A/N)
7	Shri Raghuvir Sharan Tripathi M.Sc.(Tech.)- (Geophysics)	Senior Technical Superintendent (18753)	03.01.2009 (F/N)
8	Shri Dinesh Kumar Tiwari (M.A.- Economics)	Junior Technical Superintendent (18600)	18.08.2008 (A/N)
9	Shri Shashi Kant Singh (B.Sc.)	Junior Technical Superintendent (18640)	18.08.2008 (F/N)
10	Shri Manoj Kumar Singh (B.Sc.)	Junior Technical Superintendent (18601)	18.08.2008 (A/N)
11	Shri Pramod Kumar (B.Sc.)	Junior Technical Superintendent (18661)	27.04.2011 (A/N)

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

(From 1st April 2022 to 31st March 2023)

Sl. No.	Cordinator	Title	Period
1	Ajay Pratap	2nd International Workshop on Machine Learning and Blockchain for Smart Society (MLBSS 2023), Co-located with ICDCN 2023, at IIT Kharagpur.	January 4, 2023
2	Dr. Tanima Dutta	Design and development of 3D Human Pose estimation in the wind using Adversarial Learning	SERB Vritika, One Months, IIT (BHU) Varanasi

Special lectures delivered by faculty members in other institutions *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1	Dr. R.S.Singh	Fundamental problems of algorithms and their parallel solutions	AITM, Varanasi	01/02/2023
2	Dr. Vignesh Sivaraman	Quantum Communication and Internet	NIT, Raipur	02/03/2023
3	Dr. Pratik Chattopadhyay	An Overview of Few Applications of Machine Learning in Computer Vision and Discussion on Some Recent Approaches to Computer Vision-based Gait Recognition (ATAL FDP)	Institute of Engineering and Management, Kolkata	31/08/2022
4	Dr. Pratik Chattopadhyay	Introduction to Programming in C/MatLab with Hands-On Demonstration (DST STUTI: Training Program on Fundamentals of Computational Mathematics)	NIT Agartala	23/06/2022
5	Dr. Mayank Swarnkar	Lightweight Bit Level Deep Packet Inspection Methods for Network Traffic Classification	IISc Bangalore	18.10.2022
6	Dr. Mayank Swarnkar	Cybersecurity Awareness and Practices	IIITM Gwalior	15.11.2022

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
7	Dr. Mayank Swarnkar	Exercising Images in Cyber Attacks By Hackers and Defence Mechanisms	NIT Patna	08.12.2022
8	Dr. Ajay Pratap	Loss Aware Federated Learning for Service Migration in Multimodal E-Health Services	IIIT Bhaglapur	27.12.2022
9	Dr. Ajay Pratap	BPFISH: Blockchain and Privacy-preserving FL Inspired Smart Healthcare"	IIIT Bhaglapur	27.12.2022
10	Dr. Ajay Pratap	Applications of Blockchain in Smart City Services	NIT Raipur	22.09.2022
11	Dr. Prasenjit Chanak	The Healthcare Hackathon	TIH_ I-DAPT HUB FOUNDATION, IIT (BHU), Varanasi	28.07.2022

Visits abroad by faculty members *(From 1st April 2022 to 31st March 2023)*

S. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Dr. Pratik Chattopadhyay	Singapore	22.10.2022	02.11.2022	Research Collaboration and Discussion	CPDA
2	Dr. Tanima Dutta	Chicago, USA	8.06.2022	7.10.2022	International Research Experience	SERB SIRE

Fellowships of academic and professional societies *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Fellowship
1	Dr. Prasenjit Chanak	IEEE Senior Member
2	Dr. Prasenjit Chanak	ACM Member
3	Dr. Pratik Chattopadhyay	IEEE Member and IEEE Signal Processing Society Member
4	Dr. Mayank Swarnkar	Member IEEE
5	Dr. Mayank Swarnkar	Member ACM
6	Dr. Ajay Pratap	Member IEEE
7	Dr. Ajay Pratap	Member ACM
8	Dr. Anil Kumar Singh	Member ACM
10	Dr. Amrita Chaturvedi	Member IEEE
11	Dr. Amrita Chaturvedi	Member APNNS (Asia Pacific Neural Network Society)
12	Prof. Sanjay Kumar Singh	IEEE Senior Member
13	Prof. Sanjay Kumar Singh	ACM Member

Books, monographs authored/co-authored *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Author/Co- Author	Title	Publisher
1	Dr. Hiren Thakkar ,Dr. Mayank Swarnkar, Dr. Robin. Singh Bhadoria	Predictive Data Security using AI: Insights and Issues of Blockchain, IoT and DevOps	Springer
2	Ashish Kumar, Sachin Srivastava, and Pratik Chattopadhyay	Book Chapter on Machine and Deep-Learning Techniques for Image Super-Resolution Bookname: Machine Learning Algorithms for Signal and Image Processing	John Wiley & Sons, Inc.

Editorial boards of journals *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Dr. Amrita Chaturvedi	Associate Editor	Results in Control and Optimization (Elsevier)
2	Dr. Amrita Chaturvedi	Reviewer	Engineering Applications of Artificial Intelligence (Elsevier)
3	Dr. Prasenjit Chanak	Reviewer	IEEE Transaction on industrial informatics IEEE Consumer electronics magazine Ad-hoc network journal (Elsevier) IEEE Sensor Journal
4	Dr. Tanima Dutta	Associate Editor	IEEE Sensor Journal

Design and Development Activities New facilities added *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	AI-powered Immersive Virtual Embodiment (AIVE) facility	Rs. 5,00,000.00
2	IoT development Boards (Arduino board,Gps module, PIC development board)	Rs. 10,00,000.00

Patents filed *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title of Patent
1	Dr. Ajay Pratap	A Wireless Body Area Network Enabled Fog Computing System for Remote Health Monitoring
2	Dr. Tanima Dutta	A System and Method for A Fast and Affordable Vision-Based System for Recognition of Diverse Human Behaviors and Group Actions with Privacy Considerations
3	Prof. Rajeev Srivastava	A system to reduce errors for digital image forgery detection and method thereof
4	Prof. Rajeev Srivastava	An attentive encoder-decoder based system for traffic light detection
5	Prof. Rajeev Srivastava	A composite backbone network based system with enhanced and suppressed filter for 3D visual saliency

Research and Consultancy: Sponsored research projects *(Ongoing only)*

Note: Sponsored project name is to be given only in case a faculty member is Project Incharge

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1	Design and development of machine learning based methods for plant disease detection	21/10/22-20/10/25	CSTUP	10.44 lacs	R.S.Singh
2	Developing novel therapeutic strategies for mitigating antimicrobial resistance.	June 2022 to May 2025	ICAR(NASF)	153.89 Lacs	Dr. S.K. Singh
3	Artificial intelligence & IoT based smart vet ecosystem for animal health, patient care & precision livestock farming.	2021-2024	ICAR(NASF	59.44648 Lacs	Dr. S.K. Singh
4	Investigation and Development of Mobile Sink-Based Intelligent Data Routing Scheme for IoT-enabled Wireless Sensor Networks	2021-2023	SERB, Government of India	31.00 lacs	Dr. Prasenjit Chanak
5	Development of an Intelligent Internet of Things (IIoT)-enabled Portable Device for Early Diagnosis of Foot and Mouth Diseases of Dairy Cows	2022-2025	SERB, Government of India	48.5 lacs	Dr. Prasenjit Chanak
6	Developing Improved Algorithms for Intelligent Video Surveillance	2021-2024	SERB, Government of India (Core Research Grant)	29.09 lacs	Dr. Pratik Chattopadhyay
7	Development of a Lightweight Android Mobile Software Powered by Deep Learning for Identification of Plant Leaf Disease	2023-2025	DST, Government of India (Technology Development Program)	35.94 lacs	Dr. Pratik Chattopadhyay
8	An Artificial Intelligence supported Intrusion Detection & Behavior Monitoring System for Crucial Data Servers against Novel Cyber Attacks	2021-2023	SERB, Government of India	27.42 Lacs	Dr. Mayank Swarnkar
9	Resource-Optimized Fog Computing for Smart Healthcare Application in IoT-enabled Heterogeneous Networks	2020-2023	SERB, Government of India	29,06,970/	Dr. Ajay Pratap
10	Algorithms with Provable Gurantees for Dynamic Social Networks	2022-2025	DST SERB, MATRICS	6,60,000/-	Dr. Lakshmanan Kailasam
11	Optimal Transport Derivations in Regularized Wasserstein Space for Non-linear & Linear Transformations of DNNs	2022-2025	DST SERB, MATRICS	6,60,000/-	Dr. Tanima Dutta
12	Design and Development of Intelligent Soil Quality Monitoring System using Fault-tolerant Underground Sensor Networks	3 months, 2022	DST, SERB SIRE	10,35,830/-	Dr. Tanima Dutta
13	Development of a Low-cost, Privacy-secured, and Vision-based Divergent Behavior Prediction System	6 months, 2023	I-DAPT	2,50,000/-	Dr. Tanima Dutta

Faculty members' participation with other universities under MoUs *(Ongoing only)*

Research Publications *(From 1st April 2022 to 31st March 2023)*

Sl. No.		No.
1	Total Number of Papers Published in Refereed National Journals	01
2	Total Number of Papers Published in Refereed International Journals	39
3	Total Number of Papers Presented in National Conferences	00
4	Total Number of Papers Presented in International Conferences	17

Refereed International Journals *(From 1st April 2022 to 31st March 2023)*

1. Jayashankara, M., Priyansh Shah, Anshul Sharma, Prasenjit Chanak, and Sanjay Kumar Singh (2023). A Novel Approach for Short-Term Energy Forecasting in Smart Buildings. *IEEE Sensors Journal.* 23(5): 5307-5314.
2. Singh, Durgesh, Sanjay K. Singh, and Sandeep Sambhaji Udmale. (2023) An efficient self-embedding fragile watermarking scheme for image authentication with two chances for recovery capability. *Multimedia Tools and Applications.* 82(1): 1045-1066.
3. Pandey, Anviti, Sanjay Kumar Singh, Sandeep S. Udmale, and K. K. Shukla. (2022) Epileptic Seizure Classification Using Battle Royale Search and Rescue Optimization-Based Deep LSTM. *IEEE Journal of Biomedical and Health Informatics.* 26(11): 5494-5505.
4. Durgesh Singh, Sandeep S. Udmale, and Sanjay Kumar Singh, (2022) "Integer wavelet transform based an effective fragile watermarking scheme for exact authentication and restoration. Journal of Ambient Intelligence and Humanized Computing.
5. Vishakha Singh, Sameer Shrivastava, Sanjay Kumar Singh, Abhinav Kumar, Sonal Saxena. (2022) Accelerating the discovery of antifungal peptides using deep temporal convolutional networks. Briefings in Bioinformatics.
6. Gagandeep Kaur, Prasenjit Chanak. (2023) An Intelligent Fault Tolerant Data Routing Scheme for Wireless Sensor Network-assisted Industrial Internet of Things. *IEEE Transactions on Industrial Informatics*. 9(4): 5543 - 5553.
7. Gagandeep Kaur, Prasenjit Chanak, and Mahua Bhattacharya. (2022) a green hybrid congestion management scheme for IoT-enabled WSNs. *IEEE Transactions on Green Communications and Networking*. 6 (4): 2144-2155.
8. Vaibhav Agarwal, S. Tapaswi, Prasenjit Chanak. (2022) Energy Efficient Mobile Sink-Based Intelligent Data Routing Scheme for IoT-assisted WSNs. *IEEE Sensors Journal*. 22 (10):9881-9891.
9. Vaibhav Agarwal, S. Tapaswi, Prasenjit Chanak. (2022) Intelligent fault-tolerance data routing scheme for IoT- enabled WSNs. *IEEE Internet of Things Journal*. 9 (17): 16332-16342.
10. Gagandeep Kaur, Prasenjit Chanak. (2022) An Energy Aware Intelligent Fault Detection Scheme for IoT-enabled WSNs. *IEEE Sensors Journal*. 22 (5): 4722-4731.
11. S Tiwari, P Chanak, Sanjay Kumar Singh. (2022) A review of the machine learning algorithms for COVID-19 case analysis. IEEE Transactions on Artificial Intelligence. 4(1): 44 - 59
12. Nirbhay Kumar Tagore, Prathistith Raj Medi, and Pratik Chattopadhyay, Deep Pixel. (2023) Regeneration for Occlusion Reconstruction in Person Re-identification. Multimedia Tools and Applications.
13. Preetam Pal, Pratik Chattopadhyay, and Mayank Swarnkar. (2023) Temporal Feature Aggregation with Attention for Insider Threat Detection from Activity Logs. Expert Systems with Applications.
14. Utkarsh Mishra, Akshat Agrawal, Josephine Crystal R Mathew, Rajesh Kumar Pandey, and Pratik Chattopadhyay. (2023) An Efficient Approach for Image De-fencing based on Conditional Generative Adversarial Network. Signal, Image and Video Processing. 17 (1): 147-155, 2023.
15. Agrya Halder, Pratik Chattopadhyay, and Sathish Kumar. (2022) Gait Transformation Network for Gait De-Identification with Pose Preservation. Signal, Image and Video Processing, 10.1007/s11760-022-02386-x.
16. Rajarajeswari Perepi, Pratik Chattopadhyay, and Anwar Bég O. (2022) A Deep Learning Computational Approach for the Classification of COVID-19 Virus. Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization. 10.1080/21681163.2022.2111722, 2022.

17. Nirbhay Kumar Tagore, and Pratik Chattopadhyay. (2022) A Bi-Network Architecture for Occlusion Handling in Person Re-Identification. Signal, Image and Video Processing. 16:1071-1079.

18. Moirangthem Biken Singh, Navneet Taunk, Naveen Kumar Mall, Ajay Pratap. (2022) Criticality and Utility-aware Fog Computing System for Remote Health Monitoring. IEEE Transactions on Services Computing. 1-12.

19. Amit Kumar, Ajay Pratap, and Anil Kumar Singh. (2022) Generative Adversarial Neural Machine Translation for Phonetic Languages via Reinforcement Learning. IEEE Transactions on Emerging Topics in Computational Intelligence. 1-10.

20. Ajay Pratap. (2022) Cyclic Stable Matching Inspired Resource Provisioning for IoT-enabled 5G Networks. IEEE Transactions on Vehicular Technology. 1-11.

21. Federico Concone, Fabrizio De Vita, Ajay Pratap, Dario Bruneo, Giuseppe Lo Re and Sajal K. Das. (2022) A Fog-assisted System to Defend against Sybils in Vehicular Crowdsourcing. Pervasive and Mobile Computing. 1-1.

22. Amit Kumar, Ajay Pratap, Anil Kumar Singh, and Sriparna Saha. (2022) Addressing domain shift in neural machine translation via reinforcement learning. Expert Systems with Applications. 201: 117039.

23. Amit Kumar, Rajesh Kumar Mundotiya, Ajay Pratap, and Anil Kumar Singh. (2022) TLSPG: Transfer learning-based semi-supervised pseudo-corpus generation approach for zero-shot translation. Journal of King Saud University-Computer and Information Sciences. 1-12.

24. Vaibhav Padhye, Kailasam Lakshmanan and Amrita Chaturvedi. (2022) Proximal Policy Optimization based Hybrid Recommender Systems for Large Scale Recommendations. Multimedia Tools and Applications. 1- 22.

25. Vaibhav Padhye and Kailasam Lakshmanan. (2023) A Deep Actor Critic Reinforcement Learning Framework for Learning to Rank. Neurocomputing. 126314.

26. Shashank Kumar Singh, Amrita Chaturvedi. (2023) A reliable and efficient machine learning pipeline for american sign language gesture recognition using EMG sensors. In: Multimedia Tools and Applications. 82: 23833–23871.

27. Shashank Kumar Singh, Amrita Chaturvedi. (2023) Leveraging deep feature learning for wearable sensors based handwritten character recognition. In: Biomedical Signal Processing and Control (Elsevier). 80(1): 104198.

28. Anurag Tiwari, Amrita Chaturvedi. (2022) Automatic Channel Selection using Multi-objective X-shaped Binary Butterfly algorithm for Motor Imagery Classification. In: Expert Systems With Applications (Elsevier). 206: 117757.

29. Dipty Tripathi, Amit Biswas, Anil Kumar Tripathi, Lalit Kumar Singh, Amrita Chaturvedi. (2022) An Integrated Approach of Designing Functionality with Security for Distributed Cyber-Physical Systems. In: The Journal of Supercomputing (Springer Nature).

30. Anurag Tiwari, Amrita Chaturvedi. (2022) Automatic EEG channel selection for multiclass brain-computer interface classification using multiobjective improved firefly algorithm. In: Multimedia Tools and Applications (Springer Nature).

31. Rakesh Kumar, Amrita Chaturvedi, Lakshmanan Kailasam. (2022) An Unsupervised Software Fault Prediction Approach Using Threshold Derivation. In: IEEE Transactions on Reliability.

32. Anurag Tiwari, Amrita Chaturvedi. (2022) A Hybrid Feature Selection Approach based on Information Theory and Dynamic Butterfly Optimization Algorithm for Data Classification. In: Expert Systems with Applications (Elsevier). 116621.

33. Dipty Tripathi, Lalit Kumar Singh, A. K. Tripathi, Amrita Chaturvedi. (2022) Towards Analyzing the Impact of Intrusion Prevention and Response on Cyber-Physical System Availability: A case study of NPP. In: Annals of Nuclear Energy (Elsevier). 168.:108863.

34. Manisha Singh, Gaurav Baranwal, and Anil Kumar Tripathi. (2023) Decentralized Group Decision Making using Blockchain. The Journal of Supercomputing**.**

35. Amit Biswas, Ravi Yadav, Gaurav Baranwal, and Anil Kumar Tripathi. (2023) Proof of Karma (PoK): A Novel Consensus Mechanism for Consortium Blockchain. IEEE Transactions on Services Computing.

36. Manisha Singh, Gaurav Baranwal, and Anil Kumar Tripathi. (2022) A novel 2-phase consensus with customized feedback based group decision-making involving heterogeneous decision-makers. The Journal of Supercomputing 79(4): 3936-3973.

37. Manisha Singh, Gaurav Baranwal, and Anil Kumar Tripathi. (2022) A Novel Tolerance-Based Moderator Guided Heterogeneous Group Decision-Making Involving Experts and End-Users. International Journal of Information Technology & Decision Making (2022): 1-36.

38. Amit Biswas, Gaurav Baranwal, and Anil Kumar Tripathi. (2022) ABAC: Alternative by alternative comparison based multi-criteria decision making method. Expert Systems with Applications 208: 118174.

39. N. Nigam and Tanima Dutta. 2022 Emotion and Gesture Guided Action Recognition in Videos Using Supervised Deep Networks. in IEEE Transactions on Computational Social Systems, 2022, doi: 10.1109/TCSS.2022.3187198.

Refereed National Journal *(From 1st April 2022 to 31st March 2023)*

1. Sanjay Kumar Gupta and Pratik Chattopadhyay, Pose-Based Boundary Energy Image for Gait Recognition from Silhouette Contours, Sadhana (Accepted in 2023).

Proceedings of International Conferences *(From 1st April 2022 to 31st March 2023)*

1. A Singh, A Ojha, P Chanak. 2019. Hybrid Algorithm based Optimal Routing Protocol for Wireless Sensor Networks. IEEE Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation (IATMSI), 2022: 1-5

2. V Goyal, P Mangal, A Ojha, A Sinha, P Chanak. 2022. Mobile Charging Sequence Scheduling in Wireless Rechargeable Sensor Networks using Extended Particle Swarm Optimization. IEEE 6th Conference on Information and Communication Technology (CICT),2022: 1-5

3. Dhritimaan Das, Ayush Agarwal, Pratik Chattopadhyay. 2022. Gait Recognition from Occluded Sequences in Surveillance Sites, Workshop on Real-World Surveillance in conjunction with European Conference on Computer Vision, Springer Nature Switzerland, 703-719, 2022.

4. Ankit Sinha, Soham Banerjee, Pratik Chattopadhyay. 2022. Effective Stacking of Deep Neural Models for Automated Object Recognition in Retail Stores, International Conference on Image Analysis and Processing, (Accepted in 2022).

5. M. Swarnkar, R. Kumar, R. Baidyo, G. Hariharasudan. 2023. LiteEx: A Lightweight Feature Extraction Tool for Captured Network Trace. *in Proceedings of the 15th IEEE Conference on Communication Systems and Networks (COMSNETS'23),*, 2023, pp. 1-10.

6. Himanshu Singh, Moirangthem Biken Singh, Harsh Pratik, and Ajay Pratap. 2023. UAV and UGV Assisted Path Planning for Sensor Data Collection in Precision Agriculture. in 11th IEEE International Conference on Embedded Systems Devices and Computing (ESDC), pp. 1-6, 2023.

7. Himanshu Singh, Moirangthem Biken Singh, Ranju Sharma, Jayesh Gat, Ayush Kumar Agrawal, and Ajay Pratap. 2023 Optimized Doctor Recommendation System using Supervised Machine Learning. In *24th International Conference on Distributed Computing and Networking*, pp. 360-365. 2023.

8. Moirangthem Biken Singh, Suraj Mahawar, Himanshu Singh, and Ajay Pratap. 2023. COVID-19 Spread Detection and Controlling with Fog-based Infection Probability Evaluation Model." In *24th International Conference on Distributed Computing and Networking*, pp. 354-359.

9. Shashank Kumar Singh, Amrita Chaturvedi. 2022. Applying Machine Learning for American Sign Language Recognition: A brief survey. In: The 4th International Conference on Communication and Intelligent Systems ICCIS 2022 (Springer), NIT Delhi, India, Lecture Notes in Networks and Systems.

10. Rakesh Kumar, Amrita Chaturvedi. 2022. A Framework for Software Defect Prediction Using Optimal Hyper-parameters of Deep Neural Network. In: The 29th International Conference on Neural Information Processing (ICONIP 2022), IIT Indore, India, Communications in Computer and Information Science (CCIS), Vol 1794, pp 163-174. (November 2022)

11. Pankaj Kumar Jha, Anurag Tiwari, Amrita Chaturvedi. 2022. A Multiclass EEG Signal Classification Model using Channel Interaction Maximization and Multivariate Empirical Mode Decomposition. In: The 29th International Conference on Neural Information Processing (ICONIP 2022), IIT Indore, India, Lecture Notes in Computer Science (LNCS), Vol 13624, pp 86-100. (November 2022)

12. Supriya Shakya, Arnab Mukherjee, Raju Halder, Abyayananda Maiti, Amrita Chaturvedi. 2022. SmartMixModel: Machine Learning-based Vulnerability Detection of Solidity Smart Contracts. In: IEEE International Conference on Blockchain (Blockchain),Espoo,Finland.(August 2022) pp.37-44

13. Udmale, Sandeep S., Aneesh G. Nath, and Sanjay Kumar Singh. 2022. Application of Industry 4.0 and Meta Learning for Bearing Fault Classification. In *2022 IEEE 25th International Conference on Computer Supported Cooperative Work in Design (CSCWD)*, pp. 1455-1460. IEEE.

14. Deepali Verma, Arya Haldar and Tanima Dutta. 2023. Leveraging Weighted Cross-Graph Attention for Visual and Semantic Enhanced Video Captioning Network. in AAAI 2023 USA (Regular paper, CORE A conference, acceptance rate of 19.6%).

15. Nitika Nigam and Tanima Dutta. 2022. Poster Abstract: A Fast, Multi-Camera, and Intelligent System for Exact Stampede Detection in Large Crowds. in ACM Sensys 2022, USA (Poster).

16. Deepali Verma, Tanima Dutta and Monika Varshney. 2022. Poster Abstract: A Low-cost Driving Risk Prediction System for Hilly Roads via Surveillance Cameras and Onsite Webcams. in ACM BuildSys 2022, USA (Poster).

17. Nitika Nigam and Tanima Dutta. 2022. Poster Abstract: Crowd Crush Detection in Large Mass Gatherings via Federated Learning Across Multi-Camera Environment. in ACM BuildSys 2022, USA (Poster)

Indian Faculty visits in the Department *(1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Dr. V Krishna Nandivada (Professor and Head, Dept of CSE, IIT Madras)	Invited Talk	27/01/23 CSE committee room
2	Dr. V Singh (Professor, IIT Bombay)	Invited Talk	25/01/23 CSE committee room

Key Instruments:

1: Name of Lab: Vision and computing lab

Fig. 1: Bechmarkmark high speed solution

2.Name of Lab: Internet of things and embedded systems lab

Fig. 2: Arduino board,Gps module

Fig. 3: PIC development board

3. Name of Lab: Multimedia lab

Fig. 4: Drone setup for Ubiqtous lab

4. Name of Lab: Pattern recognition lab

Fig. 5: Tyrone high power GPU server

5 Name of Lab: UG lab-I

Fig.6: Dell server with 3 blades

11. Department of Electrical Engineering

Complete Name of Department: Department of Electrical Engineering

Year of Establishment: 1919

Headof the Department: Prof. R. K. Pandey w.e.f. 09.08.2021

Brief Introduction of the Department:

Mahamana Pt. Madan Mohan Malviya founded BHU in the year 1916 with the benevolent and magnanimous contributions of the then Maharajas and other persons of eminence. The University was nurtured by Sir Sunderlal as the 1st V.C. of the University, followed by great visionaries, such as Pt. Madan Mohan Malviya, Acharya Narendradev, Sir S. Radhakrishnan and many other eminent personalities.

The Benaras Engineering College (BENCO) was started in the year 1919, with its strong foundation laid by revered Prof. Charles A. King, Prof. H. P. Philpot and Prof. M. Sengupta. With the passage of time, the College of Mining and Metallurgy (MINMET) and the College of Technology (TECHNO) were included, expanding its horizon. These three colleges were merged and named as Institute of Technology in the year 1968 to give more autonomy for its better perspective in terms of academic and administrative decisions. It's undergraduate students are admitted through Joint Entrance Examination (JEE) being conducted for all IITs.

Since the inception of BENCO in 1919, a combined Bachelor's degree in Mechanical and Electrical Engineering was awarded till 1952. The Department of Mechanical Engineering and the Department of Electrical Engineering were separated in 1953 and conferred separate degrees in respective disciplines.

Presently, the Department of Electrical Engineering runs five postgraduate (M. Tech.) programmes in Electrical Machines and Drives (started in 1956), Power Systems (started in 1964), Control Systems (started in 1964), Power Electronics (started in 1982) and Interdisciplinary Systems Engineering (started in, 1982) and Ph. D. programme in all disciplines of Electrical Engineering. The department also has a five-year Integrated Dual Degree (IDD) Program (started in 2006) leading to a Master's degree specialising in Power Electronics.

The department has received the Special Assistance Programme (SAP) of UGC since 1988 and the COSIST program of UGC from 1995 to 2000. Apart from these, the department has been conducting research projects funded by DST, AICTE, CPRI and other R&D organisations of Govt. of India.

The department has excellent placement records over the years. The students of this department are joining core companies such as PGCIL, IOCL, HPCL, Trident, Reliance, Maruti, etc. Electronics companies such as Broadcom, Sony, etc., regularly recruit students from this department. Our students regularly join software companies such as Morgan Stanley, Goldman Sachs, Citrix, Oracle, SISO, etc. The vast number of job offers is mainly due to the versatility of the branch, which ensures that students can sit for interviews in software, core electrical, electronic, and non-technical companies.

Some of the department's famous alumni include Mr. Nikesh Arora: Senior Vice President and Chief Business Officer at Google, Mr Rajiv Dogra: Indian diplomat, Ex- Consul General to Karachi, Pakistan, Mr. Gyanesh Pandey: Co-founder, CEO and CTO of Husk Power Systems and Mr Narla Tata Rao: Winner of Padma Shree, a doyen of the power sector in India.

The department is pursuing academic activities with the following goals and objectives:

- Further up-gradation and technological modernisation of infrastructural facilities.
- Encouraging teaching innovations through audio-visual and multimedia aids.
- Channelizing expertise of faculty in the frontier areas of electrical engineering.
- Research, testing and consultancy.
- Training the undergraduate and postgraduate students towards entrepreneurship in consonance with the liberalisation and privatisation policies of the Government.
- Development of energy-efficient, environment-friendly electrical technologies as per the norms set by various planning, regulatory and other statutory bodies

Major Areas of Research

- Power System,
- Power Electronics,
- Machines and Drives,
- Control System

Infrastructure

Sl. No.	Particulars	Number
1	No. of Classrooms	7 (Classrooms and lecture halls are the same)
2	No. of Lecture Halls	
3	No. of Laboratory	5
4	No. of Computers available for students in the Department	140

Students on Roll *(From 1st April 2022 to 31st March 2023)*

(Please give No. of students only in respective years)

SL. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1.	B. Tech/B. Arch	127	127	127	111	
2.	Dual Degree	32	33	34	28	24
3.	M. Tech/ M. Pharm	46	41			
4.	Ph. D (Under Institute Fellowship)	5	7	13	8	10
5.	Ph. D (Under Project Fellowship)	0	1	2	1	
6.	Ph. D (Under Sponsored Category)	1	1	2	1	

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India *(From 1st April 2022 to 31st March 2023)*

SL. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
ÌNDIA					
1	Prashant Kannojia	21082010	2023 International Conference on Power Electronics and Energy (ICPEE)	03-05 January 2023, Bhubaneswar, India	Self
2	Dhawal Dwivedi	21081005	2022 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES)	14-17 December 2022, Jaipur, India	RSGF
3	Alok Kumar	20081002	Real-Time Simulation of Power Systems on RTDS	15 June 2022, CPRI, Bengaluru	RSGF
4	Shailendra Singh	16081002	3rd Electric Power and Renewable Energy Conference	May, 27-29, 2022, NIT Jamshedpur	Self
5	Akhilesh Kumar Barnwal	16081006	22nd National Power System Conference	December, 17-19, 2022 IIT Delhi	Self
6	Udit Prasad		10th IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES 2022)	December 14th to 17th, 2022 MNIT Jaipur	DST-SERB
7	Aakash Singh	18081004	IEEE SEFET 2022 Conference	4-6 August, Hyderabad	Institute (RSG and STGS)
8	Vulavakayala Siva	19081005	IEEE SEFET 2022 Conference	4-6 August, Hyderabad	Institute (RSG and STGS)
9	Mohammad Alhassan	21081007	2022 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES)	14-17 December 2022, MNIT, Jaipur	Self
10	Saprativ Saha	20081501	2022 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES)	14-17 December 2022, MNIT,Jaipur	Institute (RSG and STGS)
11	Saprativ Saha	20081501	International Workshop on Planar Magnetic Technology	23-24 Feb. 2023, IISc Bangalore	MeiTY Sponsored Project

SL. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
12	Sudhir Kumar	21081508	International Workshop on Planar Magnetic Technology	23-24 Feb. 2023, IISc Bangalore	MeiTY Sponsored Project
13	Monika Mishra	20081001	2022 22nd National Power Systems Conference (NPSC)	17-19 DEC 2022, New Delhi	Contingency fund for research scholars, IIT (BHU), Varanasi
14	Prakash Ji Barnawal	19081008	PEDES INDIA 2022 and Electric vehicle infra for all (Workshop)	14-17, December 2022, Jaipur & 2-5 May, 2022	Self Financed
15	Babita Faujdar	21181501	International conference on Power, Instrumentation, Energy, and Control (PIECON- 2023)	10-12 February 2023 and Joined in Online mode	RSGF
16	Parijat Prasun	19081001	Innovations in nonlinear control (workshop)	13th to 18th Feb 2023, IIT Bombay	Self
17	L N Saaswath	19084011	[ISCA] International Symposium on Computer Architecture	18-22 June 2022, New York City (Virtual Attendance)	Workshop Organisers - ACM, Microsoft, Google, Meta
18	Chauhan Dipak Ramker	22082038	Matlab Software, Latex	6-10 February 2023, 15th April 2023 and IIT BHU	College
19	Utkarsh Mishra	19084022	Google Research Week	29 th January -1 st February, Bangalore, India	Google Research India
20	Rajat Kumar Keshari	19081004	ECCE2022 & PEDES 2022 & Electric vehicle infra for all (Workshop)	ECCE was held in Oct 2022 at Detroit USAand PEDES was held in December 2022 at Jaipur India & 2-5 May, 2022	40000 was given from the institute in ECCE and PEDES , workshop (self funded)
21	Vishal Sharma	21085108	Ev Ecosystem conclave	7 December 2022, Delhi	SAIC
22	Surendra Singh Jayant	22082040	Latex workshop	15 April and ABLT 1	NA
23	Harsh kumar koli	22082041	Latex workshop	15 April and ABLT 1	NA
24	Surya Prakash	21085124	hands-on Workshop on LaTeX	15th April 2023, ABLT-1 IIT (BHU) Varanasi	NA
25	Pankaj Gupta	22082025	Recent Advances in Control System Engineering IEEE Joint CSS IMS Chapter Kolkata	3 Dec 2022 Online	None
26	Abhishek Singh	20081505	International conference on Artificial Intelligence Techniques for Electrical Engineering Systems	6-7 may, online	CPDA fund of supervisor
27	Eram Taslima	21081002	Innovations in nonlinear control	13/02/2023-17/02/2023 IIT Bombay	Refund from contingency
28	Priyanka Singh	21081507	Innovation in nonlinear control	13-17 Feb2023 at IIT Bombay	Self
29	Sparsh Somani	21085098	EV Ecosystem Conclave'22	7th December 2022, Delhi	Alumni
30	Warda Matin Khan	20081502	Energy Conversion Congress and Exposition 2022 and Electric vehicle infra for all (Workshop)	9-13 October, Detroit, Michigan, USA & 2-5 May, 2022	Student travel grant support (40,000 rs) & workshop self funded
31	Ankit Kumar Pratihasta	21081001	Electric vehicle infra for all (Workshop)	2-5 May, 2022	self funded
32.	Virendra Prasad Maurya	19081014	Electric vehicle infra for all (Workshop)	2-5 May, 2022	self funded
33	Priyatosh Jena	19081501	Electric vehicle infra for all (Workshop)	2-5 May, 2022	self funded
34	Manish Kumar	20082042	Electric vehicle infra for all (Workshop)	2-5 May, 2022	self funded

SL. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
35	Soumya Ranjan Meher	17081007	Energy Conversion Congress and Exposition 2022 & Electric vehicle infra for all (Workshop)	9-13 October, Detroit, Michigan, USA & 2-5 May, 2022	Institute Student Support Grant Rs 40,000 & self funded (Workshop)
36	Soumya Ranjan Meher	17081007	IECON 2022 – 48th Annual Conference of the IEEE Industrial Electronics Society	17-20 October 2022 Brussels, Belgium	CSIR (air fare) only
ABROAD					
1	Lovesh Bendict Xaxa	16081013	2023 IEEE IAS Global Conference on Renewable Energy and Hydrogen Technologies (GlobConHT), March 11-12, 2023, Male, Maldives Registration fee from supervisor's CPDA, Travel self-financed		
2	Anant Kumar	21081006			
3	Vulavakayala Siva	19081005	IEEE IAS Annual Meeting 2022 Conference	9-14 October Detroit, MI, USA	Institute
4	Jyoti Murya	JRF	2023 IEEE IAS Global Conference on Renewable Energy and Hydrogen Technologies (GlobConHT)	March 11-12, 2023, Male, Maldives	Registration fee from supervisor's CPDA, Travel self-financed

Names of students/scholars who got prizes and awards outside the Institute *(From 1st April 2022 to 31st March 2023)*

SL. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	L N Saaswath	19084011	2nd Position - 51 Hour Filmmaking Competition	9th January 2023, IIT Madras	Inter IIT Cultural Meet 2023 - Organised by IIT Madras
2	Yash Tarwani	21085123	3rd position in Quandrum- A national level case study competition.	25 April 2022 . Venue - Online	SRCC, Delhi
3	Shashwat Kumar Mohanty	19085110	OP Jindal Engineering and Management Scholarship	October 22 and Online	OPJEMS Team
4	Divya Sinha	18084007	First prize in coding hackathon code to win among 30k+ participants	10th March 2023	Company- servicenow
5	Bhavya Malhotra	20085019	OPJEMS Scholar	Oct 31, 2022, No specific venue, everything was remote	OP Jindal Group
6	Utkarsh Mishra	19084022	MICCAI Student Grant for attending MICCAI Conference in Singapore (A* Conference)	18th September Singapore	MICCAI Society
7	Yash Somalkar	21165060	bronze in SNEAKING INTO THE CYBERCRACKS by Saptang Labs	IIT Kanpur from 10-12th of February, 2023	Saptang Labs at Inter-IIT tech Meet 11.0
8	Sameer Anand	21085073	Bragged 3rd position and Rs50,000 at Bizzaro SARC Tank (SARC, IIT Bombay) in a team event of 2 people	18 april, 2022	SARC, IIT Bombay
9	Sanskar Singh	21085077	National Students' Space Challenge	6th November, 2022 & IIT-Kharagpur	Space Technology Students' Society, IIT-Kharagpur
10	VEDANSH PANDEY	20085120	OPJEMS	November, 2022,IIT BHU Scholarship section	OP jinal group, handed over by Scholarship section IIT BHU
11	Muskan Agrawal	18084014	ServiceNow Code to Win Hackathon 2023	March 2023, Online	ServiceNow

Names of scholars/students who won Convocation/Institute Day prizes *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
1	Amritanshu Ruhela	20082032	I.I.T.(B.H.U.) Varanasi Medal for standing First at the M.Tech. in Electrical Engineering Examination, 2022.	IIT BHU
2	Gourishankar Kara	20082017	T.N. Srivastava Memorial Centenary Award for the best thesis on Power Systems Applications at the M.Tech. in Electrical Engineering Examination, 2022.	
3	Chandra Kant	17084006	I.I.T.(B.H.U.) Varanasi Medal for standing First at the 5- Year I.D.D. (B.Tech.-M.Tech.) in Electrical Engineering (Power Electronics) Examination, 2022	IIT BHU
4	Ashwin Srivastav	18085013	I.I.T.(B.H.U.) Varanasi Medal for standing First at the B.Tech. in Electrical Engineering Examination, 2022.	
5	Ashwin Srivastav	18085013	The R.B.G. Modi Medal for standing First at the B.Tech. in Electrical Engineering Examination, 2022	
6	Ashwin Srivastav	18085013	Lala Balak Ramji Kohinoor Memorial Gold Medal for securing the highest marks at the B.Tech. Examination, 2022, among Civil, Mechanical, Electrical and Electronics Engineering branches.	
7	Ashwin Srivastav	18085013	Himmat Narayan Singh Memorial Gold Medal for securing the First position and First Division in B.Tech. Electrical Engineering Examination, 2022.	
8	Ashwin Srivastav	18085013	CRS Iyengar Memorial Gold Medal for securing the highest marks in B.Tech. 4-Year Electrical Engineering Examination, 2022.	
9	Ashwin Srivastav	18085013	N.V.R. Nageshwar Iyer (Prize Rs. 100/= in the form of books) for standing First in B.Tech. in Electrical Engineering Examination, 2022.	
10	Ashwin Srivastav	18085013	Late Prof. Manoranjan Sengupta Platinum Jubilee Merit Award Rs. 1000/= cash for securing the highest marks in the B.Tech. in Electrical Engineering Examination, 2022.	
11	Prateek Chaturvedi	18085085	Shri Om Prakash Aggrawal Medal and cash prize award for securing > 8.00 CPI and having the lowest family income out of the top 4 students at the B.Tech. in Electrical Engineering Examination, 2022.	
12	Manu Gupta	18085036	Smt. Indira Tripathi Gold Medal for securing the highest CPI among the girl students at the B.Tech. in Electrical Engineering Examination, 2022	

Names of Students/Scholars who went for foreign Internship *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of the Organization	Place of Internship	Country	Duration
1	Vulavakayala Siva	19081005	The University of Warwick	Coventry UK	UK	25th July - 28th October
2	Antara Banerjee	19084024	University of Grenoble Alpes	Grenoble	France	15 May to 14 July
3	Utkarsh Mishra	19084022	TU Darmstadt, Germany	Darmstadt, Germany	Germany	2 months
4	Parijat Prasun	19081001	Lodz University of Technology	Lodz	Poland	15 September 2022 to 14 October 2022
5	Surya Prakash	21085124	Changwon National University South Korea-창원대학교	lab of CWNU, Under Professor Oh-Seol Kwon	South Korea	4 months (aprox)
6	Vijay Kumar Singh	19081007	Lodz University of technology	Lodz	Poland	30 days

Faculty & their Activity

Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
PROFESSORS			
1	Prof. R. K. Pandey, PhD, 16623	22/05/1992	Power Systems: EHV AC & DC Transmission Technology-Design and Development, FACTS Controllers Design, Analysis and Applications, Integrated Large Power System Operation & Smart Control, Intelligent Grid Control Architecture, High Voltage DC Transmission Technology including VSC for RE Grid Interface Connectivity, Electricity Policy and Planning, Distribution System Planning & Automation, Distributed Energy Resources & Management, Design and Development of Integrated Smart Power Systems (Generation, Transmission and Distribution) under Large Renewable Energy, Electric Vehicle and Energy Storage Penetration in Grid.
2	Rakesh Kumar Srivastava B.Tech. EE; M.Tech. EMD; PhD. EE; Dip in German., 13788	06 March 2000	Linear Induction Motors, Special purpose Electric Machines, Electromagnetic Fields applied to Electrical Machines
3	Prof. R.K. Misra, PhD, 13791	23/03/ 2005	Power Distribution Systems, AI and its Application in Power Systems, Control and Applications of Computational Intelligence in Power Systems
4	Prof. R. Mahanty, PhD, 13792	10/10/2005	Power Electronics
5	Prof. Devender Singh, PhD, 17094	05/04/ 2002	Short-term Load Forecasting, State Estimation, Distributed Generation,
6	Prof. M. K. Verma, PhD, 17590	31/5/2005	Power System voltage stability, Application of FACTS controllers, Smart grid
7	Prof. R. K. Saket, PhD, 17548	16/06/2006	Reliability Engineering, Power System Reliability, Electrical Machines & Drives
ASSOCIATE PROFESSORS			
1	Dr Kalpana Chaudhary, PhD, 16629	19th July 2009	Power Electronics, Electrical Machines and Drives, Renewable energy generation, Fuel Cell based hybrid microgrid; fuel cell vehicle; Electric Drive train for electric vehicle
2	Dr Santosh Kumar Singh, PhD, 17446	Date of award: 24th March 2012 Date of PhD defence: 28th November 2011	Silicon carbide converters, Power Electronic converter topologies, Electric Drives, Multiport Permanent magnet generator, Renewable energy integration and applications
3	Dr R. K. Singh, PhD, 17464	12/02/2013	Power Electronics, Energy Storage System and Optimal Bidirectional Battery Chargers, Modelling, simulation, and control of Power Electronics System, Power Electronics for the Hybrid Renewable AC/DC micro-grid, Modeling and control for Point-of-load, EV/PHEV interface with renewable energy and grid.
4	Dr S. R. Mohanty, PhD, 50224	23/02/2007	Disturbance detection and classification and protection issues in power system and Microgrid, Multi-objective Robust Control and optimisation in Microgrid, Wide area Monitoring and control in Smart grid
5	Dr V. N. Lal, PhD, 175549	09/09/2015	Power Electronics for Microgrid and Renewables, Electric Vehicle, Design and Control of Solar PV System, Hybrid AC/DC Converters, Bidirectional Power Converters
6	Dr Sandip Ghosh, PhD, 50063	11/11/2010	Control System Engineering
7.	Dr Shyam Kamal, PhD, Emp No 50062	14-08-2014	Nonlinear control, Adaptive control, Fault Tolerant Control

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
ASSISTANT PROFESSORS			
1.	Dr Jeewan Chandra Pandey, PhD, 17538	02-02-2018	(i)High Voltage electrical insulation (ii) Nanodielectrics
2.	NK Swami Naidu, PhD, 50209	27/05/2015	Wind Energy Conversion Systems, Battery Energy Storage Systems, Microgrid, Power Electronics and Drives
3.	Ms. Sobhita Meher, M. Tech., 17589	---	Computer Science
4.	Avirup Maulik, PhD 50258	21-08-2019	Power systems, Distribution system, Microgrid optimisation
5.	Chinmaya K A, PhD, 50257	05/08/2019	Electric Machines & Drives, Power Electronics, Electric Vehicles (EVs).
6.	Naveen Yalla, PhD, 50293	26/08/2019	Multilevel Converters, EV Chargers, Magnetics
8.	Rabindra Mohanty, PhD, 50302 (relieved to join IIT-D)	16/07/2018	Power system protection, Microgrids, Cyber security in Power Systems

Technical and Non-Teaching Staff

Sl. No.	Name	Qualification	Designation, Employee Number	Date of appointment	
				In IT(BHU)	In the Department
1.	Mr. Sanjeev Kumar Maurya	B.Sc.	Junior Superintendent, 50149	21.07.2017	25.07.2017
2.	Mr. Sunil Kumar Sonkar	MBA	Junior Assistant, 19876	19.02.2015	27.04.2015
3.	Mr. A.N.Singh	M.A., B.Sc., CIC	Technical Superintendent, 14007	16.06.1988	16.06.1988
4.	Mr. Radhe Shyam Patel	Intermediate, Polytechnic in EE	Technical Superintendent, 18648	05.08.2008	05.08.2008
7.	Mr. B. L. Singh (retired)	B.A., Diploma in E.E., DBM	Technical Superintendent,18657	06.08.2008	06.08.2008
8.	Mr. Umesh Mishra	B.Sc.	Senior Technician, 18658	05.08.2008	05.08.2008
9.	Mr. Satish Kumar Singh	B.A.	Senior Technician, 18652	06.08.2008	06.08.2008
10.	Mr. Dharmendra Kumar Singh	High School +ITI	Senior Technician, 18647	07.08.2008	07.08.2008
11.	Mr. Sanjay Kumar Bharti	B.Sc., B.Ed.	Senior Technician, 18659	11.08.2008	11.08.2008
12.	Mrs. Ranjana Singh	Postgraduate	Senior Technician, 14740	16.05.1996	13.04.2012
13.	Mr. Anjneya Kumar	M.Sc., B.Ed.	Senior Technician 19649	03.08.2012	21.09.2012

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

(From 1st April 2022 to 31st March 2023)

Sl. No.	Cordinator	Title	Period
1	Dr. S. Ghosh Dr. S. K. Singh Dr. Shyam Kamal Dr. N. K. S. Naidu	Workshop on control of wind energy conversion systems	23-24 February 2023
2	Dr. Kalpana Chaudhary	PCB Design Workshop	27-28 February 2023
3	Dr. R. K. Singh	Annual General body meeting of IEEE-UP section	Jan, 2023
4	Prof. R. K. Pandey	Workshop on smart power flow controllers- a necessity for the future power grid	12th Oct, 2022
5	Prof. R. K. Pandey	POWER Conclave: Power Electronics Opportunities Window for Startup Entrepreneurs & Researchers Conclave	21st Dec, 2022

Short-term courses/workshops/seminars/symposia/conferences/training programmes *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Period and Venue	Title
Seminars/Symposia/Conferences			
1.	Dr. Chinmaya K A	Eindhoven, Netherlands, 5-7 September 2022	International Conference on Smart Energy Systems and Technologies-2022
2	Prof. M. K. Verma	December 2-4, 2022, IIIT Allahabad, Prayagraj, India	IEEE 9th Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON)
3	Prof. M. K. Verma	December 17-19, 2022, IIT Delhi, India	22nd National Power System Conference (NPSC)
4	Dr. Santosh Kumar Singh	MNIT Jaipur, 14-17 Dec 2022, India	IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES)
5	Dr. Santosh Kumar Singh	IISc Bangalore, 18-21 January 2023	I-STEM Tech Management Conclave
6	Dr. Santosh Kumar Singh	Vigyan Bhawan New Delhi, 10-11 March 2023	National Platform for Disaster Risk Reduction (NPDRR 2023)
7	Dr. Santosh Kumar Singh	DRDO Bhawan New Delhi, 25-26 May 2023	DRDO-Academia Conclave
8	Prof. R. K. Pandey	New Delhi, Dec17-19,2022	National Power Systems Conference NPSC 2022
9	Prof. R. K. Pandey	Oct 08,2022	International Talk on "Hydrogen and Fuel Cell', Green Hydrogen to combat climate change for a clean, green, resilient world
10	Prof. R. K. Pandey	IIM, Bodhgaya, April 24 and May 28, 2022	Training program for NTPC executives 1. Power sector emerging challenges in renewable energy era and smart technology solutions 2. An evolving grid architecture for energy storage and EV charging infrastructure
Meetings			
1	Dr. Santosh Kumar Singh	IIT Delhi, 8th July 2022	Ph.D. Viva-Voce Examination
2	Dr. Santosh Kumar Singh	Ph.D. Viva-Voce Examination	JIIT Noida, 24th Aug 2022
3	Dr. Santosh Kumar Singh	Ph.D. Viva-Voce Examination	IIT Roorkee, 10th Jan 2023
4	Dr. Santosh Kumar Singh	Ph.D. Viva-Voce Examination	Anna University, 6th March 2023
5	Dr. Santosh Kumar Singh	Ph.D. Viva-Voce Examination	NIT Trichy, 20th March 2023
6	Dr. Santosh Kumar Singh	Ph.D. Viva-Voce Examination	VIT Chennai, 22nd March 2023
7	Dr. Santosh Kumar Singh	Judge, RBVP Science Exhibition	KV-BHU Varanasi, 28th March 2023
8	Dr. Kalpana Chaudhary	Ph. D Viva Voce Examination	IIT Guwahati 20th January 2023
9	Dr. R. Mahanty	Ph.D. viva-voce examination	IIT Guwahati on 04-July-2022
10	Dr. R. Mahanty	Ph.D. viva-voce examination	Vignan's Foundation for Science, Technology and Research (Deemed to be University), Vadlamudi, Guntur-522213 on 08-July-2022.
11	Dr. R. Mahanty	Ph.D. viva-voce examination	AKTU Lucknow on 14-July-2022
12	Dr. R. Mahanty	Ph.D. viva-voce examination	UTU Dehradun on 21-July-2022
13	Dr. R. Mahanty	Ph.D. viva-voce examination	NIT Patna on 29-July-2022
14	Prof. R. K. Pandey	Expert Panel for ASIS stream as Chairman (Solar Energy Research and Development) SERD DST	New Delhi, Sept 02,2022

Special lectures delivered by faculty members in other institutions *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1	Dr. Chinmaya K A	Electric Vehicle Technology: Categorization and comprehensive insight.	Lendi Institute of Engineering & Technology	14th - 18th November, 2022
2	Dr. Chinmaya K A	Electric Motors in Electric Vehicles - Perspective for Electrical Engineers	SRM Institute of Science and Technology, Ramapuram Campus.	02.02.2023
3	Dr. Chinmaya K A	Electric Vehicles- Future of Transportation	IIT Dharwad	03/03/2023
4	Dr. Kalpana Chaudhary	High Gain Bidirectional Converters for Regenerative Braking in the PMBLDC Motor for Electric Vehicle Application	SRM Institute of Science and Technology	21.01.2023
5	Prof R K Srivastava	Keynote address: Memorial Lecture on Hyperloop Technology-Indian Research and Innovation	IEEE 9th R K Vir Memorial Lecture, Sponsored by IEEE TEMS, IEEE VTS, IET, IEI, IREE at Engineers Bhawan, Institution of Engineers, New Delhi	04.01.2023
6	Dr. Santosh Kumar Singh	High Power Density Dual Stator Five Phase Permanent Magnet Generator Drive for Wind Power Applications	IIT (BHU) Varanasi	23 Feb 2023
7	Dr. Santosh Kumar Singh	Integration of Electric vehicle charging stations: Issues and Power electronic solutions	Madan Mohan Malviya University of Technology Gorakhpur	Dec 2022
8	Dr. Santosh Kumar Singh	SiC based Converters for Energy storage applications	MANIT Bhopal	12 Oct 2022
9	Dr. Santosh Kumar Singh	WBG Power Converters for Electric Vehicles	NIT Puducherry	22 Sep 2022
10	Dr. Santosh Kumar Singh	WBG Power Converters for Electric Vehicles	BIT Sindri	Aug 2022
11	Dr. R. K. Singh	E-mobility Eco system: A comprehensive Analysis in Indian perspective	BBDITM, Lucknow	06 Feb. 2023
12	Dr. R. K. Singh	Electric Vehicle charging technology: Standards and Products	IIT, delhi	May, 2022
13	Dr. R. K. Singh	Development of battery management system	Valluri Auditorium, CSIR-NAL, Bengaluru	June,2022
14	Dr. R. K. Singh	Electric vehicle charging : Exploration and Exhortation	Khalifa University, Abu Dhabi, UAE	June, 2022
15	Dr. R. K. Singh	E- mobility Eco System an inclusive prospective	MNNIT, Prayagraj	Jan, 2023
16	Dr. R. K. Singh	Electric Vehicle: A power electronics prospective	MMMUT, Gorakhpur	Dec, 2022
17	Dr. V. N. Lal	Electric Vehicle: A power electronics prospective	MMMUT, Gorakhpur	Dec, 2022
18	Prof. Rajendra Kumar Pandey	Economy and Sustainable Energy under Renewable Era: Operational Challenges	GIET University, Gunupur-765022 Odisha, (INDIA)	Dec 15-17, 2022
19	Prof. Rajendra Kumar Pandey	Reliable, Resilient and Carbon Neutral Future Electricity Grid	NPSC 2022, IIT Delhi	Dec 19, 2022
20	Prof. Rajendra Kumar Pandey	National Economy and Industrial Development: Green Energy Innovative Integration Technology in Grid	National Economy and Industrial Development: Green Energy Innovative Integration Technology in Grid	26th. Nov.2022
21	Prof. Rajendra Kumar Pandey	HYDROGEN – GREEN ENERGY: FUEL CELL VEHICLE and ENERGY STORAGE FOR SUSTAINABLE NEW INDIA	Renewable Energy Society of India	Oct 08, 2022
22	Prof. Rajendra Kumar Pandey	National Energy Conservation Day - 2022	Renewable Energy Society of India	Dec 14, 2022

Visits abroad by faculty members *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Dr. Chinmaya K A	Netherlands	02/09/2022	10/09/2022	Conference	CPDA
2	Prof. D. Singh	Belgium	15/10/2022	21/10/2022	Conference	CPDA
3	Dr. S. Kamal	Belgium	Belgium	15/10/2022	21/10/2022	CPDA
4	Prof. R. K. Saket	UK	18/02/2023	28/02/2023	Conference	CPDA & Project
5	Prof. R. K. Saket	Maldives	09/03/2023	14/03/2023	Conference	CPDA & Project
6.	Dr. R. K. Singh	USA	10/10/22	20/10/22	Conference (ECCE)	PDA
7.	Dr. V. N. Lal	USA	10/10/22	20/10/22	Conference (ECCE)	CPDA

Honours and awards *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Award
1	Dr. Kalpana Chaudhary	SERB POWER Fellowship Award 2021-2024
2	Prof R. K. Srivastava	Prof G K Dubey memorial life time achievement award 2022, IEEE UP section
3	Prof. R. K. Saket	IEEE IAS Global Distinguished Educators Award - 2023. IEEE IAS Global Conference on Renewable Energy and Hydrogen Technologies (GlobConHT 2023). The National University of Maldives, Male City, Republic of Maldives, March 11-12, 2023.
4	Prof. R. K. Saket	Best Paper Presentation Award: "Energy Storage and Geographical Distribution of Wind Power to Improve Frequency Stability", IEEE IAS Global Conference on Renewable Energy and Hydrogen Technologies (GlobConHT 2023), The National University of Maldives, Male City, Republic of Maldives, March 11-12, 2023.
5	Prof. Rajendra Kumar Pandey	(i) Chairman SECI Project Screening Committee 2023 (ii) Expert Member Project Proposal Screening MNRE 2023 (iii) Chairman SERD Committee DST (iv) Chairman Expert Committee KIIT University Bhuvneshwar (v) Member Selection Committee NIT

Fellowships of academic and professional societies *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Fellowship
1	Dr. Kalpana Chaudhary	Life Fellow Institution of Engineers
2	Prof. Rajendra Kumar Pandey	Fellow RESI, Vice Chairman RESI

Books, monographs authored/co-authored *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Author/Co- Author	Title	Publisher
1	Shailendra Singh and M. K. Verma	Tie-Line Bias Control for Frequency Deviation in the Presence of System Uncertainties with WTG and BESS: A Robust Control Approach (Book chapter)	Springer Nature Singapore
2	Dr. B Ram, Dr. D. N. Vishwakarma and Dr. Soumya R. Mohanty	Power System Protection and Switch Gear	Tata McGraw Hill, India
3	Dr. Nand Kishor, Dr. Soumya R. Mohanty	Synchrophasor Technology: Towards Real-time Operation of Power Networks	The Institution of Engineering and Technology, UK
4	Prof. D. P. Kothari, Prof. I. J. Nagrath and Prof. R.K. Saket	Modern Power System Analysis	Tata McGraw-Hill Publishing Company
5	Sachin Kumar, Aanchal Singh S. Vardhan, Akanksha Singh S. Vardhan, R. K. Saket, D.P. Kothari, Saeid Eslamian	Hydropower and Floods	Flood Hand Book, Taylor & Francis, CRC Press (USA)
6	Thach Ngoc Dinh, Shyam Kamal, Rajesh Kumar Pandey	Fractional-Order System: Control Theory and Applications	Fractal and Fractional, MDPI

Editorial boards of journals *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Prof. R. K. Saket	Managing Guest Editor	Computer and Electrical Engineering
2	Prof. R. K. Saket	Managing Guest Editor	IEEE System, Man, and Cybermatics Magazine
3	Prof. R. K. Saket	Associate Editor	IET Renewable Power Generation (UK) : 2021 - 2024
4	Prof. R. K. Saket	Associate Editor	IEEE Access (USA) : 2020 - 2023
5	Prof. R. K. Saket	Associate Editor	IET Electrical Systems in Transportation (UK) : 2022 - 2025
6	Prof. R. K. Saket	Managing Guest Editor	IET Renewable Power Generation (UK)
7	Prof. R. K. Saket	Managing Guest Editor	IEEE Journal of Electron Devices Society
8	Prof. R. K. Saket	Managing Guest Editor	IET GTD
9	Prof. R. K. Saket	Managing Guest Editor	IET Electrical Systems in Transportation (UK)
10	Prof. R. K. Saket	Managing Guest Editor	Advances in Space Research, Elsevier
11	Dr. R. K. Singh	Guest Editors	energies
12.	Dr. V. N. Lal	Guest Editors	energies

Design and Development Activities

New facilities added *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Fuel Cell Stack	8.5
2	PCB Prototyping Machine	9.45
3	3 KW PBBLDC Motor	4.85
4	Power System Research Lab and Lecture Hall Renovation including software	10

Patents filed *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title of Patent
1	Dr. Kalpana Chaudhary	A Multi Mode Electric Vehicle

Research and Consultancy

Sponsored research projects *(Ongoing only)*

Note: Sponsored project name is to be given only in case a faculty member is Project Incharge

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1	Installation of Pavan Vruksh for Harnessing Wind Energy at GTAC / Institute Library Premises of IIT(BHU)	14-02-2023 to 13-11-2023	IDAPT HUB Foundation	15.95 Lakhs	Dr. N. K. Swami Naidu
2	Output Feedback Controller Design for Linear Parameter Varying Systems	07/2019-07/2022	SERB-Core Research Grant	57.32	Sandip Ghosh
3	Development of a solar standalone derive system for electric boats	03/2021-07/2022	Ornate Solar Agencies Private Limited and IDAPT Hub (IIT BHU)	5.0+6.6=11.6	Sandip Ghosh
4	Development of an efficient module-integrated battery management system project	23/03/2022–22/03/2024	MeitY	99.61	Sandip Ghosh
5	Prototype development of Fuel Cell and Photovoltaic Based Innovative Hybrid DC Power Pack for Remote Applications	Three Years, Started w.e.f. 25.03.2021	Science and Engineering Research Board (SERB), Govt. of India	INR 38.10 Lakh	Dr. Kalpana Chaudhary
6	Development of Energy Efficient and Compact Electric Drive Train for Fuel Cell Electric Vehicle	Three Years, Started w.e.f. 23.02.22	Science and Engineering Research Board (SERB), Govt. of India	INR 49.17 Lakh	Dr. Kalpana Chaudhary
7	Development of Cyber Resilient Protection Scheme for AC Microgrid	Three years, Started w.e.f. 22.03.2021	Science and Engineering Research Board (SERB), Govt. of India	INR 47.41 Lakhs	Dr. Soumya R Mohanty

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
8	Development of a real-time cyber-attack detection module and its hardware-in-loop testing for an integrated power network.	16.02.2022 - 16.02.2023	Central Power Research Institute, Bangalore	INR 49.92 Lakhs	Dr. Soumya R Mohanty
9	Design and Development of linear induction motor-based propulsion for future transportation	Three years, MOU is awaited	Malviya Chair, Ministry of Railways, Indian Railways	INR 107 Lakhs	Prof R. K. Srivastava and Dr. S. Kamal
10	Silicon Carbide Devices based High voltage gain Converter with Novel Current-source Gate driver for Electric Vehicle Powertrain	30-01-2023 to 29-01-2026	SERB	49.9974	Dr. Santosh Kumar Singh
11	Smart DC charging with integrated digital platform for CPOs and Power distribution companies	23-12-2022 to 22-09-2024	MeiTY	35.52	Dr. Santosh Kumar Singh
12	Design and development of Cybersecured Smart Power interface for Energy - Local area network (E-LAN)	15-11-2021 to 14-11-2024	C3iHub, IIT Kanpur	14.64	Dr. Santosh Kumar Singh
13	Prospects of power converters for Integration of Electric vehicle charging stations with the existing Electric distribution system in India	11-07-2019 to 30-09-2023	MHRD	49.78635	Dr Santosh Kumar Singh
14	Reliability Evaluation and Performance Enhancement of Grid Integrated Hybrid Renewable Power Systems	03-03-2022 to 31-03-2025	SERB	41,36,264/-	Prof. R.K. Saket
15	Center for Development of Drone Related Technologies (CDRT)	2022-2024 (2 Years)	I-DPAT Hub Foundation, IIT (BHU)	130 Lakh	Dr. Shyam Kamal
16	Development of the Next Generation Cost Effective Reconfigurable On-Board Battery Charger with Health and Fault Monitoring	2022-2024 (2 Years)	Meiyt	1,81,92,464/-	Dr. R. K. Singh
17	Design and Design, Development and Demonstration of solar PV integrated On board and Off-board Electric-Rickshaw charging Infrastructure	2021-2024 (3 Years)	SERD	87,81,020/-	Dr. V. N. Lal
18	Electrolytic Capacitor Less Six Pulse DC Link Photovoltaic System connected to Grid	2022-2024 (2 Year)	CPRI	45.44 lakh	Dr. V. N. Lal
19	Data Anomaly Detection and Mitigation for Distributed Control and Optimization with Inverter-Based Resources (IBR) in cyber-physical networked infrastructures (CPNI)	2023-2024	I-DPAT Hub Foundation, IIT (BHU)	32,94,104/-	Dr. R. K. Singh

Industrial consultancy projects *(Ongoing only)*

Sl. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
1	Dr. A. Maulik and Prof. R. K. Pandey	Techno commercial feasibility study report for Hybrid Renewable Energy Power System and Energy Storage System comprising of various combinations of wind & solar with conventional source of DG	Control & Application Emirates, UAE	INR 8.19 Lakhs
2	Prof. S. P. Singh and Dr. Soumya R. Mohanty	HINDALCO Power Supply System Studies	HINDALCO	1.64 Million
3	Dr. Santosh Kumar Singh	Vetting of Electrical and Control & Instrumentation Design documents for Jhilo and SALA Water supply Project	GVPR Engineers Ltd., Lucknow	2.95 Lakhs
4.	Dr. R. K. Singh and Dr. V. N. Lal	Multi output hybrid solar inverter for low power applications	Ornate Agencies Pvt. Ltd.	10.08 lakh
5	Dr. R. K. Singh	Li-ion based inverter for household appliances	Ornate Agencies Pvt. Ltd.	5.95 Lakh
6.	Dr. R. K. Singh	On-Board Battery Charger for Lead-Acid Battery of 3-Wheeler Electrical Vehicles	DSF Industries Pvt. Ltd.	6.48 Lakh
7	Prof. R. K. Pandey	Newly Constructed 132KV Masauli-Chanbe D C Transmission line	UPPTCL	Rs. 2.95 Lakh
8	Prof. R. K. Pandey	Augmentation/Up-gradation of existing LED Street Lights to Smart LED Street Lights by adding controller system including operation and maintenance for 5 years under limits of Prayagraj Nagar Nigam for Prayagraj Smart City Limited"	PNN (Neev Energy LLP Delhi)	Rs. 5.9 Lakh

Faculty members' participation with other universities under MoUs *(Ongoing only)*

Research Publications

Sl. No.		No.
1	Total Number of Papers Published in Refereed National Journals	0
2	Total Number of Papers Published in Refereed International Journals	68
3	Total Number of Papers Presented in National Conferences	04
4	Total Number of Papers Presented in International Conferences	49

Refereed International Journals *(From 1st April 2022 to 31st March 2023)*

1. Anand N.V., Praneeth A.V.J.S, Naveen Yalla and Sood V.K. (2022) Simplified DC voltage sensorless control of single-phase PFC converters in EV chargers. Journal of Power Electronics. 22(11): 1956-1965.
2. Lokesh Kumar Yadav and Mitresh Kumar Verma (2022) Optimal Integration of Classified Dispersed Generation Units for Loss Minimization and Voltage Profile Enhancement in Radial Distribution Networks. Journal of Electrical Systems. 18(3): 354-368.
3. Lokesh Kumar Yadav, Mitresh Kumar Verma and Puneet Joshi (2022) Novel Real-Valued Improved Coral-Reef Optimization Algorithm for Optimal Integration of Classified Distributed Generators. IEEE Access. 10: 80623-80638.
4. Shailendra Singh, Akhilesh Kumar Barnwal and Mitresh Kumar Verma (2022) Optimal Charging of Electric Vehicles for Cost Minimization in Re-Configurable Active Distribution Network Considering Conservation Voltage Reduction. Energy Sources, Part A: Recovery, Utilization, and Environmental Effects. 44(4): 10135-10155.
5. Rohit Kumar, S. R. Mohanty and M. K. Verma (2023) Design and Optimal Location of Power System Stabilizer in the Multi-Machine Power Network. IETE Journal of Research. https://doi.org/10.1080/ 03772063.2023.2175056
6. Shailendra Singh and M. K. Verma (2023) Smart Charging Schedule of Plug-in Electric Vehicles for Voltage Support: A Prosumer-Centric Approach. Sustainable Energy, Grids and Networks. 33: Article No. 100972.
7. Goyal J. K., Aggarwal S., Ghosh S., Kamal S. and Dworak P. (2022) L2-based static output feedback controller design for a class of polytopic systems with actuator saturation. International Journal of Control. 95(8): 2151-2163.
8. Mukherjee D., Ghosh S. and Misra R. K. (2022) A Novel False Data Injection Attack Formulation Based on CUR Low-Rank Decomposition Method. IEEE Transactions on Smart Grid. 213(6): 4965-4968.
9. Goyal J. K., Aggarwal S., Sachan A., Sahoo P. R., Ghosh S. and Kamal S. (2023) An improved output feedback controller design for linear discrete-time systems using a matrix decomposition method. Asian Journal of Control. 25 (2): 769-782.
10. Mittapally H., Ghosh S. and Kamal S. (2023) Predictive control of networked control system with event-triggering in two channels. European Journal of Control. 72: 100810.
11. Aggarwal S., Goyal J. K., Ghosh S. and Kamal S. (2023) H∞ performance of multi-agent consensus with output feedback and saturated input. International Journal of Robust and Nonlinear Control. 2023 (early access).
12. Chakraborty S., Singh J., Naskar A. K. and Ghosh S. (2022) A New Analytical Approach for Set-point Weighted 2DOF-PID Controller Design for Integrating Plus Time-Delay Processes: an Experimental Study. IETE Journal of Research. 1-15.
13. Jain J. K., Zhang W. and Ghosh S. (2022) A new robust output feedback control for a class of uncertain nonlinear systems. International Journal of Control. 1-12.
14. Mukesh Kumar and Kalpana Chaudhary (2022) Bidirectional Converter with Coupled Inductor for High Gain and Low Ripple in PMBLDC Motor for Electric Vehicle Application. Journal of Electrical Systems. 18(4): 496-519.
15. Tripurari Das Gupta and Kalpana Chaudhary(2022) Design Enhancent and Comparative Analysis of Low Torque Ripple Double-Stator Switched Reluctance Motor. Journal of Electrical Systems. 18(3): 406-420.
16. Kalpana Chaudhary, Manoj Pokhriyal and Ayushi Chaudhary (2022) Design Improvements in Double-Stator Axial Flux Switched Reluctance Motor for Smoother Torque Profile. Progress In Electromagnetics Research. 124: 227-24.

17. K. A. Singh, A. Chaudhary and K. Chaudhary (2023) Three-phase AC-DC Converter for Direct-drive PMSG-based Wind Energy Conversion System. Journal of Modern Power Systems and Clean Energy. 11(2): 589-598.

18. Kalpana Chaudhary, Kumar Abhishek Singh and Ayushi Chaudhary (2022) Integrated Quadruple Output Synchronous Buck Converter for E-Mobility Application. IEEE Transactions on Industry Applications. 58(5): 5558-5567.

19. Shiba R. Paital, Prakash K Ray and Soumya R Mohanty (2022) A robust dual interval type-2 fuzzy lead-lag based UPFC for stability enhancement using Harris Hawks Optimisation. ISA Transactions, 123: 425-442.

20. V. Kumar and S. R. Mohanty (2022) Resilient Optimal Gain Control and Continuous Twisting Observer for Enhanced Power System Performance Under Uncertainties. IEEE Systems Journal. 17(2): 2733-2744.

21. A. Pandey and S. R. Mohanty (2023) Graph Convolutional Network Based Fault Detection and Identification for Low-voltage DC Microgrid. Journal of Modern Power Systems and Clean Energy. 11(3): 917-926.

22. Mahitosh Banafer and Soumya R. Mohanty (2022) A travelling wave based primary and backup protection for MMC-MTDC transmission system using morphological un-decimated wavelet scheme. Electrical Power Systems Research. 212: 108367.

23. V. Kumar, U. Prasad and S. R. Mohanty (2023) Entirely Coupled Recurrent Neural Network-Based Backstepping Control for Global Stability of Power System Networks. IEEE Transactions on Automation Science and Engineering. doi: 10.1109/TASE.2023.3243405.

24. Xaxa L. B., Kumar A., Srivastava R. K., Saket R. K. and Khan B (2022) Design Aspects and Thermal Characteristics of Single-Sided Linear Induction Motor for Electromagnetic Launch Application. IEEE Access. 10: 72239-72252.

25. Xaxa L.B., Kumar S., Singh S., Srivastava R. K. and Saket, R. K. (2023) Synchronous Generator Abnormality and Fault Analysis. Journal of Electrical Systems. 19(1): 98-110.

26. Maulik A. (2022) Probabilistic power management of a grid-connected microgrid considering electric vehicles, demand response, smart transformers, and soft open points. Sustainable Energy, Grids and Networks. 30:100636.

27. Maulik A. (2022) A hybrid probabilistic information gap decision theory based energy management of an active distribution network. Sustainable Energy Technologies and Assessments. 53:102756.

28. Gupta S., Maulik A., Das D. and Singh A. (2022) Probabilistic optimal siting and sizing of distributed generation and shunt capacitors considering feeder flow control units using a novel distribution power flow. International Journal of Ambient Energy. 43(1): 8552-8576.

29. Singh, A. and Maulik, A. (2023) A Derivative and Inversion-Free Quasi-Newton Power Flow for a Droop-Regulated Islanded AC Microgrid. Iranian Journal of Science and Technology, Transactions of Electrical Engineering. 47(1): 61-78.

30. Mishra M., Singh A., Misra R. K., Singh D. and Maulik, A. (2023) A Scalable and Computational Efficient Peer-to-Peer Energy Management Scheme. IEEE Access. 11: 21686-21698.

31. Singh A., Maulik A. and Maheshwari A. (2023) Probabilistic multi-objective energy management of a distribution system considering reactive power injection by voltage source converters. Electrical Engineering. 1-30.

32. Singh A. and Maulik A. (2023) Energy Management of an Active Distribution Network Considering Correlation Between Uncertain Input Variables. Arabian Journal for Science and Engineering. 48(5): 6377-6398.

33. Singh Aakash, Siva Vulavakayala, Kumar Avneet and Singh Santosh K (2023) Analysis and Design of Switched LC Converter with reduced Voltage stress for Photovoltaic applications. IEEE Transactions on Industry Applications. Early Access.

34. Siva Vulavakayala, M Raghuram, Singh Aakash, Singh Santosh K and Siwakoti Yam P (2023) Switching Strategy to Reduce Inductor Current Ripple and Common Mode Voltage in Quasi Z-Source Ultra Sparse Matrix Converter. IEEE Journal of Emerging and Selected Topics in Industrial Electronics. Early Access.

35. Sethi B. K., Singh A., Mohanty S. R., Singh D. and Misra, R. K. (2022) Game Theoretic Smart Residential Buildings Energy Management System Under False Data Injection Attack. IEEE Internet of Things Journal. 10(1): 110-119.

36. Singh A., Sethi B. K., Kumar A., Singh D. and Misra R. K. (2022) Three-Level Hierarchical Management of Active Distribution System With Multimicrogrid. IEEE Systems Journal. 17(1): 605-616.

37. Verma A., Singh A., Anand Kumar K., Saket R. K. & Khan B. (2023) Reliability analysis of multilevel and matrix converters used in more electric aircraft. IET Electrical Systems in Transportation. 13(2): 12078.

38. S Kumar, K Sarita, RK Saket, D K Dheer (2023) Reliability assessment of optimally DG integrated distribution system based on power loss minimization. Electric Power Components & Systems. Early access.

39. Xaxa L. B., Kumar S., Singh S., Srivastava R. K. & Saket R. K. (2023) Synchronous Generator Abnormality and Fault Analysis. Journal of Electrical Systems. 19(1): 98-110.

40. Sarita K., Saket R. K. & Khan B. (2023) Reliability, availability, and condition monitoring of inverters of grid-connected solar photovoltaic systems. IET Renewable Power Generation. 17(7): 1635-1653.

41. Singh S., Saket R. K. and Khan B. (2023) A comprehensive state-of-the-art review on reliability assessment and charging methodologies of grid-integrated electric vehicles. IET Electrical Systems in Transportation. 13(1): e12073.

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44. Agrawal A., Walde P., Pandey S. N., Srivastava L., Saket R. K. and Khan B. (2023) Cascaded deep NN-based customer participation by considering renewable energy sources for congestion management in deregulated power markets. IET Renewable Power Generation. 12(2): 1-14.

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46. 46. Soni S. K., Singh S., Singh K. A., Xiong X., Saket R. K. and Sachan A. (2022) Event-Triggered Control for LPV Modeling of DC-DC Boost Converter. IEEE Transactions on Circuits and Systems II: Express Briefs. 70(6): 2062-2066.

47. Kyatsandra A. K., Saket R. K., Kumar S., Sarita K., Vardhan A. S. S. and Vardhan A. S. S. (2022) Development of trinetra: a sensor based vision enhancement system for obstacle detection on railway tracks. IEEE Sensors Journal. 22(4): 3147-3156.

48. Xaxa L. B., Kumar A., Srivastava R. K., Saket R. K. and Khan B. (2022) Design Aspects and Thermal Characteristics of Single-Sided Linear Induction Motor for Electromagnetic Launch Application. IEEE Access. 10: 72239-72252.

49. Agrawal A., Pandey S. N., Srivastava L., Walde P., Saket R. K. and Khan B. (2022) Multiobjective Salp Swarm Algorithm Approach for Transmission Congestion Management. International Transactions on Electrical Energy Systems. 1-17.

50. Kumar M., Singh K. A., Chaudhary K., Saket R. K. and Khan B. (2022) Regenerative braking in electric vehicle using quadratic gain bidirectional converter. International Transactions on Electrical Energy Systems. 01-20.

51. Kumar A., Kumar S., Saket R. K., Rajendran R. and Eslamian S. (2022) Green Energy Conversion Systems. Earth Systems Protection and Sustainability. 2: 157-168.

52. Agrawal A., Pandey S. N., Srivastava L., Walde P., Singh S., Khan B. and Saket R. K. (2022) Hybrid deep neural network-based generation rescheduling for congestion mitigation in spot power market. IEEE Access. 10: 29267-29276.

53. Kumar K. S. A., Sarita K., Kumar S., Saket R. K. and Swami A. (2022) Machine Learning-based Approach for Prevention of COVID-19 using Steam Vaporizer. GMSARN International Journal. 16: 399-404.

54. Kumar M., Singh K. A., Chaudhary K., Saket R. K. and Khan B. (2022) Regenerative braking in electric vehicle using quadratic gain bidirectional converter. International Transactions on Electrical Energy Systems.

55. Sharma S., Varshney L. and Saket R. K. (2022) Comparative evaluation of novel configurations under shading conditions. Journal of Electrical Systems. 18(1): 97-108.

56. Kumar M., Chaudhary K., Saket R. K. and Khan B. (2022) Bidirectional Quadratic Converter-Based PMBLDC Motor Drive for LEV Application. Journal of Electrical and Computer Engineering. 1-15.

57. S. K. Samal, R. K. Singh and R. Mahanty (2022) Multioutput Hybrid Solar Inverter With No Right Half-Plane Zero and Reduced Common-Mode Leakage Current. IEEE Transactions on Industry Applications. 58(6): 7716-7727.

58. S. Dutta, S. Gangavarapu, A. K. Rathore, R. K. Singh, S. K. Mishra and V. Khadkikar (2022) Novel Single-Phase Cuk-Derived Bridgeless PFC Converter for On-Board EV Charger With Reduced Number of Components. IEEE Transactions on Industry Applications. 58(3): 3999-4010.

59. V. K. Singh and S. Kamal (2023) Prescribed-Time Adaptive Backstepping Control of an Uncertain Nonlinear 2-DOF Helicopter. IEEE Transactions on Circuits and Systems II: Express Briefs. doi: 10.1109/TCSII.2023.3267944.

60. Kumar S., Kumar Pal A., Kamal S. and Xiong, X. (2023) Design of switched high-gain observer for nonlinear systems. International Journal of Systems Science. 54(7): 1471-1483.

61. B. Singh, A. K. Pal, S. Kamal, T. N. Dinh and F. Mazenc (2022) Vector Control Lyapunov Function based Stabilization of Nonlinear Systems in Predefined Time. IEEE Transactions on Automatic Control. doi: 10.1109/TAC.2022.3213769.

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64. Singh B., Xiong X., Dinh T. N., Kamal S. and Ghosh S. 2022. Interval observer design for nonlinear systems using simplified contraction theory. IET Control Theory & Applications, 16(10): 935-944.

65. Deveerasetty, K.K., Zhou, Y., Kamal, S. and Nagar, S.K. (2022) Computation of impulse-response gramian for interval systems. IETE Journal of Research. 68(3): 2122-2136.

66. Pandey V., Taslima E., Singh B., Kamal S. and Dinh, T.N. (2023) Predefined Time Synchronization of Multi-Agent Systems: A Passivity Based Analysis. Sensors. 23(8): 3865.

67. M. K. Mishra and V. N. Lal (2023) A Multiobjective Control Strategy for Harmonic Current Mitigation with Enhanced LVRT Operation of a Grid-Tied PV System Without PLL Under Abnormal Grid Conditions. IEEE Journal of Emerging and Selected Topics in Power Electronics. 11(2): 2164-2177.

68. M. K. Mishra and V. N. Lal. (2022) An Enhanced Control Strategy to Mitigate Grid Current Harmonics and Power Ripples of Grid-Tied PV System Without PLL Under Distorted Grid Voltages. IEEE Journal of Emerging and Selected Topics in Power Electronics. 10(4): 4587-4602.

Proceedings of International Conferences *(From 1st April 2022 to 31st March 2023)*

1. *P. Utkarsha and N. K. S. Naidu. 2022. Virtual Synchronizing Torque and Voltage Controller Based Grid Synchronization of Virtual Synchronous Generator. 1-5, IEEE 2nd International Conference on Sustainable Energy and Future Electric Transportation (SeFeT), Hyderabad, India, August 2022.*

2. *N. K. Swami Naidu, P. Utkarsh and N. Yalla. 2022. Optimal Sizing and Minimizing the Volt Ampere Loading on UPQC Converters for Distributed Generation Applications. 1-6, IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Jaipur, India, December 2022.*

3. *Narendrababu A., Krishna A.V.G., Naga S.S.C., Yalla N. and Naidu N.S. 2022. Hybrid Clamped Four-Level T-Type Inverter with Capacitor Voltage Self-Balancing. IEEE 2nd International Conference on Sustainable Energy and Future Electric Transportation (SeFeT), Hyderabad, India, August 2022.*

4. *Babu A.N., Yalla N., Pannala S., Halder S. and Agarwal P. 2022. A Triple Voltage Boost Frontend Hybrid T-Type Converter. 31-36. IEEE Transportation Electrification Conference & Expo (ITEC).*

5. *P. Kannojia and K. A. Chinmaya. 2023. Comparative Review and Finite Element Analysis of Energy Efficient Motors. 1-6, International Conference on Power Electronics and Energy (ICPEE), Bhubaneswar, India, 2023.*

6. *K. Aameria, D. Dwivedi and K. A. Chinmaya. 2022. Design of a Novel Dual-Output Multilevel PWM Converter. 1-6, IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Jaipur, India, 2022.*

7 *A. Ruhela and K. A. Chinmaya. 2022. A Novel Boost-SEPIC based Three-Port DC-DC Converter for Solar PV Integrated E-Boat Applications. 1-6, International Conference on Smart Energy Systems and Technologies (SEST), Eindhoven, Netherlands, 2022, pp. 1-6.*

8. *D. Dwivedi, I. Roy and K. A. Chinmaya. 2022. Investigation of Three-level Dual Output T-type NPC for EV Application. 1-6 International Conference on Smart Energy Systems and Technologies (SEST), Eindhoven, Netherlands, 2022.*

9. *Arpit Srivastava, Akhilesh Kumar Barnwal and M. K. Verma. 2022. PSO-Based Optimal Placement of Distributed Generation for LOSS Minimization and Voltage Profile Enhancement under Contingencies. IEEE 9th Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON), IIIT Allahabad, Prayagraj, India, December 2-4, 2022.*

10. *A. K. Pandey, K. Kishor, S. R. Mohanty and P. Samuel. 2022. Fault Detection in an ADN using Local MEan Decomposition. 1st International Conference on Sustainable Technology for Power and Energy Systems (STPES), Srinagar, India, 2022.*

11. *U. Prasad, S. R. Mohanty and S. P. Singh. 2022. Impact Analysis of CVR on Distribution System Protection Scheme. IEEE Global Conference on Computing, Power and Communication Technologies (GlobConPT), New Delhi, India, 2022.*

12. *Udit Prasad, Amar Jagan, Soumya Ranjan Mohanty and S. P. Singh. 2022. Remedial Control Scheme of PV Systems Against Cyber-Attack in AC Microgrid. IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), MNIT Jaipur, Jaipur, India, December 14-17, 2022.*

13. *Kumar A., Xaxa L. B., and Srivastava R. K. 2023. Comparison of Three Phase Windings of Single Sided Linear Induction Motor Assisted Electromagnetic launch. 1-6, IEEE IAS Global Conference on Renewable Energy and Hydrogen Technologies (GlobConHT), March 2023.*

14. *Kumar A., Anand H., Xaxa L. B., Gupta K., Kumar A., and Srivastava R. K. 2023. Wayside Hyper-loop System using Double-Sided Linear Induction Motor. 1-5, 2023 IEEE IAS Global Conference on Renewable Energy and Hydrogen Technologies (GlobConHT), March 2023.*

15. *Singh A., and Maulik A. 2022. Optimal Energy Procurement Scheme of a DC Microgrid with Demand Response Participation. 61-71, In Proceedings of the International Conference on Artificial Intelligence Techniques for Electrical Engineering Systems (AITEES 2022). Dordrecht: Atlantis Press International BV, October 2022.*

16. *Mohammad Alhassan and Santosh Kumar Singh. 2022. THD Improvement for a Multilevel DC-Link Inverter with Variable DC Voltage Sources. IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES) at MNIT Jaipur, 14-17 Dec 2022, India*

17. *Saprativ Saha, Santosh K Singh. 2022. Restricted interleaving phenomenon in Interleaved Boost PFC with leg sharing APF circuit. IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES) at MNIT Jaipur, 14-17 Dec 2022, India*

18. *Raghuram M, Avneet Kumar and S.K. Singh. 2022. Quasi Z source five phase inverter delivering two independent three phase loads. IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES) at MNIT Jaipur, 14-17 Dec 2022, India*

19. *Raghuram M, Avneet Kumar, V. Siva and S.K. Singh. 2022. Switched Boost-Ultra Sparse Matrix Converter. IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES) at MNIT Jaipur, 14-17 Dec 2022, India*

20. *Vulavakayala Siva, Aakash Singh, M. Raghuram, Avneet Kumar, Santosh K Singh. 2022. Enhanced Voltage Gain of USMC by Modified Quasi Z source Impedance Network. IEEE Industry Applications Society Annual Meeting (IAS) at Detroit, 9-14 Oct 2022, USA*

21. *Aakash Singh, Vulavakayala Siva, Avneet Kumar, Santosh K Singh. 2022. High gain DC-DC Converter by using Active Network based Voltage Multiplier Cell. IEEE 2nd International Conference on Sustainable Energy and Future Electric Transportation (SeFeT) at Hyderabad, 4-6 Aug 2022, India*

22. *Aakash Singh, Vulavakayala Siva, Santosh K Singh, Avneet Kumar. 2022. Quasi-Z-Source based Step-up Converter for Fuel Cell Vehicle. IEEE 2nd International Conference on Sustainable Energy and Future Electric Transportation (SeFeT) at Hyderabad, 4-6 Aug 2022, India*

23. *Vulavakayala Siva, Aakash Singh, Santosh K Singh, M. Raghuram 2022.Improved Common Mode Voltage and Modulation Index range in Ultra Sparse Matrix converters by adding active zero state switch network. IEEE 2nd International Conference on Sustainable Energy and Future Electric Transportation (SeFeT) at Hyderabad, 4-6 Aug 2022, India*

24. *Vulavakayala Siva, Aakash Singh, Santosh K Singh, M. Raghuram. 2022. Ultra Sparse Matrix Converter with Impedance Network to Enhance the Voltage Gain. IEEE 2nd International Conference on Sustainable Energy and Future Electric Transportation (SeFeT) at Hyderabad, 4-6 Aug 2022, India*

25. *Prasun Parijat, Sunidhi Pandey, Shyam Kamal, Sandip Ghosh, Devender Singh, and Debdas Ghosh. 2022. Predefined Upper Bound of Settling Time based Convergent Gradient Flow Systems. IECON 2022–48th Annual Conference of the IEEE Industrial Electronics Society, Brussels, Belgium, October 2022.*

26. *Om Prakash Bharti, Aanchal Verma, and R.K. Saket. 2023. Optimization Techniques of DFIG Controller Design for Performance Intensification of Wind Power Conversion Systems. International Congress on Information and Communication Technology (ICICT 2023 UK), Brunel University, London (UK), Springer Nature, 2023.*

27. *Epaphros Mengistu, Baseem Khan, Om Prakash Mahela, Aanchal Verma, and R.K. Saket. 2023. Fault Detection on Distribution Network Planning Using Fast Fourier Transform-Based Steady State and Transient Response. IEEE IAS Global Conference on Renewable Energy and Hydrogen Technologies (GlobConHT 2023), The National University of Maldives, Male City, Republic of Maldives, March 11-12, 2023.*

28. *Dilip Pandit, Atri Bera, R.K. Saket, Joydeep Mitra, Nga Nguyen. 2023. Energy Storage and Geographical Distribution of Wind Power to Improve Frequency Stability. IEEE IAS Global Conference on Renewable Energy and Hydrogen Technologies (GlobConHT 2023), The National University of Maldives, Male City, Republic of Maldives, March 11-12, 2023.*

29. *Jyoti Maurya and R.K. Saket. 2023. Performance Analysis of Single-Stage and Two-Stage VSI-fed IM Drive for Solar Pump Irrigation Systems. 2023. IEEE IAS Global Conference on Renewable Energy and Hydrogen Technologies (GlobConHT 2023), The National University of Maldives, Male City, Republic of Maldives, March 11-12, 2023.*

30. *Mahmoud A. Attia, Almoataz Y. Abdelaziz, Kumari Sarita, Aanchal Singh S. Vardhan, Akanksha Singh S. Vardhan, Saumya Singh and R.K. Saket. 2022. AVR Performance Enhancement by Using Adaptive PI Controller. The Proceedings of Third International Conference on Intelligent Computing, Information and Control Systems, Pages: 249-260, Publisher: Springer, Singapore.*

31. *Ahmed M. Shawqran, Abdallah El-Marhomy, Mahmoud A. Attia, Almoataz Y. Abdelaziz, Aanchal Singh S. Vardhan, Akanksha Singh S. Vardhan, R.K. Saxena, and R.K. Saket. 2022. Experimental and Analytical Studies of Blade Angle Influences Under Normal and Faulty Conditions. The Proceedings of the 2nd International Conference on Recent Trends in Machine Learning, IoT, Smart Cities and Applications, Pages: 211-227, Publisher: Springer, Singapore.*

32. *Saber O. M., El-Marhomy A., Attia M. A., Abdelaziz A. Y., Sarita K., Vardhan A. S. S., & Saket R. K. 2022. Maximizing the Output Power of Wave Energy Conversion System by Using Model Predictive Controller Based on Equilibrium Optimizer. In Proceedings of Third International Conference on Intelligent Computing, Information and Control Systems: ICICCS 2021, 843-858. Singapore: Springer Nature Singapore.*

33. *W. M. Khan, R. K. Singh and R. Mahanty. 2022. Current Fed Resonant Dual Active Bridge Converter with Dual Source Property for CC-CV Charging. 1-7, IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2022.*

34. *P. Kumar, R. K. Singh and R. Mahanty. 2022. Minimum Phase Hybrid Bipolar Converter for PV Integrated DC Microgrid Applications. IEEE Applied Power Electronics Conference and Exposition (APEC), Houston, TX, USA, 2022.*

35. *S. K. Samal, R. K. Singh and R. Mahanty. 2022. Modified Transformerless Boost Derived Hybrid Converter with no Right Half-Plane Zero and Reduced Leakage Curren. 93-98, IEEE Applied Power Electronics Conference and Exposition (APEC), Houston, TX, USA, 2022.*

36. *P. Kumar, R. K. Singh and R. Mahanty. 2022. MPPT based Performance Analysis of Minimum Phase Multi-Output Hybrid Bipolar Converter. 1305-1310, IEEE Applied Power Electronics Conference and Exposition (APEC), Houston, TX, USA, 2022.*

37. *R. K. Keshari and R. K. Singh. 2022. Boost Cascaded Paralleled Dual Buck-Boost Multi-Output Non-Isolated Hybrid Converter with Reduced Leakage Current. 1-5, IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Jaipur, India, 2022.*

38. *P. J. Barnawal, V. N. Lal and R. K. Singh. 2022. Current-fed LLC Based Dual Half Active Bridge Resonant Converter. 1-5, IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Jaipur, India, 2022.*

39. *S. R. Meher, R. K. Singh and V. N. Lal. 2022. An Adaptable Feedback Clamped Optimal Battery Charger Using Fourth-Order Minimum-Phase Bidirectional DC-DC Converter. 1-6, IECON 2022 – 48th Annual Conference of the IEEE Industrial Electronics Society, Brussels, Belgium, 2022.*

40. *P. J. Barnawal, V. N. Lal and R. K. Singh. 2022. Analysis and Design of LLC Based Dual Half Active Bridge Resonant Converter. 1-5, IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2022.*

41. *R. K. Keshari and R. K. Singh. 2022. L2C2 Network-Based Non-Isolated Multi-Output Hybrid Converter with Reduced Leakage Current. 1-5, IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2022.*

42. *S. R. Meher, Y. Choudhary and R. K. Singh. 2022. An Optimal Wireless Battery Charger for Electric Vehicle using EF2 Inverter at 6.78 MHz. 1-5, IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2022.*

43. *H. Zhou, Y. Zhao, X. Xiong, Y. Lou and S. Kamal. 2022. IMU Dead-Reckoning Localization with RNN-IEKF Algorithm. 11382-11387, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Kyoto, Japan, 2022.*

44. *A. Kumar Pal, S. Kamal, B. Bandyopadhyay and L. Fridman. 2022. On the Predefined, Prescribed and Arbitrary Time Convergence. 1-6, IECON 2022 – 48th Annual Conference of the IEEE Industrial Electronics Society, Brussels, Belgium, 2022.*

45. *S. Kumar, S. K. Soni, A. Sachan, S. Kamal and B. Bandyopadhyay. 2022. Adaptive Super-Twisting Guidance Law: An Event-Triggered Approach. 190-195, 16th International Workshop on Variable Structure Systems (VSS), Rio de Janeiro, Brazil, 2022.*

46. *S. Kamal, A. K. Pal, B. Singh, B. Bandyopadhyay and X. Yu. 2022. Stabilization of Continuous Time Uncertain Systems with Predefined Upper Bound of Settling Time. 266-271, 16th International Workshop on Variable Structure Systems (VSS), Rio de Janeiro, Brazil, 2022.*

47. *Rajendra K Pandey, Deepak Kumar Gupta, Geetanjali Dei. 2022. Hybrid Intelligent Optimization Technique (HIOT) Driven FOPID Controller for Load Frequency Control of Deregulated Power System. 1-6, IEEE Global Conference on Computing, Power and Communication Technologies (GlobConPT), New Delhi, India, 2022.*

48. *Babita Faujdar and Rajendra Kumar Pandey. 2023. Overview of EV Charging Smart Control Architecture- Recent Developments. 1-6, International Conference on Power, Instrumentation, Energy and Control (PIECON), Aligarh, India, 2023.*

49. *Rajendra Kumar Pandey. 2022. HYDROGEN – GREEN ENERGY: FUEL CELL VEHICLE and ENERGY STORAGE FOR SUSTAINABLE NEW INDIA. Virtual Hydrogen Summit: Road towards the Net Zero,2 022.*

Proceedings of National Conferences *(From 1st April 2022 to 31st March 2023)*

1. *Akhilesh Kumar Barnwal, Arpit Srivastava and M. K. Verma (2022) Optimal Distributed Generation and Network Reconfiguration Strategy to Enhance System Performance under Time Varying Voltage Dependent Loads 22nd National Power System Conference (NPSC) at IIT Delhi (17-19 December 2022), India*

2. *Gouri Shankar Kara, Akhilesh Kumar Barnwal and M. K. Verma (2022) An Optimal Planning Approach for EV Charging Station Installation in Distribution Network 22nd National Power System Conference (NPSC) at IIT Delhi (17-19 December 2022), India*

3. *Mishra, M., Singh, A., Misra, R. K., & Singh, D. (2022). Stochastic Peer-to-Peer Energy Trading with Price and Incentive Mechanism 2022 22nd National Power Systems Conference (NPSC) (17–19 DEC 2022) IEEE.*

4. *Rajendra Kumar Pandey. 2022. National Economy and Industrial Development: Green Energy Innovative Integration Technology in Grid. The National Conference on Harmonizing Productivity and Sustainability in Energy Sector. Coal, Power, Oil and Gas, on 26th. Nov.2022, World Confederation of Productivity Science (India), Delhi.*

Distinguished Visitors *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of the visitor & Designation	Date of Visit	Purpose of Visit
1	Prof. S.P. Bhattacharya, Professor in the Department of Electrical Engineering, Texas & AM University, College Station, Texas, USA	18-19th August, 2022	Lecture and interaction with faculties
2	Dr, Kalyan Sen, Co-Founder/Chief Technology Officer of **Sen** Engineering Solutions	12th October, 2022	Workshop on Smart Power Flow Controllers- A Necessity for Future Power Grid
3	Shri. Jayan P.P, Jt. Director, CDAC(T)	21st Dec, 2022	POWER CONCLAVE-Power Electronics Oppurtunities Window for Startup Entrepreneurs & Researchers Conclave
4	Dr. Om Krishan Singh, Scientist 'D'/Jt. Director, MeitY	21st Dec, 2022	
5	Shri. Renji V. Chacko, Senior Director, CDAC(T)	21st Dec, 2022	
6	Shri. Anoop ji, Technical Manager, Unipar Energy System Pvt. Ltd.	21st Dec, 2022	
7	Dr. Subhash Joshi T.G., Joint Director, CDAC	21st Dec, 2022	
8	Dr. Deepu Krishnan P.R., Assistant Manager, Kerala Startup Mission	21st Dec, 2022	
9	Dr. Alex P james, Dean (Academics), Prof. at Digitial University, Kerala	21st Dec, 2022	
10	Sh. Manoj S., Project Engineer, CDAC	21st Dec, 2022	

Other activities

International collaboration/achievements by the Department *(From 1st April 2022 to 31st March 2023)*

1. Research collaboration with Prof. Richard A McMahon; University of Warwick, UK under SPARC project of MHRD, Govt. of India
2. Research collaboration with Dr. Teng Long; University of Cambridge, UK under SPARC project of MHRD, Govt. of India
3. A proposal to establish the Smart Power Systems Lab has been initiated with the help of Alumni funding.
4. The Solar Power Project of 6.025 MW capacity (GCRTPV) of BHU was commissioned and under one year of successful operation under the Chairmanship of Prof Rajendra Kumar Pandey who is the Coordinator Solar Power Committee BHU.
5. A meeting of alumni of 1983 batch was organised in the Department to get the support in collaborative projects and education/industrial interaction with students of the Department.
6. A proposal of 50 MW land based Solar Power Plant is under consideration by BHU with NHPC as coordinator.
7. A proposal of Hydrogen Energy Pilot Project under consideration jointly with BHEL, BARC and BHU as Coordinator.
8. Alumni of IIT(BHU), Varanasi of 1949 batch visited the department

Foreign Faculty Visits in the Department *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. S.P. Bhattacharya, Professor in the Department of Electrical Engineering, Texas & AM University, College Station, Texas, USA	18-19th August, 2022	Lecture and interaction with faculties

Any other Information

Prof. R. K. Pandey has been honoured as Expert Member Mission Innovation DST, MNRE, Working as Chairman SERD DST and Member EU DST. Recently honoured as Vice Chairman Renewable Energy Society of India, Advisory Board Member and Fellow of RESI and Member of Selection Committee of NITs and other reputed Institutions.

Key Instruments:

1. Permanent Magnet Synchronous Motor based wind-energy experimental setup

2. **Coupled Tank System:** The Coupled Tanks plant is a "Two-Tank" module consisting of a pump with a water basin and two tanks. The two tanks are mounted on the front plate such that flow from the first (i.e., upper) tank can flow through an outlet orifice located at the bottom of the tank into the second (i.e., lower) tank. Flow from the second tank flows into the main water reservoir. In the present laboratory, the Coupled-Tank system is used in two different configurations, namely configuration one and configuration 2. In configuration 1, the objective is to control the water level in the top tank, i.e., tank 1, using the outflow from the pump. In configuration 2, the challenge is to maintain the water level in the bottom tank, i.e., tank 2, from the water flow coming out of the top tank. Configuration 2 is an example of state coupled system. This experimental setup helps to apply the developed control theory in real-time.

12. Department of Electronics Engineering

Complete Name of Department: Electronics Engineering

Year of Establishment: 1971

Head of the Department: Prof. M.K. Meshram w.e.f. 9 August, 2022

Brief Introduction of the Department:

The Department of Electronics Engineering came into existence as an offshoot of Electrical Engineering Department in the year 1971 with a great effort from Prof. S.S. Banerjee. In the same year the erstwhile Banaras Engineering College (BENCO), College of Mining and Metallurgy and College of Technology were amalgamated to form the Institute of Technology-Banaras Hindu University (IT-BHU). The Department offers Bachelor, Master and Doctoral programs in Electronics Engineering with the major thrust areas of Microelectronics, Microwave Engineering, Digital Techniques & Instrumentations and Communication Systems. The Department has been actively engaged in research since its inception as evidenced by the research publications. The first major financial support from the Department of Electronics (DoE), Govt. of India in the tune of Rs.1.0 Crore was received by the Department in 1980 to carry out research for development of High Power Microwave Tubes. Subsequently, in recognition of excellent research contribution, the University Grants Commission (UGC) identified the Department to provide financial support under Special Assistance Program (SAP) in 1983 for five years. During this period, the department established three independent research centers e.g., Centre of Research in Microwave Tubes (CRMT), Centre for Research in Microelectronics (CRME) and Centre for Research in Microprocessor Applications (CRMA) supported by UGC/MHRD. The Department was further recognized as a Centre of Advanced Studies (CAS) by the UGC in 1989. The Department successfully completed three phases of CAS in the year 2009. The Department is also one of the DRDO centers for M.Tech. in Electronics Engineering. In addition to this, the Department has been actively pursuing manpower training and collaborative research programs in specialized areas to meet the national manpower requirement in R&D laboratories, academic institutions and industries. The Department has a close interaction with many reputed national R&D laboratories such as DRDO, CSIR, Bharat Electronics Ltd. and leading software companies as well as foreign Universities.

Major areas of Research

- Communication System Engineering
- Digital Techniques & Instrumentation
- Microwave Engineering
- Microelectronics Engineering

Area of the Department (in square meters): 3561.22 m^2

Infrastructure

Sl. No.	Particulars	Number
1	No. of Classrooms	**08**
2	No. of Lecture Halls	**01**
3	No. of Laboratory	**09**
4	No. of Computers available for students in the Department	**45**

Unique Achievement / Preposition of the Department

Students on Roll *(From 1st April 2022 to 31st March 2023)*

(Please give No. of students only in respective years)

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1.	B. Tech	132	146	146	124	
2.	M. Tech	28	25			
3.	Ph. D (Under Institute Fellowship)	7	4	5	8	10
4.	Ph. D (Under Project Fellowship)	2			1	1

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
5.	Ph. D (Under Sponsored Category)	1	1			1
6.	Ph. D (Under QIP)	1		4		1
7.	Ph. D (Others) (Joint Program)	2	1	2		

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
ÌNDIA					
1	Sambit Kumar Ghosh	17091021	XLV Symposium of the Optical Society of India COPaQ 2022 (Conference on Optics, Photonics & Quantum Optics)	10-13 November, 2022 IIT Roorkee	Self-sponsored
2	Nikhil Kumar	146 (Project ID)	XLV Symposium of the Optical Society of India COPaQ 2022 (Conference on Optics, Photonics & Quantum Optics)	10-13 November, 2022 IIT Roorkee	Self-sponsored
3	Diptiranjan Samantaray	17091013	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)	12-15 December, 2022 Bangalore	Self-sponsored
4	Madhavi Chandra	20092040	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)	12-15 December, 2022 Bangalore	DRDO
5	Bharat Kumar	20092022	9th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering, 2022 (UPCON-2022)	December 2-4, 2022 Prayagraj, India	RSG
6	Bharat Bhushan Upadhyay	19091001	Three days FDP on, "SoC Design Methodology using Intel FPGAs", IIT Goa	Feb 17-19, 2022	RSG
7	Bharat Bhushan Upadhyay	19091001	SERB funded Karyashala High-End workshop "VLSI Architectures for Signal and Image Processing"	December 17-23, 2022 IIT (BHU)	RSG
8	Sumit Kr. Yadav	17091012	Short term course on "Advances in deep architectures for Signal, Image and Vision Applications (ADASIVA)	August 8-13, 2022 Prayagraj, India	Sef-sponsored
9	Ms. Pratibha Verma	20091502	National Conference on Emerging Trends in Vacuum Electronic Devices & Applications (VEDA)-2022.	19-21st Jan. 2023, Bangalore, India	RSG
10	Mr. Shyam Gopal Yadav	16091005	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)	12-15th Dec. 2022, Bangalore, India	Self -sponsored
11	Ms. Pratibha Verma	20091502	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)	12-15th Dec. 2022, Bangalore, India	RSG
12	V Venkata Reddy	17091028	National Conference on Emerging Trends in Vacuum Electronic Devices & Applications (VEDA)-2022.	19-21st Jan. 2023, Bangalore, India	Self -sponsored
13	Akansha Singh, Rajkumar Jatav, Ajitesh	18091004, 18091504, 18091505	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)	12-15th Dec. 2022, Bangalore, India	Self -sponsored

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
15	Ajitesh, Saurabh Kumar Srivastava,Akansha Singh, Rupam Bharati	18091505, 17091008, 18091004, 21091006	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)	12-15th Dec. 2022, Bangalore, India	Self -sponsored
16	Rupam Bharati, Ajitesh, Rahul Dubey	21091006, 18091505, 17091020	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)	12-15th Dec. 2022, Bangalore, India	Self -sponsored
17	Rajkumar Jatav, Akansha Singh	18091504, 18091004	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)	12-15th Dec. 2022, Bangalore, India	Self -sponsored
ABROAD					
1	Bharat Bhushan Upadhyay	19091001	2022 IEEE 65th International Midwest Symposium on Circuits and Systems (MWSCAS)	August 7-10, 2022 Fukuoka, Japan	RSG (Online)

Names of students/scholars who got prizes and awards outside the Institute *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	Rishabh Arya	19095082	Best paper award in 10th International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA 2022).	18-19 June, Mizoram, India	National Institute of Technology Mizoram, India
2	Bharat Bhushan Upadhyay	19091001	2022 IEEE Circuits and Systems Student Travel Grant award to attend 2022 IEEE 65th International Midwest Symposium on Circuits and Systems (MWS CAS 2022).	August 7-10, 2022 Fukuoka, Japan	2022 IEEE Circuits and Systems Society

Names of Students/Scholars who went for foreign Internship *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of the Organization	Place of Internship	Country	Duration
1	Raghav Soni	19095080	Robotics Innovation Centre (RIC), German Research Institute for Artificial Intelligence (DFKI)	Germany	Germany	2.5 months

Faculty & their Activity

Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
PROFESSORS			
1	Prof. P. Chakrabarti (On Deputation) Ph.D, Employee ID: 13803	1988	High Speed Semiconductor Devices, Optoelectronic Devices, Optical Communication
2	Prof. P. K. Jain (On Deputation) Ph.D, Employee ID: 13802	1988	Microwave Engineering
3	Prof. V. N. Mishra, Ph.D, Employee ID: 10389	1996	Microelectronics, Semiconductor Devices, Microelectronic Gas Sensors
4	Prof. Satyabrata Jit, Ph.D, Employee ID: 13804	2002	Advanced CMOS Devices, Thin Film Based Nanoelectronic Devices for Electronic, Gas Sensing and Optoelectronic Applications
5	Dr. Manoj Kumar Meshram, Ph.D, Employee ID: 16628	2001	Microwave antennas, Electrically Small Antennas, Artificial materials, Microwave passive devices

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
ASSOCIATE PROFESSORS			
6	Dr. N. S. Rajput, Ph.D, Employee ID: 16800	July 2011	Digital Techniques & Instrumentation, Artificial Intelligence, IoT, CPS, Intelligent Sensor Systems, Robotics
7	Dr. Amit Kumar Singh, Ph.D, Employee ID: 18299	June 2010	Microwave Engineering
8	Dr. Amritanshu Pandey, Ph.D, Employee ID: 18360	2016	Communication System Engineering, Microelectronics
9	Dr. M. Thottappan, Ph.D, Employee ID: 18358	15 May, 2014	Microwave Engineering
ASSISTANT PROFESSORS			
10	Mr. M. K. Singh, M.Tech., Employee No. 13806	N. A.	Communication System Engineering
11	Kishor P Sarawadekar, Ph.D., Employee No. 19847	5 July, 2012	VLSI Architectures, VLSI based Signal and Image Processing, Image Coding and Image Compression
12	Dr. Somak Bhattacharyya, Ph.D. Employee No. 50074	30 April, 2015	RF & Microwave Engineering, Metasurfaces, Terahertz Modelling
13	Dr. Smrity Dwivedi, Ph.D., Employee No. 50101	29 December, 2012	RF & Microwave Engineering
14	Dr. Shivam Verma, Ph.D., Employee No. 50231	4 January, 2017	Spintronics, Devices and Circuits for VLSI, Non-volatile memory and logic circuits
15	Dr. Sanjeev Sharma, Ph.D.,Employee No. 50236	17 November, 2018	Wireless Communication, Signal Processing, Machine Learning-based Wireless Communication Systems Design
16	Dr. Priya Ranjan Muduli, Ph.D. Employee No. 50246	23 August, 2019	Intelligent Signal Processing, Machine Learning, Image Processing, Internet of Things, Edge Computing, and Biomedical Instrumentation.
17	Dr. Om Jee Pandey, Ph. D, Employee No. 50287	4 January, 2019	Wireless Sensor Networks, Internet of Things, Cyber Physical Systems, UAV-Assisted Edge and Fog Networks, Low-power Wide-area Networks, Social Networks, Wireless Communications
18	Dr. Atul Kumar, Ph. D, Employee No. 50288	19 December, 2018	6G, IoT, IIoT and Industry 4.0, AI techniques for end-to-end (E2E) prediction of critical Quality-of-Service (QoS), Joint sensing and communication (JSCS)
19	Dr. Sonam Jain, Ph. D, Employee No. 50290	4 August, 2020	Wireless Communication, Physical layer security, Coding Theory, NOMA, MIM0, URLLC
20	Dr. Oppili Prasad. L, Ph.D., Employee ID: 50322	4th March, 2020	Electronic System Design, Flexible and Wearable Electronics, Circuits & Systems for Flexible Electronics
21	Dr. Jaya Jha, Ph.D., Employee ID: 50323	August 7, 2021	Microelectronics, Device reliability, MMICs
22	Dr. Ankit Arora, Ph.D., Employee ID: 50325	March 25, 2022	Nanoelectronics, Nano-photonics, 2-D materials

Technical and Non-Teaching Staff

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
1	Dr. Vinod Kumar Singh, Ph.D	Senior Technical Superintendent (Gr.-II), 14165	16.01.1990
2	Sri. Tarun Kumar Singh, M.Sc. (Electronics)	Sr. Technical Superintendent (Gr.-I), 16564	15.02.1995
3	Sri. Lal Bahadur Vishwakarma, B.A.	Sr. Technical Superintendent, 14166	11.03.1988
4	Sri. Krishna Kumar Srivastava, Intermediate	Sr. Technical Superintendent, 14167	16.01.1990
5	Sri. Lalji Prasad, Intermediate, Diploma	Sr. Technical Superintendent, 18022	18.01.2007
6	Sri. Mohan, High School	Technical Superintendent, 14170	11.03.1988
7	Sri. Jay Ram, High School	Technical Superintendent, 14014	07.02.1995

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
8	Sri. Sanjiv Kumar Srivastava, B.A., ITI	Jr. Technical Superintendent, 18056	20.02.2007
9	Sri. Shyam Narayan, Intermediate, ITI	Jr. Technical Superintendent, 18087	26.02.2007
10	Sri. Bahadur Lal, B.A.	Senior Technician, 18660	05.08.2008
11	Sri. Vinod Kumar Verma, Intermediate, ITI Diploma	Senior Technician, 18653	05.08.2008
12	Sri. Dinesh Kumar, Intermediate, ITI Diploma	Senior Technician, 18673	06.08.2008
13	Sri. Gyan Chand Vishwakarma, High School	Senior Technician, 18904	18.01.2010
14	Sri. Amit Kumar Srivastava, B.A.	Senior Technician, 18609	05.08.2008
15	Sri. Ravindra Nath Ram, Intermediate	Senior Technician, 14016	01.04.1990
16	Sri. Ajit Kumar Singh, Intermediate, ITI	Senior Technician, 19270	09.02.2011
17	Sri. Sanjay Kumar Vishwakarma, M.Sc.	Senior Technician, 19594	11.07.2012
18	Dr. Sudha Misha, M.Sc., Ph.D.	Junior Superintendent, 17436	08.03.2019
19	Sri. Ashish Kumar Vishwakarma, B.Tech. (E&C)	Jr. Assistant, 50081	20.05.2017
20	Sri. J. K. Sinha, Diploma in Computer Sc. & Engg., BCA, B.Tech in Electronic & Telecommunications PG & MPA	Sr. Assistant, 50016	25.09.2020
21	Sri. Ved Prakash Yadav, M.A.	MTS	16.12.2016
22	Sri. Pavan Singh, B.A., ITI	MTS	16.12.2016
23	Sri. Ankit Kumar Rai, M.A., B.Ed	MTS	01.11.2019

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

(From 1st April 2022 to 31st March 2023)

Sl. No.	Coordinator	Title	Period
1	Dr. Sanjeev Sharma	Workshop on Terahertz Communications: Opportunities and challenges	18-21 Dec. 2022
2	Dr. Sanjeev Sharma	Advanced Statistical and Machine Learning Models	22-28 Aug. 2022
3	Dr. Atul Kumar	Seminar on 5G/6G health applications by Prof. Teemu Myllylä with his research group, University of Oulu, Finland	2-3 Dec. 2022
4	Dr. Atul Kumar	3 Days workshop on SDR, LabVIEW and Basics of Data Acquisition System	24th to 26th August 2022
5	Dr. P.R. Muduli	Technical talk on Signal processing ad Machine Learning by Professor KVS Hari, Professor, Department of ECE, IISc and Vice President-Membership, IEEE Signal Processing Society.	6-8th May 2022
6	Dr. Kishor Sarawadekar	SERB funded Karyashala High-End workshop "VLSI Architectures for Signal and Image Processing"	December 17-23, 2022
7	Dr. Kishor Sarawadekar	Flexible Devices for Organic and Green Electronics, Webinar Sub-Committee of IEEE UP section	21-07-2022
8	Dr. Kishor Sarawadekar	Edge Computing for Intelligent Sensors and Systems, Webinar Sub-Committee of IEEE UP section	05-08-2022
9	Dr. Kishor Sarawadekar	Enhancing Authorship Skills: A Reviewer's Perspective, Webinar Sub-Committee of IEEE UP section	11-09-2022
10	Dr. Kishor Sarawadekar	Going from Algorithm Design to Hardware Implementation with MATLAB & Simulink, Webinar Sub-Committee of IEEE UP section	20-09-2022
11	Dr. Kishor Sarawadekar	Recent Accomplishments in High Frequency Communication, Webinar Sub-Committee of IEEE UP section	09-01-2023
12	Dr. Kishor Sarawadekar	Neuromorphic Signal Processing for Healthcare Applications, Webinar Sub-Committee of IEEE UP section	13-01-2023

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Dr. Om Jee Pandey	Joint Optimization of Network Lifetime and SNR in UAV-Assisted Edge Networks	IEEE SPCOM, July 13, 2022 , IISc Bangalore
2	Dr. Sanjeev Sharma	NCC 2023	Feb. 2023, IIT Guwahati
3	Dr. Shivam Verma	6th edition of IEEE International Conference on Emerging Electronics (ICEE)	11th to 14th December 2022
5	Dr. N. S. Rajput	National Consumer Day, Ministry of Consumer Affairs, Food and Public Distribution, GOI	Dec.24, 2022
5	Dr. N. S. Rajput	National Workshop/ Seminar on Legal Metrology, Department of Consumer Affairs, GOI, INDIA	Mar. 10, 2023
6	Dr. N. S. Rajput	National Workshop/ Seminar on Legal Metrology, Department of Consumer Affairs, GOI, INDIA	Mar. 14, 2023
7	Dr. N. S. Rajput	National Workshop/ Seminar on Legal Metrology, Department of Consumer Affairs, GOI, INDIA	Mar. 19, 2023
8	Dr. N. S. Rajput	National Workshop/ Seminar on Legal Metrology, Department of Consumer Affairs, GOI, INDIA	Mar. 23, 2023
9	Dr. N. S. Rajput	National Workshop/ Seminar on Legal Metrology, Department of Consumer Affairs, GOI, INDIA	Mar. 31, 2023
10	Dr. P. R. Muduli	IEEE SPS Distinguished Lecture by Prof. Gordon Wetzstein, Stanford University on "Efficient Neural Scene Representation, Rendering, and Generation"	8th Feb 2023
11	Dr. P.R. Muduli	IEEE International Conference on Electronics, Computing and Communication Technologies (CONECCT) 2022	14-16 July 2022
12	Dr. P.R. Muduli	5th International Conference on VLSI, Communication and Signal Processing 2022	14-16 October 2022
13	Dr. P.R. Muduli	International Conference on Frontiers of Intelligent Computing: Theory and Applications 2022	18-19 June 2022
14	Dr. Atul Kumar	Online Innovation Readiness Series, offered by IC2 Institute, University of Texas, Austin. U.S	6 Weeks Oct. 2022-Dec. 2022
15	Dr. Atul Kumar	Designing LTE and LTE advance Physical Layer Systems with MATLAB/SIMULINK	20 May -23 May 2023
16	Dr. Somak Bhattacharyya	XLV Symposium of Optical Society of India Conference on Optics, Photonics and Quantum Optics (COPaQ 2022)	10-13 November, 2022 IIT Roorkee
17	Dr. Somak Bhattacharyya	URSI Regional Conference on Radio Science (URSI-RCRS 2022)	1-4 December, 2022 IIT Indore
18	Dr. Somak Bhattacharyya	2022 IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)	12-15 December, 2022 Bangalore
19	Dr. Somak Bhattacharyya	International Conference on Microwave, Antenna and Communication (MAC2023)	24-26 March, 2023 MNNIT Allahabad, Prayagraj
20	Dr. Kishor Sarawadekar	the 9th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering, 2022 (UPCON-2022)	December 2-4, 2022. Prayagraj
21	Dr. Kishor Sarawadekar	4th Conference on "Innovative Global Trends in Technology, Architecture, Management and Education"	27th April 2022 MIT ADT University, Pune
22	Dr. Kishor Sarawadekar	"Karyashala (High-end Workshops)" on Analog and Digital VLSI Design Flow and Embedded System Design	6th July 2022 NIT Rourkela

Sl. No.	Name of Faculty Member	Title	Period and Venue
23	Dr. Kishor Sarawadekar	6th International Conference on Computing Communication Control and Automation (ICCUBEA-2022)	August 27, 2023 Pimpri Chinchwad College of Engineering, Pune
Meetings			
1	Dr. Atul Kumar	Industry Relations IEEE Uttar Pradesh section	12 Sept. 2022, 15 Nov. 2023, Jan. 2023, March 2023, and June 2023.
2	Dr. Atul Kumar	Chair of IEEE communication society Uttar Pradesh Section	April 2023, May 2023, and June 2023.
3	Dr. P. R. Muduli	Annual General Body Meeting of IEEE Uttar Pradesh Section	20th Jan 2023
4	Dr. P. R. Muduli	IEEE SPS UP Chapter ExeCom Meeting	11 June 2022
4	Dr. P. R. Muduli	IEEE SPS UP Chapter 3rd ExeCom Meeting 2022	20 October 2022
5	Dr. M. K. Meshram	Annual General Body Meeting of IEEE Uttar Pradesh Section	20th Jan 2023
6	Dr. Somak Bhattacharyya	Annual General Body Meeting of IEEE Uttar Pradesh Section	20th Jan 2023
7	Prof. Satyabrata Jit	Annual General Body Meeting of IEEE Uttar Pradesh Section	20th Jan 2023
8	Dr. Kishor Sarawadekar	IEEE UP Section, Executive Council Meeting	17/4/2022
9	Dr. Kishor Sarawadekar	IEEE UP Section, Executive Council Meeting	19/06/2022
10	Dr. Kishor Sarawadekar	IEEE UP Section, Executive Council Meeting	13/08/2022
11	Dr. Kishor Sarawadekar	IEEE UP Section, Executive Council Meeting	17/09/2022
12	Dr. Kishor Sarawadekar	IEEE UP Section, Executive Council Meeting	23/10/2022
13	Dr. Kishor Sarawadekar	IEEE UP Section, Executive Council Meeting	04/12/2022
14	Dr. Kishor Sarawadekar	IEEE UP Section, Executive Council Meeting	20/01/2023
15	Dr. Kishor Sarawadekar	IEEE UP Section, Executive Council Meeting	24/03/2023
16	Dr. Kishor Sarawadekar	Annual General Body Meeting of IEEE Uttar Pradesh Section	20th Jan 2023
17	Dr. M.Thottappan	Lab Research Council Meeting, MTRDC, DRDO, Bangalore	26-Aug-2022
18	Dr. M.Thottappan	Lab Research Council Meeting, MTRDC, DRDO, Bangalore	28-Feb-2023
19	Dr. Jaya Jha	Annual General Body Meeting of IEEE Uttar Pradesh Section	20th Jan 2023
20	Dr. Om Jee Pandey	Annual General Body Meeting of IEEE Uttar Pradesh Section	20th Jan 2023

Special lectures delivered by faculty members in other institutions *(From 1st April 2022- to 31st March 2023)*

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1	Dr. Om Jee Pandey	Optimal Active RIS Elements Selection Using Q-learning for 6G Applications	Atria Institute of Technology Bangalore	31st March 2023
2	Dr. Om Jee Pandey	Challenges in Technical Writing	Indian Institute of Information Technology, Kottayam	20th July 2022
3	Dr. Om Jee Pandey	An Introduction to LATEX	School of Electronics Engineering (SENSE), VIT-AP University, Andhra Pradesh	10th April 2022
4	Dr. Om Jee Pandey	Small-World Models for IoT Applications	Indian Institute of Technology, Banaras Hindu University	25th August 2022
5	Dr. Om Jee Pandey	Small-World Models for IoT Applications	Indian Institute of Information Technology Sri City, Chittoor, AP	3rd November 2022
6	Dr. Om Jee Pandey	Small-World Models for IoT Applications	Indian Institute of Technology, Hyderabad	16th October 2022

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
7	Dr. Shivam Verma	Spin-based Nonvolatile Memories (NVMs) Logic	5-day Online Short Term Course (STC) on "Research Opportunities and Challenges in Nano-electronics and Advanced Communication Systems" from Sept. 27th to Oct 1st, 2022 at NIT Uttarakhand	01st Oct. 2022
8	Dr. Shivam Verma	Spin-based Nonvolatile Memories (NVMs) Logic	International Workshop on "Recent Trends Semiconductor Devices/ VLSI Chip Devices and its Sensor Applications" during 23-27 Jan 2023 through Online mode sponsored by SERB in KL university	26th Jan. 2023
9	Dr. Shivam Verma	Spin-based Nonvolatile Memories (NVMs) Logic	One Day Faculty Development Programme (FDP) as Guest Speaker/ Expert Resource Person on "Emerging Trends in Nano and Spin-based Electronics Devices and their Application" in VIT AP	15th April 2023
7	Dr. N. S. Rajput	Technologies for Internet of Things and Everything	Keynote Speaker, 6th International Conference on Communication, Devices and Networking (ICCDN 2022), Sikkim Manipal University, Manipal	16th December 2022
8	Dr. N. S. Rajput	Intelligent Sensors and Systems for Healthcare: Technologies, Challenges, and Opportunities	Guest Speaker during SERB sponsored High-End Workshop on "AI-enabled IoT for Healthcare and Medical Electronics", IIT, Patna	21st Jan 2023
9	Dr. N. S. Rajput	Emerging Technologies and Approaches for Next-Gen Legal Metrology	National Workshop/ Seminar on Legal Metrology, Department of Consumer Affairs, GOI, INDIA	Feb. 18, 2023
10	Dr. Atul Kumar	The perspective of wireless communication in Industry 4.0.	Ministry of Heavy Industries (MHI) Sponsored 05 Days Workshop on Smart Manufacturing & Industry 4.0 (Online mode)	October 11-15, 2022
11	Dr. P.R. Muduli	Convex Optimization Techniques for Signal Processing	Three Day Webinar on Wireless Communication, Image, and Signal Processing" (WCISP), Silicon Institute of Technology, Silicon Hills, Patia, Bhubaneswar, Odisha.	20 – 22nd October 2022
12	Dr. P.R. Muduli	Applications of Machine Learning in Signal, Image and Computer vision	IEEE Young Professionals, U.P. Section, Uttar Pradesh, India.	14- 18th September, 2022
13	Dr. P.R. Muduli	Wavelets and Filtering Techniques in Image Processing	Science and Engineering Research Board, High-End Workshops ("KARYASHALA") Department of Electronics Engineering, Indian Institute of Technology (BHU) Varanasi.	22-28th August 2022
14	Dr. P.R. Muduli	Advanced Statistical and Machine Learning Models	Science and Engineering Research Board, High-End Workshops ("KARYASHALA") Department of Electronics Engineering, Indian Institute of Technology (BHU) Varanasi.	22-28th August 2022
15	Dr. P.R. Muduli	Enhancing Authorship Skills: A Reviewer's Perspective	IEEE UP Section, India	12 Sep 2022

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
16	Prof. S. Jit	Metal Oxide Nanostructure s for Sensing Applications	IIIT Jabalpur	03 Sep 2022
17	Prof. S. Jit	Organic Thin Film Solar Cells: Some Case Studies	IIT Patna	27 July 2022
18	Prof. S. Jit	Fabrication and Characterization of Some Organic-Inorganic Hybrid Perovskite Based Photodetectors	Chitkara University, Rajpura, Punjab	20 May 2022
20	Dr. Somak Bhattacharyya	Trends in High Frequency Communications (Webinar)	Annant Gyan Knowledge and Skills Private Limited	27 March, 2022
21	Dr. Somak Bhattacharyya	Aspects of High Frequency Communications (Webinar)	"Microwave and beyond: Present and Futuristic Wireless Communication Systems" organized by Electronics and Telecommunication Engineering Department, Kalimpong Government Polytechnic	5 April, 2022
22	Dr. Somak Bhattacharyya	High Frequency Communications: Recent Trends	Heritage Institute of Technology, Kolkata	4 May, 2022
23	Dr. Somak Bhattacharyya	Applications of Metasurfaces at the Terahertz Frequencies (Webinar)	Online workshop on "Advances in Photonic Devices, Sensors, and Systems" organized by NIT Delhi and MNNIT Allahabad	2 June, 2022
24	Dr. Somak Bhattacharyya	High Frequency Applications of Metasurfaces (IEEE MTT-S Speakers Bureau Program)	IEEE Microwave Theory & Technology Society (MTT-S) Student Branch Chapter IIT Delhi and IEEE MTT-S IIT Delhi Chapter	18 July, 2022
25	Dr. Somak Bhattacharyya	High Frequency Applications of Metasurfaces (IEEE MTT-S Speakers Bureau Program)	IEEE Microwave Theory & Technology Society (MTT-S) Student Branch Chapter IIT Roorkee, Department of Electronics & Communication Engineering	20 July, 2022
26	Dr. Somak Bhattacharyya	Basics and Applications of Metasurfaces	Department of Electronics Science, University of Delhi Science Campus	22 July, 2022
27	Dr. Somak Bhattacharyya	High Frequency Communications (Webinar)	Online Industry Academia joint FDP Program on "Recent Innovation in Antennas and RF Frontend Systems for 5G" organized by Dept. of ECE, CBIT (A), Hyderabad and ARK Infosolutions Pvt. Ltd	28 July, 2022
28	Dr. Somak Bhattacharyya	High Frequency Applications of Metasurfaces (IETE Smt. Manorama Rathore Memorial Award Lecture)	IETE Varanasi Sub-centre	28 October, 2022
29	Dr. Somak Bhattacharyya	Recent Advancements of Graphene-based Metasurfaces in Terahertz Frequencies	IIT Indore, URSI Regional Conference on Radio Science (RCRS 2022)	2 December, 2022
30	Dr. Somak Bhattacharyya	Recent Accomplishments in High Frequency Communication	Nagarjuna College of Engineering and Technology	17 December, 2022
31	Dr. Somak Bhattacharyya	Recent Developments of Metasurfaces in High Frequencies (Webinar)	Monthly Lecture Series, Antenna Test & Measurement Society (ATMS)	17 December, 2022
32	Dr. Somak Bhattacharyya	Recent Advancements of Metasurfaces in Terahertz Frequencies	6th Workshop on Optics and Photonics: Theory and Computational Techniques (OPTCT) organized by IIT Delhi	26 December, 2022

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
33	Dr. Somak Bhattacharyya	Recent Accomplishments in High Frequency Communication	IEEE UP Section	9 January, 2023
33	Dr. Somak Bhattacharyya	Recent developments of metasurfaces in high frequency (Online)	AICTE Training and Learning (ATAL) sponsored Online Two weeks Faculty Development Program on "Soft Computing approach Towards Microwave Application" in Department of Electronics & Communication Engineering, Indian Institute of Information Technology Bhagalpur	14 February, 2023
34	Dr. Somak Bhattacharyya	Metasurfaces: Fundamental and advanced applications	One week Training Program on "Research Instruments for Emerging Materials and Technology" in Sophisticated Analytical & Technical Help Institute (SATHI), Banaras Hindu University, Varanasi organized by Department of Physics, Institute of Science, Banaras Hindu University in association with Banasthali Vidyapith Rajasthan	28 January, 2023
35	Dr. Somak Bhattacharyya	Recent Trends in High Frequency Communications (Online Lecture Series)	One week Faculty Development Program entitled, "Recent Trends in High Frequency Communications (RHFC-2023)" organized by Annant Gyan Knowledge and Skills Private Limited	20-24 February, 2023
36	Dr. Somak Bhattacharyya	Metasurface: Fundamental and Advanced Applications	"International Workshop on Advances in Planner Antennas and Communication Technology" organized by Dept. of Electronics and Communication Engineering, School of Engineering and Technology, Mizoram University, Aizawl	13 March, 2023
37	Dr. Kishor Sarawadekar	Biomedical Signal and Image Processing	MIT ADT University, Pune	27th April 2022
38	Dr. Kishor Sarawadekar	Verilog HDL and Digital System Design	NIT Rourkela	6th July 2022
39	Dr. Kishor Sarawadekar	Gesture Recognition Based Human Computer Interaction	Pimpri Chinchwad College of Engineering, Pune	August 27, 2023
40	Dr. Kishor Sarawadekar	Applications of signal processing	G. H. Raisoni college of Engineering, Nagpur	October 7, 2023

Honours and awards *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Award
1	Dr. Shivam Verma	IEEE Senior Member w.e.f. 15th August 2022
2	Dr. Somak Bhattacharyya	Fellow, Antenna Test and Measurement Society India
3	Dr. Somak Bhattacharyya	only representative from India in the Speakers Bureau program of IEEE MTT Society
4	Dr. Somak Bhattacharyya	IETE Smt. Manorama Rathore Memorial Award 2022 from IETE
5	Dr. Somak Bhattacharyya	Exceptional Performance as Reviewer of IEEE Transactions on Antennas and Propagation
6	Dr. Somak Bhattacharyya	Travelling Lecturer Program of Optica
7	Dr. Somak Bhattacharyya	IEEE Uttar Pradesh Section Outstanding Section Volunteer Award 2022 from IEEE UP Section
8	Dr. Om Jee Pandey	IEEE Uttar Pradesh Section young professional Star award for the month of December 2021

Fellowships of academic and professional societies *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Fellowship
1	Dr. Somak Bhattacharyya	Antenna Test and Measurement Society India

Books, monographs authored/co-authored *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Author/Co- Author	Title	Publisher
1	R. P. Jain and **Kishor Sarawadekar**	Modern Digital Electronics	McGraw Hill Education (India) Private Limited, Fifth Edition.
2	Rahul Pal, Gourav Modanwal, Subiman Chatterjee and Kishor Sarawadekar	Hybrid Beamforming for Secured mmWave MIMO Communication	Springer, Singapore. https://doi.org/10.1007/978-981-19-1960-2_11

Editorial boards of journals *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Shivam Verma	Guest Editor	[Materials-MDPI] (IF: 3.748) — Special Issue: Novel Approaches to Ferromagnetic and Magnetic Materials
2	Dr. P.R. Muduli	Associate Editor	IEEE Transactions on Instrumentation and Measurements.
3	Dr. Somak Bhattacharyya	Member, Editorial Board	The Journal of Korean Institute of Communications and Information Sciences (J-KICS)
4	Dr. Kishor Sarawadekar	Associate Editor	Journal of Multimedia Information System

Design and Development Activities

New facilities added *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of INR)
1	FieldFox Vector Network Analyzer (Keysight Make N9951A)	27.98

Patents filed *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title of Patent
1	Dr. Om Jee Pandey	A SYSTEM FOR DETERMINING THE PERFORMANCE OF A CONSENSUS MECHANISM FOR AN M-DIMENSIONAL SCALE-FREE NETWORK

Research and Consultancy

Sponsored research projects *(Ongoing only)*

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of INR)	Co- ordinator
1	Design and Development of High Gain, Wide Bandwidth Steered Reconfigurable Reflectarray Antennas for 5G mmWave Applications	2022-2025	SERB	51.26	M. K. Meshram
2	Design and Development of Reconfigurable Reflectarray Antennas at X-band	2022-2024	RAC-ISRO	27.63	M. K. Meshram
3	Design and Development of Antenna for Surface Acoustic Wave Wireless Temperature Sensor	2022-2024	SSPL, DRDO	31.02	M. K. Meshram
4.	Design and Development of Implantable and Ingestible Antennas for Biomedical Applications	2022-2025	SERB	38.07	M. K. Meshram
5.	Knowledge Partnership for Digital Metrology (KPDM)	2022-2027	MoCA	150.0.	Dr. N. S. Rajput
6	Development of graphene/CNT based sensors for space applications	2 years	ISRO RAC-S IIT (BHU)	29.62	Dr. Shivam Verma
7	Implementation of Terahertz Band Communication for Next-generation Wireless Networks	2 Years	SERB	23.67	Dr. Sanjeev Sharma
8	Design and Development of Cognitive Small-World LPWANs for Internet of Things towards Health Monitoring	2021-2023	SERB	30.11	Dr. Om Jee Pandey

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of INR)	Co- ordinator
9	Development of a scalable volatile organic compound (VOC) sensing based intelligent cyber physical system for near real-time vehicular pollution monitoring and recommendation for reduced emissions	2021-2023	IDAPT Hub, IIT (BHU)	19.8	Dr. N. S. Rajput
10	Erasmus + KA1 – Mobility of higher education students and staff supported: 6G Radio Access Network on joint sensing and communication technology in the context of I4.0	2022-2025	European Union	106.5	Dr .Atul Kumar
11	Development of Wearable Internet of Medical Things for Continuous Health Monitoring of Astronauts	2022-2025	SAC, Indian Space Research Organization (ISRO), Department of Space, Govt. of India.	26.09	Dr. P.R. Muduli
12	Development of Non-Invasive Saliva Based Glucometer for Diabetes Management	2022-2025	SERB	23.48	Prof. S. Jit (Co-PI)
13	Design and Development of Composition Engineered Toxic-Free Organic-Inorganic Perovskite Quantum Dots Based Flexible Spectrum Tunable Photodetectors	2022-2025	SERB	42.90	Prof. S. Jit
14	Metasurface-based Sensor Devices for mm-wave and sub-terahertz Applications	2022-25	SERB	56.21	Dr. Somak Bhattacharyya
15	Metasurface-based various components for applications in microwave range and beyond	2023-26	ISRO	25.33	Dr. Somak Bhattacharyya
16	Development of Hand Telerehabilitation Platform for Diagnostic and Therapeutic Purposes in Physiotherapy	2022-25	SERB	21.28	Dr. Kishor Sarawadekar
17	Development of variable data rate CCSDS compliant Direct Digital Demodulator	2022-24	ISRO-RAC	24.52	Dr. Kishor Sarawadekar
18	Analysis and Design of Sub-Millimetre Wave Tuneable Gyrotron for DNP-NMR Spectroscopy Application	2021-2024	SERB	50.16	Dr. M.Thottappan

Research Publications *(From 1st April 2022 to 31st March 2023)*

Sl. No.		No.
1	Total Number of Papers Published in Refereed International Journals	82
2	Total Number of Papers Presented in International Conferences	33
3	Total Number of Papers Presented in National Conferences	11

Refereed International Journals *(From 1st April 2022 to 31st March 2023)*

1. Dubey R., Srivastava S. K., Singh A. and Meshram M. K., (2023), "Compact and Efficient Dual-Band Rectifier Using Modified T-Section Matching Network" in *IEEE Microwave and Wireless Technology Letters*, vol. 33, no. 6, pp. 755-758, March 2023, doi:10.1109/LMWT.2023.3248786.

2. Singh A., Dubey R., Ajitesh, Srivastava S.K. and Meshram M. K. (2023), "Circular polarization-agile and beam switching enabled reconfigurable cavity-backed antenna," *AEU– International Journal of Electronics and Communications*, Vol. 165, 154664, 2023, Doi:10.1016/j.aeue.2023.154664.

3. Arun Kumar Saurabh and Manoj Kumar Meshram; "Integration of sub-6GHz and mm-wave antenna for higher-order 5G-MIMO system", *IEEE Transactions on Circuits and Systems II: Express Briefs*, 2022. [IF: 3.691]

4. Arun Kumar Saurabh, Rahul Dubey, and Manoj Kumar Meshram; "Wideband eight-element MIMO antenna with band-dispensation characteristics", *AEUE - International Journal of Electronics and Communication*s, 2022.[IF: 3.183]

5. Akanksha Singh, Rahul Dubey, Rajkumar Jatav, and Manoj Kumar Meshram; "Electronically reconfigurable microstrip antenna with steerable beams", *AEUE - International Journal of Electronics and Communication*s, vol. 149, pp. 154-179, 2022. [IF: 3.183]

6. V Choudhary, MK Meshram, J Hesselbarth, "Four elements reconfigurable MIMO antenna for dual band applications", *International Journal of Advances in Microwave Technology*, vol. 7, No. 1, pp. 274-282, 2022.

7. Arun Kumar Saurabh and Manoj Kumar Meshram; "Wideband 20-elements 3D-MIMO antenna for localization system", *IEEE Transactions on Circuits and Systems II: Express Briefs*, Vol. 69, No. 2, pp. 409-413, 2022. [IF: 3.691]

8. J. S. Rana, S. Das and S. Jit, "PTB7 Decorated ZnO Nanorod Based Room Temperature Ammonia Gas Sensor," *IEEE Sensors Journal*, Vol. 22, No. 23, pp. 22398-22403, December, 2022.

9. A. K. Dwivedi, R. Tripathi, S. Tripathi, S. Jit and S. Tripathi, "SnS2/PEDOT:PSS Heterostructure Based High Performance UV-Visible Photodetectors," IEEE Electron Device Letters, Vol. 43, No. 11, pp. 1913-1916, November 2022.

10. A. P. Singh and S. Jit, "Solution Processed ITO/ZnO QDs/TIPS-Pentacene/MoOx High-Performance UV-Visible Photodetector," IEEE Photonics Technology Letters, Vol. 34(19), pp. 1034 - 1037, October 2022.

11. A. Malekpoor, S. A. Hashemi and S. Jit, "A Direct Inverter Gate Logic Circuit based on Quantum Phase Slip Junctions," IEEE Transactions on Applied Superconductivity, 2022, 32 (8), pp. 1-8, November 2022.

12. A. K. Dwivedi, S. Tripathi, R. Tripathi, S. Jit and S. Tripathi, "PEDOT:PSS/Yb-Doped ZnO Heterojunction Based Flexible UV Photodetector," IEEE Photonics Technology Letters, 34 (18), pp.949-952, September 2022.

13. A. K. Singh, M. R. Tripathy, K. Baral, and S. Jit, "GaSb/GaAs Type-II Heterojunction TFET on SELBOX Substrate for Dielectric Modulated Label-Free Biosensing Application," IEEE Trans. Electron Devices, Vol. 69(9), pp. 5185-5192, September 2022.

14. A. P. Singh, R. K. Upadhyay and S. Jit, "High-Performance Colloidal ZnO Quantum Dots/TIPS-Pentacene Heterojunction-Based Ultraviolet Photodetectors," IEEE Transactions on Electron Devices, Vol. 69(6), pp. 3230-3235, June 2022.

15. D. K. Jarwal, A. K. Mishra, K. Baral, A. Kumar, C. Kumar, G. Rawat, B. Mukherjee, and S. Jit, "Performance Optimization of ZnO Nanorods ETL Based Hybrid Perovskite Solar Cells with Different Seed Layers," IEEE Transactions on Electron Devices, Vol. 69 (5), pp. 2494-2499, May 2022.

16. P.S.T.N. Srinivas, S. Jit and P. K. Tiwari, "Impact of self-heating on thermal noise in In1–xGaxAs GAA MOSFETs," Microelectronics Journal, Volume 131, January 2023, 105661.

17. K. Baral, P. K. Singh, S. Kumar, A. K. Singh, D. K. Jarwal and S. Jit, "A Unified 2-D Model for Nanowire Junctionless Accumulation and Inversion Mode MOSFET in Quasi-ballistic Regime," Solid State Electronics, Vol. 193, pp.108282:1-12, July 2022.

18. U. Sharma, J. Singh Rana, C. Kumar, M. S. Pradeepkumar, Md Imteyaz Ahmad, S. Jit, S. Das, "Visible light detection property of seamless two -dimensional MoS2 –based metal-semiconductor-metal photodiodes fabricated on silicon substrates," Materials Science in Semiconductor Processing, Vol. 151, pp. 106987:1-7, November 2022.

19. R.K. Upadhyay and S. Jit, "Solution-processed ZnO nanoparticles (NPs)/CH3NH3PbI3/PTB7/MoO3/Ag inverted structure based UV–visible-Near Infrared (NIR) broadband photodetector," Optical Materials, Vol. 135, pp.113290:1-6, January 2023.

20. H. Bisht, A. P. Singh, H. C. Joshi. S. Jit, and H. Mishra, "Förster Resonance Energy Transfer between Fluorescent Organic Semiconductors: Poly(9,9-dioctylfluorene-alt-benzothiadiazole) and 6,13- Bis(triisopropylsilylethynyl) pentacene," J. Physical Chemistry B (ACS), Vol. 126 (21), pp. 3931- 3939, May 2022

21. Chaudhri, Shiv Nath, and Navin Singh Rajput. "Multidimensional Multiconvolution-Based Feature Extraction Approach for Drift Tolerant Robust Classifier for Gases/Odors." IEEE Sensors Letters 6, no. 4 (2022): 1-4.

22. Chaudhri, Shiv Nath, Navin Singh Rajput, and Ashutosh Mishra. "A novel principal component-based virtual sensor approach for efficient classification of gases/odors." Journal of Electrical Engineering 73, no. 2 (2022): 108-115.

23. Chaudhri, Shiv Nath, Navin Singh Rajput, Saeed Hamood Alsamhi, Alexey V. Shvetsov, and Faris A. Almalki. "Zero-padding and spatial augmentation-based gas sensor node optimization approach in resource-constrained 6G-IoT paradigm." Sensors 22, no. 8 (2022): 3039.

24. Alsamhi, Saeed Hamood, Alexey V. Shvetsov, Santosh Kumar, Svetlana V. Shvetsova, Mohammed A. Alhartomi, Ammar Hawbani, Navin Singh Rajput, Sumit Srivastava, Abdu Saif, and Vincent Omollo Nyangaresi. "UAV computing-assisted search and rescue mission framework for disaster and harsh environment mitigation." Drones 6, no. 7 (2022): 154.

25. S. Srivastava, S. N. Chaudhri, N. S. Rajput, S. H. Alsamhi and A. V. Shvetsov, "Spatial Upscaling-Based Algorithm for Detection and Estimation of Hazardous Gases," in IEEE Access, vol. 11, pp. 17731-17738, 2023, doi: 10.1109/ACCESS.2023.3245041.

26. Srivastava, Sumit, Shiv Nath Chaudhri, Navin Singh Rajput, and Ashutosh Mishra. "A novel data-driven technique to produce multi-sensor virtual responses for gas sensor array-based electronic noses." Journal of Electrical Engineering 74, no. 2 (2023): 102-108.

27. Alsamhi, Saeed Haomood, Edward Curry, Ammar Hawbani, Santosh Kumar, Umair Ul Hassan, and Navin Singh Rajput. "DataSpace in the Sky: A Novel Decentralized Framework to Secure Drones Data Sharing in B5G for Industry 4.0 toward Industry 5.0." Drones (2023).

28. Kumar, Kanak, Shiv Nath Chaudhri, Navin Singh Rajput, Alexey V. Shvetsov, Radhya Sahal, and Saeed Hamood Alsamhi. "An IoT-Enabled E-Nose for Remote Detection and Monitoring of Airborne Pollution Hazards Using LoRa Network Protocol." Sensors 23, no. 10 (2023): 4885.

29. AM Tripathi, OJ Pandey, "Divide and Distill: New Outlooks on Knowledge Distillation for Environmental Sound Classification," IEEE/ACM Transactions on Audio, Speech, and Language Processing, DOI: 10.1109/TASLP.2023.3244507, Vol. 31, 13 February 2023, pp. 1100 - 1113.

30. S Tripathi, OJ Pandey, RM Hegde, "An Optimal Reflective Elements Grouping Model for RIS-Assisted IoT Networks Using Q-Learning" IEEE Transactions on Circuits and Systems II: Express Briefs, DOI: 10.1109/TCSII.2023.3251373, 02 March 2023, pp.1-1.

31. SR Yeduri, NS Chilamkurthy, OJ Pandey, LR Cenkeramaddi, "Energy and Throughput Management in Delay-Constrained Small-World UAV-IoT Network", IEEE Internet of Things Journal, DOI: 10.1109/JIOT.2022.3231644, Volume: 10, Issue: 9, 23 December 2022.

32. K. Gupta, MB Srinivas, J. Soumya, OJ Pandey, LR Cenkeramaddi, "Automatic Contact-less Monitoring of Breathing Rate and Heart Rate utilizing the Fusion of mmWave Radar and Camera Steering System", IEEE Sensors Journal, Volume: 22, Issue: 22, DOI: 10.1109/JSEN.2022.3210256, 15 November 2022.

33. S. Tripathi, OJ Pandey, LR Cenkeramaddi, RM Hegde, "A Socially-Aware Radio Map Framework for Improving QoS of UAV-Assisted MEC Networks", IEEE Transactions on Network and Service Management, DOI: 10.1109/TNSM.2022.3206473, 14 September 2022, pp. 342 - 356.

34. NS Chilamkurthy, OJ Pandey, A Ghosh A, LR Cenkeramaddi, HN Dai, "Low-Power Wide-Area Networks: A Broad Overview of its Different Aspects", IEEE Access, Volume: 10, DOI: 10.1109/ACCESS.2022.3196182, 3 Aug 2022, pp. 81926 - 81959.

35. S. Dhuli, F. Atik, F. Parveen, and OJ Pandey, "Performance Analysis of Consensus Algorithms over Prism Networks Using Laplacian Spectra", IEEE Networking Letters, Volume: 4, Issue: 3, DOI: 10.1109/LNET.2022.3181203, September 2022.

36. D Gonz´alez Le´on, J Groli, SR Yeduri, D Rossier, R Mosqueron, OJ Pandey, and LR Cenkeramaddi, "Video Hand Gestures Recognition using Depth Camera and Lightweight CNN", IEEE Sensors Journal, DOI: 10.1109/JSEN.2022.3181518, Volume: 22, Issue: 15, 15 July 2022.

37. SR Yeduri, DS Breland, OJ Pandey, and LR Cenkeramaddi, "Updating Thermal Imaging Dataset of Hand Gestures with Unique Labels", Elsevier Journal on Data in Brief, 108037, June 2022.

38. A Dayal, A., SR Yeduri, BH Koduru, RK Jaiswal, J Soumya, MB Srinivas, OJ Pandey, and LR Cenkeramaddi., "Lightweight deep convolutional neural network for background sound classification in speech signals", The Journal of the Acoustical Society of America, 151(4), pp.2773-2786.

39. SR Yeduri, DS Breland, SB Skriubakken, OJ Pandey, and LR Cenkeramaddi,"Low resolution thermal imaging dataset of sign language digits",Elsevier Journal on Data in Brief,107977,April 2022.

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Proceedings of International Conferences *(From 1st April 2022 to 31st March 2023)*

1. A. Singh, R. Jatav, Ajitesh and Meshram M. K., (2022); "Beam Steering Antenna Array based on Reconfigurable Feeding Network"; IEEE Microwaves, Antennas, and Propagation Conference (MAPCON), Bangalore, India, pp. 424-428, doi: 10.1109/MAPCON56011.2022.10046985.

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Proceedings of National Conferences *(From 1st April 2022 to 31st March 2023)*

1. S. Tripathi, OJ Pandey, R Hegde, "Optimal Data Transfer over RIS-Assisted Edge Networks Using Coordinated 3D Beamforming" In 2023 Twenty Ninth National Conference on Communication (NCC), pp. 1-6. IEEE, March 2023.

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4. Sambit Kumar Ghosh, Nikhil Kumar, and Somak Bhattacharyya, "Graphene-Metal Hybrid FSS for Dual-mode Characteristics," *XLV Symposium of the Optical Society of India Conference on Optics, Photonics & Quantum Optics (COPaQ 2022)*, IIT Roorkee, India, 10-13 November, 2022.

5. Nikhil Kumar, Sambit Kumar Ghosh, and Somak Bhattacharyya, "Thermally Switchable Frequency Selective Surface for Single to Dual Band Transmission in Terahertz Gap," *XLV Symposium of the Optical Society of India Conference on Optics, Photonics & Quantum* Optics (COPaQ 2022), IIT Roorkee, India, 10-13 November, 2022.

6. Joyati Das, Sougata Chatterjee, Sayantani Das, and Somak Bhattacharyya, "A Metamaterial ZOR Band Pass Filter for L-Band Radio Astronomical Receiver," in Fourteenth Annual Conference, Antenna Test and Measurement Society (ATMS 2022), Indore, India, 21-23 July, 2022.

7. Vangalla Veerababu, M. Thottappan and Smrity Dwivedi, "Design and PIC Simulation of a Millimeter-Wave Gyro-twystron Amplifier," IEEE Wireless, Antenna and Microwave Symposium, National Institute of Technology Rourkela, India, 5 -8th June 2022.

8. V Venkatareddy, Pratibha Verma and M. Thottappan, " Design and PIC Simulation of Dual-band RBWO Under Low Magnetic Field Operation," IEEE Wireless, Antenna and Microwave Symposium, National Institute of Technology Rourkela, India, 5 -8th June 2022.
9. Pratibha Verma, V Venkatareddy, and M. Thottappan, " Design and PIC Simulation of Klystron-like RBWO with Dual Extraction Cavity," National Conference on Emerging Trends in Vacuum Electronic Devices & Applications(VEDA)-2022, 19-21st Jan. 2023.
10. Vangalla Veerababu, Smrity Dwivedi and M. Thottappan, "Design and PIC Simulation of Periodic Dielectric Loaded (PDL) Millimeter Wave Gyro-Twystron," National Conference on Emerging Trends in Vacuum Electronic Devices & Applications (VEDA)-2022, 19-21st Jan. 2023.
11. V Venkatareddy, Pratibha Verma and M. Thottappan, " Design and Simulation of Dual-Band RBWO with Azimuthally Splitted Slow Wave Structure," National Conference on Emerging Trends in Vacuum Electronic Devices & Applications (VEDA)-2022, 19-21st Jan. 2023.

Kindly Provide Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years

Since 2017:

1. A. Tripathi, H. P. Gupta, T. Dutta, R. Mishra, K. K. Shukla and S. Jit, "Coverage and Connectivity in WSNs: A Survey, Research Issues and Challenges," *IEEE Access*, vol. 6, pp. 26971-26992, 2018. (Citations: 151)
2. Almalki, Faris A., Saeed H. Alsamhi, Radhya Sahal, Jahan Hassan, Ammar Hawbani, N. S. Rajput, Abdu Saif, Jeff Morgan, and John Breslin. "Green IoT for eco-friendly and sustainable smart cities: future directions and opportunities." *Mobile Networks and Applications* (2021): 1-25. (Citations: 84)
3. Vinit Singh Yadav, Sambit Kumar Ghosh, Somak Bhattacharyya, and Santanu Das, "Graphene Based Metasurface for Tunable Broadband Terahertz Cross Polarization Converter over Wide Angle of Incidence," *Applied Optics*, Vol. 57, Issue 29, pp. 8720-8726, October 2018. (Citations: 70)
4. OJ Pandey, and RM Hegde, "Low-Latency and Energy-Balanced Data Transmission over Cognitive Small World WSN." *IEEE Transactions on Vehicular Technology*, vol. 67, no. 8, pp. 7719-7733, August 2018. (Citations: 69)
5. Sambit Kumar Ghosh, Vinit Singh Yadav, Santanu Das, and Somak Bhattacharyya, "Tunable Graphene Based Metasurface for Polarization-Independent Broadband Absorption in Lower Mid Infrared (MIR) Range," *IEEE Transactions on Electromagnetic Compatibility*, vol. 62, issue 2, pp. 346-354, April 2020. (Citations: 67)

Distinguished Visitors *(From 1st April 2022 to 31st March 2023)*

1. Prof. Teemu Myllylä with his research group, University of Oulu, Finland

Other activities

Indian Faculty visits in the Department *(From 1st April 2022 to 31st March 2023)*

1. Mr. Arup Banerjee, SAC-ISRO, 31 May, 2022
2. Dr. Shubham Sahay, IIT Kanpur, 22 June, 2022
3. Dr. Mayank Shrivastava, IISc Bangalore, 5 August, 2022
4. Dr. Shiv Narayan, CSIR NAL, Bangalore, 26 October, 2022
5. Prof. Debatosh Guha, University of Calcutta, 6 January, 2023
6. Dr. Debapriya Basu Roy, IIT Kanpur, 18 December, 2022
7. Prof. Ekram Khan, AMU, Aligarh, 21 December, 2022
8. Dr. Deepak Mishra, SAC-ISRO, December 19. 2023

Foreign Facult y Visits in the Department *(From 1st April 2022 to 31st March 2023)*

1. Prof. Teemu Myllylä with his research group, University of Oulu, Finland
2. Dr. Tushar Sharma, Renesas Electronics, USA

Foreign Students Visits in the Department *(From 1st April 2022 to 31st March 2023)*

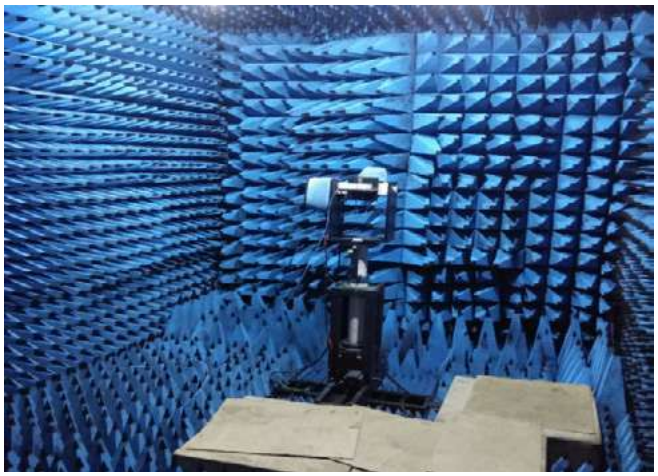
1. Dr. Daljjet Singh, from University of Oulu, Finland.
2. Dr. Hany Ferdinando, from University of Oulu, Finland.
3. Dr. Mariella Särestöniemi, from University of Oulu, Finland.
4. Mr. Lukasz Surazynski**,** from University of Oulu, Finland.

Any other Information

- Prof. M. K. Meshram has served as Vice Chairman of *IEEE UP Section Antennas and Propagation Society*.
- Dr. Somak Bhattacharyya has served as Secretary of *IEEE UP Section Antennas and Propagation Society*.
- Dr. N. S. Rajput has served as the Jury Member, DG-CDAC National Awards for C-DAC, India.
- Prof. M. K. Meshram has served as Chairman of *IETE Varanasi Sub-section*.
- Dr. Amritanshu Pandey has served as Treasurer of *IETE Varanasi Sub-section*.
- Dr. Somak Bhattacharyya has served as Vice Chairman of *IETE Varanasi Sub-section*.
- Dr. Kishor Sarawadekar has served as Executive Committee Member of *IEEE UP Section*.
- Dr. Somak Bhattacharyya has served as Executive Committee Member of *IEEE Young Professional UP Section*.
- Dr. Somak Bhattacharyya has served as the co-ordinator of *IEEE Region 10 Microwave Theory & Techniques Society (MTT-S) Young Professional Committee*.
- Dr. Somak Bhattacharyya has served as Executive Committee Member of *IEEE Photonics Society UP Section*.
- Dr. Somak Bhattacharyya has served as Vice Chairman of *IEEE Sensor Council UP Section*.
- The paper "Graphene-Based Metasurface for Tunable Absorption and Transmission Characteristics in the Near Mid-Infrared Region" by Mr. Sambit Kumar Ghosh, Dr. Santanu Das, and Dr. Somak Bhattacharyya has been awarded as the top accessed paper in June 2022 in *IEEE Transactions on Antennas and Propagation*.
- Dr. Shivam Verma was elevated to Senior Member of the IEEE w.e.f. 15th August 2022.
- Dr. Atul Kumar has served as a Mentor Industry Relations IEEE Uttar Pradesh Section
- Dr. Atul Kumar has served as Chair of IEEE communication society Uttar Pradesh Section
- Dr. P.R. Muduli has served as Faculty advisor of IEEE signal processing society, student branch chapter, IIT(BHU), Uttar Pradesh Section.
- Dr. M K Meshram has served as Faculty advisor of IEEE Antenna Progation Society, student branch chapter, IIT(BHU), Uttar Pradesh Section.
- Dr. M K Meshram has served as Faculty advisor of IEEE Aerospace and Electronic Space Society, student branch chapter, IIT(BHU), Uttar Pradesh Section.
- Dr. M K Meshram has served as Secretary of the Acacdemic Society of Science Engineering and Technology, India.
- Dr. P.R. Muduli has served as an associate editor of IEEE Transactions of Instrumentation and Measurement.
- Dr. Kishor Sarawadekar has served as a Executive Committee Member of IEEE UP Section since January 2021.
- Dr. Kishor Sarawadekar has served as a Convener of Technical Workshop/Seminar/Webinar Sub-Committee, IEEE UP Section, since January 2021.

Key Instruments:

1. **Photoluminescence (PL) measurement setup** (F980) from Edinburgh Photonics, UK. This setup can provide PL from 200-800 nm



3. An **''anechoic chamber''** («an-echoic» meaning non-reflective, non-echoing or echo-free) is a room designed to completely absorb reflections of either sound or electromagnetic waves. They are also often isolated from waves entering from their surroundings. **(Anechoic Chamber with 6 axis position for RF Characterization (up to 20GHz))**

13. Department of Mechanical Engineering

Complete Name of Department: Mechanical Engineering

Year of Establishment: 1919

Head of the Department: Prof Santosh Kumar w.e.f. 02-08-2021

Brief Introduction of the Department:

The Department of Mechanical Engineering came into existence in 1919 under the leadership of Professor Charles A. King, the first Head of the Department and Principal of the erstwhile Banaras Engineering College. Over the last hundred years, the department has grown fourfold to become the largest department in IIT (BHU), Varanasi. The post-graduate and doctoral program in the department is well-established and infrastructural facilities exist for studies and research for a range of specialisations such as Machine Design, Thermal & Fluid Engineering, Production Eng ineering and Industrial Management. The ME curriculum emphasizes on developing industry-based engineers who contribute to the nation's growth and command respect in society. A dedicated pool of faculty members helps students to learn in a technological and multidisciplinary environment. Advance computational facility and well-equipped laboratories aid in the motto of department. The department encourages students to participate in various competitions related to technology and innovation.

Major areas of Research

Fracture mechanics, Vibrations and Dynamic Analysis, Machine Design, Tribology, Composite Materials, High-Temperature Wear and Lubrication, Surface Engineering, Computational Mechanics, FEM, MEMS, Smart Materials and Structures including Nanostructures, Structural Health Monitoring, Optical Fibre Sensing, Shape Memory Alloys, Heat Transfer, Multiphase Flow, Droplet Atomisation, Bio-Fluid Dynamics, Fluid Machines, CFD, Porous-Media Flow, Microgravity Fluid Physics, Refrigeration, Air-conditioning, Alternate Fuels and Renewable Energy, Wind & Solar Energy, Climate Modelling, Microfluidics, Metal Forming/Joining, Machining, Micro-Machining, Welding engineering & Technology, 3D-4D-5D Printing & Additive Manufacturing, CAD-CAM, Robotics, Manufacturing Automation, Unconventional Manufacturing, Powder Metallurgy, Rapid Tooling, Metal Foams, Next-Generation Bio-Implants, Reverse Engineering, Design of Production Systems, Operations Research, Optimization, DOE, Logistics & Supply Chain Management, Agriculture 4.0, Location Science.

Area of the Department (in square meters): 11,728 m^2

Infrastructure

Sl. No.	Particulars	Number
1	No. of Classrooms	11
2	No. of Lecture Halls	05
3	No. of Laboratory	20
4	No. of Computers available for students in the Department	275

Unique Achievement / Preposition of the Department:

The Mechanical Engineering Department is the largest department at IIT (BHU), with the highest number of students, faculty members, running courses, laboratories, computers, funded research projects, and the like. It also happens to be one of the oldest departments, established in 1919.

Academic Programmes offered

New Courses Introduced *(From 1st April 2022 to 31st March 2023)*

A new MTech programme on Additive Manufacturing (under Mechanical Engineering Department) has been proposed. This has about 15 new theory courses, including electives. The programme has already been approved by the Senate. The syllabi of all the courses are finalised. Admissions would start from the next admission-cycle.

Students on Roll *(From 1st April 2022 to 31st March 2023)*

(Please give No. of students only in respective years)

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1.	B. Tech/B. Arch	164	164	162	139	-
2.	Dual Degree	36	35	37	31	25
3.	M. Tech/ M. Pharm	33	30	-	-	-
4.	Ph. D (Under Institute Fellowship)	8	20	10	5	4
5.	Ph. D (Under Project Fellowship)	-	-	3	2	-
6.	Ph. D (Under Sponsored Category)	1	2	3	4	2

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
ÌNDIA					
1	Pooja Verma	17131008	IndiaTrib-2022: 11th International Conference on Industrial Tribology	12/12/23 to 14/12/23 at New Delhi, India	IIT BHU
2	Mithlesh Kumar Mahto	17131502	National welding meet	14-15 Oct 2022, IIW Ernakulam, Kochi	IIT BHU
3	Mithlesh Kumar Mahto	17131502	International Conference on Precision, Micro, Meso and Nano Engineering COPEN 2022	8-10 Dec 2022 IIT Kanpur	IIT BHU
4	Vikas Diwakar	21131017	International conference on innovations in mechanical and materials engineering,	4-6 Nov, 2022, Motilal Nehru National Institute of Technology Allahabad	IIT BHU
5	Adarsh Kumar	17131501	National welding meet	14-15 Oct 2022, IIW Ernakulam Kochi	IIT BHU
6	Adarsh Kumar	17131501	COPEN 12 International Conference on Micro, Meso, and Nano Engineering	IIT Kanpur from 8-10 Dec. 2022	IIT BHU
7	Adarsh Kumar	17131501	The Indian institute of metals, 76th Annual technical meeting (ATM-IIM 22)	13-16 Nov 2022 Hyderabad	IIT BHU
8	Adarsh Kumar	17131501	International Conference on Precision, Micro, Meso, and Nano Engineering, COPEN-12	8 - 10 Dec 2022 IIT-Kanpur	IIT BHU
9	Basudeb Rajak	17131007	11th Inter Conference on Industrial Tribology (India Trib-2022)	12-14 Dec 2022, IIT Delhi	Self
10	Basudeb Rajak	17131007	4th International Conference on Processing and Characterization of Materials 9ICPCM-2022)	09-11 Dec 2022, NIT Rourkela	Self
11	Basudeb Rajak	17131007	05 Days Workshop on Smart Manufacturing & Industry 4.0	11-15 Oct, 2022, IIT(BHU)	Self
12	Basudeb Rajak	17131007	Short-term course on Composites in Defence Sector (Current status & Way Forward)	27-03 March, 2022, IIT(BHU)	Self
13	Asgar Shakil	17131006	Short-term course on Composites in Defence Sector (Current status & Way Forward)	27-03 March, 2022, IIT(BHU)	Self
14	Ashutosh Roushan	15131504	Short-term course on Composites in Defence Sector (Current status & Way Forward)	27-03 March, 2022, IIT(BHU)	Self
15	Jitendra Kumar Singh	16131004	Advanced Materials, Manufacturing and Industrial Engineering (AMMIE 2023)	23 - 24 March 2023, Vellore Institute of Technology Chennai	Self

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
16	Gaurav Upadhyay	21101501	Global Online Certification Course on Data-Driven Supply Chain Transformation 2022	16-7-22 to 21-8-22 Online	IIT (BHU)
17	Ankur Tripathi	21131006	VII International Conference On "Sustainable Energy and Environmental Challenges (VII SEEC)"	Dec 16 -18, 2022; IIT BHU, Varanasi	IIT (BHU)
18	Bhargav Saikia	21131507	VII International Conference On "Sustainable Energy and Environmental Challenges (VII SEEC)"	Dec 16 -18, 2022; IIT BHU, Varanasi	IIT (BHU)
19	Reetu Raj	20131515	VII International Conference on Sustainable Energy and Environmental Challenges (VII SEEC)	December 16-18, 2022, at IIT (BHU) Varanasi	IIT (BHU)
20	Priyaranjan Jena	21131012	VII International Conference on Sustainable Energy and Environmental Challenges (VII SEEC)	December 16-18, 2022, at IIT (BHU) Varanasi	IIT(BHU)
ABROAD					
1	Pooja Verma	117131008	AMPT 2022: 23rd International Conference on Advances in Materials and Processing Technologies	10/10/23 to 14/10/23 Portoroz, Slovenia	IIT BHU

Names of scholars/students who won Convocation/Institute Day prizes *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
1	Shri Shaikh Sohel Fajalmahimud	20222012	Medal for standing First at the M.Tech. in Decision Science and Engineering Examination, 2022.	I.I.T.(B.H.U.) Varanasi
2	Ms. Deeksha Garg	20132027	Medal for standing First at the M.Tech. in Mechanical Engineering Examination, 2022.	I.I.T.(B.H.U.) Varanasi
3	Ms. Deeksha Garg	20132027	Prof. (Dr.) Mahendra Kumar Jain Nyayacharya Gold Medal for securing highest CPI at the M.Tech. in Mechanical Engineering Examination, 2022.	Prof. (Dr.) Mahendra Kumar Jain Nyayacharya
4	Shri Pramod Kumar Yadav	20132015	S.K. Memorial Gold Medal for standing First position at the M.Tech. in Mechanical Engineering (Machine Design) Examination, 2022.	S.K. Memorial
5	Shri Naman Kaushik	17134020	Medal for standing First at the 5- Year I.D.D. (B.Tech.-M.Tech.) in Mechanical Engineering Examination, 2022.	I.I.T.(B.H.U.) Varanasi
6	Ms. Astha Maurya	18135019	Medal for standing First at the B.Tech. in Mechanical Engineering Examination, 2022.	I.I.T.(B.H.U.) Varanasi
7	Ms. Astha Maurya	18135019	The Prince of Wales Medal for standing First at the B.Tech. in Mechanical Engineering Examination, 2022	The Prince of Wales
8	Ms. Astha Maurya	18135019	Sudhir Kumar Sharma Memorial Gold Medal for securing highest marks in B.Tech. Mechanical Engineering Examination, 2022.	Sudhir Kumar Sharma Memorial
9	Ms. Astha Maurya	18135019	CRS Iyengar Memorial Gold Medal for securing highest marks in B.Tech. 4-Year Mechanical Engineering Examination, 2022.	CRS Iyengar Memorial
10	Ms. Astha Maurya	18135019	Smt. Indira Tripathi Gold Medal for securing highest CPI among the girl students at the B.Tech. in Mechanical Engineering Examination, 2022.	Smt. Indira Tripathi
11	Ms. Astha Maurya	18135019	Late Prof. Manoranjan Sengupta Platinum Jubilee Merit Award Rs. 1000/= cash for securing highest marks in B.Tech. in Mechanical Engineering Examination, 2022.	Late Prof. Manoranjan Sengupta Platinum Jubilee Merit Award

Faculty & their Activity

Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD	Major Areas of Specialization
PROFESSORS			
1	Prof. A. K. Agrawal, PhD.,13819	1990	• Quality control • Six sigma • Optimization
2	Prof. Santosh Kumar, PhD.,13831	2000	• Metal forming • Additive & unconventional manufacturing • Product design & development
3	Prof. A. P. Harsha, PhD., 16722	2004	• Tribology • Material tribology Design
4	Prof. Sandeep Kumar, PhD,17343	1999	• Computational mechanics • Wave propagation • CAD
5	Prof. K. S. Tripathi, PhD,13821	1992	• Mechanisms • Vibrations
6	Prof. S. K. Sinha, PhD,17364	1993	• CNC
7	Prof. Rajesh Kumar, PhD,17318	2002	• Tribology • MEMS • Reliability
8	Prof. Prasant Shukla, PhD,16723	2000	• Fluid mechanics • Heat transfer
9	Prof. Pradyumna Ghosh, PhD,16801	2007	• Microgravity fluid physics • Heat transfer • CFD
10	Prof. S. K. Shukla, PhD,18130	2005	• Thermal engineering • Renewable energy • Alternate fuels
11	Prof. Rajnesh Tyagi, PhD,17341	2001	• Solid lubricating composites and tribology • Surface modification for wear reduction • High temperature wear of composites and coatings
12	Prof. S. K. Panda, PhD,17390	2005	• Failure analysis and reliability design • Finite element analysis • Impact dynamics and ballistics
13	Prof. Prabhas Bhardwaj, PhD.,16720	2008	• CMS • SCM • TQM
14	Prof. Rakesh Kumar Gautam, PhD 18239	2009	• Composite materials • Tribological properties of composite materials and alloys • Bio-Tribology
15	Prof. Jahar Sarkar, PhD.,17388	2006	• Heat transfer • Thermodynamics • Airconditioning
ASSOCIATE PROFESSORS			
1	Dr. Mohd Zaheer Khan Yusufzai, PhD; 16657	2012	• Welding • Friction stir welding • Material characterization
2	Dr. Meghanshu Vashista, PhD, 16721	2010	• Machining • Grinding • Welding

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD	Major Areas of Specialization
3	Dr. S. S. Mondal, PhD, 17339	2005	• Thermal and fluid sciences
4	Dr. Arnab Sarkar, PhD, 17252	2012	• Wind climatology • Renewable energy • Microfluidics
5	Dr. Debashis Khan, PhD, 18139	2007	• Solid mechanics • Fracture mechanics • Finite element method
6	Dr. Om Prakash Singh, PhD, 50061	2006	• CFD • Heat and mass transfer • Renewable energy
7	Dr. J. V. Tirkey, PhD,16724	2008	• SI and CI Engine: experimental and simulation • Alternate fuel: Biodiesel, Bioethanol, Producer gas • Life cycle analysis: energy, economy and emission of alternate fuel.
8	Dr. Cherian Samuel, PhD, 16798	2005	• Industrial management • Operations • Supply chain management
9	Dr. N. Mallik, PhD.,17253	2005	• Smart materials and structures • Vibration Damping • Structural health monitoring
10	Dr. Amit Tyagi, PhD,17268	2011	• Machine design
11	Dr. U. S. Rao, PhD,17269	2013	• Modelling and simulation • Micro-machining • Machining,
12	Dr Rashmi Rekha Sahoo, PhD,17335	2017	• IC engine • Alternate fuels • Nanofluid
13	Dr. Laltu Chandra, PhD,50223	2005	• Fluid flow and heat transfer • Solar energy • Nuclear reactor thermal hydraulics
ASSISTANT PROFESSORS			
1	Shri P. C. Mani, MTech,18214		• Tribology • Maintenance engineering
2	Dr. Amitesh Kumar, PhD,50073	2010	• Cryotherapy • Fluid flow and heat transfer • CFD
3	Dr. Ajinkya Nandkumar Tanksale, PhD,50225	2018	• Operations research • Facility location • Supply chain management
4	Dr. Anubhav Sinha, PhD, 50239	2016	• Atomization and spray • Gas turbine • Combustion
5	Dr. Binita Pathak, PhD, 50238	2018	• Fluid instabilities • Biofluid dynamics
6	Dr. Amit Subhash Shedbale, PhD; 50241	2017	• Solid mechanics • Damage mechanics • Finite element analysis
7	Dr. Saurabh Pratap, PhD, 50255	2016	• Maritime logistics • E-commerce platform • Blockchain

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD	Major Areas of Specialization
8	Dr. Joy Prakash Misra, PhD, 50256	2014	• Machining science • Advanced & hybrid machining processes • Advanced joining techniques
9	Dr. Akhilendra Pratap Singh, PhD; 50260	2017	• Advanced low temperature combustion • Optical diagnostics with special reference to engine endoscopy and PIV • Combustion diagnostics
10	Lakshay, PhD,50270	2018	• Applied mathematical modelling • Operations research • Simulation
11	Srihari Dodla, PhD, 50271	2015	• Multiscale material modelling • Crystal plasticity • Texture evolution
12	R Santhosh, PhD, 50274	2016	• Combustion • Laser diagnostics • CFD
13	Pawan Sharma, PhD	2019	• Additive manufacturing • Powder Metallurgy • 3D printing
14	G.M. Karthik, PhD., 50320	2017	• Additive manufacturing, • Materials joining
Distinguished Professors			
1.	Prof Kripa Shankar		• Industrial engineering • Management

Technical and Non-Teaching Staff

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
1	Sri Akash Mishra, M.Com. & B.Com.	Junior Assistant,50079	08/05/2017
2	Sri Rajeev Ratan Sahaya, MBA	Junior Assistant,50186	06/03/2018
3	Sri Satya Prakash, Diploma in Mechanical Engineering	Sr. Tech. Superintendent, 18017	20/01/2007
4	Sri Barmeshwar Rai, Graduation	Technical Superintendent, 13975	12/10/1988
5	Sri Dhaniram Shankar Singh, Intermediate (Science)	Technical Superintendent, 13967	04/06/1991
6	Sri Hari Shankar, Diploma in Computer in Office Management	Technical Superintendent, 13982	08/01/1997
7	Sri D.P. Sharma, Intermediate (Science)	Technical Superintendent, 13984	15/10/1998
8	Sri V.P. Srivastava, Graduation (B.Sc.)	Technical Superintendent, 13983	15/10/1998
9	Sri Ranjeet Sharma, High School	Jr. Tech. Superintendent, 13986	12/10/1998
10	Sri Rajendra Kumar, Intermediate (Science)	Jr. Tech. Superintendent, 18062	22/02/2007
11	Sri Nand Lal, ITI	Jr. Tech. Superintendent, 18055	21/02/2007
12	Sri Anil Kr. Singh, ITI	Jr. Tech. Superintendent, 18060	20/02/2007
13	Sri Surendra Pratap Yadav, Intermediate (Sci.)	Sr. Technician, 18610	05/08/2008
14	Sri Dinesh Kumar, Graduation (B.Sc.)	Sr. Technician, 18614	11/08/2008
15	Sri Sunil Kr. Bardhan, ITI, Diploma in Mechanical Engg.	Sr. Technician, 18613	05/08/2008
16	Sri Shambhu Prasad, Post-Graduation (M.P.Ed.)	Sr. Technician, 18611	05/08/2008
17	Sri Ravi Prakash Singh, ITI (Draftsman)	Sr. Technician, 18612	06/08/2008
18	Ms. Saroj K. Patel, M.A. (Sociology), ITI	Sr. Technician, 19271	09/02/2011
19	Sri Barmeshwar Prasad, Intermediate	Sr. Technician, 19597	11/07/2012
20	Sri Anupam Mishra, Graduation (B.Sc.), ADCA	Sr. Technician, 19600	11/07/2012
21	Shambhu Prasad Singh, ITI (Diesel Mechanic)	Junior Technical Superintendent 13985	12/10/1998
22	Dr Santosh Kumar Mandal, PhD	Senior Technical Officer, 18838	01/11/2009
23	Dr Santosh Kumar Mandal, PhD	Senior Technical Officer, 18838	01/11/2009

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

(From 1st April 2022 to 31st March 2023)

Sl. No.	Coordinator	Title	Period
1	Dr Saurabh Pratap Dr Lakshay	Improvement Strategies for Urban Freight Transportation System	28 Feb - 4 Mar 2023
2	Dr Joy Prakash Misra	05 Days Workshop on Smart Manufacturing & Industry 4.0	11.10.22 - 15.10.22
3	Dr Joy Prakash Misra	STC on Composites in Defence Sector (Present Status & Way Forward)	27.02.23 - 03.03.23
4	Dr Akhilendra Pratap Singh	VII International Conference On "Sustainable Energy and Environmental Challenges (VII SEEC)"	Dec16 - 18, 2022
5	Dr Pawan Sharma Prof Santosh Kumar Dr J. P. Misra	STP on Digital Manufacturing Part I CNC Machining	23 - 27 May 2022
6	Dr Pawan Sharma Prof Santosh Kumar Dr J. P. Misra	Lecture Series on Additive Manufacturing Part I-Materials for Additive Manufacturing	11 - 15 Oct 2022
7	Dr Pawan Sharma Prof Santosh Kumar Dr G. M. Karthik	Winter School on Additive Manufacturing	06 - 10 Feb 2023

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Dr Meghanshu Vashista	National welding meet-IIW	Ernakulam Kochi, 14-15 Oct 2022
2	Dr Meghanshu Vashista	COPEN 12 International Conference on Micro, Meso, and Nano Engineering	IIT Kanpur, 8-10 Dec. 2022
3	Dr Meghanshu Vashista	National Seminar for MSME Development	20th February 2023, MSME Chitrakoot
4	Dr Mohd Zaheer Khan Yusufzai	National welding meet-IIW	Ernakulam Kochi, 14-15 Oct 2022
5	Dr Mohd Zaheer Khan Yusufzai	COPEN 12 International Conference on Micro, Meso, and Nano Engineering	IIT Kanpur and 8-10 Dec. 2022
6	Dr Mohd Zaheer Khan Yusufzai	National Seminar for MSME Development	20th February 2023, MSME Chitrakoot
7	Dr R Santhosh	VII International Conference on Sustainable Energy and Environmental Challenges	December 16-18, 2022, IIT(BHU) Varanasi
8	Dr Lakshay	Launch of National Logistics Policy	17th September 2022 Vigyan Bhavan, New Delhi
9	Dr Arnab Sarkar	7th Edition of Global Energy Meet (GEM-2023)	March 6-10, 2023, Boston, MA (Attended via online mode)
10	Dr Arnab Sarkar	7th International Conference on Sustainable Energy & Environmental Challenges	December 16-18, 2022 IIT (BHU), Varanasi
11	Dr Arnab Sarkar	9th National Conference on Wind Engineering	March 3-4, 2023 BITS Pilani, Hyderabad
12	Dr Srihari Dodla	5th Indian Conference on Applied Mechanics (INCAM) 2022	11th-13th November 2022, NIT Jamshedpur
13	Dr Srihari Dodla	8th International Congress on Computational Mechanics and Simulation	9th-11th December 2022, IIT Indore
14	Dr Srihari Dodla	8th Asian Conference on MFMS (ACMFMS2022)	11th -14th December 2022, IIT Guwahati

Sl. No.	Name of Faculty Member	Title	Period and Venue
15	Dr Srihari Dodla	International Conference Structural Integrity and Reliability of Advanced Materials obtained through Additive Manufacturing – SIRAMM23	8th-11th March 2023, Timisoara, Romania (Online)
16	Dr Joy Prakash Misra	IMME 2022	04.11.23-06.11.23 MNNIT Allahabad
17	Prof Rajesh Kumar	11th International Conference on Industrial Tribology, New Delhi	12 - 14 Dec 2022
Meetings			
1	Dr Arnab Sarkar	23rd meeting of Cyclone Resistant Structures Sectional Committee, CED 57 and 4th meeting of CED 57/P1 panel of BIS	May 5, 2022
2	Dr Arnab Sarkar	24th meeting of Cyclone Resistant Structures Sectional Committee, CED 57 and 5th meeting of CED 57/P1 panel of BIS	November 9, 2022
3	Dr Arnab Sarkar	25th meeting of Cyclones Resistant Structures Sectional Committee, CED 57 of BIS	March 23, 2023
4	Prof Rajesh Kumar	Selection Committee meeting attended in NIT Agartala	1 July 2022 to 4 July 2022
5	Prof Rajesh Kumar	Selection Committee meeting attended for IIT Patna (Online)	25 Sept 2022
6	Prof Rajesh Kumar	Confidential meeting in Public Service Commission Prayagraj	12 July 2022 to 14 July 2022
7	Prof Rajesh Kumar	Confidential meeting in Public Service Commission Tripura	22 Sept 2022 to 23 Sept 2022
8	Prof Rajesh Kumar	Confidential meeting in Public Service Commission Prayagraj	30 Dec 2022 to 31 Dec 2022

Special lectures delivered by faculty members in other institutions *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1	Prof Prashant Shukla	How to write a proposal for research grant	Faculty of Ayurveda, IMS, BHU	16-09-2022
2	Prof Prashant Shukla	Technical Writing: How to write a Research Paper	Department of Home Science, Mahila Mahavidyalaya, BHU	13-10-2022
3	Prof Prashant Shukla	1.How to write a research paper 2. Writing a research proposal	UGC, Human Resource Development Centre, LNIPE, Gwalior (Deemed University)	18-10-2022
4	Prof Prashant Shukla	PIV Investigation of Transition of Natural Convection Flow over a Slanted Flat Plate	IIT Roorkee	17-12-2022
5	Prof Prashant Shukla	High Temperature Aerosol Facility-Design and capabilities	Bhabha Atomic Research Centre, Anushakti Nagar, Mumbai	21-03-2023
6	Dr Meghanshu Vashista	Keynote lecture "Micromagnetic technique for quality control in advanced manufacturing system" in Indo-European Conference on Advanced Manufacturing and Materials Processing (IECAdvaMAP-2023)	Department of Mechanical Engineering, Carmel College of Engineering and Technology Punnapra, Alappuzha, Kerala	6 Feb 2023
7	Dr Meghanshu Vashista	'Design Clinic, Design and Development and Innovation'	MSME, hotel Bindiram, Chitrakoot	20 Feb 2023
8	Dr Mohd Zaheer Khan Yusufzai	Investment opportunities for MSMEs in repair works for HEMMs, plants & machineries	NCL, Singraulli	28 May 2022

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
9	Dr Mohd Zaheer Khan Yusufzai	Investment opportunities for MSMEs in repair works for HEMMs, plants & machineries	NCL, Singraulli	28 May 2022
10	Dr Mohd Zaheer Khan Yusufzai	Microstructural evolution in Friction Stir Welding	Madan Mohan Malaviya University of Technology, Gorakhpur (UP)	23 Dec 2023
11	Dr Mohd Zaheer Khan Yusufzai	Design Clinic, Design and Development and Innovation	MSME DFO, Roberstganj	19 Jan 2023
12	Dr Mohd Zaheer Khan Yusufzai	Design Strategies for MSMEs	MSME, hotel Bindiram, Chitrakoot	20 Feb 2023
13	Dr Mohd Zaheer Khan Yusufzai	Improvement in repair practices and enhancing the quality & reliability of repaired components along with repair capacity enhancement at NCL	CWS, Jayant, NCL, Singrauli	17 Mar 2023
14	Dr Anubhav Sinha	Combustion research	ASL(DRDO), Hyderabad	Dec 2022
15	Dr Saurabh Pratap	Storage and handling systems of Marine Ports	IIM Jammu	31/12/2022
16	Dr Saurabh Pratap	Digital Supply Chain and Logistics 4.0	NIT Jaipur	17/01/2023
17	Dr Saurabh Pratap	Supply Chain Management: Challenges and Opportunities for Technologists	IIIT Sri	20/03/2023
18	Dr R Santhosh	Ammonia as Green Hydrogen Carrier	Motilal Nehru National Institute of Technology Allahabad, Prayagraj-211004	22 Jun 2022
19	Dr Lakshay	Logistics Network Planning: Models of Optimization	IIM Jammu	25 Feb 2023
20	Dr Nilanjan Mallik	Sensors for Industries: Transportation and Manufacturing	EEPCINDIA	21.04.2022 to 22.04.2022
21	Dr Arnab Sarkar	Wind Resources Assessment through Meso-micro Scale Coupling Approach Integrated with Weibull Statistics	NIT Silchar	15.11.2023
22	Dr Arnab Sarkar	Harvesting Wind Energy Potential in Different Sites Integrated with Wind Turbine Selection through Statistical Simulation	NIT Meghalaya	20.02.2023
23	Prof Sandeep Kumar	Lifting Scheme for Customization of Wavelets	IIT (ISM) Dhanbad	2-4 Dec 2022
24	Prof P Ghosh	A novel Approach for Patient Treatment Planning of Localized Cancer	University of Maryland, USA	29 Mar 2023
25	Dr Joy Prakash Misra	Surface Alloying	NIT Uttarakhand	02.11.2022
26	Dr Joy Prakash Misra	Electric Discharge Processing	NIT Uttarakhand	26.05.2022
27	Dr Joy Prakash Misra	Green Composite	SRM University	25.05.2022
28	Dr Joy Prakash Misra	Electrochemical Process	G H Raisoni Institute of Engineering & Technology, Nagpur	08.04.2022
29	Prof Rajesh Kumar	Boundary lubrication	Institute of Engineering and Technology, Babasaheb Bhimrao Ambedkar University Lucknow	23.06.2022
30	Prof Rajesh Kumar	Chemical wear modelling	Institute of Engineering and Technology, Babasaheb Bhimrao Ambedkar University Lucknow	24.06.2022

Visits abroad by faculty members *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Country Visited	Date of Leaving India	Date of Returning India	Purpose of Visit	Funding from
1	Prof S.K. Panda	Qatar	28/02/2023	05/03/2023	To present accepted research paper	IIT(BHU)
2	Dr Arnab Sarkar	Luxembourg	6.4.2022	22.4.2022	Academic Collaboration	IIT (BHU)

Honours and awards *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Award
1	Dr Saurabh Pratap	IEI Young Engineers Award by Institution of Engineers, India
2	Prof Santosh Kumar	Letter of appreciation for Contribution as Author of original English AICTE Technical Books based on AICTE model Curriculum on Manufacturing Eng, AICTE New Delhi, 2023
3	Prof Santosh Kumar	Letter of appreciation for Contribution as Reviewer of original English AICTE Technical Books based on AICTE model curriculum on Materials Engineering, AICTE New Delhi, 2023
4	Prof Santosh Kumar	Letter of appreciation for Keynote speaker 'Future of Metal Additive Manufacturing and its challenges' Director, SMVEC, 2023 Madagadipet PUDUCHERRY INDIA, 2023
5	Prof Santosh Kumar	Certificate of Appreciation for Technical Talk on ' Natural Process of Manufacturing Additive Manufacturing, IE INDIA Kolkata, 2023
6	Dr Rashmi Rekha Sahoo	Listed in World Top 2% Scientist.

Fellowships of academic and professional societies *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Fellowship
1	Dr Saurabh Pratap	IEEE Membership
2	Dr Saurabh Pratap	Informs Membership
3	Dr Saurabh Pratap	IEEE Intelligent Transportation System
4	Dr Saurabh Pratap	Institution of Engineers, India
5	Dr Saurabh Pratap	Operations Research Society of India
6	Dr Saurabh Pratap	Indian Institution of Industrial Engineering
7	Dr Saurabh Pratap	Nodal Officer, PM Gati Shakti Yojna
8	Dr Lakshay	Informs Membership
9	Dr Arnab Sarkar	Research Excellence Fellowship instituted by 1994-batch alumni of IIT (BHU)

Books, monographs authored/co-authored *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Author/Co- Author	Title	Publisher
1	Sinha, A., Parasuram IVLN	Dynamics of Flame Stabilized by a Rotating Cylinder – Effect of Rotational Speed, In: S. Bhattacharyya and A. C. Benim (eds.), Fluid Mechanics and Fluid Power (Vol. 2), Lecture Notes in Mechanical Engineering	Springer Nature
2	Sinha, A., Parasuram IVLN	Underexpanded Jet Impingement on a Plane Wall – Effect of NPR and Jet Standoff Distance, In: S. Bhattacharyya and A. C. Benim (eds.), Fluid Mechanics and Fluid Power (Vol. 3), Lecture Notes in Mechanical Engineering	Springer Nature
3	Balaji, S., Kumar, D., Parasuram IVLN, Sinha, A	Transverse Gas Jet Injection– Effect of Density Ratio, In: S. Bhattacharyya and A. C. Benim (eds.), Fluid Mechanics and Fluid Power (Vol. 3), Lecture Notes in Mechanical Engineering	Springer Nature
4	S Behera, RK Gautam, S Mohan	Advancement in Materials Processing Technology (Study of Mechanical Properties of Chemically Treated Kenaf Fiber and Its Composites-pp 115-123, Book Chapter)	Springer, Singapore
5	Santosh Kumar	'Manufacturing Engineering', AICTE Technical book for 2nd year Diploma	AICTE
6	SK Shukla	Green Building Technologies	Ane Books Pvt. Ltd., New Delhi
7	SK Shukla	Energy Conservation and Engineering	Ane Books Pvt. Ltd., New Delhi
8	SK Sinha	Robotics: Forward Kinematics	Amazon platform

Editorial boards of journals *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Prof Rajnesh Tyagi	Associate Editor	FRICTION
2	Dr Debashis Khan	Editorial Board member	International Journal of Materials Research in Science & Technology
3	Dr Saurabh Pratap	Associate Editor	Operations Management Research Journal, Springer
4	Dr Saurabh Pratap	Associate Editor	OPSEARCH Journal, Springer
5	Dr Saurabh Pratap	Guest Editor	Sustainability Journal, MDPI
6	Dr Saurabh Pratap	Guest Editor	Axiom Journal, MDPI
7	Dr Saurabh Pratap	Guest Editor	Complexity Journal, Hindawi
8	Dr Saurabh Pratap	Associate Editor	Advance Operations Research Journal, Hindawi
9	Dr Saurabh Pratap	Guest Editor	International Journal of Information Systems and Supply Chain Management (IJISSCM)
10	Dr Arnab Sarkar	Editor	Frontiers in Built Environment
11	Dr Joy Prakash Misra	Guest Editor	International Journal on Interactive Design and Manufacturing
12	Dr Ajinkya Tanksale	Associate Editor	OPSEARCH Journal, Springer
13	Dr Ajinkya Tanksale	Editorial Board member	International Journal of Industrial Engineering: Theory, Applications and Practice

1. Design and Development Activities

New facilities added *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Hot Wire Anemometer	10.0
2	High Energy Ball Milling Machine	17.0
3	Hot/Cold Extrusion Machine (100 Ton)	13.5
4	Table Top CNC Milling Machine	8
5	Lateral Flow Assay	2.5
6	Tornado Simulator	In-house fabrication
7	Design and development of engine waste heat recovery system with TEG and PCM	3.9
8	Design and development of heat pump dryer	3.0
9	Pneumatic Specimen Mounting Press and Mounting Press Compressor (ChennaiMetco)	1.2
10	Grinding and Polishing Machine (ChennaiMetco)	0.7
11	Metallurgical Microscope (AlMicro Instruments)	1.3
12	Robotic MIG Cell	50.2
13	Ultrasonic Welding for Metals	23.5
14	Multi Planer DAQ System	14.3
15	Electrochemical Machining System	16.5
16	Industrial Oven	0.5

Patents filed *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title of Patent
1	Dr Meghanshu Vashista	An ultrasonic vibration assisted lubrication grinding system
2	Dr Uppu Srinivas Rao	A center horizontal device for centrifugal casting and synthesis of functionally graded material Date of Application: April 11, 2022, Date of Publication (Online): 16.12.2022
3	Dr Debashis Khan	An optical fiber cable coloring machine
4	Dr Arnab Sarkar	A point of care system comprising reagent-free hemoglobin estimation kit
5	Prof Jahar Sarkar	Polymer-particle composite radiative cooling coating
6	Prof Jahar Sarkar	Polymer-ceramic composite coated daytime radiative water cooler system

Research and Consultancy: Sponsored research projects *(Ongoing only)*

Note: Sponsored project name is to be given only in case a faculty member is Project Incharge

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co-ordinator
1	Development of advanced nanocrystalline coatings and LASER cladding system for repair work related to HEMMs and other structural components	2021-2023	NCL, Singraulli	85.8	Dr Meghanshu Vashista
2	Graphite Aerosol studies in High Temperature Aerosol Facility for Nuclear Reactor Applications	Dec 2022- Dec 2025 (Three Years)	Department of Atomic Energy (DAE), GoI	40.5	Prof Prashant Shukla
3	Development of Friction Stir Welding for repair work of high temperature materials like EN-24 steel	2021-2023	NCL, Singraulli	53.9	Dr Mohd Zaheer Khan Yusufzai
4	Development of Optical Fibre Cable Coloring Machine	2021-2023	DST	24.0	Dr Debashis Khan
5	3D computational and experimental study on layer dynamics and prediction of critical power law scales in double-diffusive finger convection	2022-2024	SERB	5.0	Dr Om Prakash Singh
6	Experimental investigation of stability limits, NOx emissions and blowout phenomenon of ammonia-hydrogen-nitrogen-air mixtures in a non-premixed swirl combustor	Nov 2022-Oct 2024	SERB	31.7	Dr R Santhosh
7	Customized cutaneous cryotherapy using numerical technique	2021-2024	DST	31.1	Dr Amitesh Kumar
8	Development of connected vehicle technology for an urban concept autonomous vehicle	2023-2025	I-DAPT HUB FOUNDATION	30.0	Dr Amitesh Kumar
9	Technology Intervention for creative economy	2022-2023	Mindshare	9.4	Dr Lakshay
10	Manufacturing of Complex Titanium Assembly Part for Missiles using Fabrication, Simulation Testing Prototyping studies	2022- 2025	DRDL Hyderabad	47.5	Prof Santosh Kumar
11	Assessment of Structural Vulnerability through Characterisation of Tornado for a NPP Site	2020-2023	BRNS, Mumbai	32.4	Dr Arnab Sarkar
12	Pathology on a Spinning Disc	2020-2024	MHRD	94.1	Dr Arnab Sarkar
13	Assessment of Vulnerability of Structures in Regard to Cyclonic Wind Loads	2021-2023	BIS	16.8	Dr Arnab Sarkar
14	Prediction of Dose-Volume Histograms of Organs-at-Risk in Prostate Cancer Radiation Therapy using Machine Learning	2022-2024	I-DAPT-HUB Foundation, IIT (BHU), Varanasi	3.5	Dr Arnab Sarkar
15	Development of a Multiplex Portable Spinning Disc for Effective Monitoring of Women's Health during Different Stages of Pregnancy	2021-2024	DST	72.9	Dr Arnab Sarkar
16	A Novel Meso-Micro Scale Coupling Approach for Wind Resource Assessment	2023-2025	SERB (with GE)	37.3	Dr Arnab Sarkar
17	Hybrid Solar Wind Driven Combined Heat and Power System using Organic Rankine Cycle	2022-2025	CST, UP	9.4	Dr Arnab Sarkar
18	Blowoff Dynamics of Afterburner flame	2022-25	ARDB (DRDO)	98.9	Dr Anubhav Sinha
19	On the augmentation of heat transfer from the external downward facing convex surface of calendria vessel with nano-texturing	June 2022- May 2025 (Three Years)	Department of Atomic Energy (DAE), GoI	36.5	Prof Pradyumna Ghosh
20	Modelling of advanced polycrystalline materials for crystal-plasticity simulations of Machining Processes	2022-2024	SCIENCE & ENGINEERING RESEARCH BOARD (SERB) SRG grant	9.9	Dr Srihari Dodla

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co-ordinator
21	Development of ORC technology for waste heat utilization for the generation of electricity	2020-2023	BRNS, Mumbai	29	Prof Jahar Sarkar
22	Development of catalytic integrated air-steam gasifier for the gasification of Agriculture waste and valorization of gasified fly ash on concrete work.	2023-2026	DST-TDP (accepted)	34.8	Dr JV Tirkey

Industrial consultancy projects *(Ongoing only)*

Sl. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
1	Prof Santosh Kumar and Dr Amit Subhash Sedbale	Longitudinal steel welded structure Girder, ultrasound testing of welds	Kanhar , UP, Nirman Khand-3 Sonbhadra	7.8

Faculty members' participation with other universities under MoUs *(Ongoing only)*

Prof Santosh Kumar: Joint Degree Management Program with NITIE MUMBAI

Research Publications *(From 1st April 2022 to 31st March 2023)*

Sl. No.		No.
1	Total Number of Papers Published in Refereed National Journals	2
2	Total Number of Papers Published in Refereed International Journals	159
3	Total Number of Papers Presented in National Conferences	5
4	Total Number of Papers Presented in International Conferences	16

Refereed International Journals *(From 1st April 2022 to 31st March 2023)*

1. Mahto N. K., Tyagi R., and Sinha S. K. (2023) Synergistic Effect of Ag and WS_2 on High Temperature Tribological Performance of Ni_3Al Based Composites. Tribology International. 183: 108408.
2. Nautiyal H., Gautam R.K.S., Singh S., Goswami R., Gautam G., Raturi A., Khatri O.P. and Tyagi R. (2023) Influence of sintering temperature on mechanical and tribological characteristics of copper based composite reinforced by 2D hybrid material. Part E: Journal of Process Mechanical Engineering.
3. Verma P., Tyagi R. and Mohan S. (2023) Effect of Microstructure, Impact Velocity and Angle on Erosive Wear of Medium Carbon, Dual Phase and Fully Martensitic Steels. Wear. 518–519: 204645.
4. Singh A. K, Atheaya D., Tyagi R. and Ranjan V. (2023) High Temperature Friction and Wear of Atmospheric Plasma Spray Deposited NiMoAl-Ag-WS_2 Composite Coatings. Surface & Coatings Technology. 455: 129225.
5. Verma P., Tyagi R. and Mohan S. (2022) Erosive Wear of Dual Phase Steels Containing Different Amount of Martensite. J. of Materi Eng and Perform. 32: 314–325.
6. Ranjan A., Tyagi R. and Jindal V. (2022) Reciprocating Wear of Ti-TiB In Situ composites Synthesized via Vacuum Arc Melting. J. of Materi Eng and Perform. 31: 9985–9996.
7. A. K. Jha, P. Shukla, Pranav M Khisti, P. Ghosh, S. K. Yadav, (2022) Investigation of onset of velocity transition in free convection over an inclined flat plate by PIV, Experimental Thermal and Fluid Science (SCIE) Volume 140,110764 https://doi.org/10.1016/j.expthermflusci.2022.110764
8. A. K. Jha, **P. Shukla**, P. Ghosh, (2022) Free convection boundary layer correlations for a vertical plate with non-uniform heating, Numerical Heat Transfer, Part B: Fundamentals (SCIE),82(6),243-255 https://doi.org/10.1080/10407790.2022.2104564
9. A. K. Jha, P. Shukla, P. Ghosh, P. Khisti, A. Dubey, (2023) Visualization and measurement of natural convection boundary layer by PIV, Journal of Flow Visualization and Image Processing (ESCI), Volume 30, Issue 2, 1-22 https://doi.org/10.1615/JFlowVisImageProc.2022042302
10. **Chaudhari A., Sharma A., Awale A, Khan M.Z. and Vashista M. (2022) Modelling and simulation** study of dry ultrasonic vibration assisted grinding of tool steel with single alumina abrasive grit. Journal of Manufacturing Science and Engineering ASME. 144 (11): 1-11

11. Awale A., Chaudhari A., Kumar A., Khan M.Z. and Vashista M. (2022) Synergistic Impact of Eco-friendly Nano-lubricants on the Grindability of AISI H13 Tool Steel: A Study towards Clean Manufacturing. Journal of Cleaner Production. 364, https://doi.org/10.1016/j.jclepro.2022.132686

12. Diwakar V., Sharma A., Khan M. Z. and Vashista M. (2022) Barkhausen Noise Signal Analysis of IS 2062 Steel and AISI D2 Tool Steel with Different Range of Magnetizing Frequency and Intensity. Russian Journal of Nondestructive Testing. 58; 821–832

13. Kumar A., Mahto M.K., Rana V. S., Vashista M. and Khan M.Z. (2022) Investigation of microstructure evolution and mechanical properties of gas tungsten arc welded dissimilar titanium (CP-Ti/Ti-6Al-4V) alloys. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering https://doi.org/10.1177/09544089221126431

14. Sharma, A., Chaudhari, A., M. Z. Khan and Vashista M. (2023) Effectiveness of using liquid nitrogen cryogen in grinding to enhance the grinding performance of hard steel. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture. https://doi.org/10.1177/09544054221147622

15. Sharma, A., Chaudhari, A., Yusufzai, M. Z. Khan and Vashista, M. (2023). An experimental study on improving grindability with LN2 coolant for grinding AISI D2 tool steel. Journal of Materials Engineering and Performance. DOI: 10.1007/s11665-023-07958-7

16. Shakil, A., Gautam, R.K. & Rao, U.S. (2023) Characterisation of Rapid Microwave-Sintered Mg/MgO Composite. *Transactions of Indian Institute of Metals* **76, 749–756.** https://doi.org/10.1007/s12666-022-02772-6

17. Roushan, A., Rao, U.S., Sahoo, P. *et al.* (2023) Performance study of uncoated and AlTiN-coated tungsten carbide tools in micromilling of Ti6Al4V using nano-MQL. *Journal of the Brazilian Society of Mechanical Sciences and Engineering* **45, 63.** https://doi.org/10.1007/s40430-022-03997-8

18. Yadav A.K. and Samuel C. (2022) Modeling of resilient factors in the supply chain. Journal of Modelling in Management 17(2), 456-485.

19. Singh A.K. Patel B.S. and Samuel C. (2022) Understanding customer-perceived values for apparel retailing in India. International Journal of Retail & Distribution Management 50 (11), 1337-1357

20. Raj A and Samuel C. (2022) Application of total interpretive structural modeling (TISM) for analysis of barriers influencing healthcare waste management sector: A case study. International Journal of Healthcare Management, 1-15

21. Yadav A.K. and Samuel C. (2022) Modeling the barriers of the resilient supply chain: A Fuzzy-Dematel approach. Journal of Advanced Manufacturing Systems 21 (04), 727-762

22. Yadav A.K. and Samuel C. (2022) Quality function deployment-based framework for the resilient supply chain. International Journal of Business Continuity and Risk Management 12 (4), 316-347

23. Joshi S. K., Singh, S., Khan, Debashis and Saxena, K. K. (2022) Design and Analysis of Crack-Tip Fields in Plastically Compressible Hardening Solids under Cyclic Loading, International Journal on Interactive Design and Manufacturing (IJIDeM). (Paper Accepted), DOI: 10.1007/s12008-022-00934-w

24. Rajput, A., Shedbale, A. and Khan, Debashis (2022) Numerical Simulation of Shear Behavior of Echelon Rock Joint using Localizing Gradient Damage Model, Journal of Micromechanics and Molecular Physics. Vol. 07, No. 03n04, pp. 225-235, https://doi.org/10.1142/S2424913022410077

25. Ashwary Sheel Wali, Sandeep Kumar and Debashis Khan (2022) A Review on Recent Development and Application of Radiation Curing, Materials Today: Proceedings (Published Online). https://doi.org/10.1016/j.matpr.2022.11.342

26. Narayan., Khan, Debashis and Chakraborty, S. (2023) Axisymmetric Model for Taylor Impact Test and Estimation of Metal Plasticity using Non-Linear Deformation Profile, Journal of the Brazilian Society of Mechanical Sciences and Engineering (BMSE), Vol. 45, Article 128, https://doi.org/10.1007/s40430-023-04059-3, Journal Impact Factor: 2.361 (2021)

27. Srivastav, C., Anurag N S., Pandey A. K., Prasad N. K. and Khan, Debashis (2023) Design, Preparation and Study of Microstructure, Phase Evolution and Thermal Stability of Ti-Co0.35-Cr0.35-Nb-Zr Nanocrystalline HEA for Biomedical Applications, Materials Today Communications, Vol. 35, pp. 105557, https://doi.org/10.1016/j.mtcomm.2023.105557, Journal impact factor: 3.662 (2021).

28. Kumar, H., Manna, R. and Khan, Debashis (2023) Evaluation of Johnson-Cook Material Model Parameters for Fe-30Mn-9Al-0.8C Low-Density Steel in Metal Forming Applications, Journal of Materials Science, (Paper Published Online), https://doi.org/10.1007/s10853-023-08485-5, Journal Impact Factor: 4.682 (2021)
29. Sinha, A. (2023). Effect of Injector Geometry in Breakup of Liquid Jet in Crossflow–Insights from POD. International Journal of Multiphase Flow, 104497
30. Pathak, B. and Christy, J. (2023) Evaporation dynamics of a sessile milk droplet placed on a hydrophobic surface. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 665, p.131207.
31. Pathak, B. and Yadav, S. (2023) Experimental study of a dental airotor cooling spray system. Physics of Fluids, 35(4)
32. Pattanshetti A, Santhosh R, Attar N. (2022) Experimental and numerical investigation of recirculation structures in isothermal swirling coaxial jet. Journal of Fluids Engineering. 144: 101204
33. Kumari, A and Kumar, A (2023) Thermal hydraulic performance of a turbulent wall jet flowing over a wavy wall, Journal of Heat Transfer, (accepted) (February, 2023).
34. Kumari, A and Kumar, A (2023) Effect of frequency of the wavy wall on turbulent wall jet heat transfer characteristics, International Journal of Thermal Sciences, 185: 108013.
35. Srivastava, P and Kumar, A (2023) An experimental study to characterise the role of multi-hole nozzle in adjuvant assisted cryospray, International Journal of Thermal Sciences, 183: 107838.
36. Kumar, S and Kumar, A (2022) Effect of sidewall spacing on the temperature field of a three-dimensional heated turbulent wall jet, International Journal of Thermal Sciences, 182: 107796.
37. Kumar, S and Kumar, A (2022 Influence of sidewalls on three-dimensional turbulent wall jet: An experimental and numerical approach, Computers and Fluids, 244: 105543.
38. Kumar, S and Kumar, A (2022) Dependence of wall jet phenomenology on inlet conditions and near-field flow development, Journal of Turbulence, 23: 276-304.
39. Srivastava, P and Kumar, A (2022) Nano-cryospray: An adjuvant assisted approach to increase the efficacy of cryospray, Cryobiology, 106: 148-156.
40. Kashyap, S, Sarkar, J, and Kumar, A (2022) Experimental exergy, economic and sustainability analyses of the dual-mode evaporative cooler, International Journal of Refrigeration, 135: 121-130.
41. Srivastava, P, Sahi, A K, Kumar, A and Mahto, S K (2022) Establishing relation between in-vivo and in-vitro Cryospray experiments through thermal characteristics, International Journal of Thermal Sciences, 176: 107389.
42. Kashyap, S, Sarkar, J, and Kumar, A (2022) Energy, exergy and economic assessments of the dual-mode evaporative cooler for various ASHRAE climatic zones, Building Services Engineering Research & Technology, 43: 179-196.
43. Singh, T P, Kumar, A, and Satapathy, A K (2022) Enhancing the heat transfer rate through surface manipulation, Journal of Thermophysics and Heat Transfer, 36: 178-195.
44. Pathote, Dileep, Pooja Kumari, Vikrant Singh, Dheeraj Jaiswal, R. K. Gautam, and C. K. Behera. "Biocompatibility evaluation, wettability, and scratch behavior of Ta-coated 316L stainless steel by DC magnetron sputtering for the orthopedic applications." Surface & Coatings Technology 459 (2023) 129392.
45. Sudhakar Behera, Rakesh Kumar Gautam, Sunil Mohan. "The effect of ecofriendly chemical treatment on sisal fiber and its epoxy composites: thermal, mechanical, tribological and morphological properties." Cellulose (2022) 29:9055–9072.
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47. Mayank Singh, Srihari Dodla, Rakesh K Gautam and Vijay Kumar Srivastava. "Effect of load, sliding frequency, and temperature on tribological properties of graphene nanoplatelets coated carbon fiber reinforced polymer composites" Journal of Composite Materials (2022) Vol. 0(0) 1–12. https://doi.org/10.1177/00219983221140205
48. Dileep Pathote, Dheeraj Jaiswal, Vikrant Singh, R. K. Gautam , and C. K. Behera, "Wear behavior and microhardness studies of tantalum (Ta)-coated 316L stainless steel by DC magnetron sputtering for the orthopedic applications", J Mater Sci (2022) 57:21039–21056 10.1007/s10853-022-07939-6

49. Anurag Kumar Pandey, R.K.Gautam, C.K.Behra (2022), "Corrosion and wear behavior of Ti–5Cu-xNb biomedical alloy in simulated body fluid for dental implant applications", Journal of the Mechanical Behavior of Biomedical Materials (137), 105533.

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51. Pareta Ashish Singh, Singh P. K. and Panda S. K. (2023), Quasi-static indentation damage mechanics of PU foam core reinforced with fly ash particulate. Journal of Cellular Plastics 59 (1): 47-63.

52. Singh P. K., Pareta Ashish Singh and Panda S. K. (2023), Influence of the bi-nonlinearity on the characterization of Mode I fracture parameter for a cracked giant magnetostrictive material in the coupled magneto-elastic field: An experimental and numerical study. Engineering Fracture Mechanics. 279: 109046; 1- 38.

53. Tiwari, Anupam, Panda, S. K. (2023) Fracture energy of CNT/epoxy nanocomposites with progressive interphase debonding, cavitation and plastic deformation of nanovoids. Fatigue & Fracture of Engineering Materials & Structures. 46: 1170-1189.

54. Pandey Vaibhav, Yadav Mayank Kumar, Gupta Ashutosh, Mohanta K., Panda S. K. and Singh V. K. (2022), Synthesis, morphological and thermomechanical characterization of light weight silica foam via reaction generated thermo-foaming process. Journal of the European Ceramic Society. 42(14); 6671-6683.

55. Kim R.E., Karthik G.M., Amanov A., Heo Y.U., Jeong S.G., Gu G.H., Park H., Kim E. S., Lee D.W., Kim H.S., (2023) Superior gradient heterostructured alloys fabricated by laser powder bed fusion via annealing and ultrasonic nanocrystal surface modification. Scripta Materialia. 230: 115422.

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57. Kim E.S., Ramkumar K.R., Karthik G.M., Jeong S.G., Ahn S.Y., Sathiyamoorthi P., Park H., Heo Y.U., Kim H.S., (2023) Cryogenic tensile behavior of laser additive manufactured CoCrFeMnNi high entropy alloys. Journal of Alloys and Compounds. 942: 169062.

58. Ravi Prakash Singh, Santosh Kumar, Sarang Pande, Sachin Salunkhe, Adham E. Ragab, Pankaj Kumar Singh, Md Meraz and J. Paulo Davim, Robot-Assisted Cold Metals and Warm Incremental Sheet Forming of Aluminium Alloy 6061: A Comparative Study, Metals 2023, 13 (3), 568.

59. Raj Soni, Sarang Pande, Santosh Kumar, Sachin Salunkhe, Harshad Natu and Hussein Mohammed Abdel Moneam Hussein, Wear Characterization of Laser Cladded Ti-Nb-Ta Alloy for Biomedical Applications, Crystals 2022, 12(12), 1716, October 2022.

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61. Md Meraz, Santosh Kumar and Ravi Prakash Singh, The experimental study of hydroformed Al6061 Elliptical tube samples under different internal pressures, EMITTER International Journal of Engineering Technology 10(2), pp 351-369, DOI:10.24003/emitter.v10i2.699, Dec 2022.

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1. A. Kumar, A. Pratap, and A. Sinha, 2022. Cold Spray Particle Deposition – Effect of Nozzle Heating, 4th Structural Integrity Conference and Exhibition, IIT Hyderabad, Dec. 2022
2. Kumar A., Mahto M. K., Vashista M., Yusufzai M. Z. K. (2021) Effect of current pulsing on gas tungsten arc (GTA) welding of Ti-6Al-4V,118-126, National Welding Meet, 7-8 October 2021, organized by The Indian Institute of Welding, Tiruchirapalli Branch
3. Yadav L. K., Kumar A., Vashista M., Yusufzai M. Z. K. (2021) Effect of activated flux on bead profile during GTAW of stainless steel 304L, 109-117, National Welding Meet-2021 organized by The Indian Institute of Welding Kolkata, Hoisted by The Indian Institute of Welding Tiruchirapalli Branch.
4. Santosh Kumar, Metal 3D Printing and future of Manufacturing, Poducherry college of Engineering, Poducherry, Kerala (03/02/2023).
5. Santosh Kumar, Progress on Additive Manufacturing, IDAPT funded 5days Lecture series at PEH, IIT BHU (10/10/2022)

Kindly Provide Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years

1. Citations: 240

   Potential of macroencapsulated PCM for thermal energy storage in buildings: A comprehensive review, PKS Rathore, SK Shukla, Construction and Building Materials 225, 723-744, 2019

2. Citations: 132

   Potential of microencapsulated PCM for energy savings in buildings: A critical review, PKS Rathore, SK Shukla, NK Gupta, Sustainable Cities and Society 53, 101884, 2020

3. Citations: 116

   Enhanced thermophysical properties of organic PCM through shape stabilization for thermal energy storage in buildings: A state of the art review, PKS Rathore, SK Shukla, Energy and Buildings 236, 110799, 2021

4. Citations

   An experimental evaluation of thermal behavior of the building envelope using macroencapsulated PCM for energy savings, PKS Rathore, SK Shukla, Renewable Energy 149, 1300-1313, 2020

5. Citations: 111

   Introduction to magnesium alloy processing technology and development of low-cost stir casting process for magnesium alloy and its composites, Anil Kumar, S Kumar, N K Mukhopadhyay, Journal of Magnesium and Alloys, May 9, 2018

Indian Faculty visits in the Department *(1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. Nikunj Kumar Jain, IIM Nagpur	PhD thesis Oral exam	19-12-2022, New seminar hall, Mechanical Engg. Dept
2	Prof. C Lakshmana Rao (IIT Madras)	For the ISAM research workshop at IIT(BHU) Varanasi	15th Dec 2022 and New Seminar Hall, Dept. of Mechanical Engineering., IIT(BHU) Varanasi

Any other Information

- Dr Arnab Sarkar developed and transferred technology regarding cyclonic factor to Beauro of Indian Standard (BIS) for the revision of IS 15498 (Guidelines for improving the cyclonic resistance of low-rise houses and other buildings). He has been nominated as the Convener of IS 15498 of CED 57 for implementing the revision of the code.
- Dr Arnab Sarkar is a reviewer in Applied Energy (Elsevier), Energy Conversion and Management (Elsevier), Energy (Elsevier), Wind Energy (Wiley), Quarterly Journal of Royal Meteorological Society, Journal of King Saud Arabia (Elsevier), International Journal of Sediment Research (Elsevier), Internal Journal of Civil Engineering (Springer), International Journal of Advanced Structural Engineering (Springer), International Journal of Green Energy (Taylor & Francis), International Journal of Ambient Research (Taylor & Francis), Defence Science Journal, International Journal of Energy Research (Wiley), International Journal of Energy and Water Resources (Springer), International Journal of Exergy (Inderscience), Scientific Reports (Nature), Results in Engineering (Elsevier), Physics of Fluid (AIP).
- Dr Joy Prakash Misra is coordinating an ambitious project, Centre of Excellence on Machine Tools Design, at a whooping investment of Rs 45 crore, funded by Ministry of Heavy Industries, New Delhi.

Key Instruments:

Cold/Hot Extrusion Machine Setup – 100 ton, Cost - 13.5 Lacs (for UG/PG Lab)

Electrochemical Machining Setup, Cost - 16.5 Lacs (for UG/PG Lab)

14. Department of Metallurgical Engineering

Complete Name of Department: Metallurgical Engineering

Year of Establishment: 1923

Head of the Department: Prof. Sunil Mohan (w.e.f: January 01, 2021)

Brief Introduction of the Department:

The Department of Metallurgical Engineering, established in the year 1923 has pioneered metallurgical education and research in the country. The far-sighted vision of Mahamana Pandit Madan Mohan Malaviyaji has helped this Department to attain such a distinction. This is now a part of IIT (BHU). The UG programme began in the year 1923 itself and the first ever undergraduate and doctoral degrees in metallurgy in the country were awarded by this Department in the years 1927 and 1955 respectively. This is also one of the first two Departments in the country to confer a postgraduate degree in metallurgy in the year 1959. The undergraduate programme was set on a firm foundation by the first Head of the Department, Professor Nagardas Purushottam Gandhi. The postgraduate programme was nurtured by the second Head of the Department, Professor Daya Swarup. Professor Tanjore Ramachandra Anantharaman, the third Head of the Department, established a fine research school of metallurgy, firmly rooted in exemplary traditions and ensured all-round growth and high profile image of the Department. Subsequently, illustrious successive Heads of the Department have continued to do their utmost to enhance the levels of excellence that the Department is known for. The Department celebrated its Golden Jubilee in the year 1973, Diamond Jubilee in 1983 and Platinum Jubilee in the year 1998 in a befitting manner. The current faculty strength consists of 6 Professors, 9 Associate Professors and 11 Assistant Professors.

Major areas of Research of the department

1. Microstructural, Structural and Chemical Characterization
2. Mechanical Behavior, Deformation Processing and Failure Analysis
3. Phase Equilibria and Phase Transformation
4. Non-Equilibrium Processing of Advanced Materials
5. Ultra-Fine Grained and Nano-Structured Material
6. Recycling of Metallurgical and E-Waste
7. Design and Development of Advanced Steels
8. Tribology and Surface Engineering
9. Thermodynamics and Kinetics of Metallurgical Processes
10. Advanced Structural and Functional Materials
11. Corrosion fatigue and hot corrosion

Area of the Department (in square meters): Not Known

Infrastructure

Sl. No.	Particulars	Number
1	No. of Classrooms	04
2	No. of Lecture Halls	03
3	No. of Laboratory	10 labs + 1 workshop + 1 Centre
4	No. of Computers available for students in the Department	40
5	Conference Hall	01

Unique Achievement/Preposition of the Department:

The Department of Metallurgical Engineering has so far produced 2849 graduates, 734 postgraduates (including M.Tech dual degree) and 206 Ph.D. degree holders. The first one is a record for any Metallurgy Department in the country. The outstanding research contributions of the Department culminated in its recognition as a Centre of Advanced Study (CAS) in Metallurgy by the UGC in 1980, the first-ever Engineering Department to be so recognized in the country and the first one in our University. The Department is also recognized as a Centre for Quality Improvement Programme of MHRD/AICTE from the year 1981. The Department has received special assistance under the COSIST programmes of UGC and also as a National Electron Microscopy Facility (NELMIF) from DST in 1982. The Department has a unique distinction of receiving special assistance under CAS for four consecutive phases. The Ministry of Steel, Govt. of India approved setting up Advanced Research Centre for Iron and Steel, in the Department in project mode (2016-2021). Ministry of Railways, Govt. of India has also sanctioned Rs. 5 Crore for setting up Malaviya Chair for Railways Technology with Department as its nodal centre.

Members of the staff, research scholars and students have won a very large number of awards and distinctions in recognition of their outstanding contributions. These include Medals, Prizes, Awards and Fellowships from many prestigious national and international professional societies and other organizations. Some of the above recognitions include to John Taylor Gold Medal, Henry C. Sorby Award, Henry Marion Howe Medal, Alexander von Humboldt Fellowships, Al Kharazmi Award, S.S. Bhatnagar Prizes of CSIR, S.S. Bhatnagar Medal of INSA, Platinum Medal, Tata Gold Medal and Prizes, G.D. Birla Award, National Metallurgists' Day Awards of IIM, MRSI Medals, Young Metallurgists' Awards, INSA Medals for Young Scientists, ISCA Young Scientist Awards, Young Engineer Award of IE(I), Dr. R.H. Kulkarni Memorial Fellowships, Prof C.N.R. Rao Award, ASM-IIM visiting lectureship award, besides several best paper Awards. The faculty members have the distinction of receiving Fellowships of various professional societies such as Indian National Science Academy (INSA), International Academy of Sciences (IASc), The National Academy of Sciences, India (NASI), The Indian National Academy of Engineering (INAE), Asia Pacific Academy of Materials (APAM), The Indian Institute of Metals (IIM), The Institution of Engineers India-IE(I), The Electron Microscope Society of India (EMSI), West Bengal Academy of Science and Technology (AScT).

Students on Roll*(From 1st April 2022 to 31st March 2023)::*

(Please give No. of students only in respective years)

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1.	B. Tech/B.Arch	94	79	87	79	--
2.	Dual Degree	26	23	28	22	22
3.	M. Tech/ M. Pharm	07	10	--	--	--
4.	Ph. D (Under Institute Fellowship)	8	2	5	5	11
5.	Ph. D (Under Project Fellowship)	--	1	1	--	--
6.	Ph. D (Under Sponsored Category)	--	--	1	--	--

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India *(From 1st April 2022 to 31st March 2023):*

Sl. No.	Name of Student	Roll No.	Conference/ Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
ÌNDIA					
1	Sai Saswat Tripathy	19144018	Electron Microscopy Society of India (EMSI)	8th Febuary to 10th February, Delhi University, New Delhi	Self-Funded
2	Swarnendu Das	19145076	International Conference on Electron Microscopy & XII Annual Meeting of Electron Microscope Society of India (EMSI-2023)	February 08 to 10, 2023; University of Delhi, Delhi, India	Self-Funded
3	Purnendu Nasker	18141005	National Conference on Advanced Materials and Manufacturing Technologies (AMMT 2023)	February 23-24, 2023 at CSIR-NIIST, Thiruvananthapuram	Self-Funded

Names of students/scholars who got prizes and awards outside the Institute *(From 1st April 2022 to 31st March 2023):*

Sl. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	Naman Joshi	20144017	ShARE i-DWDG Consulting Competition	December 2022, Online	ShARE, France
2	Naman Joshi	20144017	Redseer Hustle 1.0	February 2022, Online	Redseer Strategy Consultants
3	Naman Joshi	20144017	ShARE Asia LUP Consulting Competition	April 2022, Online	ShARE, France
4	Sagar Singh	19145059	2nd Prize in Inter IIT Cult Meet 5.0 in 51 hrs short film making competition	9-11 Jan, IIT Madras	IIT Madras

Names of scholars/students who won Convocation/Institute Day prizes *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
1	Ms. Ganapathiraju Padmini	20142010	I.I.T.(B.H.U.) Varanasi Medal	IIT (BHU)
2	Shri Arpit Gupta	17144005	I.I.T.(B.H.U.) Varanasi Medal	IIT (BHU)
3	Shri Kshitiz Gupta	18145039	I.I.T.(B.H.U.) Varanasi Medal	IIT (BHU)
4	Shri Kshitiz Gupta	18145039	The Bishan Das Basil Medal	IIT (BHU)
5	Shri Kshitiz Gupta	18145039	Swarnamma Memorial Gold Medal	IIT (BHU)
6	Shri Kshitiz Gupta	18145039	Shri Aditya Kumar Awasthi Endowment Award	IIT (BHU)
7	Ms. Ami Indurkhya	18145010	Smt. Indira Tripathi Gold Medal	IIT (BHU)
8	Shri Gopi Kumar	18145026	Ms. Indira Ananthachari Endowment Fund Prize	IIT (BHU)

Faculty & their Activity

Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization (Max. 3 Areas)
Professors			
1	Prof. R.K. Mandal (Ph.D.), (13849)	1990	Quasicrystals, Nanostructured Materials, Phase Transformations, Microstructural Evolution
2	Prof. N.K. Mukhopadhyay (Ph.D.), (13853)	1990	Physical Metallurgy of Complex Metallic Alloys, Nanomaterials, Mechanical Alloying, Electron Microscopy, Nanoindentation.
3	Prof. Sunil Mohan (Ph.D.), (13857)	1990	Metal-Matrix Composites, Tribology of composites, Erosion in steels, Transport processes
4	Prof. (Smt.) N.C. Santhi Srinivas (Ph.D.), (13851)	1999	Mechanical Metallurgy, Deformation and Fracture; Phase Transformations; Fatigue of Advanced Structural Materials; Failure Analysis; Advanced Steels; Additive Manufacturing
5	Prof. B.N. Sarma (Ph.D.), (13852)	2001	Computational Thermodynamics, Integrated Computational Materials Engineering
6	Prof. K.K. Singh (Ph.D.), (18188)	2010	Extractive Metallurgy, Recycling of electronic waste, aluminium dross, Archaeo-metallurgy
Associate Professors			
1	Dr. C.K. Behera (Ph.D.), (16732)	2007	Extractive Metallurgy, Experimental Thermo-lead free solder, nitrogen steel
2	Dr. R. Manna (Ph.D.), (16805)	2008	Heat Treatments of Metals, Ultra Fine Grained Metals, Severe Plastic Deformation, Phase Transformation, Design and Development of Advanced Steels, and Crystallographic Texture
3	Dr. Kausik Chattopadhyay (Ph.D.), (18241)	2008	Mechanical Metallurgy, Structure-Property Relationship of Materials, Oxidation of Metals and Alloys, Powder Metallurgy, Fatigue & Fracture, Severe Plastic deformation, Biomaterials
4	Dr. G.S. Mahobia (Ph.D.), (18287)	2013	Corrosion-Fatigue, Hot corrosion, Iron and Steel making, Welding Metallurgy, Metallurgical failure analysis

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization (Max. 3 Areas)
5	Dr. Joysurya Basu (Ph.D.), (50054)	2005	Electron Microscopy, Energy and Electronic Materials, Complex Structures and Phase Transformation in Metals and Ceramics
6	Dr. Vikas Jindal (Ph.D.), (18229)	2014	Computational Thermodynamics, Advanced Materials
7	Dr. J.K. Singh (Ph.D.), (18194)	2015	Foundry Metallurgy, Transport Phenomena
8	Dr. N.K. Prasad (Ph.D.), (18221)	2007	Physical Metallurgy, Magnetic Materials, Nanomaterials and Biomaterials
9	Dr. Ashok Kumar Mondal (Ph.D.), (50218)	2009	Mechanical behaviour of materials, Light metals, alloys (mostly magnesium alloys) and composites - Processing, microstructural characterization and evaluation of mechanical behaviour, High temperature deformation behaviour (Creep)
Assistant Professors			
1.	Dr. Bratindranath Mukherjee (Ph.D.), (50180)	2010	Nanomaterials for Energy Applications
2.	Dr. Randhir Singh (Ph.D.) (50214)	2009	Extractive/Electro-Metallurgy, Fuel Cells and Batteries, Hydrogen Production
4.	Dr. Surya Deo Yadav (Ph.D.) (50230)	2016	Development of new steels. Modelling the microstructural evolution during creep and hot deformation, Flow stress and Creep strain modelling
5.	Dr. Subhasis Sinha (Ph.D.), (50232)	2017	Microstructure, crystallographic texture, mechanical behaviour and thermo-mechanical processing of metals and alloys
6.	Dr. Sudipta Patra (PhD), (50251)	2019	Stainless Steel, Industrial processing of metals, Alloy steel development, Structure-Property correlation, Thermomechanical Processing, Microstructure & texture, Industrial failure analysis, Steel making, Waste utilization
7.	Dr. Sree Harsha Nandam (PhD) (50282)	2019	Metallic glasses, Mechanical Behaviour, Aluminum metal foams, Precipitation Kinetics
8.	Dr. Deepak Kamble (PhD) (50291)	2019	Magnetic and magnetocaloric alloys, Thermomagnetic materials & devices, Functional materials for energy applications, multiferroics
9.	Dr. Lakhindra Marandi (PhD) (50292)	2021	Mechanical Behavior of Materials, Shape memory alloys, Additive Manufacturing, Nanoindentation
10.	Dr. Praveen Sathiyamoorthi (PhD) (50295)	2016	Plastic deformation behavior, Superplasticity, Development of high performance alloys, Materials for extreme environments
11.	Dr. Ameya Krishna Kadrolakar (On Contract) (PhD) (FAC-VF30	2020	Extractive and Process Metallurgy

Technical and Non-Teaching Staff

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
1	Dr. Sankara Rao L. (Ph.D.)	Senior Technical Officer (18828)	21/01/2021
2	Shri Lalit Kr. Singh (B.E.)	Sr. Technical Superintendent (19262)	14/02/2011
3	Shri Arun Prakash (M.A.)	Sr. Technical Superintendent (14047)	18/02/1995
4	Dr. Ashutosh Dubey (M.Sc., Ph.D.)	Sr. Technical Superintendent (18754)	22/12/2008
5	Shri J.P. Minz (Intermediate)	Sr. Technical Superintendent (14109)	26/05/1990
6	Shri Kamala Prasad (Intermediate)	Technical Superintendent (14116)	15/10/1998
7	Shri Rana Pratap Yadav (Intermediate)	Technical Superintendent (14117)	16/10/1998

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
8	Shri Chhote Lal (ITI)	Technical Superintendent (18053)	21/02/2007
9	Shri Setu Prasad (High School)	Technical Superintendent (14222)	16/05/2007
10	Shri Ashok Kr. Mishra (B.A.)	Technical Superintendent (10227)	16/05/2007
11	Shri Binod Kr. Pathak (ITI)	Technical Superintendent (12492)	18/05/2015
12	Shri Rajendra Prasad Yadav (B.A.)	Jr. Technical Superintendent (18618)	05/08/2008
13	Shri Shashi Kant Pandey (M.Sc.)	Jr. Technical Superintendent (18619)	05/08/2008
14	Shri Samish Kr. Singh (M.A.)	Jr. Technical Superintendent (18620)	05/08/2008
15	Shri Sunil Kumar (Intermediate)	Jr. Technical Superintendent (18616)	06/08/2008
16	Shri Anjani Kr. Singh (B.A.)	Jr. Technical Superintendent (18638)	06/08/2008
17	Shri Mahendra Narain Mishra (ITI)	Jr. Technical Superintendent (18639)	05/08/2008
18	Shri Kamlesh Mishra (Intermediate)	Jr. Technical Superintendent (18617)	12/08/2008
19	Shri Ram Ashre (Intermediate)	Sr. Technician (14109)	10/09/1996
20	Shri Sushil Kumar (B.Sc.)	Sr. Technician (19604)	13/07/2012
21	Shri Rishabh Tiwari (B.Tech, MBA)	Senior Assistant (50092)	08/05/2017

Short-term courses/workshops/semiars/symposia/conferences organised by faculty members *(From 1st April 2022 to 31st March 2023):* ***Nil***

Sl. No.	Coordinator	Title	Period
1	Prof. K. K. Singh, Convener	2nd International conference on Management and Recycling of Metallurgical Wastes MetWaste-2023	27-28 February 2023 Department of Metallurgical Engineering, IIT(BHU) Varanasi
2.	Dr. C.K. Behera	One day national workshop on "Wear, Corrosion and Biocompatibility of Ta-coated 316L stainless steel for orthopedic applications"	10th November, 2022 Department of Metallurgical Engineering, IIT(BHU) Varanasi

Special lectures delivered by faculty members in other institutions *(From 1st April 2022 to 31st March 2023):*

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1	Dr. Praveen Sathiyamoorthi	Superplastic behaviour of high-pressure torsion processed high entropy alloys	8th International Conference on Nanostructured Materials by Severe Plastic Deformation at IISc Bangalore	Feb 26 – Mar 3, 2023
2	Dr. Kausik Chattopadhyay	Surface Modification Through Ultrasonic Shot Peening and Its Effects on Microstructure, Corrosion and Fatigue of Structural Alloys	Keynote lecture in ICSME, NIT Jalandhar	11-12 June 2022
3	Dr. Kausik Chattopadhyay	USSP-Microstructural Modification and its effect on Corrosion and Cell Growth	SERB-sponsored 2-days virtual mode workshop on "MECHANICALLY ASSISTED SURFACE TREATMENT', held in NIT Rourkela	28-29 June 2022
4	Dr. Kausik Chattopadhyay	Enhanced Fatigue Life through USSP Metals and Alloys	SERB-sponsored 2-days virtual mode workshop on "Mechanically Assisted Surface Treatment', held in NIT Rourkela	28-29 June 2022

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
5	Dr. Kausik Chattopadhyay	Corrosion behaviour of surface nanostructured Ti-13Nb-13Zr alloy	76th ATM of the IIM, Hyderabad, India	14-16 November 2022
6	Dr Subhasis Sinha	Exploring New Compositions in the Quest for Complex Concentrated Alloys for Biomedical Applications	Perspectives in Materials Research Platinum Jubilee Conference 2022, IISc Bangalore, India.	Dec 21-23, 2022
7	Dr Subhasis Sinha	Design and characterization of a Fe20Cr20Mo20Nb30Ti10 complex concentrated alloy: Exploring new compositions based on refractory elements	AMPCO 2022, IIT Roorkee, India	Oct 17-19, 2022
8	Prof. N.C. Santhi Srinivas	Characterization Techniques for Additive manufacturing	Lecture series on Additive manufacturing, Part-I Materials for Additive manufacturing, Department of Mechanical Engineering, IIT (BHU)	12th October, 2022
9	Dr. R. Manna,	Microstructure and mechanical properties of ultrafine-grained materials	8th Intl Conf on Nanostructured Materials by Severe Plastic Deformation(NanoSPD8), IISc., Bangalore	26th February-3rd March 2023
10	Dr. R. Manna	Effect of Electropulsing on Bulk Nanostructured Steels	DAE-BRNS Intl Symp and Technology and its Application, VSTAA 22, DAE Convention Centre, Anushakti Nagar, Mumbai	16-19 Feb 2022
11	Dr G.S. Mahobia	Carbothermic reduction and kinetics of a lean grade multimetallic magnetite ore	4th International conference on Science & Technology of Iron and Steel Making (STIS) IIT Mumbai	13-16 December, 2022
12	Dr G.S. Mahobia	Fatigue failure of Superalloy IN718	International exhibition and conferences on MET+HTS NESCO-Mumbai	2-4 November, 2022
13	Dr G.S. Mahobia	Exhibitor and presenter	R&D Fair at IIT Delhi	14-15 October, 2022
14	Dr. A. K. Mondal	Corrosion behaviour of squeeze-cast Ca, Sb, and SiC nanoparticles added AZ91 magnesium alloy	Delivered an Invited Lecture in "Perspectives in Materials Research Platinum Jubilee Conference 2022", IISc Bangalore, India.	Dec 21-23, 2022

Visits abroad by faculty members *(From 1st April 2022 to 31st March 2023):*

Sl. No.	Name of Faculty Member	Country Visited	Date of Leaving India	Date of Returning India	Purpose of Visit	Funding from
1	Prof. K. K. Singh	United Kingdom	29 Sept 2022	13 October 2022	Collaborative research under GCRF-EPSRC project	GCRF-EPSRC United Kingdom

Honours and awards *(From 1st April 2022 to 31st March 2023):*

Sl. No.	Name of Faculty Member	Details of Award
1	Prof. Sunil Mohan	Senate Nominee, Board of Governors, IIT (BHU)
2	Prof. Kamalesh K. Singh	Member for State Center Committee for Metallurgical Engineering" for 2021-23, The Institution of Engineers (INDIA), UP state Center.
3	Dr. Vikas Jindal	Member, Departmental Faculty Affairs Committee (DFAC) from January 01, 2023 to December 31, 2023
4	Dr. Vikas Jindal	Chairman, Indian Institute of Metals (Kolkata) Varanasi chapter for the sessions 2021-22 and 2022-23.
5	Dr. Kausik Chattopadhyay	Member of Project Assessment Panel (MSME Design), IIT(BHU)
6	Dr. Kausik Chattopadhyay	Member of Evaluation Committee of Posters in the international conference, NanoSPD8, held in IISc, Bangalore, 26 Feb - 3 March 2023.
7	Dr. Kausik Chattopadhyay	Chief Guest of the SERB-sponsored 2-days virtual mode workshop on "MECHANICALLY ASSISTED SURFACE TREATMENT', held in NIT Rourkela on 28-29 June 2022.

Sl. No.	Name of Faculty Member	Details of Award
8	Dr. Kausik Chattopadhyay	Received TIIM Reviewer Appreciation Certificate, 2022
9	Dr Subhasis Sinha	Received ASM-IIM Visiting Lectureship Award (< 40 years category) for the year 2022.
10	Prof. N.C. Santhi Srinivas	Member, Programme advisory committee (PAC) on Materials, Minerals and Mining, Science and Engineering Research Board, Department of Science and Technology (SERB-DST), New Delhi, India, 2021-24.
11	Prof. N.C. Santhi Srinivas	Expert Member, Faculty Recruitment, NIT Tiruchirapalli, 2022
12	Prof. N.C. Santhi Srinivas	Expert Member, Faculty Selection Committee, IIT Patna, 2022
13	Dr. R. Manna	Member, Core Team for Formulation of 10 Years Comprehensive Plan for R&D in the Iron & Steel Sector, Ministry of Steel, Govt of India.
14	Prof. N.K. Mukhopadhyay	Convener, IIM-ASM North America Visiting Lectureship Award Program
15	Prof. N.K. Mukhopadhyay	Member. CSIR-Engineering Sciences Research Committee
16	Prof. N.K. Mukhopadhyay	Member, INAE Travel Committee
17	Prof. N.K. Mukhopadhyay	Convener & Member Sectional committee member (Section VIII), INAE
18	Prof. N.K. Mukhopadhyay	Member, Steering Committee, INAE
19	Prof. N.K. Mukhopadhyay	Member, Archives of Indian Engineering Heritage Metallurgy Group, INAE
20	Prof. N.K. Mukhopadhyay	Listed in top 2% of most-cited materials scientists announced by Stanford University
21	Prof. N.K. Mukhopadhyay	Lifetime Achievement Award (Materials Science Category), EMSI
22	Dr. A. K. Mondal	Honorary Secretary, Indian Institute of Metals, Varanasi Chapter for the sessions 2021-22 and 2022-23.

Fellowships of academic and professional societies *(From 1st April 2022 to 31st March 2023):*

Sl. No.	Name of Faculty Member	Details of Fellowship
1	Dr. G.S. Mahobia	1994 Research Excellence Fellowship in Metallurgical Engineering, IIT(BHU) Varanasi

Editorial boards of journals *(From 1st April 2022 to 31st March 2023):*

Sl. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Prof. R.K. Mandal	Member	CMC-Transtech.
2	Prof. N.K. Mukhopadhyay	Key-Reader	Metallurgical and Materials Transactions A (USA)
3	Prof. N.K. Mukhopadhyay	Editor	Journal of Institution of Engineers, Metallurgical and Materials: Series D: (Springer)
4	Prof. N.K. Mukhopadhyay	Guest Editor	Special Issue of Journal of Alloys and Compounds (Elsevier).
5	Prof. Sunil Mohan	Member	International Journal of Metals
6	Prof. (Smt.) N.C. Santhi Srinivas	Reviewer	Materials Letters, Elsevier.
7	Prof. (Smt.) N.C. Santhi Srinivas	Reviewer	Reviewer Appreciation Certificate Awarded, August, 2022, Transactions of Indian Institute of Metals, Springer.
8	Prof. (Smt.) N.C. Santhi Srinivas	Reviewer	Transactions of Indian Institute of Metals, Springer.
9	Prof. (Smt.) N.C. Santhi Srinivas	Reviewer	Journal of Alloys and Compounds, Elseveir.
10	Dr. Praveen Sathiyamoorthi	Editorial Committee Member	Metals and Materials International, Springer
11	Dr. Deepak Kamble	Reviewer	IEEE Transactions on Magnetics
12	Dr. Deepak Kamble	Reviewer	Journal of Alloys and Compounds

Design and Development Activities

New facilities added *(From 1st April 2022 to 31st March 2023):*

Sl. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Portable Ultrasonic Flaw Detector	9.25
2	Cryogenic Chamber For A Universal Testing Machine	10.00
3	Vibrating Sample Magnetometer	14.81
4	Dimple Grinder model TEM-DG-200	23.52
5	CNC EDM wirecut machine	12.77
6	Computer Controlled Universal Testing Machine (20 kN)	~10.00

Patents filed *(From 1st April 2022 to 31st March 2023):*

Sl. No.	Name of Faculty Member	Title of Patent
1.	N. K. Prasad, M. Srivastava and R. K. Mandal	Trivalent Al+3 doped magnetite and a method of preparation there of Patent No. 397040, Application No. 201811002355, 19.01.2018 granted on 18.05.2022.
2.	N. K. Prasad, N. S. Anuraag, S. Pradhan and S. K. Shaw	Rhombohedral high-entropy alloy of Mn-Al-Cu-Zn-Bi, Indian patent (filed 202211051185, 07.09.2022).
3.	Kamalesh Kumar Singh and Arunabh Meshram	An Alkaline Earth Metal Doped Zinc Oxide Nanosheets And Method of Preparation Thereof" Patent no. 410041 Dated October 27, 2022

Research and Consultancy: Sponsored research projects *(Ongoing only)*

Note: Sponsored project name is to be given only in case a faculty member is Project In charge

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1	Setting up of Advanced Research Center for Iron and Steel at IIT(BHU), Steel Development Fund	2016-2021	Ministry of Steel, Govt. of India	3098.00	Dr. R. Manna (Coordinator) & all teachers of the Dept.
2	Mechanical behaviour of advanced high strength steel processed by additive manufacturing	2019-2022	SERB, DST, Govt. of India	39.84	Prof. N.C. Santhi Srinivas (PI), Dr. K. Chattopadhyay
3	Role of short-range ordering in designing High Entropy Alloys	2019-2022	SERB, DST, DST, Govt. of India	34.00	Dr. Vikas Jindal (PI), Prof. N. K. Mulhopdhyay (Co-PI)
4	Development of Functionally Graded Armour Composites (FGACs) Materials	2020-2023	ARMREB, DRDO	91.66	Dr. Vikas Jindal (PI), Dr. Kausik Chattopadhyay
5	Cyclic Thermochemical fuel generation	2019-2022	SERB, DST, DST, Govt. of India	51.00	Dr. Randhir Singh (PI)
6	High Performance Rare Earth Free Nanocomposite Permanent Magnets for Advanced Motors and Alternative Energy Applications	2020-2023	SERB, DST, DST, Govt. of India	56.90	Dr. N.K. Prasad (PI), Dr. C. Upadhyay (SMST, IIT-BHU)
7	India Development of drug-eluting thermogenic coronary stents for management of in-stent restenosis and thrombosis	2022-25	SERB	78.54	Dr. N.K. Prasad (Co-PI)
8	Development of drug-eluting thermogenic coronary stents for management of in-stent restenosis and thrombosis	2022-25	SERB, DST, DST, Govt. of India	78.54	Prof. D. Dash (IMS-BHU), Dr P. P. Kulkarni (IMS-BHU) and Dr. N.K. Prasad (Co-PI)
9	In-situ microscopy study of age hardening in dispersion strengthened cast magnesium alloys and its ex-situ correlation with mechanical properties.	2020-2023	SERB, DST, DST, Govt. of India	37. 36	Dr. A.K. Mondal (PI), Prof. N.K. Mukhopadhyay, Dr. Joysurya Basu

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
10	Creep and corrosion behaviour of novel MRI230D magnesium alloy with nanoparticles additions	2020-2023	CSIR, New Delhi, India	18.08	Dr. Ashok Kumar Mondal (PI), Dr. Kausik Chattopadhyay
11	Atomic Scale Electron Microscopy, FIST Engineering Sciences (Level III)	2020-2025	SERB, DST, DST, Govt. of India	990	Dr. J. Basu (PI), Prof. R.K. Mandal, Prof. N.K. Mukhopadhyay, Dr. R. Manna, Dr. A.K. Mondal and Dr. B. Mukherjee
12	Development of low-modulus β-Ti alloys for biomedical applications	2019-2022	SERB, DST, DST, Govt. of India	41.08	Dr. Kausik Chattopadhyay (PI), Dr. Vikas Jindal
13	Development of a unified physical model for hot deformation and creep to support the development of high temperature materials	2019-2024	DST (Inspire)	35.00	Dr. Surya Deo Yadav (PI)
14	Development of Mesoscale models to describe hot deformation and creep of low SFE materials	2020-2022	Indo-Austrian project	21.66	Dr. Surya Deo Yadav (PI), Dr. Joysurya Basu (Co-PI)
15	Tunable Surface Plasmon Optical Sensing Behaviour of M-MoS2 (M= Cu,Ag,Au) Alloy Nanostructures	2020-2022	SERB, DST	44.65	Dr. B Mukherjee (PI) and Prof. R.K. Mandal
16	Stability of nanostructure and residual stress developed through ultrasonic shot peening in superalloy IN718 at elevated temperatures	2020-2022	NRB, DRDO	28.868	Dr. Kausik Chattopadhyay (PI), Prof. N C Shanti Srinivas (Co-PI) & Dr. G S Mahobia (Co-PI)
17	Additive Manufactured Aerospace Alloys	2021	Raytheon Intelligence & Space, USA	$25000	Prof Mukhopadhyay (PI), Prof. N.C. Santhi Srinivas, Prof. R.K. Mandal, Dr. R. Manna, Dr. K. Chattopadhyay, Dr. J. Basu
18	Chemical recycling of electronic waste for sustainable livelihoods and material consumption in India	2021-23	GCRF-EPSRC UK	GBP 47529.88	Prof. Kamalesh, K. Singh (PI) Prof. Jason and Dr Carole of Edinburgh University
19	Art, Science and Technology of Koftgari Metal works in India	2021-22	INSA	2.40	Prof. Kamalesh, K. Singh (PI)
20	Electronics repairing and e-waste collection system	2021-22	Unnat Bharat Abhiyan	50,000.00	Prof. Kamalesh, K. Singh (PI)
21	Effect of composition and microstructure on mechanical properties of 7-9%Ni steel for LNG tanker and Naval application.	2021-2023	DST SERB	32.00	Dr. Sudipta Patra (PI)
22	Development of high strength Vanadium added steel for heavy gauge plate.	2022-2025	Vanitec UK limited	USD 112307	Dr. Sudipta Patra (PI) Dr. J.Basu (Co-PI)
23	Microstructural tailoring to develop biocompatible Cr-FeMo-Nb-Ti based high entropy alloys for medical applications.	2022-2024	DST SERB	30.62	Dr. Subhasis Sinha (PI)
24	Microstructure and crystallographic texture dependence of cyclic deformation and corrosion behaviour in extruded Mg-Al-Zn-Sn alloys	Accepted (2023)	CSIR	39.5	Dr. Subhasis Sinha (PI), Dr. A.K. Mondal (Co-PI), Prof. N.K. Mukhopadhyay (Co-PI)
25	Study on effect of temperature and mean stress on fatigue strength of turbine aero foil alloy	2021-2025	Gas Turbine Research Establishment (GTRE) – Bangalore	281.90	Dr. G.S. Mahobia (PI)

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
26	Development of industrial waste as mold material for sustainable development in developing countries	2021-2024	DST SERB	27.19	Dr. Jayant Kumar Singh (PI)
27	Designing metallic glass composites with immiscible elements as allying elements for improved plasticity	2022-2025	SERB	33.1	Dr. Sree Harsha Nandam (PI)
28	Phase stability and Mechanical behaviour of bulk metallic glass composites	2022	IIT (BHU) Seed Grant	10.00	Dr. Sree Harsha Nandam (PI)
29	Design, development, and microstructural engineering of ultra-strong maraging medium entropy alloys	2023-2026	SERB	41.58	Dr. Praveen Sathiyamoorthi (PI), Dr. Joysurya Basu (Co-PI)
30	Enhancement of cryogenic tensile properties in Fe medium entropy alloy by utilizing transformation induced plasticity effect	2022-24	IIT (BHU) Seed Grant	10.00	Dr. Praveen Sathiyamoorthi (PI)
31	Structure-property correlation in creep-resistant squeeze-cast Mg-Al-Ca-Mn alloy-based nanocomposites	2023-2026	SERB-DST	43.725	Dr. A.K. Mondal (PI)
32	Development and optimization of functionally graded magnetocaloric materials	2022-2025	Institute Seed Grant	10	Dr. Deepak Kamble (PI)
33	Development and Processing of magnetocaloric thin sheets for enhanced thermomagnetic energy harvesting applications	2022-2024	SERB-DST	31.99	Dr. Deepak Kamble (PI)

Industrialconsultancy projects *(Ongoing only)*

The Department maintains a close interaction with major private sector industries of the region, with public sector undertakings and national R&D laboratories. Major beneficiaries of consultancy, testing services as well as Refresher Courses for executives, include DMRL,DRDL,VSSC,BHEL,HINDALCO, Tata Steel,JAMIPOL,Northern Coalfields Ltd,NTPC,Railways etc. and the small scale industries of Varanasi region.

Sl. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
1	Dr Sudipta Patra, Dr GS Mahobiam Dr JK Singh, Dr Randhir Singh, Prof. KK Singh, Prof S.Mohan	Achieving metallurgical and mechanical properties (including successful non destructive testing results) of forged wheel as per in compliances with IRS R-19-93 Part II, rev 5	RINL, Lalganj	33,74,800

Research Publications *(From 1st April 2022 to 31st March 2023):*

Sl. No.		No.
1	Total Number of Papers Published in Refereed National Journals	--
2	Total Number of Papers Published in Refereed International Journals	**92**
3	Total Number of Papers Presented in National Conferences	--
4	Total Number of Papers Presented in International Conferences	**01**

Refereed International Journals *(From 1st April 2022 to 31st March 2023)*

1 A. Sharma, S.S. Hirmukhe, S.H. Nandam, H. Hahn, I. Singh, R.L.Narayan and K.E. Prasad, (2022) Strain sensitivity of a Cu60Zr40 metallic and nanoglass, Journal of Alloys and Compounds

2 A. Sharma, A. Tripathi, S.H. Nandam, H. Hahn and K. Eswarprasad (2023) Role of indenter geometry on the deformation behaviour in a Pd-Si based metallic and nanoglass, Journal of Alloys and Compounds

3 S. Kumar, V. Jindal (2022) Modeling Short-Range Ordering in Binary BCC Ti-X (X = Nb, V, Zr) Alloys using CE-CVM, J. Phase Equilibria Diffus.https://doi.org/10.1007/s11669-022-00989-y.

4 A. Ranjan, V. Jindal, R. Tyagi (2022) Effect of Load on Tribological Properties of Ti–TiB–Fe Composites Processed via Spark Plasma Sintering (SPS), Trans. Indian Inst. Met. https://doi.org/10.1007/s12666-022-02651-0.

5 S. Kumar, V. Jindal (2022) First-principles calculations and thermodynamic assessment of the Nb–V system using CE-CVM, Calphad. 78 102439. https://doi.org/10.1016/j.calphad.2022.102439.

6 A. Ranjan, R. Tyagi, V. Jindal (2022) Reciprocating Wear of Ti-TiB In Situ Composites Synthesized via Vacuum Arc Melting, J. Mater. Eng. Perform. https://doi.org/10.1007/s11665-022-07002-0.

7 S. Kumar, V. Jindal (2022) Thermodynamic Re-assessment of the Nb-Zr System Using the CE–CVM Model for Solid Solution Phases, J. Phase Equilibria Diffus.. https://doi.org/10.1007/s11669-022-00959-4.

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9 A.K. Thakur, R.P. Gorrey, V. Jindal, K. Muralidharan (2022) A data-driven approach to approximate the correlation functions in cluster variation method, Model. Simul. Mater. Sci. Eng. 30 015001. https://doi.org/10.1088/1361-651X/ac3a16.

10 Praveen Sathiyamoorthi, Niraj Chawake, Alireza Zargaran, and Ravi Sankar Kottada. High entropy alloy design concept enabled emerging novel materials with enhanced mechanical properties. Frontiers in Materials 10: 81. [Editorial]

11 Kwon, Hyeonseok, Praveen Sathiyamoorthi, Manogna Karthik Gangaraju, Alireza Zargaran, Jaemin Wang, Yoon-Uk Heo, Stefanus Harjo, Wu Gong, Byeong-Joo Lee, and Hyoung Seop Kim (2023) High-density nanoprecipitates and phase reversion via maraging enable ultrastrong yet strain-hardenable medium-entropy alloy. Acta Materialia, 118810.

12 Kim, Eun Seong, K. R. Ramkumar, G. M. Karthik, Sang Guk Jeong, Soung Yeoul Ahn, Praveen Sathiyamoorthi, Hyojin Park, Yoon-Uk Heo, and Hyoung Seop Kim. (2023) Cryogenic tensile behavior of laser additive manufactured CoCrFeMnNi high entropy alloys. Journal of Alloys and Compounds, 942, 169062.

13 Hyeonseok Kwon, Stefanus Harjo, Takuro Kawasaki, Wu Gong, Sang Guk Jeong, Eun Seong Kim, Praveen Sathiyamoorthi, Hidemi Kato, Hyoung Seop Kim (2022) Work hardening behavior of hot-rolled metastable Fe50Co25Ni10Al5Ti5Mo5 medium-entropy alloy: in situ neutron diffraction analysis, Science and Technology of Advanced Materials, 23, 579

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16 G. M. Karthik, Farahnaz Haftlang, Jaeik Kwak, Praveen Sathiyamoorthi, Alireza Zargaran, Yong-Tae Kim, and Hyoung Seop Kim, The influence of laser powder-bed fusion microstructures on the corrosion behavior of CuSn alloy, Journal of Materials Science.

17 D.K. Yadav, Y. Shadangi, S.D. Yadav, S. Sinha (2023) Development of a high strength, low density and corrosion resistant novel FeCrMoNb1.5Ti0. 5 complex concentrated alloy, Materials Today Communications, 35 105521.

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26 Jaydeep Vishwakarma, K. Chattopadhyay, N.C. Santhi Srinivas (2023), Influence of build orientation and aging on corrosion behaviour of 18Ni300 maraging steel produced via Powder Bed Fusion using Laser Beam (PBF-LB), Materials Today Communications, Volume 35, 105825, ISSN 2352-4928

27 Sandeep Kumar Gupta, R. Manna, and Kausik Chattopadhyay (2023) Effect of austempering time on electrochemical and immersion corrosion behaviour of high carbon, carbide-free nanostructured bainitic steel in an aqueous 3.5% NaCl, Metals and Materials International.

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79 P Verma, R Tyagi, S Mohan (2023), Erosive Wear of Dual Phase Steels Containing Different Amount of Martensite, Journal of Materials Engineering and Performance 32 (1), 314-325

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81 AK Yadav, G Gautam, S Mohan (2023), Effect of Insitu Formed TiB2 Particles on Tribological Behaviour of Al-Si/Mg2Si Hybrid Composites, Silicon 15 (2), 1011-1025

82 V Kumar, G Gautam, A Mohan, S Mohan (2023), Tribology of Insitu Zn-Al/ZrB2 Composites in Reciprocating Motion, International Journal of Metalcasting 17 (1), 182-194

83 AK Yadav, V Kumar, Ankit, S Mohan (2023), Microstructure and Mechanical Properties of an In Situ Al 356-Mg2Si-TiB2 Hybrid Composite Prepared by Stir and Cooling Slope Casting
International Journal of Metalcasting 17 (2), 740-752.

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85 R Tandon, KK Mehta, R Manna, RK Mandal (2022), Effect of tensile straining on the precipitation and dislocation behavior of AA7075T7352 aluminum alloy, Journal of Alloys and Compounds 904, 163942

86 S Choudhury, V Mohan, AS Pal, RK Mandal, J Basu (2022), Evolution of Superstructure Demarcated with Heterointerface and Polymorphic Transformation in BiMnO3 Compounds, Microscopy and Microanalysis 28 (S1), 2030-2031

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92 AKL Das, AS Pal, GD Rout, J Basu (2023), Microstructural evolution and phase stability in semi-Heusler NiMnSb and vanadium added equi-atomic NiMnSbV alloys, Journal of Alloys and Compounds, 169009

Proceedings of International Conferences *(From 1st April 2022 to 31st March 2023)*

1. Singh, Kamalesh and Rao, Dhanunjaya, Recycling of Copper and Gold from Waste Printed Circuit Boards by Leaching Followed by Solvent Extraction; TMS Annual Meeting & Exhibition, 153-160. DOI: 10.1007/978-3-031-22761-5_15.

Distinguished Visitors *(From 1st April 2022 to 31st March 2023):*

Sl. No.	Name of the visitor & Designation	Date of Visit	Purpose of Visit
1	Prof. Jason B. Love, Professor, The University of Edinburgh, Scotland, UK	24 Feb - 3 March 2023	Collaborative research and conference Metwaste-2023
2	Prof. Sandra Wilson, Professor, University of Dundee, Scotland, UK	24 Feb - 3 March 2023	Collaborative research and conference Metwaste-2023

Sl. No.	Name of the visitor & Designation	Date of Visit	Purpose of Visit
3	Dr. Viswanadh Gowtham Arigela Institute of Applied Materials, Karlsruhe Institute of Technology, Karlsruhe, Germany	August 16, 2022	To deliver lecture on "Design, development and application of a new high temperature micromechanics deformation device with a novel temperature measurement method".
4	Mr. Sunder S Rajan Engineering Fellow, Raytheon Intelligence and Space (RI & S), USA	January 17, 2023	Collaborative research and to deliver a lecture on "Process Metallurgy in the Aerospace Sector"

Other activities

International collaboration/achievements by the Department/School *(From 1st April 2022 to 31st March 2023):*

1. Prof. N.K. Mukhopadhyay (as PI) with Prof. N.C. Santhi Srinivas, Prof. R.K. Mandal, Dr. R. Manna, Dr. K. Chattopadhyay and Dr. J. Basu was awarded a prestigious International Project from Raytheon Intelligence & Space, USA to work on additive manufactured aerospace alloys. ($25000/-) (2021).

Indian Faculty visits in the Department *(From 1st April 2022 to 31st March 2023):*

Sl. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1.	Prof. N. Ravishankar Materials Research Centre Indian Institute of Science, Bangalore	To deliver lecture on "Insights into Nanostructure Nucleation and Growth using Electron Microscopy – A Physical Metallurgy Perspective"	July 26, 2022
2.	Professor U.K. Chatterjee, Former Professor Indian Institute of Technology Kharagpur	To deliver lecture on "Rebar Corrosion: Causes and Prevention"	August 24, 2022
3.	Professor S.S. Bhattacharyya, Department of Metallurgical & Materials Engineering Indian Institute of Technology, Madras	To deliver lecture on "Synthesis, Characterization and Applications of Phase-Pure High Entropy Oxides (HEOs) as a Novel Class of Functional Materials"	December 07, 2022
4.	Professor Rahul Mitra, Indian Institute of Technology, Kharagpur	To deliver lecture on "Mechanisms of oxide scale evolution and protection against degradation in selected refractory metal alloys and ceramic matrix composites during high-temperature exposure"	February 16, 2023
5.	Dr. Satyajit Gupta, Department of Chemistry, Indian Institute of Technology,Bhilai,Chhattisgarh, India	To deliver lecture on "Halide Perovskites for Light-driven Multi-Functional Applications"	December 19, 2022
6.	Dr. Devinder Yadav, Department of Metallurgical and Materials Engineering, Indian Institute of Technology Patna.	To deliver lecture on "Flash Sintering of Oxide Ceramics"	December 09, 2022
7.	Dr. B. K. Choudhary, Former Head, Deformation and Damage Modeling Section, Indira Gandhi Centre for Atomic Research, Kalpakkam	To deliver lecture on "Mechanical Properties-Microstructure: A Conjugal Relation"	November 02, 2022
8.	Dr. Saikat Deb Acharya, Principal Scientist, CSIR-CGCRI & Associate Professor, Engineering Sciences, AcSIR	To deliver lecture on "High Strain-rate Testing and Analysis of Engineering Materials: A Few Case Studies"	August 02, 2022

Foreign Faculty Visits in the Department/School/School *(From 1st April 2022 to 31st March 2023):*

Sl. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1.	Prof. Jason B. Love, Professor, The University of Edinburgh, Scotland, UK	Collaborative research and conference Metwaste-2023	24 Feb - 3 March 2023
2.	Prof. Sandra Wilson, Professor University of Dundee, Scotland, UK	Collaborative research and conference Metwaste-2023	24 Feb - 3 March 2023
3.	Dr. Viswanadh Gowtham Arigela Institute of Applied Materials, Karlsruhe Institute of Technology, Karlsruhe, Germany	To deliver lecture on "Design, development and application of a new high temperature micromechanics deformation device with a novel temperature measurement method".	August 16, 2022

15. Department of Mining Engineering

Complete Name of Department: Mining Engineering

Year of Establishment: 1923

Head of the Department: Prof. Suprakash Gupta (w.e.f. 01.07.2022)

Brief introduction of the Department:

The Department of Mining Engineering a well-conceived dream of the founder of this university **PANDIT MADAN MOHAN MALVIYAJI** and the oldest Mining Engineering Department in the country, came into existence as early as 1923, as a section of the Department of Geology, Mining and Metallurgy. Later, in the year 1944, separate departments of Mining and Metallurgy were constituted under the College of Mining and Metallurgy.

The first Ph.D. degree in Mining Engineering in the country was awarded from this department in the year 1964. This lead was further strengthened by introducing the First Post- Graduate course in 1966 leading to M.Sc. degree in Mining Engineering n Metal Mining and Coal Mining, respectively and later the M.Sc. degree in Mine Planning was introduced in 1972. Since 1995-96 the department offers M.Tech. degree in Mine Environment, Mine Planning and Rock Mechanics.

The Department of Mining Engineering, BHU was one of the first in the country to receive UGC Assistance under COSIST and SAP Programme in 1984. Subsequently, the Department was upgraded as a Centre of Advanced Study in the area of Rock Mechanics and Ground Control in 1984.

The Department of Mining Engineering, IIT (BHU) occupies a pioneering position in the field of mining education and research. It has many firsts to its credit. The first Bachelor, Postgraduate and Doctoral degrees in mining engineering in India have been awarded by this department. Today's Mineral Industry is being run by many of its illustrious alumni who are holding key positions within the country and abroad. Senior faculty members have been recognized by the mining and allied industries as experts in the respective fields and are members of the important decision making bodies associated with CIMFR, NIRM, UGC, ISMU, NCL, CCL, SCCL, CIL, HZL, UCIL etc. The Department received generous grants to accelerate its research and developmental activities.

The Department is divided into six divisions with laboratories that are well equipped with the conventional and modern facilities. Facilities have also been developed for research in collaboration with the mining industry to deal with their practical problems, these laboratories are also equipped to undertake fundamental research in the field of mining.

The above divisions consist of 19 laboratories. The Department is also provided with an Underground Experimental Model Mine well equipped for demonstration, experimental and research purposes particularly in the field of underground mechanised transport systems, mine ventilation and mine surveying experiments.

Major areas of Research

- Rock Mechanics & Ground Control and numerical modelling
- Mine Environment, Mine Ventilation, Mine Safety, Water Soluble Polymer
- Mining Geology, Mine Water Management & Environmental Pollution
- Mining Methods, Production and Productivity analysis of Mining Machines
- Design of Structure in Rock, Mine Planning, Mine Environment
- Reliability Analysis and and Slope stability
- Environmental Economic, GIS and Remote Sensing, Operations Research
- Mine Surveying, Mine economics, Mine legislation and Computer Applications in Mining
- Mine Safety, Risk Analysis, Reliability and Rock Cutting Technology
- Rock Fragmentation Engineering, Rock Mechanics, Surveying
- Coal Analysis, Mineral Beneficiation

Area of the Department (in square meters):

- Ground floor (including Model Experimental of Underground Mine) = 5815.0826 m^2
- Ground Floor Open Space & Workshop & Laboratories = 1829.179 m^2
- First Floor = 3219.4264 m^2
- Second Floor = 505.3867 m^2

Infrastructure

Sl. No.	Particulars	Number
1	No. of Classrooms	03
2	No. of Lecture Halls	01
3	No. of Laboratory	07
4	No. of Computers available for students in the Departmentl	32

Unique Achievement / Preposition of the Department/School

- Special Assistance Programme
- COSIST
- FIST Assistance
- MODROB
- Centre of Advanced Study in the area of Rock Mechanics & Ground Control and Geo-Environment

Students on Roll *(From 1st April 2022 to 31st March 2023)*

(Please give No. of students only in respective years)

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1.	B. Tech/B.Arch	139	93	79	93	--
2.	Dual Degree	27	23	16	23	14
3.	M. Tech/ M. Pharm	26	30	—	—	—
4.	Ph. D (Under Institute Fellowship)	00	03+01* PMRF	00	05	08
5.	Ph. D (Under Project Fellowship)	00	00	00	02	03
6.	Ph. D (Under Sponsored Category)	01	00	02	00	00
7.	Ph.D (Part Time)	00	00	00	00	00

Names of students/scholars who got prizes and awards outside the Institute *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	Udit Modi	21155117	Casecation 2.0	21-04-22 to 30-04-22 Indian Institute of Technology, Delhi	Indian Institute of Technology, Delhi

Faculty & their Activity Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
PROFESSORS			
1	Dr. Piyush Rai, Ph.D, Employee ID 13868	2002	Mining methods; Rock fragmentation by blasting; Performance assessment and planning for enhanced production & productivity aspects of equipment
2	Dr. N C Karmakar, Ph.D, Employee ID 17282	2000	Mine Environment, Mine Ventilation, Mine Safety, Water Soluble Polymer
3	Dr. A Jamal, Ph.D, Employee ID 13869	1989	Mining Geology, Mine Water Management & Environmental Pollution

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
4	Dr. S K Sharma, Ph.D, Employee ID 13871	2009	Design of Structure in Rock, Mine Planning, Mine Environment
5	Dr. S Gupta, Ph.D, Employee ID 13872	2004	Reliability Analysis, Mine Ventilation
ASSOCIATE PROFESSORS			
1	Shri R P Singh, M.Tech, Employee ID 13867	----	Mine fire, Mine mechanization & Planning
2	Dr. Ashok Jaiswal, Ph.D, Employee ID 18149	2007	Strata Control, Stability analysis, Numerical Simulation
3	Dr. Rajesh Rai, Ph.D, Employee ID 18150	2009	Rock Mechanics, Slope stability, Machine learning
4	Dr. A Kumar, Ph.D, Employee ID 18148	2014	Environmental Economics, Mine Optimisation
5	Dr. G.S.P. Singh, Ph.D, Employee ID 18197	2008	Rock Mechanics and Ground Control
6	Dr. S. K. Palei, Ph.D, Employee ID 18237	2007	Mine Safety Engineering, Reliability Analysis of HEMM, Occupational Health & Safety
7	Dr. Amit Kumar Verma, Ph.D, Employee ID 50210	2012	Slope stability, Landslide, Rock Mechanics, Numerical Modelling, AI
ASSISTANT PROFESSORS			
1	Dr. Tarun Verma, PhD Employee ID 18147	2016	Mine Environment, Mine Ventilation, Mine Surveying, Mine Economics
2	Dr. Suresh Sharma, PhD Employee ID 18230	2015	Rock Fragmentation Engineering, Rock Mechanics, Surveying
3	Dr. Nawal Kishore, PhD Employee ID 50041	2004	Mine Planning, Surface Mining Operations
4	Dr. Satyabrata Behera, PhD Employee ID 50336	2021	Drilling & Blasting Technology, Mine Environment, Surface Mining Technology.
5	Dr. Bhardwaj Pandit, PhD Employee ID 50321	2021	Probabilistic analysis in Rock Mechanics, Numerical modelling of geotechnical structures, Tunnelling in rock mass
EMERITUS PROFESSORS			
1	Prof. D P Singh		Rock Mechanics

Research Staff:

Sl. No.	Name & Qualification	Designation, Employee No.	Date of Appointment in the department	Major Areas of Specialization
1	Dr. A.K. Singh, PhD	Senior Scientific Officer, 18987	26.06.2010	Mine Environment
2.	Dr. C.S. Singh, PhD	Senior Scientific Officer, 17034	21.05.2004	Rock Mechanics

Technical and Non-Teaching Staff

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
1	Shri Mithilesh Kumar Gupta, B.A. & Polytechnic in Mechanical Automobile Engineering	Senior Technical Superintendent, 18023	29.01.2007
2.	Shri Lalmani, Intermediate and Diploma in Mechanical Engineering	Technical Superintendent, 18650	12.08.2008
4.	Shri Anupam Kumar Dubey, M.Sc. (Biochemistry), PG (Envi. Science.) & M.A. (Social Science)	Technical Superintendent, 18751	16.12.2008
5.	Shri A.K.Pandey, M.A. (Hindi)	Technical Superintendent, 14085	13.04.1989
6.	Shri Rajendra Prasad, B.A.	Technical Superintendent, 14086	20.04.1989
7.	Shri Bindresh Yadav, High School Science	Technical Superintendent, 14088	22.12.1990

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
8.	Shri Indu Bhusan Pal, Intermediate (Science)	Technical Superintendent, 14089	01.02.1991
9.	Shri Ramdhani Prasad, Intermediate (Science)	Technical Superintendent, 14090	01.06.1994
10.	Shri Ram Sewak Singh, Intermediate (Science)	Technical Superintendent, 14091	07.01.1997
11.	Shri Mahendra Yadav, Intermediate (Science)	Senior Technician, 18644	05.08.2008
12.	Shri Vijay Prakash Shrivastava, Intermediate (Science)	Senior Technician, 18642	05.08.2008
13.	Shri Ajay Kumar Patel, M.Sc. (Geology)	Senior Technician, 18641	06.08.2008
14.	Shri Sunil Kumar Mishra, B.A. & ITI Degree	Senior Technician, 18643	05.08.2008
15.	Shri Bansh Narayan Pal, Intermediate (Science)	Junior Technician, 10111	02.06.1980
16.	Shri Rajkumar Singh, Intermediate (Science)	Junior Technician, 16963	23.04.2004
17.	Shri Pyarelal, Intermediate & ITI Degree	Junior Technician, 19601	11.07.2012
Non-Teaching Staff			
1	Shri Ashish Shankar Gupta, M.A. in Sociology from IGNOU	Junior Assistant, 50082	08.05.2017
2	Ms. Neha Gautam, Master in Mass Communication & Journalism	Junior Assistant, 50120	27.07.2017

Short-term courses/workshops/seminars/symposia/conferences/training programmes *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Dr S. K. Palei	**9th Asian Mining Congress**	4-7 April 2022, Kolkata
2	Dr Rajesh Rai	5th International Conference on Civil Engineering and Architecture (ICCEA 2022)	Hanoi, Vietnam
3	Dr Rajesh Rai	Challenges in Safety and Environmental Management in Mines	Department of Mining Engineering,NIT Rourkela
4	Dr Rajesh Rai	Workshop on Blasting for Stable Slopes	Jodhpur, Rajasthan

Visits abroad by faculty members *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Dr Rajesh Rai	Vietnam	16 Dec 2022	21 Dec 2022	To attend the conference	CPDA

Honours and awards *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Award
1	Dr. G S P Singh	MGMI National Award of ***Excellence in Coal Mining 2022***
2	Dr. G S P Singh	D. N. Bhargava ***Best Teacher Award 2022***, IIT (BHU) Varanasi

Design and Development Activities

New facilities added *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Large size Direct Shear Testing Set Up	10.03
2	Plant Root Mapping System	6.85

Research and Consultancy: Sponsored research projects *(Ongoing only)*

Note: Sponsored project name is to be given only in case a faculty member is Project Incharge

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1	Whole Body Vibration Exposure on HEMM Operators in Surface Coal Mines – An Assessment of Various Contributing Factors	2019-2023	SERB, New Delhi	40.03	Dr S K Palei
2	Assessment of Work Posture of Mine Equipment Operators in Relation to Whole-Body Vibration Exposure – Using RULA, REBA and Human Modelling Approach	2023-2026	SERB, New Delhi	38.29	Dr S K Palei
3	Assessment of safe parting thickness and optimal goaf edge support requirement for extraction of pillars under soft cover	2023-2025	Coal India R&D	182.29	Prof. Sanjay K Sharma

Industrial consultancy projects *(Ongoing only)*

Sl. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
1	Dr. A.K. Singh(PI)	M/s Shree Abdul Basit, Chandasi Coal Seller (U.P.)	Coal Sample GCV Test	3800/-
2	Dr. A.K. Singh(PI)	M/s Sharma Enterprises	Coal Analysis	6,750/-
3	Prof. S.K. Sharma (P.I) Dr. G.S.P Singh, Dr. N Kishore	M/s SECL, NCPH Colliery, Chirmir Area, SECL	Scientific study for preparation, formulation and Implementation of Strata Control and Monitoring Plan as per CMR 1027 (123) & for preparation of support plan for proposed depillaring panel No. 57 N of Seam V of NCPH Colliery R-6 Mine, SECL	6,21,000
4	Dr. A.K.Verma (P.I.) Prof. P. Rai (Co.P.I.)	M/s GE (P) Gangtok, New Military Station Pin-900271, C/o 99 APO	Consultancy work field Tests and detailed engineering solutions for various sites for various sites of lands slides and sinking area in gangtok Mil Stn.	50,00,000
5	Dr. Ashok Jaiswal (P.I.)Dr. Rajesh Rai (Co.P.I.)	Kothagudem Colloeries, Bhadrachalam Road, Railway Station, Bhadradri Kothagudem, Telangana	Scientific study for suggesting suitable methods of extraction and strata monitoring of Panels 3B-S9 and 3A-S9 in 3B and 3A seams with stowing at SRP-1 Incline, SCCL	12,83,250/-
6	Dr. A.K.Verma (P.I.) Prof. P. Rai (Co.P.I.)	Central Coalfields Limited, Office of the Project Officer, Gidi-C Colliery, Argada Area	Scientific study to plan and design ultimate pit slope and dump slope with respect of mechanized working involving extraction of multiple virgin coal seams with removal of overburden at Gidi-C Colliery, Argada Area, CCL	12,00,000/-
7	Dr. C.S. Singh	Office of the project officer Tetulmari Colliery, Sijua, Dhanbad	Compressive Strength and Hardness test	19,175/-
8	Dr. Rajesh Rai (PI) Dr. Ashok Jaiswal	office of the Area General Manager, WCL, Kasturba Nagar, Jaripatka, Nagpur	Scientific study for work of rectification due to recent failure of alternating shale and sandstone above incrop of no.3 seam at Gondegaon OCP of Nagpur Area, WCL	2,36,000
9	Prof. S.K. Sharma (P.I) Dr. G.S.P Singh, Dr. N Kishore	M/s SECL, Dipika Expansion Project, Dipika Area, SECL	Validation of Blasting Pattern suggested on dated 24/08/2021 read as blasting pattern of different drill holes diameter at different distance from the blasting site of Dipka Expansion Project, Dipka Area, SECL	4,72,000
10	Dr. Rajesh Rai (P.I.), Dr. Ashok Jaiswal	M/s Indigo Infra Projects Pvt. Ltd.	Shoring work of four projects	7,08,000/-

Sl. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
11	Dr. Ashok Jaiswal (P.I.) Dr. Rajesh Rai (Co.P.I.)	M/s WCL, Ballarpur Area	Scientific Study for permission under Reg No. 123(1) scamp of CMR 2017 to Ascertain the roof condition and stability of pillars, during development of top section of panel J & Bottom ection of panel G4 of Ballarpur Colliery 3& 4 pits of Ballarpur Area, WCL	9,44,000/-
12	Dr. Piyush Rai (PI) Dr. Suresh Kumar Sharma (Co-PI)	M/s NCL, Singrauli	Sizing Distribution and analysis of coal production by surface miner at NCL	21,51,140/-
13	Prof. S.K. Sharma (P.I) Dr. G.S.P Singh, Dr. N Kishore	M/s Satgram Area, ECL	Scientific study of the use of steel plant rejected dust for stowing purpose in underground depillaring districts at Satgram Area, ECL	3,89,400/-
14	Dr. Rajesh Rai (P.I.) Dr. Ashok Jaiswal	M/s Dalmia Cement (Bharat) Limited	Study for slope stability of limestone mines	2,95,000/-
15	Dr. Ashok Jaiswal (P.I.) Dr. Rajesh Rai (Co.P.I.)	M/s The GM (R&D), SCCL	Scientific Study for the effect on surface forest land due to proposed caving panel No. 1A-S14 of the No.1 A seam laying at shallow depth at RKNT Incline, Srirampur Area	6,49,000/-
16	Dr. Ashok Jaiswal (P.I.) Dr. Rajesh Rai (Co.P.I.)	M/s The GM (R&D), SCCL	Scientific Study for non- workability of 15 No. of seams and suggesting suitable method of working for No. 1&3 seams of KTK No.1 & 1A Incline of BHP Area	17,11,000/-
17	Dr. Ashok Jaiswal (P.I.)Dr. Rajesh Rai (Co.P.I.)	M/s The GM (R&D), SCCL	Scientific Study of mining under Tellavagu as per modified EC conditions of PVK Incline, Kothagudem Area, SCCL	11,80,000/-
18	Dr. Rajesh Rai (P.I.) Dr. Ashok Jaiswal (Co P.I.)	M/s MOIL Limited	Evaluation of Stoping parameters at Ukwa mine of MOIL Limited	17,70,000/-
19	Dr. C.S. Singh (P.I)	M/s Eastern Coalfields Limited	Scientific study for determination of RMR for R-VIIA seam for preparing SCAMP in deploy at R-VIIA seam of Shvamsundarpur Colliery under Bankola Area, ECL	1,29,800/-
20	Dr. Suresh Kr. Sharma (PI) Dr. A.K. Verma (Co-PI)	M/s KCL-BBPL(JV)-Bhim Bahadur Karki	Vetting of Design and Drawing of Slope Protection Work	3,54,000/-
21	Dr. Suresh Kumar Sharma (PI) Prof. Piyush Rai (Co-PI)	Wani Area, WCL	Scientific Study as per sub Reg. 1 of Reg. 112 and sub Reg. 3 of Reg. 150 for Naigaon OC, Wani Area, WCL	9,32,200/-
22	Dr.C.S. Singh (PI) Prof. S.K. Sharma, Dr.G.S.P Singh, Dr. N Kishore	Khanak Mine, HSIIDC	Appointment of safety consultant for mining project of HSIIDC over an area 258.3 hectare at village Khanak, Teshsil Tosham, Dist. Bhiwani, Haryana	11,92,980/-
23	Dr. Ashok Jaiswal (P.I.) Dr. Rajesh Rai (Co.P.I.)	M/s The GM (R&D), SCCL	Scientific Study for non-workability of 1A, 1, II, LB-1, IIIB, IIIA, Salarjung (Top) and Ross seams ans suggesting suitable method of working with factor of safety for salarjung (Combined) & Salarjung (Bottom) seams at Shanthikhani Extension Mine, Mandamarri Area.	12,98,000/-
24	Dr. Ashok Jaiswal (P.I.) Dr. Rajesh Rai (Co.P.I.)	The Agent (Shyampur B Colliery), Mugma Area, ECL	Scientific study to ascertain long term stability of pillars and galleries lies beneath and within 45m of Marko Village and ultimately stability of markora village which comes under lease hold area of Shyampur B Colliery, Mugma Area, ECL	8,26,000/-

Sl. No.	Name of Faculty Member	Title	Industry	Amount (in lakhs of Rs.)
25	Dr. Ashok Jaiswal (P.I.) Dr. Rajesh Rai (Co.P.I.)	The GM(R&D), SCCL	Scientific study to predict subsidence values due to extraction of seams at IK-1A Incline with continous miner &SDLs to an extent of 182.78 Ha and prediction of subsidence values and strain values due to extraction of seams at IK OCP with shovel dumper combination to an extent of 673.337 Ha of Indaram Mining Lease, SRP Area, SCCL	6,78,500/-
26	Dr. N Kishore (P.I) Prof. S.K. Sharma Dr. G.S.P Singh	M/s ACML, Aditya Birla	Scientific Study for Amelia Coal Mine as specified in Regulation 106; Mechanised Opencast working in CMR-2017 and in accordance with the approved mine plan.	20,06,000/-
27	Dr. A.K. Verma (PI)	JMS Mining Pvt. Ltd., Kolkata	Scientific Studies for Underground Excavation at JMS HO Project	3,77,600/-
28	Dr. A.K. Verma (PI) Dr. C.S. Singh	HQ CE Project Yojak, Headquarters Chief Engineer Project Yojak, C/o 56 APO	Design and drawing for snow galleries, flexible snow barriers catch dams and avalanche protections system etc. on approch to shinkun LA tunnel on Darcha-padam road in himanchal pradesh	25,00,000
29	Dr. G.S.P Singh (PI) Prof. S.K. Sharma Dr. Nawal Kishore Dr. C.S. Singh	M/s Calcom Cement India Limited, A Subsidiary of Dalmia Cement Bharat Limited	Scientific study at New Umrangshu Limestone mine, Dalmia Cement Bharat Limited, Umrangso, Assam	34,22,000/-
30	Dr. A.K. Verma (PI) Dr. C.S. Singh	Military Engineer Services (Garrison Engineer)	Work for field tests and detailed engineering solutions for rock fall barrier at biamah	12,00,000/-
31	Dr. Ashok Jaiswal (PI) Dr. Rajesh Rai	BGR Mining & Infra Limited	Scientific study of opencast working as per regulations 106 of CMR 2017 DGMS Tech Circular 2020 for our Jamkhani Project, Odisha	13,86,500/-
32	Dr. A.K. Verma (PI)	Spar Geo Infra Pvt. Ltd.	Vetting and proof Checking for various tratement of slope Failure and River Protection Projects	4,80,000/-
33	Dr. Ashok Jaiswal (PI) Dr. Rajesh Rai	The GM(R&D), SCCL	Scientfic study for non-workability of 1B, 1A(Top). 1A(Bottom), II(Top), IIIC, IIIB, IIIA, III(Bottom), IVA, 1A4, IV and V seams of KTK-6 Incline, Bhupalpally Area of SCCL	9,44,000/-
34	Dr. C.S. Singh (P.I) Dr. A.K. Verma	JMS Mining Pvt. Ltd., Kolkata	Scientific study for Determination of RMR at Khairaha and Kumardih-B LH CM Project	3,54,000/-
35	Dr. Suresh Kumar Sharma (PI) Prof. Piyush Rai (Co-PI)	The GM(R&D), SCCL	Scientific study to formulate drilling and blasting parameters while woking near the villages, hillocks, nallahs over the UG galleries in order to ensure the safety to public, stability of hillocks, nallahs and stability of the working benches over the UG galleries in the proposed Goleti OC mine, Bellampalli Area of SCCL	7,99,993/-
36	Dr. Suresh Kumar Sharma (PI)	M/s KCL-BBPL(JV)-ADIH Infrastrcture Private Limited	Vetting of Design and Drawing of Slope Protection Work	3,54,000/-
37	Dr. C.S. Singh (PI)	Bhanora EB EG, Bhanora West Block Colliery, Dist. Burdwan (W.B), ECL	Scientfic Study for Determination RMR of new district 22 ED/13L of Sirpur Seam (R-VI) in respect of Bhanora West Block Colliery, Sripur Area, ECL	1,29,800/-
38	Dr. A.K. Singh (PI)	CCO, Ranchi	Proximate and GCV analysis of coal sample	2,75,000/-
39	Dr. Rajesh Rai (PI) Dr. Ashok Jaiswal	Sasan Power Ltd., MMAEOCP, Waidhan, Singrauli (M.P.)	Slope stability study	3,89,400/-

Research Publications *(From 1st April 2022 to 31st March 2023)*

Sl. No.		No.
1	Total Number of Papers Published in Refereed National Journals	6
2	Total Number of Papers Published in Refereed International Journals	6
3	Total Number of Papers Presented in National Conferences	1
4	Total Number of Papers Presented in International Conferences	1

Refereed International Journals *(From 1st April 2022 to 31st March 2023)*

1. Galav A, Singh GSP and Sharma S K (2022), A Numerical Modeling Approach for Assessment of Seepage Characteristics and Performance of Protective Water Barrier Pillars in Underground Coal Mines, Mining, Metallurgy & Exploration 39 (5), 2047-2063
2. Paliwal M, Goswami H, Ray A, Bharti A K, Rai, R and and Khandelwal M (2022), Stability Prediction of Residual Soil and Rock Slope Using Artificial Neural Network, Advances in Civil Engineering, Volume 2022, Article ID 4121193, 14 pages https://doi.org/10.1155/2022/4121193
3. Karira D, Ray A, Bharti A K, Chaturvedi U, Rai R and Khandelwal M (2022) Stability prediction of a natural and man-made slope using various machine learning algorithms Transportation Geotechnics Volume 34, May 2022, 100745.
4. Sahu A. R. and Palei S.K. (2022) Fault Analysis of Dragline Subsystem Using Bayesian Network Model. Reliability Engineering & System Safety. 225: 1-13.
5. Deepak Kumar, Debasis Jana, Suprakash Gupta and Pawan Kumar Yadav (2023) Reliability Assessment of Dragline's subsystem using Dynamic Bayesian, **International Journal of Industrial and Systems Engineering**, DOI: 10.1504/IJISE.2023.10054814.
6. Deepak Kumar, Debasis Jana, Suprakash Gupta and Pawan Kumar Yadav (2023) Bayesian Network Approach for Dragline Reliability Analysis: a Case Study **Mining, Metallurgy & Exploration**, https://doi.org/10.1007/s42461-023-00729-x.

Refereed National Journal *(From 1st April 2022 to 31st March 2023)*

1. Chaturvedi A. and Singh GSP (2022), Influence of Interface and Induced Seismicity on Overburden Dump Slope Stability, Journal of Current Science, 123 (6), 797-803
2. Gupta G, Sharma S K and Singh G S P (2022) Dump Slope Stability Analysis Using Artificial Intelligence, Mines, Metals and Fuels 70 (3), 129-135
3. Verma H, Rai R, Choudhary B S and Manna B (2022), Numerical Simulation of Excavation in Opencast Mine and its Effect on Ground Vibration, J. Inst. Eng. India Ser.D, https://doi.org/10.1007/s40033-022-00376-4
4. Deepak Kumar, Debasis Jana, Pawan Kumar Yadav and Suprakash Gupta (2022) Reliability Analysis of Dragline Subsystem using bayesian Network Approach, **Journal of Mines, Metals & Fuels**, 70(7): 341-353. DOI: 10.18311/jmmf/2022/31958.
5. Debasis Jana, Deepak Kumar, Suprakash Gupta and Kisan Kumar Gupta (2023) Availability Optimization of a Dragline Subsystem using Bayesian Network, **Journal of The Institution of Engineers (India): Series D**, https://doi.org/10.1007/s40033-023-00457-y.
6. Arra Kumar, Gunda Yuga Raju and Suprakash Gupta (2023) Development of a predictive model for workers' involvement in workplace accidents in an underground coal mine, **Sadhana**, (2023), https://doi.org/10.1007/s12046-023-02121-3.

Proceedings of International Conferences *(From 1st April 2022 to 31st March 2023)*

1. Singh K.J., Palei S. K., Karmakar N. C. 2022. Postural risk assessment of heavy earthmoving machinery operators in opencast coal mine. 9th Asian Mining Congress on Technological Advancements in Mining Industry: Status and Challenges, April 4-5, 2022, MGMI, Kolkata, India, pp. 341-346.

30. Proceedings of National Conferences *(From 1st April 2022 to 31st March 2023)*

1. Ankita, Dubey R P, Jaiswal A and Rai R (2022), Application of Numerical Modelling for Rock Reinforcement, Challenges in Safety and Environmental Management in Mines, June 17th-19th, 2022.

Kindly Provide Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years

1. G.S.P. Singh, U.K. Singh (2009) A numerical modeling approach for assessment of progressive caving of strata and performance of hydraulic powered support in longwall workings, Computers and Geotechnics, Volume 36, Issue 7, Pages 1142-1156

   A numerical modeling approach is proposed for predicting the progressive caving behaviour of strata and performance of powered roof support in a given geo-mining and strata condition. The study suggests that face convergence slope of 75mm/m of face advance may be considered as the maximum permissible value for selection of optimal capacity support for safe working in a given strata condition. The study also reveals that en-masse caving of strata is responsible for dynamic loading leading to collapse of supports if they are not designed to discharge the fluid at the desired rate.

2. D.C.Jharia, T. Kumar, H.K Pandey, D Kumar and **N. Kishore, (2019)** Assessment of Groundwater Vulnerability to Pollution by Modified DRASTIC Model and Analytic Hierarchy Process, Environmental Earth Sciences**,**Vol.78, Issue10, p. 78:610

   Effective management of the groundwater resources became an important factor for the growth of urbanized areas, especially for the sector which has considerable agricultural and industrial activities. Along with quantity, assessment of the groundwater quality also plays an important role in its growth. Tandula watershed is one of the populated areas in the Balod district, Chhattisgarh state, which needs an assessment on the groundwater vulnerable zones for its effective management. The vulnerable zones of the study area have been assessed with the help of DRASTIC, DRASTIC–AHP, and modified DRASTIC–AHP methods. The models have been developed with the help of seven parameters which are depth to water, net recharge, aquifer media, soil media, topography, the impact of vadose zone, and hydraulic conductivity. The resulted groundwater pollution vulnerability in the study area has classified into five categories such as very low, low, moderate, high, and very high. Cross-comparison and validation of the model with 77 groundwater samples which contain Nitrate concentration were considered and concluded that the modified DRASTIC–AHP model is most accurate and suitable for the present study area. The study also revealed that groundwater in the study area is contaminated by Nitrate pollution due to excessive application of fertilizers in agricultural activities and improper sewage disposal.

3. Palei, S. K. and Das, S. K. (2009). Logistic regression model for prediction of roof fall risks in bord and pillar workings in coal mines: An approach, Safety Science, 47(1): 88-96.

   The roof fall hazards are the major problems in underground coal mines, which are generally unpredictable due to the associated uncertainties arising out of the complexity of geological conditions and variability in mining parameters. During the six year period, 1996–2001, 253 Indian coal miners lost their lives and 401 are seriously injured in 490 different roof fall accidents. In India, 32.7% of the total fatal injuries in coal sectors are due to roof fall in bord and pillar method of workings. This paper attempts to predict the severities of roof fall accidents based on some major contributing parameters using the binary logistic regression model. In total, 128 roof fall accidents for the last few years from five underground coal mines in India having bord and pillar method of working are analyzed for this study. The results revealed that wider gallery width is more prone to major and serious accidents than narrower gallery width. Thin seams are more amenable to major accidents in comparison to thick seams. Unsupported or partially supported roofs have higher risk for contributing major as well as serious accidents. Deep workings are more prone to major accidents as compared to shallow depth workings.

4. Ray, A., Kumar, V., Kumar, A. *et al.* Stability prediction of Himalayan residual soil slope using artificial neural network. *Nat Hazards* **103**, 3523–3540 (2020). https://doi.org/10.1007/s11069-020-04141-2

   In the past decade, advances in machine learning (ML) techniques have resulted in developing sophisticated models that are capable of modelling extremely complex multi-factorial problems like slope stability analysis. The literature review indicates that considerable works have been done in slope stability using ML, but none of them covers the analysis of residual soil slope. The present study aims to develop an artificial neural network (ANN) model that can be employed for evaluating the factor of safety of Shiwalik Slopes in the Himalayan Region. Data obtained from numerical analysis of a residual soil

slope were used to develop two ANN models (ANN1 and ANN2 utilising eleven input parameters, and scaled-down number of parameters based on correlation coefficient, respectively). A four-layer, feed-forward back-propagation neural network having the optimum number of hidden neurons is developed based on trial-and-error method. The results derived from ANN models were compared with those achieved from numerical analysis. Additionally, several performance indices such as coefficient of determination (R^2), root mean square error, variance account for, and residual error were employed to evaluate the predictive performance of the developed ANN models. Both the ANN models have shown good prediction performance; however, the overall performance of the ANN2 model is better than the ANN1 model. It is concluded that the ANN models are reliable, valid, and straightforward computational tools that can be employed for slope stability analysis during the preliminary stage of designing infrastructure projects in residual soil slope.

5. M Mohammadi, P Rai, S Gupta (2017), Performance evaluation of bucket based excavating, loading and transport (BELT) equipment–an OEE approach, **Archives of Mining Sciences 62 (1)**

   Overall Equipment Effectiveness (OEE) has been used since last over two decades as a measure of performance in manufacturing industries. Unfortunately, enough, application of OEE in mining and excavation industry has not been duly adopted. In this paper an effort has been made to identify the OEE for performance evaluation of Bucket based Excavating, Loading and Transport (BELT) equipment. The conceptual model of OEE, as used in the manufacturing industries, has been revised to adapt to the BELT equipment. The revised and adapted model considered the operational time, speed and bucket capacity utilization losses as the key OEE components for evaluating the performance of BELT equipment. To illustrate the efficacy of the devised model on real-time basis, a case study was undertaken on the biggest single bucket excavating equipment - the dragline, in a large surface coal mine. One-year data was collected in order to evaluate the proposed OEE model.

Key Insturments:

Large size direct shear automatic testing system for dump material

Closed loop stiff loading system

16.Department of Pharmaceutical Engineering & Technology

Complete Name of Department: Department of Pharmaceutical Engineering & Technology

Year of Establishment: 1932

Head of the Department: Prof. Siva (Mrs.) Hemalatha w.e.f. 27-02-2022

Brief Introduction of the Department:

Department of Pharmaceutical Engineering & Technology is a pioneer in Pharmaceutical education in India at University level and established in July 1932 by Prof. Mahadev Lal Schroff under the auspicious guidance of Mahamana Madan Mohan Malaviya Ji. Initially, a two-year programme was introduced in 1934 for the degree of B.Sc. (Pharmaceutical Chemistry). Later, the department has expanded academically by the inception of B.Pharm. (1937), M.Pharm. (1941), Ph.D. (1945) and integrated dual degree (2006) as its regular programmes. In the year 2014, the UG and IDD programmes were restructured and renamed as 4-year B Tech Programme in Pharmaceutical Engineering and Technology and 5-year IDD (B Tech & M Tech) programme in Pharmaceutical Engineering and Technology, respectively.

The Department has produced over 2150 B.Pharm., 1240 M.Pharm., 65 M.Pharm.(Integrated Dual Degree) and 142 Ph.D. students who enjoy leading positions in industry, academia, drug administration, research institutes and contemporary pharmacy practice worldwide. The Department has hosted many national and international events and to name a few are the 17th, 34th & 59th editions of Indian Pharmaceutical Congress in the year 1965, 1982 & 2007 in conjunction with Silver Jubilee, Golden Jubilee and Platinum Jubilee of the Department, respectively.

Major Areas of Research

The department is actively engaged in the following broad areas of drug discovery research.

Drug discovery – Identification and optimization of new chemical agents from natural and synthetic origin for the treatment of diabetes, epilepsy, depression, pain, Alzheimer's disease, cancer, tuberculosis and other infectious and neurological diseases.

Drug formulation design and development – Design and development of new drug delivery systems with improved pharmacokinetic and pharmacodynamics profiles**.**

Area of the Department (in square meters): The department is spread over an area of 5823 m^2. The department has 26 laboratories, 2 lecture halls and 6 classrooms.

Infrastructure

Sl. No.	Particulars	Number
1	No. of classrooms	06
2	No. of lecture halls	02
3	No. of laboratory	26
4	No. of computers available for students in the Department	40

Unique Achievement / Preposition of the Department/School

The Department of Pharmaceutical Engineering & Technology is the pioneer department to start the degree level pharmacy education in the Country and in South-east Asia. This department is known for its enormous contribution to the growth and expansion of pharmaceutical education and research across the country. In pursuit of achieving its goal, the department has been continuously imparting quality education to produce pharmacists befitting to the requirements of industry and society. Recently the department introduced a research based undergraduate and integrated dual degree curriculum to impart innovative research skills and expertise among the students. Recent the department has proposed to start a new M. Pharm. programme; Quality Control in Pharmaceuticals and Medical Devices and is currently under review at the Institute level. The new M Pharm programme is aimed to provide the students in-depth knowledge of the quality methods for pharmaceutical substances and drug products prescribed in Indian Pharmacopoeia (IP) and enable them to gain extensive practical training on such products (including medical devices) in collaboration with Indian Pharmacopoeia Commission (IPC).

The department as National Resource Centre in Pharmacy discipline has been hosting *Advances in Drug Discovery and formulation development* course under the Annual Refresher Programme in Teaching (ARPIT 2019) programme of AICTE, New Delhi for the last two years. Over four thousand teachers of Pharmacy and Allied disciplines has been trained through this online outreach teaching programme

On the research front, the department has been actively engaged in the cutting-edge research areas of drug discovery and development. The R & D expertise available in the department includes; (a) New drug target identification and validation; (b) Discovery of natural and synthetic lead compounds and their optimization; (c) Development of novel drug delivery systems including nano-formulations for synthetic and herbal drugs; (d) Authentication and standardization of herbal products; (e) Preclinical evaluation of drug candidates; (f) Analytical method development for drugs and drug formulations.

Apart from institute funded research projects, extramural research funding to the tune of about two crores has been generated during the last two years. Recently the department has been recognised as a **DST FIST Sponsored Department** to establish state of the art research facilities and has been granted an amount of Rs. 58.00 lakh. To date, nearly 1700 peer-reviewed research papers have been documented by the department. Approximately ~700 research communications have been registered with Scopus alone. During the last five years, the department has published over 350 peer-reviewed research papers. Besides this, a dozens of patents have been filed by the faculty members during the last five years. The high order research credits of faculty members viz., total citations ~26000, further corroborates the research strength of the department of Pharmaceutical Engineering & Technology.

Some of the key research accomplishments of the department in the area of drug discovery and development include; (a) discovered of some potential multifunctional anti-Alzheimer's and anticancer lead compounds, active at nanomolar to micromolar concentration, (b) enhancement of bioavailability and efficacy of drugs through nano-formulations and target-directed carrier systems, (c) identified newer cellular and molecular mechanisms involved in neuropathic pain,(d) developed a bioactive glass based formulation for the treatment of cerebral ischemia, and(e) created a well characterized natural product library of over hundred compounds from plants and microbial origin.

On an average the faculty members of the department publish around 60-70 peer-reviewed research papers annually. Over 25 patent applications have been filed by the faculty members so far.

Students on Roll *(From 1st April 2022 to 31st March 2023)*

(Please give No. of students only in respective years)

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1.	B. Tech/B.Arch	78	44	40	32	--
2.	Dual Degree	18	14	11	18	15
3.	M. Tech/ M. Pharm	41	19	--	--	--
4.	Ph. D (Under Institute Fellowship)	04	07	04	15	12
5.	Ph. D (Under Project Fellowship)	--	04	03	03	04
6.	Ph. D (Under Sponsored Category)	--	05	02	--	--

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/Workshop	Date & Venue	Financial Assistance From
ÌNDIA					
1	Himanshu Rai	19161501	CONTEMPORARY FACETS IN ORGANIC SYNTHESIS (CFOS-2022). Organized by. Department of Chemistry, Indian Institute of Technology Roorkee Uttarakhand	01- 04 December 2022 Roorkee Uttarakhand	IIT (BHU) Varanasi
2	Gauri Shankar	19161502	CONTEMPORARY FACETS IN ORGANIC SYNTHESIS (CFOS-2022). Organized by. Department of Chemistry, Indian Institute of Technology Roorkee Uttarakhand	01- 04 December 2022 Roorkee Uttarakhand	IIT (BHU) Varanasi
3	Gourav Singh	18161508	CONTEMPORARY FACETS IN ORGANIC SYNTHESIS (CFOS-2022). Organized by. Department of Chemistry, Indian Institute of Technology Roorkee Uttarakhand	01- 04 December 2022 Roorkee Uttarakhand	IIT (BHU) Varanasi

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/Workshop	Date & Venue	Financial Assistance From
4	Gajindra T. A	19161003	International Symposium on Recent Advances in Research on Healthy Aging and Future Challenges & 20th Biennial Meeting of Association of Gerontology(India) B.H.U Varanasi	05-07 November 2022 BHU Varanasi	IIT (BHU) Varanasi
5	Akash Verma	19161012	SKICON-2023, The 1st International conference on "RECENT ADVANCE IN TRANSLATIONAL RESEARCH AND MOLECULAR MEDICINE" Indore(M.P)	24-25 February 2023 Indore(M.P)	IIT (BHU) Varanasi
6	Poorvi Saraf	19161010	SKICON-2023, The 1st International conference on "RECENT ADVANCE IN TRANSLATIONAL RESEARCH AND MOLECULAR MEDICINE" Indore(M.P)	24-25 February 2023 Indore(M.P)	IIT (BHU) Varanasi
7	Deepak Chouhan	21161005	37th Annual National Conference of Indian Society for Study of Pain ISSPCON 2023 ,SGRD University of Health Sciences, Mehta Road, Sri Amritsar	03 -05 February 2023 Amritsar	IIT (BHU) Varanasi
8	Abhipshit Kalita	21162025	37th Annual National Conference of Indian Society for Study of Pain ISSPCON 2023 ,SGRD University of Health Sciences, Mehta Road, Sri Amritsar	03 -05 February 2023 Amritsar	IIT (BHU) Varanasi
9	Dulla Naveen Kumar	20161506	8th edition of biennial International conference on "Nanotechnology for Better Living (NBL-2023)" is being organized by NIT Srinagar (J&K)	25 – 29 May 2023 Srinagar (J&K)	IIT (BHU) Varanasi
10	Deepa Dehari	18161505	8th edition of biennial International conference on "Nanotechnology for Better Living (NBL-2023)" is being organized by NIT Srinagar (J&K)	25 – 29 May 2023 Srinagar (J&K)	IIT (BHU) Varanasi
11	Rohit Patil	21162006	8th edition of biennial International conference on "Nanotechnology for Better Living (NBL-2023)" is being organized by NIT Srinagar (J&K)	25 – 29 May 2023 Srinagar (J&K)	IIT (BHU) Varanasi
12	Aiswarya Chaudhuri	20161502	8th edition of biennial International conference on "Nanotechnology for Better Living (NBL-2023)" is being organized by NIT Srinagar (J&K)	25 – 29 May 2023 Srinagar (J&K)	IIT (BHU) Varanasi
ABROAD					
1	Vineeta Tiwari	18161515	FENS Forum 2022 - Federation of European Neuroscience Societies. The FENS Forum of neuroscience is the largest international neuroscience meeting in Europe.	09 -13 Jul 2022 Europe	IIT (BHU) Varanasi

Names of students/scholars who got prizes and awards outside the Institute *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	Dipa Debnath	21162039	Second Best Poster Award	12th -16th December 2022, University of Hyderabad	IBRO-APRCSNCI School (International Brain Research Organization)

Names of scholars/students who won Convocation/Institute Day prizes *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
1	Ms. Shloka Negi	18165045	Medal for standing First at the B.Tech. in Pharmaceutical Engineering & Technology Examination, 2022	I.I.T.(B.H.U.)
			President's Gold Medal for outstanding performance in academics among all disciplines of B.Tech. Examination 2022	I.I.T.(B.H.U.)
			Late Shri Shyam Sunder Lal Razdan Memorial Gold Medal for securing highest percentage of marks in B.Tech. Examination, 2022	I.I.T.(B.H.U.)
			Prof. Gopal Tripathi Memorial Gold Medal for securing highest marks at the B.Tech. Examination, 2022. ef). g). h). i). j). k)	I.I.T.(B.H.U.)
			Smt. Arati Paul and Prof. Binod Bihari Paul Gold Medal for securing highest marks in IV Year Examination among all the students of B.Tech. Examination, 2022.	I.I.T.(B.H.U.)

Sl. No.	Name of Student	Roll No.	Name of Prize	Prize awarded by
			Umesh Pratap Singh Gold Medal for First Rank at the B.Tech. Examination, 2022 among all the branches	I.I.T.(B.H.U.)
			Late Dr. R.N. Singh and Mrs. Uma Singh Medal for securing highest CPI among the girl students at the B.Tech. Examination, 2022	I.I.T.(B.H.U.)
			Aruna and Malviya Medal for standing First at the B.Tech. in Pharmaceutical Engineering & Technology Examination, 2022	I.I.T.(B.H.U.)
			Late Sundari Devi Gold Medal for securing highest CPI > 8.50 as a girl student in Pharmaceutical Engineering and Technology at the B.Tech. Examination, 2022	I.I.T.(B.H.U.)
			Shri J.N. Kapoor Gold Medal for securing First position at the B.Tech. in Pharmaceutical Engineering & Technology Examination, 2022	I.I.T.(B.H.U.)
			Shri Raj Kishore Kapoor Silver Medal for securing highest marks at the B.Tech. Examination, 2022. l)	I.I.T.(B.H.U.)
			Dr. Annie Besant Prize (in the forms of books by Dr. Annie Besant including copy of the 'Bhagavadgita') for standing First position among all the branches of B.Tech. Examination, 2022	I.I.T.(B.H.U.)
			Late Prof. G.P. Srivastava (Prize Rs. 200/= in the form of books) for standing First at the B.Tech. in Pharmaceutical Engineering & Technology Examination, 2022	I.I.T.(B.H.U.)
2	Shri N Narashiv Shenoy	17164006	Medal for standing First at the 5-Year I.D.D.(B.Tech.-M.Tech.) Pharmaceutical Engineering and Technology Examination, 2022.	I.I.T.(B.H.U.) Varanasi

Names of Students/Scholars who went for foreign Internship *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of the Organization	Place of Internship	Country	Duration
1	Prabha Rajput	17161007	Department of Medicinal Chemistry and Molecular Pharmacology, College of Pharmacy, Purdue University	West Lafayette, Indiana	USA	1 Year (01.03.2021-02.09.2022)
2	Bhagwati Bhardwaj	19161011	Department of Medicinal Chemistry and Molecular Pharmacology, College of Pharmacy, Purdue University	West Lafayette, Indiana	USA	1 Year (01.03.2021-02.09.2022)

Faculty & their Activity: Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
PROFESSORS			
1	Brahmeshwar Mishra (M.Pharm., Ph.D.)	10-08-1988	Pharmaceutics –Rate Controlled Novel Drug Delivery Systems, Nanotechnology based drug formulations Pharmacokinetics and Pharmacodynamics
2	Sushil Kumar Singh (M.Pharm., Ph.D.)	21-02-1989	Pharmaceutical Chemistry –Chemistry of Natural Drug Products, Synthetic Analogues and Evaluation of their Biological Activity
3	Sanjay Singh (M.Pharm., Ph.D.)- on deputation	03-04-1993	Pharmacology – Nanomedicine, PK/PD Modeling, Stress and Diabetic Pharmacology
4	Sushant Kumar Shrivastava (M.Pharm., Ph.D.)	19-06-2000	Pharmaceutical Chemistry – Rational Drug Design and Molecular Modeling
5	S. Hemalatha (M.Pharm., Ph.D.)	29-07-2005	Pharmacognosy – Pharmacognostical and Pharmacological Evaluation of Indian Medicinal Plants
6	Sairam K (M.Pharm., Ph.D.)	05-04-2003	Pharmacology – Neuropharmacology, Mitochondrial Medicine, New Drug Discovery, Organelle Targeted Drug Development
ASSOCIATE PROFESSORS			
1	Senthil Raja A (M.Pharm., Ph.D.)	18-07-2009	Pharmaceutical Chemistry – Synthetic Medicinal Chemistry, Computational Chemistry, Lead identification and Optimization
2	Alakh Niranjan Sahu (M.Pharm., Ph.D.)	08-12-2014	Development and characterization of rational novel drug delivery systems and nanomaterials from natural products for therapeutic and environmental utilities

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
3	Ruchi Chawla (M.Pharm., Ph.D)	17-10-2016	Pharmaceutics – Nano-drug Delivery System and Pharmacokinetics
4	M.S. Muthu (MS., Ph.D.)	02-01-2010	Pharmaceutics –Cancer Nanotechnology, Theranostics, Anti-psychotic nanomedicine
5	Gyan Prakash Modi (M.Pharm., Ph.D.)	14-12-2013	Pharmaceutical Chemistry – Design, Development of Novel Drugs to Treat Infections and CNS Disorders
6	Vinod Tiwari (M.Pharm., Ph.D.)	19-06-2012	Pharmacology: Cellular molecular mechanisms driving Neuropathic Pain, Role of reward circuitry in Chronic Pain, Targeting Kinesins for the treatment of neuropathic pain
ASSISTANT PROFESSORS			
1	Sunil Kumar Mishra (M.Pharm., Ph.D.)	02-11-2013	Pharmacognosy – Medicinal & Aromatic Plants (MAP) Research, MAP Tissue Culture, Natural Drugs
2	Prasanta Kumar Nayak (M.Pharm., Ph.D.)	25-05-2013	Pharmacology –Brain injury; Memory impairment; Breast cancer; Gallbladder cancer
3	Shreyans Kumar Jain (MS, Ph.D.)	15-09-2015	Medicinal Chemistry of Natural Products
4	Ashish Kumar Agrawal (M.Pharm, Ph.D.)	15-06-2015	Pharmaceutical Nanotechnology and drug delivery
5	Rajnish (MPharm, Ph.D)	07-03-2014	Pharmaceutical and Medicinal Chemistry
6	Deepak Kumar (M.Pharm., Ph.D.) Ramalinga Swami Fellow	09-11-2016	Medicinal Chemistry, natural product chemistry, bioluminescent chemistry
7	Dinesh Kumar (M.Pharm., Ph.D.)	03-02-2017	Crystal engineering of APIs, Solid state pharmaceutical research, Understanding of pharmaceutical APIs, formulations and their processing
8	Jairam Meena (M.Pharm., Ph.D.)	31-10-2016	Pharmacology-Vaccine Immunology, Immunotherapy, Drug Delivery
SENIOR RESEARCH OFFICER			
1.	Ashok Kumar (M.Sc., Ph.D.)	1993	Pharmaceutical Chemistry – Synthesis and Characterization of Novel Compounds
DST INSPIRE/Ramalingaswami Faculty			
1.	Arun Khattri, Ph.D.	2010	Cancer Biology, bioinformatics and human genetics

Technical and Non-Teaching Staff

Sl. No.	Name, Qualifications	Designation & Employee No.	Date of Appointment in the department
Office Staff			
1.	Sh. Atul Kumar Gupta, B.Tech. (Electrical)	Senior Assistant, 50109	21-05-2017
2.	Sh. Yashwant Singh, M.A.	Skilled Clerical Staff (Ex cadre)	27-04-2015
3.	Sh. Anand Kumar, B.A.	Caretaker cum Clerk	06-12-2016
4.	Sh. Surya Pratap Singh, Intermediate	Unskilled	01-05-2019
Library Staff			
1.	Sh. Naveen Kumar, Diploma in Mechanical Engg	Technical Assistant (Skilled)	19-08-2021
Laboratory Staff			
1.	Smt. Archana Singh, M.Sc	Senior Technical Superintendent, 18747	15-12-2008
2.	Sh. Virendra Kumar, I Sc.	Technical Superintendent, 14187	15-10-1998
3.	Sh. Arun Kumar, Intermediate	Junior Technical Superintendent, 18624	02-07-1996
4.	Sh. Akhila Nand Upadhyay, B. Sc., D. Pharm.	Junior Technical Superintendent, 18628	07-08-2008
5.	Sh. Mohd. Jameel, Intermediate	Junior Technical Superintendent, 18633	02-07-1996
6.	Sh. Amit Kumar, Intermediate	Junior Technical Superintendent, 17371	03-12-2015
7.	Sh. Sunil Kumar Singh, Diploma in Electrical Engg	Junior Technical Superintendent, 19269	20-12-2013

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

(From 1st April 2022 to 31st March 2023)

Sl. No.	Cordinator	Title	Period
1	Dr. Alakh N Sahu (Coordinator) Dr. Jairam Meena (Co-coordinator)	Workshop: "DST-STUTI-A hands on training on flow cytometry"	29-11-2022 to 05-12-2022
2	Dr. G.P. Modi	Workshop on biological evaluation of Brain Targeting Molecules. Under SERB (SSR) Policy	November 10-12, 2022
3	Dr. Rajnish Kumar (coordinator) Dr. Vinod Tiwari	Workshop: Hands on Workshop on the application of Artificial Intelligence Drug Discovery, IIT (BHU), Varanasi.	9-3-2023 to 13-3-2023
4	Dr. Rajnish Kumar	Workshop: Artificial Intelligence in drug Discovery (AIDD)	23-5-2022 to 29-5-2022

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Prof. B. Mishra	"Role of Pharmacokinetics in Drug Discovery" in Hands-on Workshop on "Applications of Artificial Intelligence in Drug Discovery (A2ID2)"	8-3-2023 to 13-3-2023, Department of pharmaceutical engineering and technology, IIT (BHU)
2	Prof. B. Mishra	"Risk Management for Effective Medication" in workshop "Biological assessment of brain targeting compounds"	10-11-2022 to 12-11-2022, Department of pharmaceutical engineering and technology, IIT (BHU)
3	Prof. B. Mishra	AICTE Sponsored National Conference on" New Approaches and Novel Therapies of Natural Product and Medicine: Strengthening Global scenario"	17-10-2022 & 18-10-2022, Department of pharmaceutical engineering and technology, IIT (BHU).
4	Dr. Ruchi Chawla	Faculty Training Program in frontier and specialized areas of agriculture and allied sciences (2022-23) on the topic "Recent advances in Food and Bio-processing Technology."	4-11-2022, Department of Dairy Science and Food Technology, Institute of Agricultural Sciences, Banaras Hindu University.
5	Dr. Vinod Tiwari	One-day National symposium on "Challenges and Opportunities in the Management of Neurological Disorders".	7-12-2022, NIPER Guwahati, Changsari Campus
6	Dr. Vinod Tiwari	International Workshop sponsored by SERB on "Role of Artificial Intelligence and Machine Learning in Drug Discovery	14-12-2022, Institute of Pharmacy, HCPG College,Bawanbeegha, Azamgarh Road Varanasi
7	Dr. Vinod Tiwari	International Conferences on Environment and Human Health: Global Issues	8-12-2022, Gurukula Kangri (Deemed to be University), Haridwar, Uttarakhand, India
8	Dr. Vinod Tiwari	IBRO-APRC Associate School on "Advances in Nano Neurotherapeutics and Neurological Disorders"	November-2022, ISF College of Pharmacy, Moga, Punjab.
9	Dr. Vinod Tiwari	One Week Faculty Development Programme" on "Recent advancement in Pharmaceutical Discoveries	24-10-2022, IFTM University, Moradabad.
10	Dr. Vinod Tiwari	IBRO-APRC sponsored Neuroscience School on "Neuroprotective Potential on Medicinal Plants and Phytochemicals in Neurodegenerative Disorders	12-9-2022 to 18-9-2022, Banaras Hindu University, Varanasi, India.
11	Dr. Vinod Tiwari	Faculty Development Program on "Exploring Multidisciplinary Avenues in Pharmaceutical Education and Research".	8-8-2022 to 20-8-2022, G.H.G. Khalsa College of Pharmacy, Gurusar Sadhar, India.
12	Dr. Vinod Tiwari	National Workshop sponsored by SERB grant on Artificial Intelligence in Drug Discovery: Quickening the Pace from Bench to Bedside	23-5-2022 to 29-5-2022, Indian Institute of Technology (B.H.U), Varanasi, India.
13	Dr. Dinesh Kumar	National IP Awareness Mission	18-4-2023 (online)
14	Dr. Rajnish Kumar	Application of AI in Drug Discovery (A2ID2)	09-3-2023 to 13-3-2023, IIT (BHU), Varanasi

Sl. No.	Name of Faculty Member	Title	Period and Venue
15	Dr. Deepak Kumar	Challenges & Opportunities in Drug Discovery using Biotechnology	25-11-2022 & 26-11-2022
16	Dr. Deepak Kumar	Bioluminescence based monitoring ofbtumor progression and treatment by apoptotic pathway	1-12-2022
17	Dr. Deepak Kumar	Role of Artificial Intelligence and Machine Learning in Drug Discovery	12-12-2022
Meetings			
1	Ruchi Chawla	Nanotheranostics for brain diseases and dysfunction, Co-presented with: Prof. Supriya Mahajan (University of Buffalo),	28-11-2022 to 30-11-2022, Indo-US Joint Meeting, IIT Delhi
2	Dr. Vinod Tiwari	International Society for the Study of Pain Conference 2023 (ISSPCON23)	3-2-2023 to 5-2-2023, SGRD University, Amritsar
3	Dr. Vinod Tiwari	Young Investigators' Meeting	13-2-2023 to 17-2-2023, Gandhinagar and Ahmedabad
4	Dr. Vinod Tiwari	International SYMPOSIUM on Current Trends in Drug Discovery Research	12-3-2022 to 14-3-2022, CDRI-Lucknow

Special lectures delivered by faculty members in other institutions *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1	Prof. B. Mishra	"Risk Management for Effective Medication" during 8th Faculty Induction Programme	HRDC BHU	16-3-2023
2	Prof. B. Mishra	"Risk Management for Effective Medication" in 21 days advanced faculty training (CAFT) in Recent advances in food and bioprocessing technology	Department of Dairy Science and Technology, BHU	2-11-2022
3	Prof. B. Mishra	Risk Management for effective Medication during Fifth Faculty Induction Programme, by UGC-HRDC, BHU	UGC-Human Resource Development Centre, BHU	21-7-2022.
4	Dr. Ruchi Chawla	Different dosage forms and its quality assessment	Department of Prasuti Tantra, Faculty of Ayurveda I.M.S., B.H.U.,VARANASI	22-10-2022
5	Dr. M.S. Muthu	Nanomedicine: targeted drug delivery approaches for diagnosis and therapy	NIPER, Hajipur	18-11-2022
6	Dr. Vinod Tiwari	How to write winning grants and Effective Research Manuscript	Dr. M.S. Gosavi College of Pharmaceutical Education & Research, Nashik	23-03-2023
7	Dr. Vinod Tiwari	Artificial intelligence in Drug Discovery	IIT (BHU), Varanasi	09-03-2023
8	Dr. Vinod Tiwari	Walking and Talking Proteins: Role in Neuropathic Pain	Institute of pharmacy, NIRMA University, Ahmedabad	17-02-2023
9	Dr. Vinod Tiwari	Ethics In Animal Research	Institute of pharmacy, NIRMA University, Ahmedabad	16-02-2023
10	Dr. Vinod Tiwari	Stereotaxic and optogenetics: applications in Neuroscience and drug discovery	Graduate school of Pharmacy-Gujarat technological University	16-02-2023
11	Dr. Vinod Tiwari	Scientific Advancement for Sustainable Environment, Herbal Medicines and Impact on Health	Department of Dravyaguna, Faculty of Ayurveda, I.M.S. B.H.U., Varanasi	07-05-2023
12	Dr. Vinod Tiwari	Motor Proteins: Role in Trafficking of Nociceptors and Chronic Pain	Institute of Pharmacy, HCPG College, Bawanbeegha, Azamgarh Road Varanasi	14-12-2022
13	Dr. Vinod Tiwari	Peripheral Nociceptor: Potential Target for the Treatment of Neuropathic Pain	University of Hyderabad, Hyderabad, India	12-12-2022
14	Dr. Vinod Tiwari	Kinesin Nanomotors: A Potential Target for the Treatment of Chronic Pain	NIPER Guwahati, Changsari Campus	07-12-2022
15	Dr. Vinod Tiwari	Targeting KIF17-NR2B Mediated Inflammatory Signaling for the Treatment of Evoked and Spontaneous Ongoing Pain in Nerve Injured Rats	Bapubhai Desaibhai Patel Institute of Paramedical Sciences (BDIPS), Anand, Gujarat	12-11-2022

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
16	Dr. Vinod Tiwari	Mu-delta Opioid Heterodimers: A Potential Target for Tolerance Free Analgesic Efficacy in Animal Model of Neuropathic Pain	ISF College of Pharmacy, Moga, Punjab	16-11-2022
17	Dr. Vinod Tiwari	Pharmacological Tools and Techniques in the Discovery of Novel Analgesics	IFTM University, Moradabad	24-10-2022
18	Dr. Vinod Tiwari	Role of Kinesin Nanomotors: A Potential Target for the Treatment of Chronic Pain	Banaras Hindu University, Varanasi, India	14-09-2022
19	Dr. Vinod Tiwari	Stereotaxic Surgery: Applications in Pre-clinical Research Including Optogenetics	Banaras Hindu University, Varanasi, India	12-09-2022
20	Dr. Vinod Tiwari	Pain-A Blessing or a Curse: A Scientific Perspective	G.H.G. Khalsa College of Pharmacy, Gurusar Sadhar, India	08-08-2022
21	Dr. Ashish Kumar Agrawal	Cow's milk Exosomes: Possibilities of developing as functional food/nutritional supplement	BHU	3-11-2023
22	Dr. Rajnish Kumar	Introduction to Molecular Dynamics Simulations and it applications in drug discovery and development	Shree S. K. Patel College of Pharmaceutical Education and Research Ganpat University, Gujarat	16-07-2022
23	Dr. Rajnish Kumar	Biomolecular Simulations in Drug Discovery: Applications and Pitfall	The Maharaja Sayajirao University of Baroda, Vadodara	07-01-2023
24	Deepak Kumar	Bioluminescence imaging: An innovative technology to monitor Cancer	Guru Gobind Singh College of Pharmacy, Haryana	24-7-2022
25	Dr. Dinesh Kumar	Crystal engineering in Pharmaceuticals	Trinity College Dublin, Ireland	12-10-2022
26	Dr. Dinesh Kumar	"Impact of milling on crystal properties and pharmaceutical behavior"	Nanomechanics for Pharmaceutical Applications (NPA)	20-7-2022
27	Dr. Jairam Meena	Next generation nanovaccine for infectious diseases	"DST-STUTI-A hands on training on flow cytometry"	4-12- 2022
28	Dr. Jairam Meena	Particulate antigen delivery for long term potent immune response.	Institute of Pharmacy, HCPG Collage, Varanasi.	15-12- 2022.
29	Dr. Jairam Meena	Antibody drug conjugate	NIPER Kolkata	27-7-2022

Visits abroad by faculty members *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Dr. Vinod Tiwari	Canada	16-10-2022	26-10-2022	For Attending World Congress on Pain	International Association for the Study of Pain (IASP)
2	Dr. Vinod Tiwari	France	06-07-2022	16-07-2022	For Attending International Neuroscience Conference	CPDA, IIT (BHU), Varanasi
3	Dr. Rajnish Kumar	Sweden	22-10-2022	21-11-2022	Visiting researcher	SERB, DST

Honours and awards *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Award
1	Prof. B. Mishra	Nation Builder Award 2022 by Rotary Club Varanasi Midtown in recognition of outstanding service as a teacher.
2	Dr. Vinod Tiwari	Annacharya Lokapur Foundation Award for best research paper in Basic Sciences given at Indian Society for the Study of Pain Conference (ISSPCON2023) held at SGRD University, Amritsar, India.
3	Dr. Vinod Tiwari	Young Investigators' Meeting (YIM) accepted, held at Gandhinagar and Ahmedabad from13th-17th February 2023

Books, monographs authored/co-authored *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Author/Co- Author	Title	Publisher
1	Kumar M., Jha A., and Mishra B.	Polymeric nanosystems for cancer theranostics In: Polymeric Nanosystems -Theranostic Nanosystems, Eds: Md Saquib Husnain,, Amit kumar Nayak, and Tejraj M. Aminabhavi, 2023 Jan1, Volume 1, Chapter 23, PP 657-697.	Academic Press, London,
2	Jha A., Kumar M., and Mishra B.	Gold nanoparticles as theranostic platform. In : Inorganic Nanosystems- Theranostic Nanosystems, Eds: Md Saquib Husnain,, Amit kumar Nayak, and Tejraj M. Aminabhavi, 2023, Volume 2, Chapter 10, PP 279-321.	Academic Press, London,
3	Manjit and Mishra B.	Research and Development of Supramolecules as Anticancer Drugs. In Pharmaceutical Applications of Supramolecules, Eds Goel, N., Kumar, N., 2023 Jan 16, pp. 55-87.	Cham: Springer International Publishing.
4	Manjit and Mishra B.	Natural Polymers for Drugs Delivery. In Natural Polymeric Materials based Drug Delivery Systems in Lung Diseases. Eds Dureja, H., Adams, J., Löbenberg, T.d.J., and Dua, K. 2023 Feb 9, pp. 25-59.	Springer Nature Singapore.
5	Mittal P, Kapoor R, Mishra B.	Alginate Based Interpenetrating Polymer Network (IPN) in Drug Delivery and Biomedical Applications. In Alginate Biomaterial: Drug Delivery Strategies and Biomedical Engineering. Eds Sougata Jana and Subrata Jana, 2023 Feb 1 pp. 135-153.	Springer Nature Singapore.
6	Parmar G, Kumar M, Jha A, Mishra B.	Alginate Based Carriers for Topical Drug Delivery. In Alginate Biomaterial: Drug Delivery Strategies and Biomedical Engineering. Eds Sougata Jana and Subrata Jana, 2023 Feb 1. pp. 85-107.	Springer Nature Singapore.
7	Mishra B, Bonde GV.	Patent Searching. In Computer Aided Pharmaceutics and Drug Delivery: An Application Guide for Students and Researchers of Pharmaceutical Sciences. Eds Saharan, V.K., 2022 May 31, pp. 473-503.	Springer Nature Singapore.
8	Chhanda Charan Danta and Alakh Niranjan Sahu	Naturally occurring anticancer drugs, Medicinal Chemistry of Chemotherapeutic Agents - A Comprehensive Resource of Anti-infective and Anti-cancer Drugs Page no. 540 -588, ISBN: 978-0-323-90575-6	Publisher: Mica Haley, Academic Press, Elsevier, London, U.K.
9	Ruchi Chawla, Varsha Rani, Krishan Kumar, Mohini Mishra	Repurposing drugs: a new paradigm and hopes for life-threatening diseases, in Drug repurposing against sars-cov-2,	Bentham Science Publishers Ltd.
10	Ruchi Chawla, Varsha Rani, Krishan Kumar, Mohini Mishra	COVID-19 therapy: Molecular mechanisms, pharmacological interventions, and therapeutic targets, in Interaction of Coronavirus Disease 2019 with other Infectious and Systemic Diseases	CRC Press
11	Ruchi Chawla, Varsha Rani, Krishan Kumar, Mohini Mishra	Computer Simulation and Modeling in Pharmacokinetics and Pharmacodynamics	Springer
12	Tiwari V*, Uniyal A, Tiwari V Thakur V, Rani, M, Akhilesh.	Delineating the neuroinflammatory crosstalk in neurodegeneration and probing the near future therapeutics	Bentham Science

Editorial boards of journals *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Dr. Ruchi Chawla	Guest Editor	JoVE(Journal of Visualized experiments)
2	Dr. Vinod Tiwari	Associate Editor	Regional Anesthesia & Pain Medicine (RAPM), official publication of the American Society of Regional Anesthesia and Pain Medicine
3	Dr. Vinod Tiwari	Member Editorial Board	Current Biomedical Chelation
4	Dr. Vinod Tiwari	Reviewing editors board member	Pharmacology Research & Perspectives
5	Dr. Vinod Tiwari	Editor	Advances in Pharmaceutical Sciences
6	Dr. Vinod Tiwari	Associate Editor	Translational Physiology, All Life
7	Dr. Vinod Tiwari	Editor	BMC Neuroscience
8	Dr. Vinod Tiwari	Associate Editor	Frontiers in Endocrinology

Sl. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
9	Dr. Vinod Tiwari	Associate Editor	Section: Motivation and Reward, Frontiers in Behavioral Neuroscience
10	Dr. Prasanta Kumar Nayak	Editorial Board Member	Journal Of Research Innovation And Management Science
11	Dr. Dinesh Kumar	Review Editor	Frontiers in Drug Delivery
12	Dr. Dinesh Kumar	Editor	Journal of Research in Pharmacy
13	Dr. Jairam Meena	Guest editor for the special issue- "Nanocarriers in Vaccine Applications"	vaccines-MDPI

Design and Development Activities

New facilities added *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Details (Infrastructure, equipment, etc.)	Value (in lakhs of rupees)
1	Developing C Elegans and Cell Culture Facility	50
2	Multimode Microplate Reader	24.00
3	Cryostat	14.70
4	Dissolution Apparatus	4.99
5	Crystallization set-up	4.55
6	Solubility screening apparatus	4.76
7	UV Visible Spectrophotometer	4.50
8	Refrigerated Centrifuge	3.99
9	Stability Chamber	3.48

Patents filed *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title of Patent
1	Dr. Alakh N Sahu	A multi-utility equipment Patent No.: 414343; Date of Grant: 13.12.2022
2	Dr. G. P. Modi	An Imaging Probe for Detection of Key Biomarkers in Alzheimer Disease
3	Dr. G. P. Modi	A Pharmaceutical composition of sulphonamide derivates for the treatment of Alzheimer's disease
4	Dr. Vinod Tiwari	Development of Transient Receptor Potential Ankyrin-1 (TRPA1) Nociceptor based siRNA Nano-Therapeutics for the Treatment of Chemotherapy-induced Neuropathic Pain
5	Dr. Vinod Tiwari	Dendrimer Stabilized Albumin Nanoparticles Loaded with Asiatic Acid for the Management of Alcohol Addiction

Research and Consultancy: Sponsored research projects *(Ongoing only)*

Note: Sponsored project name is to be given only in case a faculty member is Project Incharge

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1	Synthesis and evaluation of diverse n-functionalized hybrids as muti-target directed ligands for neuroprotective and neurorestorative therapies	2019-2024	MoE, STARS	75.30	Dr. Senthil Raja A
2	Preparation & characterization of natural products derived self-surface functionalized carbon dots for oral cancer theranostics	2022-2025	CST, UP	11.94	Dr. Alakh N sahu
3	Design, synthesis, and biological evaluation of mechanism-based novel theranostic agents for Alzheimer's disease	March 2023-26	SERB-CRG/2022/007126	55,24,400	Dr. G.P. Modi

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
4	Design, synthesis, and biological evaluation of caffeic acid based naturally inspired novel neuroprotective molecules for the treatment of Alzheimer's disease	July 2021- July 2026	DST	22,00,000	Dr. G.P. Modi
5	Design, synthesis and biological evaluation of mechanism-based novel pseudoirrversible neuroprotective molecules for the management of Alzheimer's disease.	July 2022- July 2025	ICMR	15,00,000	Dr. G.P. Modi
6	Development of novel aggregation-induced-emission (AIE) active fluorescence imaging probes to detect the pathogenic biomarkers of Alzheimer's disease.	July 2022- July 2025	ICMR	15,00,000	Dr. G.P. Modi
7	Design, synthesis, and biological evaluation of reactive oxygen species (ROS) responsive multifunctional agents for the treatment of Alzheimer's disease.	July 2022- July 2025	ICMR	15,00,000	Dr. G.P. Modi
8	Evaluation of anti-cystitis activity of formulations provided by Kashiv Biosciences Pvt. Ltd.	March 2023-April 2024	Kashiv Biosciences Pvt. Ltd.	10,36,287.60	Dr. Vinod Tiwari
9	Development of Peripherally Acting Nano Formulation of Opioids for the Treatment of Neuropathic Pain	August 2022 to August 2024	UP-CST	7,080,00	Dr. Vinod Tiwari
10	Study on therapeutic and preventive efficacy of linoleic acid in hamster model of visceral leishmaniasis	December 2022-December 2024	Indian Council of Medical Research: Epidemiology and Communicable Diseases	18,00,000	Dr. Vinod Tiwari
11	Safety & Efficacy of the "PL05" capsule/ tablet in Animal in the treatment of gastric acidity	2022-23	Purobien Life Sciences	19.00	Dr. S. K. Mishra
12	Animal studies to establish the efficacy of surface polarized sodium potassium niobates for orthopaedic implant application	2022-25	UPCST	10.92	Dr. S. K. Mishra
13	Exploring Anti-infective Potential of Panchagavya: Metabolomics and Proteomics Approaches	2022-2025	DST	65,43,378	Dr. Shreyans Kumar Jain
14	Microbial diversity and biotechnological potentials of antarctic deep biosphere	Mar 2022- Feb 2025	DST	31.66	Ashish Kumar Agrawal
15	Discovery of novel selective inhibitors of choline acetyltransferase: lead optimization and in vivo pharmacokinetic studies	Jan, 2022-Dec, 2023 (Ongoing)	SERB-SRG, India	32,86,840	Dr. Rajnish
16	Development of a toolkit for prediction of blood-brain-barrier permeability using deep learning to expedite CNS drug discovery	Jan, 2022-Dec, 2024 (Ongoing)	SERB-MATRICS, India	6,60,000	Dr. Rajnish
17	Bioluminescence based monitoring of tumor progression and treatment by apoptotic pathway	2019-24	DBT	42.50	Deepak Kumar

Research Publications *(From 1st April 2022 to 31st March 2023)*

Sl. No.		No.
1	Total Number of Papers Published in Refereed National Journals	04
2	Total Number of Papers Published in Refereed International Journals	126
3	Total Number of Papers Presented in International Conferences	01

Refereed International Journals *(From 1st April 2022 to 31st March 2023)*

1. Ajmal G, Bonde GV, Mittal P, Pandey VK, Yadav N, Mishra B. (2023), PLGA/Gelatin-based electrospun nanofiber scaffold encapsulating antibacterial and antioxidant molecules for accelerated tissue regeneration. Materials Today Communications. 105633.
2. Mohanty B, Naik S, Sahu A, Behera TR, Mishra B, Mohanty JN. (2022), Clinical profile and outcomes of COVID 19 patients having acute kidney injury: an experience from a tertiary care centre Eastern India. NeuroQuantology. 5617-5624.
3. Bhanukiran K., Singh R., Gajendra T.A., Ramakrishna K., Singh S.K., Krishnamurthy S., Kumar A. and Hemalatha S. (2023) Vasicinone, a pyrroloquinazoline alkaloid from *Adhatoda vasica* Nees enhances memory and cognition by inhibiting cholinesterases in Alzheimer's disease. Phytomedicine Plus. 3(2): 100439.
4. Bhanukiran K., Gajendra T.A., Krishnamurthy S., Singh S.K. and Hemalatha S. (2023) Discovery of multi-target directed 3-OH pyrrolidine derivatives through a semisynthetic approach from alkaloid vasicine for the treatment of Alzheimer's disease. European Journal of Medicinal Chemistry. 249: 115145.
5. Borah P., Hazarika S., Sharma D., Venugopala K.N., Chopra D., Al-Shar'i N.A., Hemalatha S., Shakya A.K., Acharya P.C. and Deb P.K. (2023). Systemic and topical antifungal drugs. Medicinal Chemistry of Chemotherapeutic Agents. 285-315.
6. Hazarika S., Borah P., Deb P.K., Venugopala K.N. and Hemalatha S. (2023). Icacinaceae Plant Family: A Recapitulation of the Ethnobotanical, Phytochemical, Pharmacological, and Biotechnological Aspects. Current Pharmaceutical Design.
7. Tiwari V. and Hemalatha S. (2022). Betaine Attenuates Chronic Constriction Injury-Induced Neuropathic Pain in Rats by Inhibiting KIF17-Mediated Nociception. ACS Chemical Neuroscience. 13(23) 3362-3377.
8. Shivani J, Akhilesh, Vinod Tiwari, and Senthil Raja A (2023) Anti-nociceptive potential of an isatin-derived dual fatty acid amide hydrolase-monoacylglycerol lipase inhibitor, Pharmacological Reports 75: 737–745.
9. Pavan Kumar V, Vishnu M S, Sandeep Kumar, Shivani Jaiswal and Senthil Raja A, (2022) Exploration of a library of piperonylic acid-derived hydrazones possessing variable aryl functionalities as potent dual cholinesterase and monoamine oxidase inhibitors, Molecular Diversity, https://doi.org/10.1007/s11030-022-10564-9.
10. Shivani J and Senthil Raja A, (2022) Lead optimization study on Indolin-2, 3-dione Derivatives as Potential Fatty Acid Amide Hydrolase Inhibitors, Journal of Biomolecular Structure and Dynamics, https://doi.org/10.1080/07391102.2022.2145372.
11. Sandeep K, Senthil Raja A, (2022) Identification of new small molecule monoamine oxidase-B inhibitors through pharmacophore-based virtual screening, molecular docking and molecular dynamics simulation studies, Journal of Biomolecular Structure and Dynamics, 2022, 1-22.
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111. Kaur, K., Devi, B., Agrawal, V., Kumar, R., & Sandhir, R. (2022). Identification of potential inhibitors of brain-specific CYP46A1 from phytoconstituents in Indian traditional medicinal plants. JournWang, L., Wojcieszak, J., Kumar, R., Pavlov, P. F., & Winblad, B. (2022). The novel FKBP51-Hsp90 interaction inhibitor attenuates high-fat diet induced cognitive impairment. Alzheimer's & Dementia, 18, e065623.al of Proteins and Proteomics, 1-19.

112. Temre, M. K., Devi, B., Singh, V. K., Goel, Y., Yadav, S., Pandey, S. K., ... & Singh, S. M. (2022). Molecular characterization of glutor-GLUT interaction and prediction of glutor's drug-likeness: implications for its utility as an antineoplastic agent. Journal of Biomolecular Structure and Dynamics, 1-12.

113. Das, S., K. Indurthi, H., Saha, P., & Sharma, D. K. (2023). K2S2O8-Glucose-Mediated Metal-Free Oxidative Trifluoromethylation of Indoles with Langlois' Reagent on the C2 Position. ChemistrySelect, 8(5), e202203939.

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115. Dwivedi, A. R., Kumar, V., Yadav, R. P., Kumar, N., Jangid, K., Anand, P., ... & Kumar, V. (2022). Design, synthesis and evaluation of 4-phenyl-1, 2, 3-triazole substituted pyrimidine derivatives as antiproliferative and tubulin polymerization inhibitors. Journal of Molecular Structure, 1267, 133592.

116. Saha, P., Das, S., Indurthi, H. K., & Sharma, D. K. (2022). Advancement in use of silicon pthalocyanine derivatives for cancer treatment. Dyes and Pigments, 110608.

117. Manhas, D., Mir, K. B., Tripathi, N., Bharti, S., Dhiman, S., Wazir, P., ... & Nandi, U. (2022). Rottlerin promotes anti-metastatic events by ameliorating pharmacological parameters of paclitaxel: An in-vivo investigation in the orthotopic mouse model of breast cancer. Chemico-Biological Interactions, 366, 110109.

118. Singh, M., Barua, H., Jyothi, V. G. S., Dhondale, M. R., Nambiar, A. G., Agrawal, A. K., ... & Kumar, D. (2023). Cocrystals by Design: A Rational Coformer Selection Approach for Tackling the API Problems. Pharmaceutics, 15(4), 1161.

119. Dhondale, M. R., Nambiar, A. G., Singh, M., Mali, A. R., Agrawal, A. K., Shastri, N. R., ... & Kumar, D. (2023). Current Trends in API Co-Processing: Spherical Crystallization and Co-Precipitation Techniques. Journal of Pharmaceutical Sciences.

120. De Pablo, E., O'Connell, P., Fernández-García, R., Marchand, S., Chauzy, A., Tewes, F., ... & Serrano, D. R. (2023). Targeting lung macrophages for fungal and parasitic pulmonary infections with innovative amphotericin B dry powder inhalers. International Journal of Pharmaceutics, 635, 122788.

121. Dhondale, M. R., Thakor, P., Nambiar, A. G., Singh, M., Agrawal, A. K., Shastri, N. R., & Kumar, D. (2023). Co-Crystallization Approach to Enhance the Stability of Moisture-Sensitive Drugs. Pharmaceutics, 15(1), 189.

122. Nambiar, A. G., Singh, M., Mali, A. R., Serrano, D. R., Kumar, R., Healy, A. M., ... & Kumar, D. (2022). Continuous Manufacturing and Molecular Modeling of Pharmaceutical Amorphous Solid Dispersions. AAPS PharmSciTech, 23(7), 249.

123. Datir, S. R., Kumar, D., & Bele, M. H. (2022). Modified crystal habits of glimepiride to improve manufacturing processability. Journal of Crystal Growth, 592, 126711.

124. Ahuja R., Srichandan S., Meena J., Kumar B.K and Panda A.K. (2023). Immunogenicity evaluation of thermostable microparticles entrapping receptor binding domain of SARS-CoV-2 by single point administration. Journal of pharmaceutical sciences. 112(6):1664-1670.

125. Ahuja R., Shelly A., Meena J., Singh M., Sehgal D. and Panda A.K. (2022). Enhanced immunogenicity of recombinant pneumococcal protein delivered using thermostable polymer particles. Materials Today Communications. 32:103894

126. Meena J., Singhvi P., Srichandan S., Dandotiya J., Verma J., Singh M., Ahuja R., Panwar N., Wani T.Q., Khatri R., Siddiqui G., Gupta R., Samal S. and Panda A.K. (2022). RBD decorated PLA nanoparticle admixture with aluminum hydroxide elicit robust and long lasting immune response against SARS-CoV-2. European Journal of Pharmaceutics and Biopharmaceutics. 176:43-53.

Refereed National Journal *(From 1st April 2022 to 31st March 2023)*

1. Pandey, S., Pandey, P. K., Sahu, A. N., Verma, H., & Nandi, M. K. (2022). Targeting biosignatures of hyperglycemia and oxidative stress in diabetes comorbid depressive rats: effectiveness of hydroethanolic extract of the whole plant of Ludwigia octovalvis. Tradit Med Res. 2023; 8 (2): 9. doi: 10.53388/TMR20220514002. Executive editor: Shan-Shan Lin. Received, 14.

2. Pandey, S., Sahu, A. N. and Nandi, M. K. (2022). Quality control and HPTLC study of crude drug of an Indian medicinal plant *Alternanthera ficoidea*, International Journal of Biology, Pharmacy and Allied Sciences, 11(7): 2969-2983.

3. Dixit, K., Mohapatra, D., Senapati, P. C., & Sahu, A. N. (2022). Formulation Development and Evaluation of *Lawsonia inermis* Extract Loaded Hydrogel for Wound Dressing Application. Indian Journal of Pharmaceutical Sciences, 84(4), 848-862.

4. R Chawla, V Rani, M Mishra (2022). Changing paradigms in the treatment of tuberculosis Indian Journal of Tuberculosis. 69 (4):389-403.

Proceedings of International Conferences *(From 1st April 2022 to 31st March 2023)*

1. Bharti K, Deepika D, Akhilesh A, Kumar V, Tiwari V, Mishra B. 2022. P04-11 Integrated in vivo and in silico (PBPK) study for pharmacokinetic profiling of amorphous solid dispersion of riluzole. Toxicology Letters. 368:S103, XVIth International Congress of Toxicology (ICT 2022) - UNITING IN TOXICOLOGY, 18-21 September 2022, Maastricht, The Netherlands

Kindly Provide Brief Details of 5 Articles from the Department with maximum no. of Citations in last 5 years

1. Ajmal, G., Bonde, G.V., Mittal, P., Khan, G., Pandey, V.K., Bakade, B.V. and Mishra, B., 2019. Biomimetic PCL-gelatin based nanofibers loaded with ciprofloxacin hydrochloride and quercetin: A potential antibacterial and anti-oxidant dressing material for accelerated healing of a full thickness wound. *International journal of pharmaceutics*, *567*, p.118480. Cited by 109.

2. Bharti, K., Mittal, P. and Mishra, B., 2019. Formulation and characterization of fast dissolving oral films containing buspirone hydrochloride nanoparticles using design of experiment. *Journal of Drug Delivery Science and Technology*, *49*, pp.420-432. Cited by 56.

3. Ajmal, G., Bonde, G.V., Thokala, S., Mittal, P., Khan, G., Singh, J., Pandey, V.K. and Mishra, B., 2019. Ciprofloxacin HCl and quercetin functionalized electrospun nanofiber membrane: Fabrication and its evaluation in full thickness wound healing. *Artificial cells, nanomedicine, and biotechnology*, *47*(1), pp.228-240. Cited by 50.

4. Bairagi, U., Mittal, P., Singh, J. and Mishra, B., 2018. Preparation, characterization, and in vivo evaluation of nano formulations of ferulic acid in diabetic wound healing. *Drug Development and Industrial Pharmacy*, *44*(11), pp.1783-1796. Cited by 64.

5. Chaubey, P., Mishra, B., Mudavath, S.L., Patel, R.R., Chaurasia, S., Sundar, S., Suvarna, V. and Monteiro, M., 2018. Mannose-conjugated curcumin-chitosan nanoparticles: efficacy and toxicity assessments against Leishmania donovani. *International journal of biological macromolecules*, *111*, pp.109-120. Cited by 57.

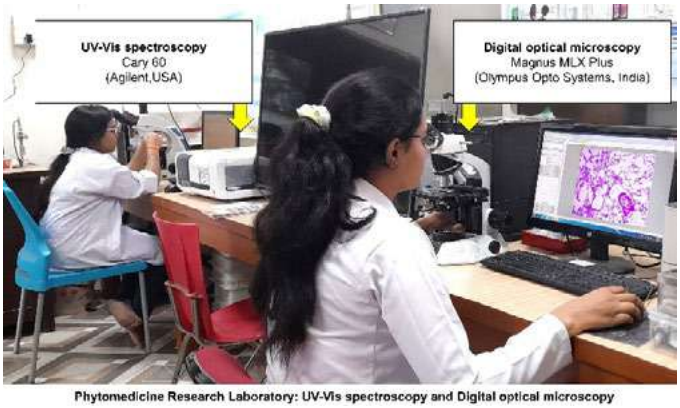
Distinguished Visitors *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of the visitor & Designation	Date of Visit	Purpose of Visit
1	Dr. Dev Vrat Kamboj, Director, Defence Research Laboratory, Tezpur (Assam)	22.04.2022	MoU with IIT(BHU)
2	Mr. R Panneer Selvam, Deputy General Manager Karnataka Antibiotics & Pharmaceuticals Limited, Bengaluru	28.04.2022	Visit
3	Prof. Krishna Kumar, Biopharma PK, Howard University, Washington DC	20.06.2022	Visit
4	Dr. Rakesh Naraly	29.07.2022	Visit
5	Dr. Anil Kumar Shinde	29.07.2022	Visit
6	Dr. Vijaya Korlipara, Prof. & Chair, Dept. of Pharmaceutical Sciences St. John's University	12.08.2022	Visit

Sl. No.	Name of the visitor & Designation	Date of Visit	Purpose of Visit
7	Dr. Arpit Basu, Senior Scientist, Takeda Pharmaceuticals Cambridge	16.08.2022	Visit
8	Dr. Nibha Mishra, Senior Scientist, Takeda Pharmaceuticals Cambridge	16.08.2022	Visit
9	Dr. D. Senthil Rajan, Prof. & HoD, Swamy Vivekanand College of Pharmacy, Tamil Nadu	24.08.2022	Visit
10	Dr. Alpana Kulkarni, Professor, Lakshmi Narain College of Pharmacy, Bhopal	27.08.2022	Visit
11	Dr. Satish C. Khanna, Spitrackersti, 6, 4103, Bottmingen, Switzerland	17.10.2022	Visit
12	Dr. Nandv Saima, Director Of Dietary Supplement, USP, Rockville	16.11.2022	Visit
13	Mr. Sandeep Nema,	18.11.2022	Visit
14	Dr. Sachi Nandan Das, Principal, Gajapati College of Pharmacy, Odisha	21.11.2022	Visit
15	Mr. Gocov Gopal Bose	02.12.2022	Visit
16	Dr. V. I. Hukkeri, Retd. Prof. & Principal	13.12.2022	Visit
17	Prof. Dr. G. Arunachalam, Principal, PGP College of Pharmaceutical Science & Research Institute, Namakkal	26.12.2022	Visit
18	Dr. A. Kottai Muthu, Associate Professor Department of Pharmacy Annamalai University, Annamalai Nagar, Chidambaram		Visit
19	Mr. Ajay Sharma	03.03.2023	Visit
20	Mrs. Priyanka Tayal	03.03.2023	Visit
21	Mr. Prabhjinder Bedi	03.03.2023	Visit
22	Mrs. Shalini Sharma	03.03.2023	Visit
23	Mr. Sapan Kumar Jain	03.03.2023	Visit
24	Mr. Rishabh Agrawal	03.03.2023	Visit
25	Mr. Vishal Kumar Gupta	03.03.2023	Visit
26	Dr. Venkatesan Jayaprakash, Professor Department of Pharma. Sci. Tech., Birla Institute of Technology, Mesra	20.03.2023	Visit
27	Mr. Praveen Hiremath	29.03.2023	Visit

Key Instruments:

Sophisticated Instrument Laboratory I: Multimode reader and Attenuated Total Reflectance- Fourier-transform infrared spectroscopy (ATR-FTIR)



Phytomedicine Research Laboratory: UV-Vis spectroscopy and Digital optical microscopy

Phytomedicine Research Laboratory: UV-Vis spectroscopy and Digital optical microscopy

Sophisticated Instrumental Laboratory II: *In-vivo* bioimaging and Flow cytometry

Sophisticated Instrumental Laboratory II: *In-vivo* bioimaging and Flow cytometry

17. Department of Humanistic Studies

Complete Name of Department: Department of Humanistic Studies

Year of Establishment: 2015

Head of the Department: Dr. Ajit Kumar Mishra w.e.f. 30.06.2021

Brief Introduction of the Department:

The Department of Humanistic Studies was initiated in the year 2015. Prior to its inception, the Technical Writing Section was looking after the language and communication needs of the students of the institute for a little more than two decades. This department as an academic entity envisages to enhance the power of science and technology with an inspiring touch of human sensibility that our world urgently needs in the present civilizational crisis pertaining to the mindless development in the form of three dimensional projections as the hallmarks of growth. It will be an interdisciplinary platform to develop finer sensibilities in the students of engineering and technology to creatively engage themselves in the development of a society which upholds values our heritage has provided us with its multifarious sources.

This department comprises faculty in many disciplines such as History, Philosophy, Sociology, Psychology, Language, Linguistics, Literature and Culture, but not limited to these only. As and when a worthwhile academic proposition that evidently indicates a civilizational change, will be considered worthy to be included in its curriculum for teaching and research in this department.

Major areas of Research

1. **English** (Literature, Cultural Studies, Gender Studies, Film Studies and Visual Culture, Narrative Studies, Professional Communication, Creative writing, Literary Theory)
2. **Philosophy** (Indian and Western Logic, Gandhian Philosophy, Peace and Ahimsa Studies, Indian Philosophy-Sanskrit-Navya Nyaya and Bharatiya Tarka)
3. **Linguistics** (Computational Linguistics, MT, CALL, Computational Semantics, Grammar Formalism,Cognitive Linguistics,Sanskrit Computational Linguistics, Sociolinguistics, Lexicography
4. **Psychology** (Social Psychology, Health Psychology, Health PSychology)
5. **Sociology** (Environmental Studies, Sustainable Urbanization, Smart Cities, Gender Studies, Science, Technology and Society, Social and Cultural Anthropology in India, Ethnography of Performance, Post-colonialism and the Inter-disciplinary Dialogues on Caste and Literature in India, Critical Dance Studies)
6. **History (**Indian Historical Traditions, Archival Studies)

Area of the Department (in square meters):

Infrastructure

Sl. No.	Particulars	Number
1	No. of Computers available for students in the Department	32

Students on Roll *(From 1st April 2022 to 31st March 2023) (Please give No. of students only in respective years)*

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1.	B. Tech/B.Arch	N/A	N/A	N/A	N/A	N/A
2.	Dual Degree	N/A	N/A	N/A	N/A	N/A
3.	M. Tech/ M. Pharm	N/A	N/A	N/A	N/A	N/A
4.	Ph. D (Under Institute Fellowship)	5	3	5	1	6
5.	Ph. D (Under Project Fellowship)	N/A	N/A	N/A	N/A	N/A
6.	Ph. D (Under Sponsored (Category)	N/A	N/A	N/A	N/A	N/A

* PhD (Under External Fellowship Category - UGC JRF, NFSC) - 33, PhD (ASEAN-DIA Programme) - 02 and PhD (External Registration Category) - 01

Names of students/scholars who attended conferences/workshops/seminars andsymposia abroad or in India *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Wo rkshop	Date & Venue	Financia l Assistan ce From
ÌNDIA					
1	ATISH DAS	22191002	Interdisciplinary Approaches in Technology and Management for Social Innovation (IATMSI-2022) IEEE Conference ONLY ATTENDED	ABV-IIITM Gwalior, Madhya Pradesh (21/12/2022 to 23/12/2022)	N.A.
			International Conference on Best Innovative Teaching Strategies (ICON-BITS 2023) PAPER PRESENTED: Language, Culture and Accessibility in Higher Education: The Semiotic Pedagogy of Gandhian Education	BITS Pilani, Rajasthan (09/02/2023 to 11/02/2023)	**STGS**: Departm ent of Humanis tic Studies, IIT BHU and R&D, IIT BHU
2	Manoj Bhandari	19191502	Seven Days National Workshop on Tattvamuktakalapa of Sri Vedanta Desika.	University of Madras, Chennai, 6th to 12th January 2023	Indian Council of Philosop hical Research, New Delhi.
			International Conference on Paninian Grammar and its applications.	Central Sanskrit University,	Central Sanskrit
			Indian Knowledge System Conference	GNJha Parisar, Prayagraj. 13th to 15th February 2023.	Universit y, Delhi.
				Indian Institute of Technology, BHU, Varanasi, 28th February, 2023.	
3.	Namrata Paul	21191503	Presented a paper entitled - The Use of Impoliteness Strategies in Creating Hierarchies of	Date: 17 to 18 March 2023	
			Masculinities in the American sitcom 'The Big Bang Theory' in the 2-day National Conference on Language and Linguistics (NCLL 2023) organized by the Department of Linguistics and Language Technology ,Tezpur University, Assam on 17 to 18 March 2023.	Venue: Depar tment of Linguistics and Language Technology, Tezpur University, Assam. Mode: Offline	
4.	Nikita Mittal	21191006	Presented a Paper entitled *Homosociality and Gay Masculinity: Exploring Interconnectedness of Two in Hindi Cinema* in the 3-day Post- graduate Student Seminar organised by School of Media & Cultural Studies, TISS, Mumbai	Venue: School of Media & Cultural Studies, Tata Institute of Social Sciences, Mumbai. Mode: Online Date: 22-24th June 2022	
5.	Pursotam Kumar	19191504	Participated in the 11th IIIT- Hyderabad Advanced School on Natural Language Processing Summer School 2022 June 20 – July 09 (IASNLP-2022) organized by Language Technologies Research Centre, IIIT Hyderabad between June 20 – July 09, 2022.	Venue: Language Technologies Research Centre, IIIT Hyderabad Date: June 20- July 09, 2022.	
			Presented a paper entitled *"Syntactic and Semantic Representation of English Phrasal Verbs in NCERT Class-1 ESL Textbook"* in the International Conference on Culture, Cognition and Globalization: The Viability of Languages 2023 (5th -6th March, 2023) held at IIT, Patna in collaboration with IIT, Patna and CIIL Mysore.	Mode: Physical Venue: IIT Patna, Date: 5th -6th March, 2023. Mode: Physical	
			Presented a paper entitled *"English Hindi divergence study of English phrasal verbs with the particle on"* in the 2-day National Conference on Language and Linguistics (NCLL 2023) organized by the Department of Linguistics and Language Technology, Tezpur University, Assam on 17 to 18 March, 2023.	Venue: Department of Linguistics and Language Technology, Tezpur University, Assam Date: 17-18 March, 2023. Mode: Physical	

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Wo rkshop	Date & Venue	Financia l Assistan ce From
6.	Elham Malik	19191004	Indian Academy of Management (INDAM) Conference 2023 Theme - The Digital Economy Post COVID-19 Era	Date - January 6-8 2023 Place – The School of Business (SBM), Narsee Monjee Institute of Management Studies (NMIMS), Mumbai, India Mode - In- Person Date - 7-8 February, 2023	None
			International workshop on Building an Academic Discipline of Spirituality in Management and Society	PlaceIIT(BHU)/Online Mode - Hybrid	
7.	Abhijeet Satsangi	19191501	Presented a paper titled "A Comparative study of Hedges and Boosters in Indian English Newspaper Editorials" at National Conference on Language and Linguistics	Date: 17-18 March 2023 Venue: Tezpur University, Assam Mode: Offline	
			Presented a paper titled "A Cognitive Linguistic Analysis of Fear Idioms in Hindi" at 12th Annual Academic Conference, DoHSS, IIT Madras	Date: 11-03-2023 Venue: IIT Madras Mode: Offline	
			Presented a paper titled "Anger-related Idioms in Hindi: From the lens of Cognitive Linguistics" at International Conference on Culture, Cognition and lobalization:The Viability of Languages 2023, IIT Patna	Date: 5-6 March 2023 Venue:IIT Patna Mode: Offline	
			Presented a paper titled "Cognitive Linguistic Analysis of Love Metaphors in Saint's Kabir's Couplets" at International Conference on Language, Literature and Folklore (ICOLLAF)	Date: 28-30 January, 2023 Venue: Cluster University, Jammu, Mode: Offline	
8.	Akash Kumar Srivastava	21191001	Participated in 'Paleoanthropological field School' at Central Narmada Valley, Hoshangabad, Madhya Pradesh, jointly Organized by IISER Mohali, CHARUSAT and BSIP.	Date: 6 to 10 June 2022. Venue: Hoshangabad, Madhya Pradesh. Mode: Offline	None
			Participated in the DAAD sponsored 'Lived Sanskrit Cultures in Varanasi' course. The course is a part of ongoing projects under the DAAD programme 'A New Passage to India' and was conducted in collaboration with IIT (BHU) and the South Asia Institute at Heidelberg University and University of Würzburg, Germany.	Date: From 22 September to 12 October 2022.	DAAD
			Participated in SERB sponsored workshop on '3D Mapping and Modelling Using Drone and GIS Software' organized by Department of Civil Engineering and Department of Architecture, Planning and Innovation, IIT (BHU) Varanasi.	Venue:Alice Boner Institute, Varanasi. Mode: Offline Date: From 5 To 11 Dec. 2022.Venue: IIT (BHU), Varanasi. Mode: Offline	SERB
			Presented a poster titled *Culinary Behaviour of Harappan Civilization: Addressing Spaces, Utensilsand Methods of Cooking* at the 'International Colloquium on Emerging Perspectives of the Harappan Civilization' held at IIT Gandhinagar.	Date: From 10 to 12 Feb. 2023. Venue: Archaeologica l Sciences Center, IIT Gandhinagar, Mode: Offline	IIT Gandhin agar
			Participated in the Conference on *'Bharatiya Rasayanasastra- a Dhara event on Indian Chemistry and Material Science'* organized by IKS Centre IIT (BHU) Varanasi under the aegis of the IKS Division, Ministry of Education and Ministry of Culture, Government of India.	Date: From 13 to 14 February 2023. Venue: IIT (BHU). Mode: Offline	None

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Wo rkshop	Date & Venue	Financia l Assistan ce From
			Participated in the International School and Symposium on 'Landuse- landcover mapping and modeling using pollen and isotopic data in different Ecological regions of the Monsoon' jointly organized by INQUA, BSIP and AOQR at estern Vidarbha, Amravati. Presented a paper titled *Assessing the Potential of Isotopic Analysis for Reconstructing Paleo Diet in entral India*.	Date: From 13 to 26 March 2023. Venue: Amravati, Maharashtra, Mode: Offline	INQUA
9.	Rajit Chakraborty	22191005	Presented a paper titled "Conceptual Blending and Poetic Structures of Five Haikus: An Analytical Study" at National Conference on Language and Linguistics	Date: 17-03- 2023 and 18-03-2023 Venue: Tezpur University, Assam Mode: Offline	
10.	Sudarshan Gautam	22191009	International Conference on Paninian Grammar and its applications.	13th to 15th February 2023 at Central Sanskrit University, GNJha Parisar, Prayagraj.	Central Sanskrit Universit y, Delhi.
11.	Shreya Katyayani	19191007	**Presented papers entitled-** 1. TECHNOLOGIES OF CONTROL IN THE KAFALA REGIME 62nd Annual Conference of the Indian Society of Labour Economics (ISLE)	IIT Roorkee, Uttarakhand 11-13 April 2022.	None
			2.CHRONICLING THE INDIAN INDENTURE SYSTEM: A STUDY OF IT'S INCEPTION AND ABOLITION 2nd biennial conference of the Indian Association for South Asian Studies (IASAS)	Banaras Hindu University 15 -18th of November 2022	
12.	Anuja Jose	20191504	Participated in 'Lived Sanskrit Cultures in Varanasi', a course conducted in collaboration with IIT (BHU) and the South Asia Institute at Heidelberg University and University of Würzburg, Germany.	Date: From 22 September to 12 October 2022. Venue: Alice Boner Institute,Varanasi. Mode: Offline	DAAD sponsore d
13.	Hok chheangkhy	21191013	1.Participated in webinar on Using Narrative Inquiry in Linguistic Research	14 July 2022, online	
			2. Presented a paper entitled " The characteristics of Sanskrit in Khmer language"	09 August 2022, online	
14.	Akanksha Yadav	19191001	Participated in the DAAD sponsored 'Lived Sanskrit Cultures in Varanasi' course. The course is a part of ongoing projects under the DAAD programme 'A New Passage to India' and was conducted in collaboration with IIT (BHU) and the South Asia Institute at Heidelberg University and University of Würzburg, Germany	Date: From 22 September to 12 October 2022.Venue: Alice Boner Institute, Varanasi, Mode: Offline	DAAD
15.	Uday Pratap Singh	21191011	Participated in 'Lived Sanskrit Cultures in Varanasi', a course conducted in collaboration with IIT (BHU) and the South Asia Institute at Heidelberg University and University of Würzburg, Germany.	Date: From 22 September to 12 October 2022.Venue: Alice Boner Institute, Varanasi, Mode: Offline	DAAD
16.	Shubham Pathak	22191008	Presented a paper titled "REPRESENTING GENDER EQUALITY THROUGH ADVERTISEMENTS FROM THE ELECTRONIC MEDIA: A STUDY IN DISCOURSE ANALYSIS" at The International Conference on Language, Literature and Folklore (ICOLLAF)	Date- 28 January to 30 January, 2023. Venue- Cluster University Jammu. Mode- Offline	**STGS**: Departm ent of Humanis tic Studies, IIT BHU and R&D, IIT BHU

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Wo rkshop	Date & Venue	Financia l Assistan ce From
17.	Jyoti Kumari	20191505	Presented a paper entitled *"Changing Trends of Body Care Advertisements in India : A Study of Beauty Metaphors"* in the 49th All India Conference of Dravidian Linguists (AICDL) from 28th- 30th June, 2022 by the Department of Linguistics, Banaras Hindu University, Varanasi.	Date: 28th-30th June, 2022 Venue: Department of Linguistics, Banaras Hindu University, Varanasi Mode: Physical	
			Presented a paper entitled *"Cross-cultural Studies of Visual and Verbal Metaphors in Beauty Products of Multilingual Advertisements"* in the 2-day National Conference on Language and Linguistics (NCLL 2023) organized by the Department of Linguistics and Language Technology, Tezpur University, Assam	Date: 17 to 18 March, 2023 Venue: Department of Linguistics and Language Technology, Tezpur University, Assam Mode: Physical	
18.	Siddharth Chauhan	19191505	Presented a paper entitled *"Syntactic and Semantic Representation of English Phrasal Verbs in NCERT Class-1 ESL Textbook"* in the International Conference on Culture, Cognition and Globalization: The Viability of Languages 2023 (5th -6th March, 2023) held at IIT, Patna in collaboration with IIT, Patna and CIIL Mysore.	Venue: IIT Patna Date: 5th -6th March, 2023. Mode:Physical	
			Presented a paper entitled "DISTRIBUTION OF PREPOSITIONS OF PLACE AND TIME IN NCERT CLASS 1 TEXTBOOK" in the 2-day National Conference on Language and Linguistics (NCLL 2023) organized by the Department of Linguistics and Language Technology, Tezpur University, Assam	Date: 17 to 18 March 2023 Venue: Depar tment of Linguistics and Language Technology, Tezpur University, Assam. Mode: Physical	
19.	Milan Chauhan	19191008	Presented a paper titled 'Kajari folksong and Carnival: Space, Representation and Subversion' in the International Seminar on Trajectories of Folk Literature and Culture: Indian Perspective jointly organized by Jeevanoday Shiksha Samiti, Ghazipur, Rajkiya Mahila Snatkottar Mahavidyalaya, Ghazipur, Arya Mahila P.G. College, Chetganj, Varanasi	Venue- Government Girls P.G. College, Ghazipur Date- 12-13 November, 2022 Mode- Physical	
20.	Animesh Roy	20191503	A National conference on Environment and Literature Presented a paper on Climate-induced Migration: a Tale of Suffering in Amitav Ghosh's *Gun Island*	CMP DEGREE COLLEGE, UNIVERSITY OF ALLAHABA D 10-11 sept	
			International seminar on Trajectories of Folk Literature and Culture: Indian Perspective Presented a paper on Reconstructing popular Bengali Folk: Engaging with Past and Present in Amitav Ghosh's *The Hungry Tide* and *Gun Island*	Rajakiya Mahila Snatakottor Mahila Mahavidyalay a Gazipur, UP 12-12 Nov	
21.	NIDHILA S	21191005	Participated in the ten-day course *Introduction to Cinema Studies* conducted by *Global Initiative for Academic Networks*.	Guru Ghasidas Vishwavidyala ya, Bilaspur 4 May 2022 to 14 May 2022, Online	
			Attended the Second *Prof K T Sebastian Scholar-in-Residence Programme 2022*	Department of English, St. Berchman's College, Changanacher ry, Kerala 7th and 9th June 2022 Online	

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Wo rkshop	Date & Venue	Financia l Assistan ce From
22.	Ajeet Singh	20191502	Attended the 49th All India Conference of Dravidian Linguists (AICDL) from 28th-30th June, 2022 by the Department of Linguistics, Banaras Hindu University, Varanasi.	Date: 28th-30th June, 2022 Venue: Department of Linguistics, Banaras Hindu University, Varanasi Mode:Physical	
23.	Samyamoy Khutia	21191008	Successfully completed the ten-day course *Introduction to Cinema Studies* conducted by GIAN (Global Initiative for Academic Networks)	Venue: Guru Ghasidas Vishwavidyala ya, Bilaspur Date: 4th May 2022 to 14th May 2022 Mode: Online Venue: Department of English, St.	
			Attended the Second *Prof K T Sebastian Scholar-in-Residence Programme 2022*	Berchman's College, Changanacher ry, Kerala,Date: 7th June to 9th June 2022,Mode: Online	
			Attended the seminar *Interrogating Gender in Hindi Cinema* (Frames of Reference 2022)	Venue: School of Media and Cultural Studies, Tata Institute of Social Sciences Date: 22nd June to 24th June 2022 Mode: Online	
			Presented a paper titled "Of Madhu and Men: Fluid Masculine Identity in the Bengali Film Nagarkirtan" in the Two-Day International Seminar on *Margins & Masculinities*	Venue: Department of English, St. Berchman's College, Changanacher ry, Kerala,Date: 11th August to 12th August 2022,Mode: Online	
			Attended the international symposium *Queering the Korean Wave*	Venue: Macquarie University, Australia Date: 8th December to 9th December 2022 Mode: Online	
			Attended the *Centenary Memorial Special Lecture* (by Prof Arjun Appadurai)	Venue: Department of English, St. Berchman's College, Changanacher ry, Kerala, Date: 10th Mar. 2023,Mode: Online	
			Attended the *Centenary Memorial Special Lecture* (by Prof Slavoj Žižek)	Venue: Department of English, St. Berchman's College, Changanacher ry, Kerala Date: 17th Mar. 2023 Mode: Online	
24.	Ranjeet Verma	22191006	3-Days Training Programme on "Landslide Risk Mitigation and Control Measures" Organized by CSIR-CBRI Roorkee.	Nov 28-30, 2022,Venue- "Central Building Research Institute, Roorkee- 247667, Uttarakhand.	
			7-Days Workshop on "3D Mapping and Modelling Using Drone and GIS Software" organized by Department of Civil Engineering and Department of Architecture, Planning and Innovation, IIT (BHU) Varanasi	Dec 05-11, 2022,Venue- Dept of Architecture, Planning and Design, IIT (BHU), Varanasi 221005,Utta Pradesh	
			1-Day Workshop on "Use of Hyperspectral Remote Sensing in Mining and Allied Sectors" Organized by Dept. of Mining Engineering IIT(BHU)	Mar 24, 2023 Venue- Dept. of Mining Engineering, IIT (BHU), Varanasi. May 04-10,Venue-Online	

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Wo rkshop	Date & Venue	Financia l Assistan ce From
ABROAD					
1	Pursotam Kumar	19191504	Presented a paper entitled *"English Phrasal Verbs with the Particle UP and their Hindi Equivalents"* in the 36th South Asian Languages Analysis Roundtable (SALA-36) and 43rd Linguistic Society of Nepal (LSN-43) International Conference (SALA-36 & LSN-43) jointly organized by Linguistic Society of Nepal and the Central Department of Linguistics, TU held on 26-29 November 2022 at Madan Bhandari Memorial College, Kathmandu, Nepal.	Venue: Madan Bhandari Memorial College, Kathmandu, Nepal. Date: 26-29 November 2022 Mode: Physical	
			Presented a paper entitled "Symbols of Spatial Representation across Languages: From English Phrasal Verbs to Hindi Complex Predicates" in The SOAS GLOCAL CALA 2022 Webinar, The GLOCAL Conference on Asian Linguistic Anthropology in Asia. SOAS, University of London, Dec 19-21, 2022	Venue: SOAS, University of London Date- Dec 19- 21, 2022. Mode: Online	
			Presented a paper entitled "Sociolinguistic Aspects of the Linguistic Visuals across the Ganges in Varanasi" in The SOAS GLOCAL CALA 2022 Webinar, The GLOCAL Conference on Asian Linguistic Anthropology in Asia. SOAS, University of London, Dec 19-21, 2022	Venue: SOAS, University of London Date- Dec 19- 21, 2022. Mode: Online	
2	Elham Malik	19191004	Academy of Management Conference 2022 Theme - Creating a Better World Together	Date: 5-9 August, 2022 Place:Seattle, Washington Mode: Hybrid	None
			Paper Development Workshop at Academy of Management Annual Meeting 2022 Title - What I Like About You: Appreciative Inquiry Towards Positive Reinforcement	Date: 5 August, 2022 Place: Seattle, Washington Mode - Hybrid	None
3	Namrata Paul	21191503	Presented a paper entitled "LOVE is WATER, LOVE is SKY: Conceptual metaphor analysis of love in Bangla" in the 9th hybrid edition of Language, Culture and	Date: 4-7 July, 2022. Venue: Department of Philology,	
			Mind International Conference, organised by the Department of Philology, University of Almeria	University of Almeria. Mode: Hybrid (Presented online)	
4	Shreya Katyayani	19191007	Papers presented- 1. EXPLORING THE BOUNDARIES OF GIRMIT EXPERIENCE: TESTIMONIOS OF INDENTURE. Going Places: Mobility, Migration, Exile, Space and Emotions: The Third Biennial Conference of the Society of the History of Emotions	Florence, Italy. 30 August – 2 September 20- 7-10th of October 2022,	
			2.PERMEABLE BORDERS AND TECHNOLOGIES OF CONTROL:A STUDY OF THE KAFALA MIGRATION REGIME	Rabat,Morocco.Organized by TRANSNATI ONAL PRESS, London.2022.	
			3.FROM THE GIRMITIYA TO THE MAKFUL: CONTRACT- BASED SLAVERY AND DEVICES OF RESISTANCE-Plantation Societies in Comparative Perspective at the University of Pittsburgh on October 14-15, 2022.	Organized by Afro-Latin American Research Institute at Harvard University and The Center for Latin American Studies at the University of Pittsburgh	

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Wo rkshop	Date & Venue	Financia l Assistan ce From
5	Abhijeet Satsangi	19191501	Presented a paper titled "Linguistic Hedging in Hindi Academic Writing" in the 36th South Asian Languages Analysis Roundtable (SALA-36) and 43rd Linguistic Society of Nepal (LSN-43) International Conference (SALA-36 & LSN-43) jointly organized by Linguistic Society of Nepal and the Central Department of Linguistics, TU	Date: 26-29 November 2022 Venue: Madan Bhandari Memorial College, Kathmandu, Nepal.	
6	Siddharth Chauhan	19191505	Presented a paper titled "COGNITIVE SEMANTIC ANALYSIS OF THE PREPOSITIONS *IN* AND *ON* IN THE CLASS I NCERT TEXTBOOK OF ENGLISH" in the 36th South Asian Languages Analysis Roundtable (SALA-36) and 43rd Linguistic Society of Nepal (LSN -43) International Conference (SALA-36 & LSN-43) jointly organized by Linguistic Society of Nepal and the Central Department of Linguistics, TU	Date: 26-29 November 2022 Venue: Madan Bhandari Memorial College, Kathmandu, Nepal. Mode: In- Person	
7	Jyoti Kumari	20191505	Presented a paper entitled *"Use of Impersonal Emotions in Food and Beverage Advertisements of India"* in The SOAS GLOCAL CALA 2022 Webinar, The GLOCAL Conference on Asian Linguistic Anthropology in Asia. SOAS, University of London, Dec 19-21, 2022.	Date: Dec 19- 21, 2022. Mode: Online Venue: SOAS, University of London	
8.	Milan Chauhan	19191008	Presented a paper titled 'Metaphors and folksong: Assertion of female identity through Metaphorical expressions in Kajari folksongs' in the 36th South Asian Languages Analysis Roundtable (SALA-36) and 43rd Linguistic Society of Nepal (LSN-43) International Conference (SALA-36 & LSN-43) jointly organized by Linguistic Society of Nepal and the Central Department of Linguistics, TU, Nepal	Date: 26-29 November 2022 Venue: Madan Bhandari Memorial College, Kathmandu, Nepal. Mode: Physical	

Names of students/scholars who got prizes and awards outside the Institute *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	Anuja Jose	20191504	Doctoral Fellowship	Heidelberg University, Germany,5 December 2022	DAAD Sponsored

Faculty & their Activity

Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
PROFESSORS			
1	Prasanta Kumar Panda Ph.D	Dec.1998	Literary Theory, Technical Communication, Creative Writing,
ASSOCIATE PROFESSORS			
1	Dr. Sanjukta Ghosh, Ph.D. 17532	March, 2004	Cognitive semantics and its applications
2	Dr. Anil Kumar Thakur Ph.D. 17532	2005	Generative Syntax, Linguistic Analysis
3	Dr. Ajit Kumar Mishra Ph.D. 50196	2003	Narrative Studies (Culture, Medicine, Health); Visual Culture (Film, Television, Photography); Humanistic Communication (Healthcare, Management, Business, Wellbeing)
4	Dr. Nirmalya Guha Ph.D. 50221	May, 2009	Philosophy, Logic, Epistemology

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
5	Dr. Vinita Chandra M.A., Ph.D. 19253	March 4, 2009	Indian History, Gender Studies, Social and Cultural Anthropology
6	Dr. K V Cybil , Ph.D. 50228	2003	Social Anthropology
ASSISTANT PROFESSORS			
1	Dr. Shail Shankar Ph.D. 50220	February, 2011	Psychology
2	Dr. Swasti Mishra Ph.D. 50176	December 31, 2006	Sociolinguistics, Applied Linguistics, Computational Linguistics
3	Dr. Amrita Dwivedi Ph.D. 50177	2009	Environmental Studies including Sanitation & Human Health, Solid Waste Management, Drainage & Sewerage System, Slums, Yoga & Meditation.
4	Dr. Sukhada, Ph.D. 50178	August 12, 2017	Computational Linguistics, Sanskrit Paninian Grammar, Vedic Philosophy
5	Dr. Manhar Charan Ph.D. 50181	March 15, 2012	Humanistic Philosophy & Research, Gandhian Philosophy, Peace & Non-violence
6	Dr. Kavya Krishna K. R. MA, M.Phil., Ph.D. 50204	April 24, 2015	English, Gender Studies, Cultural Studies, Film Studies.
7	Dr. Vishwanat h Dhital, Ph.D. 50203	December 8, 2011	Bhāratīya tarkaśāstra , Indian Philosophy , Navya Nyaya & pāramparika śāstra adhyayana
8	Dr. Satish Kanaujia,Ph.D. 13571	2013	Physical-Education
Visiting Faculty			
1	Dr. Sanjaya Kumar Lenka	Morphosyntax, Language & Communication, Academic Writing & Speaking	
2	Dr. Arvind Gupta	Data and Digital Economy	
3	Deepak Gandotra	Data and Digital Economy	
4	Arun Anant	Media Environment	
5	Bharath Ganapathi	Media Environment	
6	S Krishna Kumar	Quality Management and Business Strategy	
7	Vineet Suri	Quality Management and Business Strategy	
8	Krishnan Hariharan	Finance and Econonomics for Engineers	
9	Abhishake Mathur	Finance and Econonomics for Engineers	

Technical and Non-Teaching Staff

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment inthe department
1.	Vinay Prakash Singh, BA (Sociology), MA (Sociology), B.Lib.,M.Lib	Senior Assistant, 50099	22.05.2017
2.	Amit Kumar Prajapati, BA (Sociology)	Multi Tasking Staff	13.12.2016

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

(From 1st April 2022 to 31st March 2023)

Sl. No.	Cordinator	Title	Period
1	Dr. Nirmalya Guha	Webinar by Prof Diwakar Acharya, Spalding Professor of Eastern Religions and Ethics, Faculty of Oriental Studies / All Souls College, University of Oxford	April 09, 2022
2	Dr. Nirmalya Guha (on behalf of IKS Centre, IIT (BHU))	National Seminar on Indian Knowledge Systems	February 28-March 01, 2023

Sl. No.	Cordinator	Title	Period
3	Co-ordinator - Dr. Kavya Krishna K.R. - Dept of Humanistic Studies in association with Talking Films Online Forum	Webinar/Invited Lecture in Film Studies:- What does a Woman Want? Psychoanalysis and the Postcolonial Context.	June 6, 2022
4	Dr. Sukhada	Building an Academic Discipline of Spirituality in Management and Society (Two Day International Workshop, (HYBRID - ONLINE), with collaboration from scholars from Bolivia, France, Germany, Hungary, India, Nepal, The Netherlands, US.	07-08/02/2023
5	Dr. Sukhada	Discourse workshop (with a focus on Indian Grammatical Tradition)	25-26/10/2022

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1.	Prof. Prasanta Kumar Panda	World Conference on Scholarly Publishing 2022. The International Institute of Knowledge Management 531 /18, Kotte Road,Pitakotte,Sri Lanka	30th August 2022 Online
2.	Prof. Prasanta Kumar Panda	ELI Global virtual: Experiential Learning Teaching Method Program	December 4th – 23rd, 2022.Harvard University, Stanford University, Yale University, West Point (United States Military Academy) and Babson College. Online.
3.	Prof. Prasanta Kumar Panda	Research4Life & STM Joint Webinar, Partnership for the Goals	22nd February 2023, Online
4.	Dr. Anil Thakur	1. The Linguistic landscape of the Varanasi city: An initial sketch (with Sanjukta Ghosh) 2. Multilingualism in market 3. Sociolinguistic aspects of the linguistic visuals (with Pursotam Kumar)	Conference on Asian Linguistic Anthropology (SOAS Glocal CALA 2022. University of Philippines. Online December 19- 21, 2022
5.	Dr. Anil Thakur	Cognitive analysis of the phrasal particle with particle UP (with Pursotam Kumar, presenter)	South Asian Language Analysis Roundtable 36 2022 Tribhuvan University Kathmandu, Nepal November 28-30 2022
6.	Dr. Sanjukta Ghosh	IX Language, Culture and Mind International Conference 2022 1.LOVE is WATER, LOVE is SKY: Conceptual Metaphor Analysis of Love in Bangla (with Namrata Paul) 2.Visual Perception Verbs in Bangla: A Cognitive Semantic Study (with Tanima Bagchi, IIM Indore)	Online and in University of Almeria, Spain July 4-7, 2022
		Conference on Asian Linguistic Anthropology (SOAS Glocal CALA 2022 webinar) Pragmatics of Translating Tourism Texts: A Case of Spiritual Tourism in India(solo authored) Use of Impersonal Emotions in Food and Beverage Advertisements of India (with Jyoti Kumari) The Linguistic landscape of the Varanasi city: An initial sketch (with Anil Thakur)	Online December 19- 21, 2022
7.	Dr. Sanjukta Ghosh	Symbols of Spatial Representation across languages: From English phrasal verbs to Hindi Complex predicates (with Pursotam Kumar) South Asian Language Analysis Roundtable 36 2022 Cognitive Semantic Analysis of the prepositions *IN* and *ON* in the class I NCERT textbook of English (with Siddharth Chauhan and presented by him) Linguistic Hedging in Hindi Academic writing (with Abhijit Satsangi and presented by him)	Online December 19- 21, 2022 TribhuvanUniversity Kathmandu, Nepal November 28-30 2022

Sl. No.	Name of Faculty Member	Title	Period and Venue
8.	Dr. Nirmalya Guha	Science and Philosophy in Indian Knowledge System, organized by Institute for Science and Spirituality (ISS Delhi) in collaboration with IKS Division, AICTE, Ministry of Education, Govt of India and Noida International University (NIU)	January 17-18, 2023
9.	Dr. Nirmalya Guha	IKS Seminar on Indian Chemistry, IIT (BHU)	February 15, 2023
10.	Dr. Nirmalya Guha	National Seminar on Indian knowledge Systems, IIT (BHU)	February 28- March 01, 2023
11.	Dr. Kavya Krishna K.R.	Spatiality and Temporality International Conference. Paper Presenter	Birkbeck, University of London, 11-12 February, 2023.
12.	Dr. Kavya Krishna K.R.	The Global Indian Diasporas: Literary, Cultural and Socio- Economic Perspectives in the 21st Century. International Conference. Chair Section o 'Identity and Self'	Central University of Gujarat 23-25 February,2023. Online
13.	Dr sukhada	Digital India Week	04-09/07//2022, Mahatma Mandir, Gandhinagar, Gujrat
14.	Dr sukhada	Discourse with a Focus on Indian Grammatical Tradition	25-26/10/2022, IIIT- Hyderabad, Telangana
15.	Dr. Swasti Mishra	49th All India Conference of Dravidian Linguists (AICDL) from 28th-30th June, 2022 by the Department of Linguistics, Banaras Hindu University, Varanasi.	Date: 28th-30th June, 2022 Venue: Department of Linguistics, Banaras Hindu University, Varanasi
16.	Dr. Swasti Mishra	International Conference on Indian Knowledge Systems - BHARATA TIRTHA-II	Center of Excellence for Indian Knowledge Systems, IIT Kharagpur, 14 - 18, June 2022
17.	Dr. Swasti Mishra	राष्ट्रीय संगोष्ठी 'भारतीय भाषा पररवार- भाषा चिन्तन की साझी पर राष्ट्र	Bharat Adhyayan Kendra, BHU, Varanasi, 12-13, February 2023
18.	Dr. Vinita Chandra	International Conference on Harmonisation-Good Clinical Practice (ICH-GCP) Course conducted by Clinspire Research Private Limited.	17 May, 2022, Online
Meetings			
1	Dr. Nirmalya Guha	Online Board of Studies (BOS) Meeting, School of Philosophy and Culture, Shri Mata Vaishno Devi University, Katra - 182320	May 30, 2023
2	Dr. Sukhada	Meeting of consortia members of the project titled "Language Communicator Tool for End Users"	26-27/09/2022, AUKBC, Anna University, Chennai, Tamilnadu
3	Dr. Ajit Kumar Mishra	Prof. Harsh Priya, Coordinator, NOHM AIIMS, MoHFW, GoI, New Delhi	March 1, 2023
4	Dr. Ajit Kumar Mishra	Director, CEMCA Commonwealth of Learning, New Delhi	March 2, 2023
5	Dr. Ajit Kumar Mishra	Shri Rajinder Singh, Scientist 'E' NCSTC, DST MoS&T, GoI, New Delhi	March 1, 2023

Special lectures delivered by faculty members in other institutions *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1	Prof. Prasanta Kumar Panda	Technical writing in 21st Century Basics	Institute of Science, BHU.	25.11.22
2	Prof. Prasanta Kumar Panda	Self-editing Insights	Institute of Science, BHU.	28.11.22
3	Dr. Anil Thakur	Indian Linguistic Diversity: An Outline	Department of Linguistics, University of Philippines (UP) Dillman, Quezon City, Philippines	04.11.2022
4	Dr. Sanjukta Ghosh	Cross-cultural Study of Verbal and Visual Metaphors in the Advertisements	Department of Linguistics, University of Philippines (UP) Dillman, Quezon City, Philippines	04.11.2022

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
5	Dr. Nirmalya Guha	Indian Logic	Department of Philosophy, Manipal Academy of Higher Education	September 12, 2022
6	Dr. Nirmalya Guha	A Realist Theory of Self against the Buddhist No-self	Science and Philosophy in Indian Knowledge System, organized by Institute for Science and Spirituality (ISS Delhi) in collaboration with IKS Division, AICTE, Ministry of Education, Govt of India and Noida International University (NIU)	January 17-18, 2023
7	Dr. Kavya Krishna K.R.	Gender, Culture and Dance	HRDC, FDP-Kannur University, Kerala	26/08/2022
8	Dr. Kavya Krishna K.R.	Film Appreciation	Dr. N S A M First Grade College, Bengaluru	15/06/2022
9	Dr. Kavya Krishna K.R.	Masculinity Studies and Feminism	New Literaria Journal and Guru Ghasidas Vishwavidyalaya, Bilaspur	26/11/2022
10	Dr. Sukhada	इन्टरनेट टू ल्स के माध्यम से अनवु ाद: ुनौचतयाँ और समाधान	हैदराबाद ववश्ववद्यालय	27/03/2023
11	Dr. Sukhada	Textual Meaning Representation Inspired by IGT	Central Sanskrit University, Ganganath Jha Campus	15/02/2023
12	Dr Sukhada	Indian Grammatical Tradition and Machine Translation	Vasanta College for Women in collaboration with National Translation Mission (NTM), CIIL, Mysore	11/02/2022
13	Dr Sukhada	Indian grammatical tradition and computational linguistics	IKS Center at IIT (BHU) Varanasi	06/01/2023
14	Dr. Swasti Mishra	Invited talk on "Languages of Purvanchal– Treasure of Linguistic and Cultural Knowledge"	Center of Excellence for Indian Knowledge Systems, IIT Kharagpur,	16 June 2022
15	Dr. Swasti Mishra	Language Technology & Indian Languages	Bharat Adhyayan Kendra,BHU, Varanasi,	13 February 2023
16	Dr. Manhar Charan	ethics morals and values in education	IIITM, Gwalior	19th, 20th Nov, 2022 & 26th and 27th Nov, 2022.
17	Dr. Vinita Chandra	'Women's Studies in Academia', at the 18th Refresher Course in Women's Studies.	UGC-Human Resource Development Centre, BHU	18th January, 2023
18	Dr. Ajit Kumar Mishra	Listening for Workplace Success	E-Workshop on Developing Communication Skills: Challenges and Strategies Pondicherry University	23/04/2022
19	Dr. Ajit Kumar Mishra	Importance of language in academic writing	Academic Writing and Publication, Faculty of Ayurveda, BHU	12/09/2022
20	Dr. Ajit Kumar Mishra	Building Blocks of Writing	Workshop on Research Writing and Publishing, MMV, BHU	13/10/2022
21	Dr. Ajit Kumar Mishra	Mechanics of Writing	Workshop on Academic Writings and Publications, Department of German Studies Department of German Studies, BHU	16/12/2022
22	Dr. Ajit Kumar Mishra	Panelist	'Anant' International Interdisciplinary Conference on Trends and Future Possibilities in Humanities and Social Sciences At DIT University	10/11/2022
23	Dr. Ajit Kumar Mishra	Life Skills for Academics	Seven-day Faculty Development Programme on Soft Skills and Personality Development in Academics, NIT Allahabad	15/10/2022
24	Dr. Ajit Kumar Mishra	Effective Communication for Public Health	Orientation of District Nodal Officers towards the National Oral Health Programme on 1st & 2nd March, 2023, AIIMS, New Delhi	1/03/2023

Visits abroad by faculty members *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Dr. Anil Thakur	Singapore Philippines	28.10.2022	7.11.2022	talk	
2	Dr. Sanjukta Ghosh	Phillipines	28.10.2022	7.11.2022	To deliver a special lecture	
3	Dr. Kavya Krishna K.R.	London, United Kingdom	9 Feb 2023	17 Feb 2023	Paper Presentation in Internationa l Conference at University of Birkbeck, London	CPDA

Honours and awards *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Award
1	Dr. Vinita Chandra	Nation Builder Award given by Rotary Club Varanasi Central on 4th September 2022, on the occasion of Teachers' Day.

Books, monographs authored/co-authored *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Author/ Co- Author	Title	Publisher
1	Dr. K V Cybil (Editor)	Biopolitics and Healing in a Mass Milieu (In Press)	Routledge
2	Dr. K V Cybil (author)	Introductory Chapter of Biopolitics and Healing in a Mass Milieu (In Press)	
3	Dr. K V Cybil (author)	Body or/and Life? Assemblages in an Age of Mass Healing (chapter from Biopolitics and Healing in a Mass Milieu) In press	

Editorial boards of journals *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Prof. Prasanta Kumar Panda	Editor	Nuances
2	Prof. Prasanta Kumar Panda	Member, editorial Board	Platform
3	Dr. K V Cybil	Contributing Editor	JMC Review
4	Dr. Kavya Krishna K.R.	Advisory Board/Editorial	Diotima's: A Journal of New Readings ISSN :2319-4189

Research and Consultancy

Sponsored research projects *(Ongoing only)*

Note: Sponsored project name is to be given only in case a faculty member is Project Incharge

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1	Language Communicator Tool for End Users	03 Years	MeitY, NLTM, GoI	172 Lakhs	Dr. Sukhada (PI)
2	Neeti Shastras and Modernity: Understanding the Reflective Equilibrium between Hermeneutics of Normative Texts and Practice	02 Years	IKS Division of AICTE	10 Lakhs	Dr. Sukhada (PI)
3	Analytical Study of Saansad Adarsh Gram Yojana (SAGY) of Jayapur and Nagepur village in Varanasi District	Report was submitted on March 16, 2023	Mahatma Gandhi National Council of Rural Education under the Ministry of Education	200000/	Dr. Manhar Charan (PI)

Faculty members' participation with other universities under MoUs *(Ongoing only)*

1. Dr. Sukhada:- Editorial Team member, OM RISE (Organizational Management (OM), Research (R), Innovation (I) and Sustainable Entrepreneurship (SE)), in The Netherlands (An online magazine from the Chair of Hindu Spirituality and Society Vrije Universiteit Amsterdam). Link: https://magazine.omrise.org/2020/10/editorial-note-spirituality-management-and-society-issue-4/

2. Dr. Sukhada:- Delivered online lectures on "Dying, Death, Anteyshti Sanskar" for the course "Hindu Palliative Care" for the Post Graduate Diploma program in "INTEGRATIVE SPIRITUAL CARE" at Vrije Universiteit Amsterdam, Netherlands.
3. Dr. Sukhada:- Delivered online lectures on "Āśramas and Saṃskāras" in Course "Hindu Spiritual Care, Rituals & Traditions" for the Post Graduate Diploma program in "INTEGRATIVE SPIRITUAL CARE" at Vrije Universiteit Amsterdam, Netherlands.
4. Dr. Vinita Chandra:- Core Member, Project Coordination Committee,four years project- 'Exploring Cultures of Learning in India and Germany' under the programme- 'A New Passage to India- German- Indian Higher Education Cooperations 2019-2023' , funded by DAAD, partnering with Heidelberg University. Two students from the Department got Three months Fellowship from September- November 2021 under the ongoing student exchange programme.
5. Dr. Vinita Chandra:- Core Member, Project Coordination Committee of the four years Project- 'Cultures of Learning in Academic and Non-Academic Institutions in India and Germany' sponsored by DAAD under the Program- 'A New Passage to India: German- Indian Higher Education Cooperations (2019-2023)', to the Chair of Indology, Würzburg University.

Research Publications *(From 1st April 2022 to 31st March 2023)*

Sl. No.		No.
1	Total Number of Papers Published in Refereed National Journals	03
2	Total Number of Papers Published in Refereed International Journals	10
3	Total Number of Papers Presented in National Conferences	05
4	Total Number of Papers Presented in International Conferences	22

Refereed International Journals *(From 1st April 2022 to 31st March 2023)*

1. Panda Prasanta Kumar (2022) Publication anomalies and "paywall" woes in academia. CicimarOceánides. ISSN 2448-9123, 37 (1-2):65-69.
2. Guha N. (2023) Cognitive Tools for Narrating the Past: A Study of Classical India. Journal of Indian Council of Philosophical Research, Springer
3. Sharda S. Nandram, Puneet K. Bindlish, Sukhada, Arjun Kumar Shrestha. (2022) Spirituality led Ethical Decision making with Yogic Yamas and Niyamas. In: Journal of Management, Spirituality & Religion. DOI: https://doi.org/10.51327/EHZW1674
4. Sharda S. Nandram, Sukhada, Ankur Joshi, Puneet K. Bindlish. (2021) Understanding Human Values through Integrative Dialogue: The method of Śāstrārtha. In: Global Perspectives on Indian Spirituality and Management - The Legacy of S.K. Chakraborty, Dr. Sanjoy Mukherjee and Prof. László Zsolnai (Editors), DOI: DOI: 10.1007/978-981-19-1158-3_8
5. Rajesh Kumar Mundotiya, Shantanu Kumar, Ajeet Kumar, Anil Kumar Singh, Swasti Mishra, (2022), "Development of a Dataset and a Deep Learning Baseline Named Entity Recognizer for Three Low Resource Languages: Bhojpuri, Maithili", Journal: ACM Transactions On Asian And Low-Resource Language Information Processing (TALLIP)
6. Atish Das and Manhar Charan (2023) National Imagination and Topology of Cultural Violence: Gandhian Recontextualization of "Violence" and "Peace". EIDOS: A Journal for Philosophy of Culture. Volume 6: No. 4/2022. (ISSN: 2544-302X) Scopus Indexed Journal
7. Tripathi, R.C., Pande, N., Tripathi, V.N., Shankar, S., Pande, A. and Bahadur, R. (2022). Scarcity Mindset and Generational differences in India: The role of cognitive and affective factors. Psychology and Developing Societies. 34 (1): 45-78
8. Vinita Chandra & Akanksha Yadav (2022) Hijras, Lovers, Brothers: Surviving Sex and Poverty in Rural India. *Ethnos*. DOI: 10.1080/00141844.2022.2129710.
9. Akash Kumar Srivastava & Vinita Chandra (2023). Robyn E. Cutright, The Story of Food in the Human Past: How What We Ate Made Us Who We Are.*Food and Foodways*. 1-4. DOI: 10.1080/07409710.2023.2191886.
10. Bhattacharyya, M and Mishra A.K. (2022) Tabooing 'Ageing in Women': Paradoxes of Feminist Perspectives. Literary Voice. SE (19): 220-227.

Refereed National Journal *(From 1st April 2022 to 31st March 2023)*

1. Ghosh Sanjukta (2022). Cognitive Linguistic Support for Historical Linguistic Facts: A comparative semantic study of Hindi-Bangla-Maithili 'come.' Journal of the Asiatic Society. LXIV, Vol. II. The Asiatic Society, Kolkata. (indexed in Zoological Records, Clarivate Analytics).
2. S.S. Sooraj and Krishna, Kavya K.R. (2022) 'Decoding Hegemonic Masculinity and Patriarchal Family A Reading of the Malayalam Film Kumbalangi Nights'. Caesurae: Poetics of Cultural Translation Vol. 4:2 and 5:1 July. ISSN 2454-9495.
3. Khutia, Samyamoy and Krishna, Kavya K.R. (2022) 'Streaming Sexualities: The Changing Face of Gay Masculinity in Hindi Media'. Dialogist: International Journal of Literary Studies and Interdisciplinary research, Kannur University, Vol 1, Issue 2, July. ISSN 2583-1836.

Proceedings of International Conferences *(From 1st April 2020 to 31st March 2021)*

1. Atish Das and Dr. Manhar Charan. 2023. Language, Culture and Accessibility in Higher Education: The Semiotic Pedagogy of Gandhian Education Against Disciplinary Dualism. International Conference on Best Innovative Teaching Strategies, 9-11 February, 2023. ICON-BITS 2023.

18. School of Biochemical Engineering

Full Name of School: School of Biochemical Engineering

Year of Establishment: 1986

Coordinator of the School: Prof. Vikash Kumar Dubey w.e.f. 18-02-2020

Brief introduction of the School:

The School of Biochemical Engineering (BCE) at the Indian Institute of Technology (BHU) was established in 1986 for accomplishing numerous standards in teaching as well as in the research of the current field of biochemical and bioengineering aspects. The School has kept on renovating its academic programs to impart contemporary education in upcoming areas of biochemical engineering. At present, the school of BCE offers academic courses, including Integrated Dual Degree, M. Tech, and Ph.D. in BCE. Not only this, but the School of BCE also offers industrially oriented courses to students of other departments of IIT(BHU). In the new undergraduate program, the School has been assigned to offer a number of institute level courses either independently or jointly with other departments. The research facilities of the School are utilized not only by other departments of the institute and BHU but also by other teaching institutions and research laboratories across India. At present, there are ten highly dynamic faculty members in the School, who guide inter-departmental/interdisciplinary projects and dissertations. Faculty members are engaged in high-level fundamental and applied research funded by various funding agencies including DST, DBT, CSIR, ICMR, whereas some projects are also funded by the industries. The faculty members of the schools are trained very well in top tier national and international laboratories. The research domain of the School of BCE faculties comprises Bioprocessing, Bioreactor designing, Food engineering, Fermentation technology, Biofuel systems, Biochemical parasitology, Protein engineering Wastewater engineering, Bio-remediation, Bio-Physio Sensors, Nano-bio-engineering, Device Designs, Healthcare Technologies, etc. Now, the School of BCE has a new three-storied building, which includes all teaching classes and laboratories. The floor area of the new building of the School is 10,000 sq. feet. (Total 30,000 sqft). The School has 14 laboratories, 6 well-equipped lecture theatres, a well- equipped100-seater conference room, library, and internet facility. The School also has a well- furnished seminar room and few meeting rooms for faculty and students. The School enjoys an excellent professional interaction with various industrial organizations, experts, and consultants. Besides these, the School also provides expertise for process improvement/ development, raw materials and product analysis, microbiological testing, nano-sensors, etc. to the industries in and around Varanasi.

Major areas of Research

Bioprocessing, Bioreactor designing, Food engineering, Enzyme and Tissue Engineering, Fermentation technology, Biofuel systems, Biochemical parasitology, Protein engineering Wastewater engineering, Bioremediation, Bio-Physio Sensors, Nano-bio-engineering, Device Designs, Healthcare Technologies, Computational biology & Bioinformatics,Proteomics, glycobiology and glycoenginnering.

Area of the School (in square meters): 2787.0912

Infrastructure

Sl. No.	Particulars	Number
1	No. of classrooms	5
2	No. of lecture halls	1
3	No. of laboratory	15

Academic programmes offered

Students on Roll

(Please give the number of students only, under the respective years)

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1	Dual Degree (IDD)	25	15	14	12	13
2	M. Tech/ M. Pharm	6	7	-	-	-
3	Ph. D (Under Institute Fellowship)	1	1	-	2	-

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
4	Ph. D (Prime Minister Fellowship)	1	2	1	1	-
5	Ph. D (External fellowship)	2	6	3	6	-
6	Ph.D (QIP)	-	-	1	-	-

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

Sl. No.	Name of student	Roll no.	Conference/Seminar/Symposia/ Workshop	Date & venue	Financial assistance from
India					
1	Jyoti Rani	17011002	4th Biological Engineering Society Conference (BESCON) Kolkata	November 4-6, 2022	NA
2	Madhumita Priyadarsini	21011003	46th Indian Social Science Congress (ISSC), Trichy	January 27-31, 2023	Student Travel Grant Support, IIT (BHU)
3	Kailash Pati Pandey	210011005	46th Indian Social Science Congress (ISSC), Trichy	January 27-31, 2023	Student Travel Grant Support, IIT (BHU)
4	Jeetesh Kushwaha	21011007	46th Indian Social Science Congress (ISSC), Trichy	January 27-31, 2023	Student Travel Grant Support, IIT (BHU)
5	Santanu Singh	21011503	Workshop on genotoxicity, CSIR IITR, Lucknow	July 15, 2022	NA
6	Manoj Kumar Verma	18011007	International conference on nanotechnology for better living	25-29 May, 2023	Student Travel Grant Support, IIT (BHU)
7	Rahul Ranjan	19011001	Advances in biopolymers and composites: Health, Environment and Energy	20-22 Oct, 2023	NA
8	Rohit Rai	20011506	Advances in biopolymers and composites: Health, Environment and Energy	20-22 Oct, 2023	NA
9.	Abhay Dev Tripathi	19011003	International Conference on Drug Discovery 2022" in BITS Pilani K K Birla Goa campus	10th and 11th November 2022	Student Travel Grant Support, IIT (BHU)
10	Aditi Bhatnagar	17011502	International Conference on Drug Discovery 2022" in BITS Pilani K K Birla Goa campus	10th and 11th November 2022	Student Travel Grant Support, IIT (BHU)
11.	Ravi Saini	18011006	International Conference on Drug Discovery 2022" in BITS Pilani K K Birla Goa campus	10th and 11th November 2022	Student Travel Grant Support, IIT (BHU)
12.	Sonali Kumari	19011010	International Conference on Drug Discovery 2022" in BITS Pilani K K Birla Goa campus	10th and 11th November 2022	Student Travel Grant Support, IIT (BHU)
13.	Soumya Katiyar	19011009	International Conference on Exploring new horizons in Biotechnology," at Department of Biotechnology, BHU, Varanasi	10th to 12th Feb 2023	NA
14.	Abhay Dev Tripathi	19011003	International Conference on Exploring new horizons in Biotechnology," at Department of Biotechnology, BHU, Varanasi	10th to 12th Feb 2023	NA
15.	Manash Sarma	19011011	International Conference on Drug Discovery 2022" in BITS Pilani K K Birla Goa campus	10th and 11th November 2022	Student Travel Grant Support, IIT (BHU)
16.	Debanjan Kundu	18011003	The Leuven Protein Aggregation Meeting Organization, KU Leuven, Belgium	21 September 2022-24 September 2022	Science Education and Research Board (SERB), DST, and Government of India

Names of students/scholars who got prizes and awards outside the Institute

Sl. No.	Name of student	Roll no.	Name of prize	Date & venue	Prize awarded by
1	Santanu Singh	21011503	Prime Minister Research Fellowship (PMRF)	11/11/2022, IIT Madras	Ministry of Education, GoI
2	Khyati Joshi	22011004	Prime Minister Research Fellowship (PMRF)	22/03/2023,IIT Madras	Ministry of Education, GoI
3	Kajal Kachhawaha	21011501	Prime Minister Research Fellowship (PMRF)	22/03/2023, IIT Madras	Ministry of Education, GoI
4	Santanu Singh	21011503	Best Innovative Idea Presentation award	25/09/2022,UUniversity of Lucknow	University of Lucknow
5	Rohit Rai	20011506	Best Poster Award	20/10/2022 MNIT Allahabad	MNIT Allahabad
6	Rahul Ranjan	19011001	Best Poster Award	20/10/2022 MNIT Allahabad	MNIT Allahabad
7	Rohini Kumari	21011004	Best Paper Presentation	7^{th}-11^{th} February BARC, Mumbai	International Conference on Electrochemistry for Industry, Health, and Environment, EIHE-2023

Names of Students/Scholars who went for foreign Internship

Sl. No.	Name of student	Roll No.	Name of the organization	Place of internship	Country	Duration
1	Kshitij Sinha	18014008	Leibniz Institute of Analytical Sciences, Dortmund	Otto-Hahn-Straße 6A, Dortmund	Germany	11 May 2022 - 31 July 2022
2	Saumya Mathur	20014015	Max Planck Institute of Biochemistry	Am Klopferspitz 18, Planegg, Munich	Germany	15 May 2023-31 July 2023

Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD degree	Major areas of specialization
Professors			
1	Pradeep Kumar Srivastava, (16831)	1998	Microbial Engg., Bioreactor Kinetics, Modelling & Scaleup, Downstream Processing, Recombinant Proteins, Drug Delivery Techniqu, Tissue Engineering and IPR & Technology Transfer
2	Dr. Vikash Kumar Dubey	2003	Biochemical Parasitology, Cell Death Pathways, Protein Aggregation and Misfolding
Associate Professors			
3	Dr. Abha Misra, PhD, (16830)	2001	Protein Chemistry, fermentation technology and Intellectual property rights (IPR).
4	Dr. Pranjal Chandra, PhD, (50237)	2013	Bio-Physio Sensors, Nanobioengineering, Microfluidics, Healthcare Technologies, Material Engineering for Diverse Applications
Assistant Professors			
5	Dr. Vishal Mishra, PhD, (50064)	2012	Separation Process and Bioreactor Design, Wastewater treatment, Microalgae remediation, Bioenergy, Solid waste treatment
6	Dr. Sanjay Kumar, PhD, (50067)	2011	Biofuel research and bioprocess development of value added products
7	Dr. Prodyut Dhar, PhD, 50249	2017	Biomaterials, Biodegradable Polymers, Biopolymers & Bionanotechnology,
8	Dr. Abhishek Suresh Dhoble, PhD, 50264	2016	Microbiota, Microbiome Therapy, Cytomics, Bio-CNG, Anaerobic Digestion, Agro-Food Studies
9	Sumit Kumar Singh, Ph.D. (50277)	2020	Glycoproteomics, structure-function relationship of immunomodulatory lectins, Glycan-based antibody-drug conjugates, Biopharmaceutical analytical characterization, Glycobiology-focused therapeutics

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD degree	Major areas of specialization
10	Dr. Aditya Kumar Padhi, PhD, (50307)	2015	Computational Biology, Structural Bioinformatics, Computational Biophysics, High-throughput Protein Design, Translational Bioinformatics, Biomolecular Modeling and Conformational Analyses
11	Dr. Rajendra Prasad Meena (FACVF31, on contract)	2017	Ultrabright nanoMedicine, Interventional Theranostics, Multimode Imaging, Cell and Liposomal Delivery Systems, Bioengineering of Cells and Nanoparticles, nanoBiosome, Power of nano-characterization

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

Sl. No.	Coordinator	Title	Period
1	Dr. Aditya Kumar Padhi (Organizing Secretary) & Dr. Sumit Kumar Singh (Co-Organizing Secretary)	Short-term course on Computer-Aided Drug Design and Structural Bioinformatics (CADDSB-2023)	13-17 March 2023
2	Dr. Abhishek Suresh Dhoble	One Day Training on Flow Cytometry	12 May 2022

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

Sl. No.	Name of faculty member	Title	Period and venue
Seminars/Symposia/Conferences			
1.	Dr. Abhishek Suresh Dhoble	4th Biological Engineering Society Conference (BESCON)	November 4-6, 2022, Kolkata
2.	Dr. Abhishek Suresh Dhoble	46th Indian Social Science Congress (ISSC)	January 27-31, 2023, Trichy
3.	Dr. Aditya Kumar Padhi	2nd International Conference cum Workshop on "Recent Trends in Structural Bioinformatics and Computer Aided Drug Design" (ICSBCADD'2022)	November 21-25, Karaikudi
4.	Dr. Sumit Kumar Singh	Monsoon Advanced Proteomics School (MAPS)-2022	July 18-29, 2022, IIT Bombay
5.	Dr. Sumit Kumar Singh	3rd Meeting of Human Glycome Project	Nov 3-6, 2022, Split Croatia
7.	Dr. Sumit Kumar Singh	8th Bioprocessing India Conference 2022	Dec 16-18, 2022, Pune
8	Dr. Sumit Kumar Singh	Centre for Biopharmaceutical Technology Course series	Dec 13-15, 2022, IIT Delhi
9.	Dr. Sumit Kumar Singh	National Biopharma Mission- BIRAC Workshop on Bioprocessing	June 23-27, 2022, IIT Delhi
8.	Dr. Prodyut Dhar	ACS National Meeting,	March 26-30, 2023 Indianapolis, USA
9.	Dr. Vishal Mishra	National Workshop on Research Methodology & Current Research Trends	27 to 31/ 03/ 2023
10.	Dr. Pranjal Chandra	International Conference on Electrochemistry for Industry, Health, and Environment, EIHE-2023	7th-11th February 2023 BARC, Mumbai
11.	Dr. Pranjal Chandra	Indian Institute of Technology Patna	4th - 5th march 2023
12.	Dr. Pranjal Chandra	Jaypee Institute of Information Technology, Noida	18-20 January, 2023

Special lectures delivered by faculty members in other institutions

Sl. No.	Name of faculty member	Topic of lecture	Institution	Date
1	Dr. Sanjay Kumar	Biofuel production from the microalgae and cyanobacteria: Advances and Challenge (Faculty Development Program On "Microbes' Potential to Bail out the Energy Crisis")	Department of Biochemical Engineering, HBTU Kanpur	16/12/2022
2	Dr. Sumit K. Singh	Techniques to study proteins to proteome (Hands-on-training on biological and molecular techniques,)	Department of Zoology, MMV, Banaras Hindu University	21/3/2023
3	Dr. Sumit K. Singh	Activity loss due to methionine oxidation in GCSF: mechanism and control (8th International Bioprocessing India Conference)	CSIR- NCL Pune	17/12/2022

Sl. No.	Name of faculty member	Topic of lecture	Institution	Date
4	Dr. Sumit K. Singh	Characterization of primary structure and post-translational modifications using multi-attribute monitoring workflows (CBT-COE Course series)	IIT Delhi	14/12/2022
5	Dr. Sumit K. Singh	Characterization of biopharmaceuticals using peptide mapping workflows (CBT-COE Course series)	IIT Delhi	15/12/2022
6	Dr. Sumit K. Singh	Theory and practice of native mass spectrometry (CBT-COE Course series)	IIT Delhi	15/12/2022
7	Dr. Sumit K. Singh	Bioprocessing of mAbs: producing safe and efficacious biologics (FDP on expanding horizons of downstream processing)	Kalasaligam Academy of Research and Education, Krishnankoil, Tamil Nadu	4/7/2022
8.	Dr. Sumit K. Singh	Concepts in liquid chromatography: Instrumental aspects (NBM-BIRAC workshop on bioprocessing)	IIT Delhi	23/6/2022
9.	Dr. Sumit K. Singh	Controlling Critical Quality Attributes of Biopharmaceutical products, (COE-CBT Course series) (Keynote Speaker)	IIT Delhi	27/4/2022
10	Dr. Vishal Mishra	Solid Waste Based Microbial Fuel Cell	Central University of Jammu, Jammu.	27/05/2023
11	Dr. Vishal Mishra	Recent Advancement In Wastewater And Solid Waste Management	AKS Unversity Satna	27 to 31/ 03s/ 2023
12	Dr. Vishal Mishra	Machine Learning	Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh	16 to 25/03/ 2023
13	Dr. Pranjal Chandra	Sustainable Procedures for development of miniaturized sensing devices	Career College, Bhopal and Research Foundation of India & RFI-CARE	03 to 04/06, 2022
14	Dr. Pranjal Chandra	Nanoengineered Sensing Systems for Detecting Biomarkers In Miniaturized Settings. (Keynote Speaker)	Dr. B. Lal Institute of Biotechnology, University of Rajasthan, Jaipur	10 to 11/06 2022
15	Dr. Pranjal Chandra	Intelligent Nanobioengineered Surfaces for Biomolecular Sensing	Amity Institute of Biotechnology, Amity University Chhattisgarh	04 to 08/07/2022
16	Dr. Pranjal Chandra	Data analytics and Project writing	University of Hyderabad in collaboration with Society for Innovation & Entrepreneurship -SINE Indian Institute of Technology, Bombay.	22/ 07/ 2022
17	Dr. Pranjal Chandra	Emerging role of Aptamers in Diagnosis and Therapeutics	Indian Institute of Science Education and Research, Mohali	30/ 07/ 2022
18	Dr. Pranjal Chandra	BIOSENSORS: Application in Biomedical Engineering	PES University, Bangalore	06/11/2022
19	Dr. Pranjal Chandra	Nano-Bio-Engineered Surfaces for Detection of Metals and Xenobiotics in Surface Water Samples: Implication Toward Riverside Analysis.	National Institute of Technology Warangal,	5 to 9/12/ 2022
20	Dr. Pranjal Chandra	Design and Implementation Translational Sensor Systems for Real World Applications.	Jaypee Institute of Information Technology, Noida, India	18 to 20 /01, 2023
21	Dr. Pranjal Chandra	Nanoengineered Electrochemical Sensors for Tracking Biomarkers In Miniaturized Settings (DISTINGUISHED SPEAKER)	The Bhabha Atomic Research Centre, Anushaktinagar, Mumbai - 400094	07 to 11/01/2023
22	Dr. Pranjal Chandra	Design and Engineering Aspects of Translational Microdevices and Sensors	Indian Institute of Patna, Bihar	4 to 5/3 2023

Sl. No.	Name of faculty member	Topic of lecture	Institution	Date
23	Prof. Vikash Kumar Dubey	workshop on Phylogenomics and Network Biology in the era of ML	NCCS Pune (Plenary lecture)	15/02/2023
24	Prof. Vikash Kumar Dubey	Concepts in circular dichroism	DST STUTI training program, SATHI-BHU	**21/06/ 2022**.
25	Prof. Vikash Kumar Dubey	Flow Cytometry for Biomedical Research	DST STUTI training program, SATHI-BHU	**06/12/ 2022**.

Honours and awards

Sl. No.	Name of faculty member	Details of award
1	Dr. Aditya Kumar Padhi	Bioinformatics and Drug Discovery Society (BIDDS) India Young Scientist Award for the Year 2022
2	Dr. Prodyut Dhar	National Bamboo Innovation Challenge 2022
3	Dr. Pranjal Chandra	Young Scientist Award, Indian Society of Chemists and Biologists 2022
4	Dr. Pranjal Chandra	Eat Right Research Award-2022 by FSSAI - FDA Bhawan on the "World Food Safety Day"
6	Dr. Pranjal Chandra	Prof. B.K. Bacchawat Memorial Award Lecture Award 2022 by the National Academy of Sciences Prayagraj.

Fellowships of academic and professional societies

Sl. No.	Name of faculty member	Details of fellowship
1	Dr. Prodyut Dhar	Ramalingaswami Fellowship (BT/HRD/35/02/2006)

Books, monographs authored/co-authored

Sl. No.	Name of author/co-author	Title	Publisher
1	Sumit K. Singh, Pranjal Chandra	Protein Biomarkers: Discovery and Applications in Clinical Diagnostics	Springer
2	Rajendra Prasad, Rohit Srivistava, Sujit K Debnath	Nanomaterials in Healthcare (41717/9781032344751)	CRC Press (Taylor & Francis Group)
3	Aditi Bhatnagar, and Abha Mishra	α-Glucosidase Inhibitors for Diabetes/ Blood Sugar Regulation - Natural Products as Enzyme Inhibitors: An Industrial Perspective.	Springer
4	Aditi Bhatnagar, and Abha Mishra	Green Synthesis of Nanoparticles by Endophytes." In Developments in Applied Microbiology and Biotechnology	Elsevier
5	Soumya Katiyar, Shikha Kumari, Ritika Singh, Abhay Dev Tripathi, Divakar Singh, Pradeep K. Srivastava and Abha Mishra.	Recent Advances in the Application of Nano-Biosensor in Tissue Engineering - Recent Advances in Biosensor Technology.	Bentham Science
6	Abhay Dev Tripathi, Soumya Katiyar, Avinash K. Chaurasia and Abha Mishra	Nanomaterials for Biosensing Applications - Recent Advances in Biosensor Technology	Bentham Science
7	Fatemeh Salemizadehparizi, Rajendra Prasad, and Berivan Cecen	Biomimetic Nanovesicles for Targeted Imaging and Therapeutic of Solid Tumor: Safe Nanomedicines	CRC Press (Taylor & Francis Group)
8	Dhwani Rana, Raghav Gupta, Bharathi K, Rupali Pardhe, Nishant Kumar Jain, Sagar Salave, Rajendra Prasad, Derajram Benival, and Nagavendra Kommineni	Porous Silica Nanoparticles for Targeted Bio-Imaging and Drug Delivery Applications	CRC Press (Taylor & Francis Group)
9	Timir Tripathi, Vikash Dubey (Editors)	Advances in Protein Molecular and Structural Biology Methods 1st Edition - January 14, 2022 (Book)	Elsevier

Sl. No.	Name of author/co-author	Title	Publisher
10	Gundappa Saha, Sukanya Ghosh, Vikash Kumar Dubey, Prakash Saudagar	Gene Alterations Induced by Glutamine (Q) Encoding CAG Repeats Associated with Neurodegeneration. In: Pereira, G.C. (eds) Gene, Drug, and Tissue Engineering. Methods in Molecular Biology, vol 2575.	Humana, New York, NY. Online ISBN978-1-0716-2716-7
11	Shyamali Sarma, Vikash Kumar Dubey, Vijayanand S. Moholkar,	Chapter 16 - Circular bioeconomy for biodiesel industry: Upgradation of waste glycerol to value-added products, Editor(s): Sunita Varjani, Ashok Pandey, Thallada Bhaskar, S. Venkata Mohan, Daniel C.W. Tsang, Biomass, Biofuels, Biochemicals, Pages 419-438,https:// doi.org/10.1016/B978-0-323-89855-3.00017-0.	Elsevier ISBN 9780323898553,
12	Pranjal Chandra (Eds.)	Biosensing and Micro-Nano Devices Design Aspects and Implementation in Food Industries, ISBN: 978-981-16-8332-9,	Springer, Singapore, ©Springer Nature.
13	Kuldeep Mahato and Pranjal Chandra (Eds.)	Miniaturized Biosensing Devices: Fabrication and Applications, ISBN: 978-981-16-9897-2,	Springer, Singapore, ©Springer Nature.
14	Pawan Kumar Maurya and Pranjal Chandra (Eds.)	Nanobioanalytical Approaches to Medical Diagnostics, ISBN: 978-032-3851-47-3,	Elsevier Science, UK
15	Buddhadev Purohit , Ashutosh Kumar,, Kuldeep Mahato, Pranjal Chandra	Continuous Glucose Monitoring for Diabetes Management Based on Miniaturized Biosensors.	Imprint Springer, Singapore.
16	Buddhadev Purohit, Divya, Nagaraj P Shetti, Pranjal Chandra.	Materials for wearable sensors in Wearable Physical, Chemical and Biological Sensors Fundamentals, Materials and Applications	Elsevier
17	Ashutosh Kumar, Kuldeep Mahato, Buddhadev Purohit, Pranjal Chandra	Commercial Aspects and Market Pull of Biosensors in Diagnostic Industries. in Miniaturized Biosensing Devices,	Imprint Springer, Singapore.
18	Kuldeep Mahato, Ashutosh Kumar, Buddhadev Purohit, K. Y Goud, Pranjal Chandra	Onsite Quality Controls for Food Safety Based on Miniaturized Biosensing in Miniaturized Biosensing Devices,	Imprint Springer, Singapore.

Editorial boards of journals

Sl. No.	Name of faculty member	Position (editor/ member)	Name of journal
1	Dr. Abhishek Suresh Dhoble	Review Editor	Frontiers in Bacteriology - Molecular Bacteriology and Microbiome, Microbiotechnology
2	Dr. Aditya Kumar Padhi	Review Editor	Frontiers in Molecular Biosciences
3	Dr. Prodyut Dhar	Review Editor	Frontiers In Sustainable Food Systems
4	Dr. Rajendra Prasad	Associate Editor	Nanotheranostics
5	Dr. Pranjal Chandra	Editor in Chief	Handbook of Nano bioelectrochemistry: Application in Devices and Biomolecular Sensing, Springer Nature
6	Dr. Pranjal Chandra	Associate Editor	Frontiers in Bioengineering and Biotechnology, Lausanne, Switzerland (Specialty Section: Biosensors and Biomolecular Electronics)
7	Dr. Pranjal Chandra	Editorial Board	Scientific Reports
8	Dr. Pranjal Chandra	Associate Editor	Sensors International
9	Dr. Pranjal Chandra	Associate Editor,	Exploration of Digital Health Technologies

Sl. No.	Name of faculty member	Position (editor/ member)	Name of journal
10	Dr. Pranjal Chandra	Guest Editor	Molecules
11	Dr. Pranjal Chandra	Guest Editor	International Journal of Biological Macromolecules
12	Dr. Pranjal Chandra	Editorial Board	Microchemical Journal
13	Dr. Pranjal Chandra	Editorial Board	Biotechnology and Genetic Engineering Reviews
14	Dr. Pranjal Chandra	Editorial Board	Plos One
15	Dr. Pranjal Chandra	Editorial Board	Frontiers in Sensors, L (Specialty Section: Micro- and Nano- Sensors)
16	Dr. Pranjal Chandra	Assistant Editor	Applied Biochemistry and Biotechnology
17	Prof. Vikash Kumar Dubey	Editorial Advisory Board Member	Protein and Peptide letters
18	Prof. Vikash Kumar Dubey	Associate Editor	Frontiers in Parasitology

Design and Development Activities New facilities added

Sl. No.	Details (Infrastructure, equipment, etc.)	Value (in lakhs of rupees)
1	Fluorometer	1575682.38
2	ATR-FTIR	1322659.64

Patents filed

Sl. No.	Name of faculty member	Title of patent
1	Vikash Kumar Dubey and Preety Ranjan	A thrombin receptor antagonist for management of leishmaniasis. Application No.: 202211067169
2	Vikash Kumar Dubey, Pranjal Chandra and Naveena Menpadi	An Anti-Leishmanial Steroidal Alkaloid Drug Compound (Appli. No. 208211049337)

Research and Consultancy

Sponsored research projects *(Ongoing during the period)*

Sl. No.	Title	Period	Funding agency	Amount (in lakhs of Rs.)	Project P.I
1	Characterization of indigenous cow's dung and urine for scientific advancement and development of utility items	2021-2024	DST (SUTRA-PIC)	31.04	Dr. Abhishek Suresh Dhoble
2	A novel, rapid, high-throughput characterization of microbiome dynamics through cytomics and machine learning	2022-2024	SERB (SRG)	28.61	Dr. Abhishek Suresh Dhoble
3	Metabolic engineering of rapid-growing cyanobacteria for farnesene production and its scaleup studies	2023-26	SERB/CRG	35.09	Dr. Sanjay Kumar
4	Complete Utilization of Banana from Farm till its Disposal: A Step Towards the Agricultural Circular Economy for Growth of Agriculture and Farmers of U.P.	2023-26	Council of Science and Technology, Government	11.94	Dr. Vishal Mishra
5	Bioengineering of Living Materials to fabricate Functionalized Bacterial Nanocellulose for High-Performance Applications	2021-2026	DBT	42.5	Dr. Prodyut Dhar
6	Validation of glutathione synthetase from *Leishmania donovani* as new drug target for discovery of new drug candidate	2021-2024	ICMR	41.42	Prof. Vikash Kumar Dubey
7	How Beclin 1 mediates cross-talk between apoptosis and autophagy via its C- terminal fragment?	2019-2022	CSIR	32.61	Prof. Vikash Kumar Dubey
8	Human IL-2 fused leishmanial trypanothione synthetase (TS) as protein vaccine candidates.	2021-2024	ICMR	46.13	Prof. Vikash Kumar Dubey

Sl. No.	Title	Period	Funding agency	Amount (in lakhs of Rs.)	Project P.I
9	Integrated computational and experimental studies to potential therapy of kala-azar targeting Dephosphocoenzyme A Kinase (LdDPCK) of the pathogen as a target	2021-2023	IDAPT Hub Foundation	20.00	Prof. Vikash Kumar Dubey
10	Validation of glutathione synthetase from *Leishmania donovani* as new drug target for discovery of new drug candidate	2021-2024	ICMR	41.42	Prof. Vikash Kumar Dubey
11	Design and validation of field deployable miniaturized nano-bio-sensing system for detection of the parasitic liver fluke Fasciola gigantica	2022 -2025	ICMR	45.37	Dr. Pranjal Chandra (PI at IIT BHU)
12	Development of Paper Based Analytical Device for Molecular Sensing	2023	IDAPT Hub Foundation	2.5	Dr. Pranjal Chandra

Sponsored research projects *(completed during the period)*

Sl. No.	Title	Period	Funding agency	Amount (in lakhs of Rs.)	Project P.I
1	Re-purposing of approved drugs from Drug Bank database for possible treatment for COVID-19 by targeting SARS-CoV-2 main purpose	Completed in April 2022	SERB	15.45	Prof. Vikash Kumar Dubey

Research publications

Refereed International journals

1. Acharya, S., Dandigunta, B., Sagar, H., Rani, J., Priyadarsini, M., Verma, S., Kushwaha, J., Fageria, P., Lahiri, P., Chattopadhyay, P., Dhoble, A.S. (2022) Analyzing milk foam using machine learning for diverse applications. Food Analytical Methods, 15, 3365–3378.
2. Bedi, N., Srivastava, D.K., Srivastava, A., Mahapatra, S., Dkhar, D.S., Chandra, P. & Srivastava, A. (2022). Marine Biological Macromolecules as Matrix Material for Biosensor Fabrication. Biotechnology and Bioengineering.
3. Bhatnagar, A., Saini, R., Dagar, P., &Mishra, A. (2022). Molecular modelling and in vitro studies of Daruharidra as a potent alpha-amylase inhibitor. Journal of Biomolecular Structure and Dynamics, 1-12.https://doi.org/10.1080/07391102.2022.2058093
4. Chandra, P. (2023). Personalized biosensors for point-of-care diagnostics: from bench to bedside applications. Nanotheranostics, 7(2), 210-215.
5. Darshna, Kumar, R., Srivastava, P. & Chandra, P. (2023). Bioengineering of bone tissues using bioreactors for modulation of mechano-sensitivity in bone. Biotechnology and Genetic Engineering Reviews.
6. Das, A., Verma, M., & Mishra, V. (2023). Food waste to resource recovery: a way of green advocacy. Environmental Science and Pollution Research, 1-13.
7. Dhar, P., Sugimura, K., Yoshioka, M., Yoshinaga, A., & Kamitakahara, H. (2022). Fabrication of wood-inspired high-performance composites through fermentation routes. Cellulose, 29, 1-21.
8. Divya, Dastidar, M.G., Mahapatra, S., Kumari, R., Dkhar, D.S., Roy, S. & Chandra, P. (2023). Engineered nanomaterial-based implantable MicroNanoelectrode for in vivo Analysis: Technological advancement and commercial aspects. Microchemical Journal, 187, 108431.
9. Divya, Dkhar, D.S., Kumari, R., Mahapatra, S., Kumar, R. & Chandra, P. (2022). Ultrasensitive Aptasensors for the Detection of Viruses Based on Opto-Electrochemical Readout Systems. Biosensors, 12(2),81.
10. Divya, Mahapatra, S. & Chandra P. (2022). Design and Engineering of a Palm-Sized Optical Immunosensing Device for the Detection of a Kidney Dysfunction Biomarker. Biosensors, 12 (12), 1118.

11. Dkhar, D. S., Kumari, R., Mahapatra, S., Divya, Kumar, R., Tripathi, T. & Chandra, P. (2022). Antibody-receptor bioengineering and its implications in designing bioelectronic devices. International Journal of Biological Macromolecules, 218, 225-242.

12. Dkhar, D.S., Kumari, R., Mahapatra, S., Divya & Chandra, P. (2022). Engineering Design, Implementation, and Sensing Mechanisms of Wearable Bioelectronic Sensors in Clinical Settings. Electroanalysis.

13. Dkhar, D.S., Kumari, R., Malode, S. J., Shetti, N. P. & Chandra, P. (2022). Integrated Lab-On-A-Chip Devices: Fabrication Methodologies, Transduction System for Sensing Purposes. Journal of Pharmaceutical and Biomedical Analysis, 115120.

14. Handa. T.,Kundu, D., & Dubey, VK *(2022). Perspectives on Evolutionary and Functional importance of Intrinsically Disordered Proteins.International Journal of Biological Macromolecules https://doi.org/10.1016/j.ijbiomac.2022.10.120 [*Corresponding author; Publisher: Elsevier].

15. Jha, N.G., Dkhar, D.S., Singh, S.K., Malode, S.J., Shetti, N.P. & Chandra, P. (2023). Engineered Biosensors for Diagnosing Multidrug Resistance in Microbial and Malignant Cells. Biosensors, 13 (2), 235.

16. Joshi A., Tripathi T., Singh S. K. and Padhi A. K. (2023) Computational Approaches for Development of Engineered Therapeutics against SARS-CoV-2. Biochemistry 62(3), 669–671.

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18. Kalita P, Tripathi T, Padhi AK. (2023) Computational Protein Design for COVID-19 Research and Emerging Therapeutics. ACS Cent Sci. 9(4):602-613.

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25. Kumar, R., Dkhar, D.S., Kumari, K., Divya, Mahapatra, S., Dubey, V.K. & Chandra, P. (2022). Lipid-based nanocarriers: Production Techniques, Concepts, and Commercialization Aspect. Journal of Drug Delivery Science and Technology, 74, 103526.

26. Kumar, R., Mahapatra, S., Dubey, VK, Chandra, P. **(2022)** N-acetyl-d-glucosamine decorated nano-lipid-based carriers as theranostics module for targeted anti-cancer drug delivery. Materials Chemistry and Physics 282, 125956. [Publisher: Elsevier].

27. Kumar, R., Srivastava, V.R., Mahapatra, S., Dkhar, D.S., Kumari, R., Darshna, Prerna, K., Dubey, V.K. & Chandra P. (2023). Drug-Encapsulated Lipid-Polymeric Nanohybrid as a Chemo-therapeutic Platform of Cancer. Nanotheranostics, 7(2), 167-175.

28. Kumar, R., Varshney, N., Mahapatra, S., Mahto, S.K., Dubey, V.K. & Chandra, P. (2022). Design and development of Lactoferrin conjugated lipid-polymer nano-bio-hybrid for cancer theranostics. Materials Today Communications, 31, 103548.

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39. Padhi A. K. and Tripathi T. (2022) Hotspot residues and resistance mutations in the nirmatrelvir-binding site of SARS-CoV-2 main protease: Design, identification, and correlation with globally circulating viral genomes. Biochem Biophys Res Commun, 629, 54–60.

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19. Department of Biomedical Engineeering

Complete Name of School: School of Biomedical Engineering

Year of Establishment: 1985

Coordinator of the School: Dr. Sanjeev Kumar Mahto w.e.f. 01.03.2022

Brief Introduction of the School:

Biomedical Engineering (BME) is the most interdisciplinary and frontier technology field, endeavoring to cover the three uniquely divergent scientific fields: Biology, Engineering, and Medicine. The School of Biomedical Engineering is involved in Teaching, Outreach, Research, Translation, and Entrepreneurship, in collaboration with the Institute of Medical Sciences (BHU), Tata Cancer Centre (BHU campus), in-campus Innovation centre, and other Departments of IIT (BHU). The School has been a pioneer of nation-building in the BME sector for about 40 years, being set up by UGC during the 5th Five Year Plan in 1978, with a regular faculty appointment in 1985.

The school runs the following programs:

1. A five-year Integrated Dual Degree (IDD) program that conjointly offers B.Tech in Bioengineering and M.Tech in Biomedical Technology.

2. A two-year M.Tech program in Biomedical Engineering.

3. A rigorous Ph.D. program, both for young scholars as well as QIP-based engineering college teachers.

4. Intensive research setting for Post-Doctoral Fellows and Faculty Fellows (as 'Inspire' candidates).

The Banaras Hindu University ecosystem is a seminal paradigm of an Institute of Technology and an Institute of Medical Sciences thriving on the same campus. This results in excellent collaborative work in Healthcare Technologies and Medically oriented product or process development, Incubation of start-ups, and innovative entrepreneurship.

Major areas of Research:

- Brain-Computer Interfacing based on Motor Imagery and Visual Evoked Potential
- Biomedical signal and image processing
- Stem cell therapy, Tissue engineering, and Regenerative medicine
- Nanocomposites and Bio-devices
- Stem cell technology, Tissue engineering, and Regenerative medicine,
- Bio microfluidics, Neuro engineering, and Nanotoxicology
- BioMEMS and Biosensors.
- Brain Circulation, Autoregulation, Its Disturbance, and Neuroprotection
- Design and fabrication of low cost diagnostic and therapeutic instruments
- Functionally graded materials & conducting IPN composites and their medical application
- Control system modelling, analysis and simulation in health and diseases.
- Molecular pathogenesis and nanomedicine-based therapeutics for infectious diseases
- Computational Biomechanics (Design and modelling of Orthopaedics implants: Hip Joint, Knee Joint, Spine spacers, Bone Plates, and Screws, Dental implants).
- Cardiovascular Blood flow dynamics study, Stent and Heart valve design and development; FEA/CFD Simulation). Energy harvesting for biomedical applications.
- Improved Cancer Diagnostics, Radiation Oncology, and Chemotherapy enhancement.
- Neurotechnology, Brain Research, Cognitive Science, and Affordable Mental Health Care. Neurorehabilitation and Assistive Technology
- Neuromorphic Tactile Sensing for Robotic applications

- Developmental Psychology, Neuro-Informatics.
- Cell Therapy, Cell engineering, Implantable hydrogels, Biomaterials, Rare Genetic Disorders, Type-1 Diabetes, Tissue Engineering.
- Bioimplants, Medical Implants, Immunoprotection, Anti-fibrotic coating.
- Cancer Nanomedicine, Drug delivery, Gene therapy.

Area of the School (in square meters): New Building- 686.06 sq.m.

Infrastructure:

Sl. No.	Particulars	Number
1	No. of Classrooms	03
2	No. of Lecture Halls (Seminar Hall)	01
3	No. of Laboratory	11
4	No. of Computers available for students in the School	25

Students on Roll *(From 1st April 2022 to 31st March 2023)*

(Please give No. of students only in respective years)

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1	Dual Degree	20	14	13	12	13
2	M. Tech/ M. Pharm	9	4			
3	Ph. D (Under Institute Fellowship)	17+1=18 (01 on Professional Leave)				
4	Ph. D (Under Project Fellowship)	03				
5	Ph. D (Under Sponsored Category)	21 {15 (External Fellow) + 4 (QIP) + 1 (Part Time_ Institute Staff) + 1 (Part Time)}				

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
ÌNDIA					
1.	Vivek Kumar	18021006	Conference-SMST 2022, IIT Bombay		IIT-BHU
2.	Prachi Srivastava	18021007	Conference-SMST 2022, IIT Bombay		IIT-BHU
3.	Rinki Verma	18021005	Conference-SMST 2022, IIT Bombay		IIT-BHU
4.	Prem Shankar Gupta	17021505	SPSI MACRO 2022, Pune	02-04 Nov 2022	IIT-BHU
5.	Kirti Wasnik	17021507	SPSI MACRO 2022, Pune	02-04 Nov 2022	IIT-BHU
6.	Parul Chaurasia	19021005	Workshop on "Material Characterization" organized by Electronics and ICT academy IIT-Roorkee	• 23-27 September IIT-BHU 2022	IIT-BHU
			"Scientific writing workshop" by Springer-Nature at IIT-BHU, Varanasi U.P	• 16 September 2022 IIT-BHU	
7.	Narayan Yadav	21021504	Workshop on "Material Characterization" organized by Electronics and ICT academy IIT-Roorkee	• 23-27 September 2022, IIT (BHU)	UPCST
8.	Priya Singh	21021002	"Scientific writing workshop" by Springer-Nature at IIT-BHU, Varanasi U.P Workshop on "Material Characterization" organized by Electronics and ICT academy IIT-Roorkee	• 16 September 2022 IIT-BHU • 23-27 September 2022 IIT-BHU	CSIR

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
9.	Snehalata Yadav	19021010	International Conference on "Advanced functional material: future perspective" (AFMFP) 2022 organized by NIT-jalandhar	• 6-8 August 2022,	UGC
10.	Richa Singh	19021501	Workshop on "Material Characterization" organized by electronics and ICT academy IIT-Roorkee	• 10th -16th JUNE, 2022 • 23-27 september IIT-BHU 2022	UGC
11.	Pooja Kumari	19021011	Workshop on "Photoacoustic and Ultrasound Imaging system" organised by sophisticated Analytical and technical Help institute, BHU, Varanasi	3rd-4th August 2022	INSPIRE
			Hands-on-training on "Laser Scanning Super Resolution Microscopy" organised by BHU, Varanasi, UP	26th-27th August 2022	
			"Scientific writing workshop" by Springer-Nature at IIT-BHU, Varanasi U.P Varanasi	16 September 2022, IIT-BHU	
			Workshop on "Material characterization" organized by electronics and ICT academy IIT-Roorkee	23-27 September 2022, IIT-BHU	
12.	Divya Pareek	19021008	Two days' WORKSHOP on "Confocal Microscopy" Organized by the Sophisticated Analytical and technical help institute	(BHU-SATHI).	(BHU-SATHI)
			• SERB sponsored 7 days of Hands-on training on "Flow cytometry for a comprehensive understanding of its usefulness in Basic, Applied and clinical research" (21st -27th DecthDec. 2022).	(BHU-SATHI).	SERB
13.	Kirti Wasnik	17021507	-International Conference on Nanotechnology: Opportunities and Challenges ICONC 2022	Jamia Millia Islamia, Date: 28-30th Nov, 2022	IIT(BHU)
			-International Conference on Drug Discovery 2022 ICDD 2022.	BITS Pilani, K. K. Birla Goa Campus and Schrodinger, 10-11th November, 2022	IIT(BHU)
			-International Conference on Science and Technology of Polymers and Advanced Materials through Innovation, Entrepreneurship and Industry	NCL-Pune, 2-4th November, 2022.	NCL-Pune,
			MACRO-SPSI 2022 -Conference: Advanced functional materials; future perspectives 2022.	-National Institute of Technology Jalandher. 6-8th August, 2022	National Institute of Technology Jalandher.
14.	Premshankar Gupta	17021505	International Conference on Nanotechnology: Opportunities and Challenges,	November 28-30, 2022; ICNOC 2022, Jamia-MiliyaIshlamia, New Delhi	IIT(BHU)
			-International Conference on Science and Technology of Polymers and Advanced Materials through Innovation, Entrepreneurship and Industry	2nd to 4th Nov., 2022; SPSI-MACRO-2022, CSIR-NCL, Pune, Indian Institute for Science Education and Research, Pune.	IIT(BHU)
			-International Conference on "Advanced Functional Materials: Future Perspectives"	-6th to 8th August, 2022; AMFP-2022, Dr. B. R. Ambedkar NIT, Jalandhar, Sant Longowal Institute of Engineering and Technology, Longowal, Université de Bejaia, Defence Institute of Advanced Technology	-NIT, Jalandhar

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
			7-Days High-End Workshop (Karyashala) on Hands-on Training on "Flow Cytometry for a Comprehensive Understanding of its Usefulness in Basic, Applied & Clinical Research",	-December 21-27, 2022; Organized by Department of Biochemistry, Institute of Science, BHU, Varanasi	-SATHI (BHU)
			-7-Days DST-GOI Sponsored Synergistic Training Program Utilizing Scientific and Technical Infrastructure (STUTI) Training on "Spectroscopic, Chromatographic, Bioanalytical & Imaging Techniques"	-28th November to 04th December, 2022; Central University of Punjab in association with Amity University	-Amity University
15.	Gurmeet Singh	20021503	7-Days High-End Workshop (Karyashala) on Hands-on Training on "Flow Cytometry for a Comprehensive Understanding of its Usefulness in Basic, Applied & Clinical Research",	-December 21-27, 2022; Organized by Department of Biochemistry, Institute of Science, BHU, Varanasi	SATHI, IIT(BHU)
ABROAD					
1.	Anindita Bhattacharjee	18021003	Conference-13th FENS Paris, France	9-13 July 2022	CSIR+IIT-BHU
2.	Pratik Purohit	17021501	Conference-13th FENS Paris, France	9-13 July 2022	IIT-BHU
3.	Brijesh Baghel	19021002	Conference-13th FENS Paris, France	9-13 July 2022	IIT-BHU
4.	Bindu Kumari	17021508	Conference-ESMO Paris, France	9-13 July 2022	IIT-BHU
6.	Sumit Kumar	17021506	Conference VPH-2022, Portugal	04 Sep 2022	DBT + IIT-BHU

Names of students/scholars who got prizes and awards outside the Institute *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1.	Mr. Sumit Kumar	17021506	Young Scientist Award	27.05.2023 Online accepted	7th Edition of International Research Award on Composite Materials
2.	Premshankar Gupta		Best Poster Award	Dr. B. R. Ambedkar NIT, Jalandhar, Sant Longowal Institute of Engineering and Technology, Longowal, Université de Bejaia, Defence Institute of Advanced Technology, Pune	Best Poster Award

Names of Students/Scholars who went for foreign Internship *((From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of the Organization	Place of Internship	Country	Duration
1.	Veeturi Suparna	21022004	The University of Rhode Island	Kingston, Rhode Island	United States of America	6 months (1st Jan to 30th June 2023)
2.	Pranav Rana	18024014	University of New South Wales, Australia	New South wales	Australia	14 june- 14 August 2022

Faculty & their Activity

Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization (Max. 3 Areas)
PROFESSORS			
1.	Dr. Neeraj Sharma, Ph.D., M. Tech. B. Tech. Employee No. 16812	2009	Bioinstrumentation, Biomedical Signal and Image Processing.

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization (Max. 3 Areas)
ASSOCIATE PROFESSORS			
1.	Dr. Sanjay Kumar Rai, Ph.D. Employee No. 18117	1998	Biomechanics & Biomaterials
2.	Dr Shiru Sharma, Ph.D. Employee No. 16829	2009	Bioinstrumentation Mathematical modeling and analysis of Physiological control system
3.	Dr. Sanjeev Kumar Mahto, Ph.D. Employee No. 19842	August 2011	Cell and Tissue Engineering, Biomaterials, Lab-on-a-Chip/Organ-on-a-Chip, 3D Bioprinting and Scaffolds, Stem Cell Engineering
4.	Dr. Pradip Paik, Ph.D. Employee No. 50168	Dec. 2008	Materials for Translational Nanomedicine and Therapeutic Applications
ASSISTANT PROFESSORS			
1.	Dr. Jac Fredo, Ph.D. Employee No. 50253	2015	Bio-Medical Signal and Image Processing, Bio-Medical Instrumentation, Computational Neuroscience, Developmental Psychology, Neuro-Informatics, Machine Learning, Drug Repurposing/Discovery
2.	Dr. Deepesh Kumar, Ph.D, Employee No. 50275	2018	Neurorehabilitation engineering, Neuromorphic sensing, and Machine Learning, Biomedical Signal Processing
3.	Dr. Sudip Mukherjee, Ph.D., Employee No. 50308	May 2017	Biomaterials, Cell Therapy for type-1 diabetes, cancer, wound-healing and rare genetic disorders, Anti-fibrotic coating to medical device, bioimplants, Nanomedicine
4.	Dr. Brijesh Kumar, Ph.D. Employee No. 50328	November 2016	Breast and ovarian cancer initiation, progression and metastasis; Generation of cancer stem cells and tumor heterogeneity; Gene regulation and cell signaling in disease development; Development of effective therapeutic strategies for cancer treatment
5.	Dr. Gowri Manohari Balachander, Ph.D. Employee No. 50332	2018	Liver regeneration, Organ on chips, 3D Organotypic models for metastatic breast cancer

Technical and Non-Teaching Staff

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
1	Dr. Anuj Srivastava, D.M.L.T., B.Sc. MLT, M.Sc. (Microbiology), Ph.D	Jr. Technical Superintendent 18631	06.08.2008
2	Mr. Bharat Kumar Vishwakarma, B.Sc., B.Ed., P.G.D.C.A.	Senior Technician 19605	12.07.2012
3	Mr. Kamlesh Kumar B.A.	Superintendent 50160	18.04.2023
4	Mr. Divyanshu Singh, M.A. (Journalism & Mass Communication), D.C.A. (Diploma in Computer Application)	Senior Assistant 50100	20.05.2017

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

(From 1st April 2022 to 31st March 2023)

Sl. No.	Coordinator	Title	Period
1	Dr. Jac Fredo	One day workshop on "Introduction to Computational Neuroscience"	September 09, 2022 (Seminar Hall, School of Biomedical Engineering, Indian Institute of Technology, (Banaras Hindu University))

Short-term courses/workshops/seminars/symposia/conferences/training programmes *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1.	Dr. Sanjeev Kumar Mahto	Vigyan Utsav as a Part of Azadi Ka Amrit Mahotsav "Future Technologies" under State Science and Technology Programme (SSTP), UP	2022-05-25 (UP-CST)
2.	Dr. Sanjeev Kumar Mahto	Workshop on "Recent advances in 3D bioprinting of living tissues and its emerging applications in biomedical research"	07.11.2022 (Centre for BioMedical Research (CBMR), Lucknow

Sl. No.	Name of Faculty Member	Title	Period and Venue
3.	Dr. Sanjeev Kumar Mahto	International symposium on Toxicology and Applied Pharmacology by NIPER, Raebareli	29-30 September, 2022, NIPER, Raebareli
4.	Dr. Sanjeev Kumar Mahto	Lecture Series on Additive Manufacturing Part I-Materials for Additive Manufacturing, supported by Technology Innovation Hub on Interdisciplinary Data Analytics and Predictive Technology (IDAPT) under National Mission on Interdisciplinary Cyber-Physical System (NM-ICPS)	October 11-15 2022, IIT (BHU)
5.	Dr. Sanjeev Kumar Mahto	Second International Conference on Biomedical Engineering Science and Technology: Roadway from Laboratory to Market by NIT Raipur	Feb 10-11, 2023, NIT Raipur
6.	Dr. Sanjeev Kumar Mahto	I-DAPT Health-Tech Hackathon **by** I-DAPT HUB Foundation, IIT (BHU)	July 28-29, 2022, IIT (BHU)
7.	Dr. Sanjeev Kumar Mahto	FDP on Material Characterization jointly organized by E&ICT Academy IIT Roorkee, IEEE Uttar Pradesh Section and IIT (BHU) Varanasi	September 23-27, 2022, IIT (BHU) Varanasi
8.	Dr. Sanjeev Kumar Mahto	62nd Annual Conference of National Academy of Medical Sciences (India) at Sawai Man Singh (SMS) Medical College, Jaipur (NAMSCON-2022)	Nov. 11-13, 2022, Sawai Man Singh (SMS) Medical College, Jaipur
9.	Dr. Sanjeev Kumar Mahto	A scientific talk at the Regional Centre for Biotechnology (RCB) talk series	March 24, 2023, RCB Faridabad
10.	Dr. Sudip Mukherjee	4th Biological Engineering Society National Conference – 2022 (BESCON-2022, at Bose Institute, Kolkata, West Bengal.	Nov 11, 2022
11.	Dr. Sudip Mukherjee	International Conference on Biomaterials, Regenerative Medicine and Devices (BIO-REMEDI 2022), at IIT Guwahati, Assam, India	Dec 16, 2022
Meetings			
1.	Dr. Sanjeev Kumar Mahto	General Body Meeting (GBM) of National Academy of Medical Sciences (India) at Sawai Man Singh (SMS) Medical College, Jaipur (NAMSCON-2022)	Nov. 12, 2022, Sawai Man Singh (SMS) Medical College, Jaipur

Special lectures delivered by faculty members in other institutions *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1.	Dr. Deepesh Kumar	Neuromorphic Signal Processing	Indian Institute of Technology (IIT) Gandhinagar	20/11/2022
2.	Dr. Deepesh Kumar	Neuromorphic Signal Processing for Healthcare Applications	Visveswaraya National Institute of Technology (VNIT) Nagpur	13/02/2023
3.	Dr. Deepesh Kumar	Neuromorphic Signal Processing for Healthcare Applications	IEEE Uttar Pradesh Section (Online mode)	11/01/2023
4.	Dr. Sudip Mukherjee	In vivo high-throughput screening using cellular barcoding allows discovery of biomaterials that prevents fibrosis	4th Biological Engineering Society National Conference – 2022 (BESCON-2022, at Bose Institute, Kolkata, West Bengal.	06/11/2022
5.	Dr. Sudip Mukherjee	In vivo screening of hydrogel library using cellular barcoding identifies biomaterials that mitigates host immune responses and fibrosis	International Conference on Biomaterials, Regenerative Medicine and Devices (BIO-REMEDI 2022), at IIT Guwahati, Assam, India	16/12/2022
6.	Prof. Neeraj Sharma	Conducted Lecture series on (i) Medical Imaging and Processing, and (ii) Medical Devices.	National Institute of Pharmaceutical Education & Research (NIPER), Sector 67, S.A.S. Nagar - 160062, Punjab.	22-9-2022 to 24-9-2022
7.	Dr. Pradip Paik	Carbon and Graphene Based Materials for Biomedical Applications,	Expert Lecture in One Week FDP on '2D Nanomaterials: Potential & Applications' at NITTTR Chandigarh at ONLINE	17/10/2022 to 21/10/2022

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
8.	Dr. Pradip Paik	Polymer Nanoparticles/ Nanopolymers and Composites, Expert Lecture in One Week FDP on '2D Nanomaterials: Potential & Applications'	Expert Lecture in One Week FDP on '2D Nanomaterials: Potential & Applications' at NITTTR Chandigarh at ONLINE	17/10/2022 to 21/10/2022
9.	Dr. Pradip Paik	Polymeric- nanomedicine for therapeutic Applications,	Refresher Course on Life Sciences, University of Hyderabad	27.10.2022,
10.	Dr. Pradip Paik	Polymeric medicines	RK Mission Narendrapur,	05-11-2022
11.	Dr. Pradip Paik	'Polymeric-nanomedicines' One-Week Online Short-Term Course on "Advances in Nanomaterial Fabrication, Characterization and Applications"	JNTU, Hyderabad,	31-10-2022 to 05-11-2022.
12.	Dr. Pradip Paik	Carbon and Graphene Based Materials for Biomedical Applications, One-Week Online Short-Term Course on "Advances in Nanomaterial Fabrication, Characterization and Applications"	JNTU, Hyderabad,	31-10-2022 to 05-11-2022.
13.	Dr. Pradip Paik	Invited Talk: Polymers as Engineered nanotherapeutics,	MRS-NUS, Singapore 21-09-2023	21-09-2022
14.	Dr. Pradip Paik	Engineered Polymeric medicines,	Rice University, USA,	06-06-2023
15.	Dr. Pradip Paik	Nanomedicines and Targeted Drug delivery,	Sunbeam Women's College,	15-11-2022
15.	Dr. Pradip Paik	Invited Talk, Engineering polymeric nanomedicine for control therapeutic applications,	Bio-Remedi 2022, IIT-Guwahati,	14^{th}-18^{th} Dec, 2022
17.	Dr. Pradip Paik	Invited Talk (QIP Course): Engineering Nanomaterials for Drug and Therapeutic Applications,	Bharatiar University,	19-10-2022
18.	Dr. Pradip Paik	Invited Talk: Engineered Polymers at nanoscale for therapeutic and sensing applications,	University of Akron,	5^{th} July, 2022
19.	Dr. Brijesh Kumar	Impact of ethnicity on normal breast and breast cancer biology	Bapubhai Desaibhai Patel Institute of Paramedical Sciences, Charotar University of Science and Technology (CHARUSAT), Anand, Gujarat, India	2-3 March 2023
20.	Dr. Sanjeev Kumar Mahto	Enabling Technologies for Biomedical Engineering and Healthcare Applications	Vigyan Utsav as a Part of Azadi Ka Amrit Mahotsav "Future Technologies" under State Science and Technology Programme (SSTP), UP	2022-05-25
21.	Dr. Sanjeev Kumar Mahto	Tuning natural biomaterials as bioinks for extrusion-based 3D bioprinting	Workshop on "Recent advances in 3D bioprinting of living tissues and its emerging applications in biomedical research"	07.11.2022
22.	Dr. Sanjeev Kumar Mahto	Exploring soy protein for skin wound healing	International symposium on Toxicology and Applied Pharmacology by NIPER, Raebareli	29-30 September, 2022

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
23.	Dr. Sanjeev Kumar Mahto	Case study on ink preparation for extrusion based 3D printing	Lecture Series on Additive Manufacturing Part I-Materials for Additive Manufacturing, supported by Technology Innovation Hub on Interdisciplinary Data Analytics and Predictive Technology (IDAPT) under National Mission on Interdisciplinary Cyber-Physical System (NM-ICPS)	October 11-15 2022.
24.	Dr. Sanjeev Kumar Mahto	Revealing the potential of soy protein for skin wound healing	Second International Conference on Biomedical Engineering Science and Technology: Roadway from Laboratory to Market by NIT Raipur	Feb 10-11, 2023
25.	Dr. Sanjeev Kumar Mahto	Soy Protein Based Biomaterials for Skin Wound Healing	I-DAPT Health-Tech Hackathon by I-DAPT HUB Foundation, IIT (BHU)	July 28-29, 2022
26.	Dr. Sanjeev Kumar Mahto	Biological characterization of Implants	FDP on Material Characterization jointly organized by E&ICT Academy IIT Roorkee, IEEE Uttar Pradesh Section and IIT (BHU) Varanasi	September 23-27, 2022
27.	Dr. Sanjeev Kumar Mahto	Freeze-Thaw-Induced Physically Cross-linked Superabsorbent Polyvinyl Alcohol/Soy Protein Isolate Hydrogels for Skin Wound Dressing: In Vitro and In Vivo Characterization	62nd Annual Conference of National Academy of Medical Sciences (India) at Sawai Man Singh (SMS) Medical College, Jaipur (NAMSCON-2022)	Nov. 11-13, 2022
28.	Dr. Sanjeev Kumar Mahto	Regenerative Implants for Tissue Engineering	A scientific talk at the Regional Centre for Biotechnology (RCB) talk series	March 24, 2023

Visits abroad by faculty members *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1	Dr. Pradip Paik	Rice University, Houston, USA	15th May, 2022	13th July, 2022	Visiting Scientist and collaboration	CPDA/Self funding/PDA funds

Honours and awards *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Award
1.	Dr. Sanjeev Kumar Mahto	• Dr. Arthur Saravanmuthu Thambiah Award by the National Academy of Medical Sciences (India) (NAMS) for the year 2022. • Membership (MAMS) of the National Academy of Medical Sciences (India) (NAMS) in 2022. • Membership (MNASc) of National Academy of Sciences (NASI), Allahabad, India in 2022. • Best Teacher Award 2022 by Indian Institute of Technology (Banaras Hindu University), Varanasi, India.

Fellowships of academic and professional societies *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Fellowship
1.	Dr. Brijesh Kumar	Ramalingaswami re-entry fellowship of the department of biotechnology, govt. of india.

Books, monographs authored/co-authored *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Author/Co- Author	Title	Publisher
1.	**S Mukherjee***, VS Madamsetty.	Nanoparticles in Angiogenesis and Cancer.	Springer Nature, Synthesis Lectures on Biomedical Engineering (SLBE) series, eBook ISBN 978-3-031-11284-3, https://doi.org/10.1007/978-3-031-11284-3 (2022).
2.	Vishwakarma N.K., Chaurasia P., Vishwakarma S., Chandra P. and **Mahto S.K.**	Chapter - Microfluidic Devices as Miniaturized Analytical Module for Cancer Diagnosis. Book name- Advanced Microfluidics Based Point-of-Care Diagnostics	Taylor & Francis, Boca Raton, Florida

Editorial boards of journals *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1.	Dr. Deepesh Kumar	Guest Editor	Frontiers in Psychiatry
2.	Dr. Sudip Mukherjee	Associate Editor	BMC Cancer
3.	Dr. Sudip Mukherjee	Associate Editor	Frontiers in Chemistry
4.	Dr. Sudip Mukherjee	Guest Editor	Biomedical Materials
5.	Dr. Pradip Paik	Editorial Board members:	Journal of Engineering Technology
6.	Dr. Pradip Paik	Associate Editorial Committee	Archives of Nanomedicine: Open Access Journal
7.	Dr. Pradip Paik	Associate Editor	Frontiers in Chemistry
8.	Dr. Sanjeev Kumar Mahto	Guest Editor	Frontiers in Endocrinology

Design and Development Activities

New facilities added *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Details (Infrastructure, Equipment, etc.)	Value (in Lakhs of Rupees)
1	Computer workstation	3.25 Lakh
2	Bright-field Microscope with phase contrast and dark field ability	4.78 Lakh
3	Syringe Pump (Single)	1.17 Lakh
4	High Voltage power source	1.67 Lakh
5	Hand-held Homogenizer	1.25 Lakh
6	Analytical Balance	0.685 Lakh
7	LiveAmp Wireless EEG system	19.74 Lakh
8	Thin film deposition system	6.52 Lakh
9	3D Bioprinter	16 Lakhs
10	Texture Analyzer	4.5 Lakhs

Patents filed *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title of Patent
1	Dr. Sanjeev Kumar Mahto	• Superabsorbent Soy-based Cryogel and a Method of Preparation Thereof" Application No.: 202311023611 • Luffa-PDMS-based Composite Scaffold and a Method of Preparation Thereof" Application No.: 202311017933

Research and Consultancy

Sponsored research projects *(Ongoing only)*

Note: Sponsored project name is to be given only in case a faculty member is Project Incharge

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1	Hybrid EEG-EMG based prosthetic hand for transradial amputees to perform reach and grasp tasks	2 Years 2022-2024	TIDE DST SEED Division	37,14,782/-	Dr Shiru Sharma
2	Developing Psyllium Husk Based Polysaccharide Hydrogel into Electrospinable and 3D Printable Materials: Towards Fabrication and Comparative Evaluation of Lyophilized, Electrospun and 3D Bioplotted Scaffolds for Liver Tissue Engineering	2020-2023	CRG-SERB, Government of India	42.52 Lakhs	Dr. Sanjeev Kumar Mahto
3	Development of ain/Liver-on-a-Chi Models for Understanding the Role of Liver in the Progression of Alzheimer's Disease During Diabetes.	2021-2023	Indo-Austrian Bilateral Project, Department of Science And Technology (DST), Government of India	19.70 Lakhs	Dr. Sanjeev Kumar Mahto
4	Portable smart in-vitro diagnostic platform for monitoring thyroid disorders.	2021-2024	Council of Science and Technology, Uttar Pradesh, India	11.94 Lakhs	Dr. Sanjeev Kumar Mahto
5	Development of Sparse Inverse Co-variance based functional brain connectivity Schemes for the assessment of Shared Autistic Traits in Autism and Typical Development	2022-2024	SERB	15.763 Lakhs	Dr. Jac Fredo
6	Development of Cardiac Model for Prediction of Human Heart Failure using Noninvasive medical imaging and Computational Fluid Dynamics techniques	2021-2024	ICMR, New Delhi	52 Lakhs	Dr. Sanjay Kumar Rai

Faculty members' participation with other universities under MoUs *(Ongoing only)*

1. Dr. Sanjeev Kumar Mahto is working in collaboration with Dr. Sakshi Agarwal, Obstetrics and Gynaecology, Assistant Professor Institute of Medical Sciences, Banaras Hindu University.
2. Dr. Sanjeev Kumar Mahto is working in collaboration with Dr. Lalit Agarwal, Department of Urology, Assistant Professor Institute of Medical Sciences, Banaras Hindu University.

Research Publications *(From 1st April 2022 to 31st March 2023)*

Sl. No.		No.
1	Total Number of Papers Published in Refereed International Journals	43
2	Total Number of Papers Presented in International Conferences	7

Refereed International Journals *(From 1st April 2022 to 31st March 2023)*

1. Kumar S., Kumar B.V.R. and Rai S.(2023) Influence of abdominal aortic aneurysm shape on hemodynamics in human aortofemoral arteries: A transient open-loop study. Physics of Fluids 35(4):41903
2. Kumar J., Verma R., Singh N.K., Singh N.K., Nirala N.S. and Rai S.K. (2022) Mechanical property analysis of TPMS Inspired Porous Scaffold for Bone Applications: A Compromise Between Desired Mechanical Strength and Additive Manufacturability. Journal of Materials Engineering and Performance, Springer. 32(7):3335-3347
3. Pandey A., Durrani F., Rai S. K., Singh N. K., Singh P., Verma R., and Kumar J. (2023). Comparison between all-on-four and all-on-six treatment concepts on stress distribution for full-mouth rehabilitation using three-dimensional finite element analysis: A biomechanical study. *Journal of Indian Society of Periodontology*, *27*(2), 180–188.

4. Kumar S., Kumar B.V.R., Rai S.K. and Shankar O. (2023) Effect of rheological models on pulsatile hemodynamics in a multiply afflicted descending human aortic network", Computer methods In Biomechanics and Biomedical Engineering. 1:28

5. Verma R., Kumar J., Singh N.K., Rai S.K., Saxena K.K., Xu J. (2022) Design and Analysis of Biomedical Scaffolds Using TPMS-Based Porous Structures Inspired from Additive Manufacturing. Coatings. 2022; 12(6):839.

6. Kumar S., Rai S.K., Kumar B.V.R., and Shankar O. (2023) The pulsatile 3D-Hemodynamics in a doubly afflicted human descending abdominal artery with iliac branching. Computer Methods in Biomechanics and Biomedical Engineering. 26(6): 680-699.

7. Verma R., Kumar J. and Singh N.K. (2022) Low elastic modulus and highly porous triply periodic minimal surfaces architectured implant for orthopedic applications. Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering.

8. Sharma N., Prakash A. and Sharma S. (2023). An optoelectronic muscle contraction sensor for prosthetic hand application. Review of Scientific Instruments, 94(3).

9. Tiwari A., Sharan T.S., Sharma S. and Sharma N., (2022) Deep learning-based automated multiclass classification of chest X-rays into Covid-19, normal, bacterial pneumonia and viral pneumonia Cogent Engineering. 9 (1): 2105559.

10. Prakash A., Sharma N., Katiyar A. K., Dubey S. K. and Sharma S. (2022). Magnetic-based detection of muscular contraction for controlling hand prosthesis. *Sensors and Actuators A: Physical*. *344*:113709.

11. Malan N.S. and Sharma S. (2022) Motor imagery EEG spectral-spatial feature optimization using dual-tree complex wavelet and neighbourhood component analysis. IRBM. 43(3):198-209.

12. Tiwari A., Tripathi S., Pandey D. C., Sharma N., and Sharma, S. (2022). Detection of COVID-19 Infection in CT and X-ray images using transfer learning approach. *Technology and Health Care*, 1-14.

13. Bhattacharjee R., Verma A., Sharma N., and Sharma S. (2022). Non-rigid registration (computed tomography-ultrasound) of liver using B-splines and free form deformation. *International Journal of Biomedical Engineering and Technology*, *39*(4):327-346.

14. Kumar P., Aggarwal L. M., Bhasi S., and Sharma N. (2022). Unified Dosimetry Quality Audit Index: an integrated Monte Carlo model-based quality assurance ranking for radiotherapy treatment of glioblastoma multiforme. *Radiation Effects and Defects in Solids*., Taylor and Francis 178 (3-4):258-299.

14. Tripathi S. and Sharma N. (2023). AUTOMATIC DETECTION OF COVID-19 AND VIRAL PNEUMONIA IN X-RAY IMAGES USING DEEP LEARNING APPROACH. *Biomedical Engineering: Applications, Basis and Communications*. *35*(02): 2350001.

15. Singh M., Kumar S., Mondal R., Singh P., Prakash R., and Sharma N. (2023). Combustion-Synthesized KNiPO4: A Non-toxic, Robust, Intercalating Battery-Type Pseudocapacitive Electrode for Hybrid Supercapacitors as a Large-Scale Energy Storage Solution. *Energy & Fuels*. *37*(5): 4094-4105.

16. Mourya A., Aggarwal L. M., Choudhary S., Shahi U. P., Sharma N., Prakash R. and Mishra R. (2022). Feasibility of using polytetrafluoroethylene flexible implant tube for interstitial brachytherapy patients. *Brachytherapy*. *21*(6):754-763.

17. Kumar P., Aggarwal L. M., Bhasi S., and Sharma N. (2022). Unified Dosimetry Quality Audit Index: an integrated Monte Carlo model-based quality assurance ranking for radiotherapy treatment of glioblastoma multiforme. *Radiation Effects and Defects in Solids*. 178(3-4):258-299.

18. Jain P. K., Dubey A., Saba L., Khanna N. N., Laird J. R., Nicolaides A. and Sharma N. (2022). Attention-based UNet Deep Learning model for Plaque segmentation in carotid ultrasound for stroke risk stratification: An artificial Intelligence paradigm. Journal of Cardiovascular Development and Disease. 9(10):326.

19. Jain P. K., Sharma N., Kalra M. K., Johri A., Saba L. and Suri, J. S. (2022). Far wall plaque segmentation and area measurement in common and internal carotid artery ultrasound using U-series architectures: An unseen Artificial Intelligence paradigm for stroke risk assessment. *Computers in Biology and Medicine*. *149*:106017.

20. Tripathi S. and Sharma N. (2022). Computer-based segmentation of cancerous tissues in biomedical images using enhanced deep learning model. *IETE Technical Review*. *39*(5):1208-1222.

21. Sharma N., Saba L., Khanna N. N., Kalra M. K., Fouda M. M. and Suri J. S. (2022). Segmentation-Based Classification Deep Learning Model Embedded with Explainable AI for COVID-19 Detection in Chest X-ray Scans. *Diagnostics*. *12*(9):2132.

22. Negi S. and Sharma, N. (2022). A standalone computing system to classify human foot movements using machine learning techniques for ankle-foot prosthesis control. *Computer Methods in Biomechanics and Biomedical Engineering*. *25*(12):1370-1380.

23. Gundu S., Sahi A. K., Kumari P., Vishwakarma N. K. and Mahto S. K. (2023). Assessment of various forms of cellulose-based Luffa cylindrica (mat, flakes and powder) reinforced polydimethylsiloxane composites for oil sorption and organic solvents absorption. *International Journal of Biological Macromolecules*. *240*:124416.

24. Kumari P., Raval A., Rana P. and Mahto S. K. (2023). Regenerative Potential of Human Breast Milk: A Natural Reservoir of Nutrients, Bioactive Components and Stem cells. Stem Cell Reviews and Reports.

25. Sahoo K., Varshney N., Das T. and Mahto S. K. Kumar M. (2023). Copper oxide nanoparticle: multiple functionalities in photothermal therapy and electrochemical energy storage. Applied Nanoscience.

26. Tekam C. K., Majumdar S., Kumari P., Prajapati S. K., Sahi A., Shinde S., Singh R., Samaiya P. K., Patnaik R., Krishnamurthy S. and Mahto S. K. (2023). Effects of ELF-PEMF exposure on spontaneous alternation, anxiety, motor co-ordination and locomotor activity of adult wistar rats and viability of C6 (Glial) cells in culture. Toxicology, 485, 153409.

27. Vishwakarma N. K. and Mahto S.K. (2023). An universal approach of catalyst immobilization inside hydrophobic PFA tubing under well dispersed manner for continuous-flow applications. Chemical Engineering Journal, 452, 139347.

28. Mehata A. K., Suseela M. N. L., Behera C., Kumari P., Mahto S. K. and Muthu M. S. (2022). Chitosan-alginate nanoparticles of cabazitaxel: Design, dual-receptor targeting and efficacy in lung cancer model. International Journal of Biological Macromolecules, 221, 874-890.

29. Gundu S., Sahi A. K., Varshney N., Varghese J., Vishwakarma N. and Mahto S. K. (2022). Fabrication and In Vitro Characterization of Luffa-based Composite Scaffolds Incorporated with Gelatin, Hydroxyapatite and Psyllium Husk for Bone Tissue Engineering. Journal of Biomaterials Science, Polymer Edition, 1-24.

30. Priya V., Singh S., Revand R., Kumar S., Mehata A. K., Sushmitha P. and Mahto S. K. Madaswamy S. M. (2022). GPIIb/IIIa Receptor Targeted Rutin Loaded Liposomes for Site-Specific Antithrombotic Effect. Molecular Pharmaceutics, 20, 1, 663–679.

31. Kumar R., Varshney N., Mahapatra S., Mahto S. K., Dubey V. K. and Chandra P. (2022). Design and development of lactoferrin conjugated lipid-polymer nano-bio-hybrid for cancer theranostics. Materials Today Communications, 31, 103548.

32. Rathore, Rahul S., Ayyannan R. Senthil. and Mahto S. K. (2022). Emerging three-dimensional neuronal culture assays for neurotherapeutics drug discovery. Expert Opinion on Drug Discovery, 1-10.

33. Srivastava P., Sahi A. K., Kumar A. and Mahto S. K. (2022). Establishing Relation between In-Vivo and In-Vitro Cryospray Experiments Through Thermal Characteristics. International Journal of Thermal Sciences, 176, 107389.

34. Paik et al. (2022) Preparation of carbon nanocapsules from azadirachta indica seed for the treatment of breast cancer. Indian Patent OfficeApplication No.: 202111060434, 78854.

35. Paik et al. (2022) Quaternary antibiotic composition and method of preparation thereof. Journal of the Indian Patent Office. Application No.202211015313 A, 78858.

36. Paik P. et al (2022) Mesoporous nano-inorganic antibiotic compositions and method of preparation thereof, Journal of the Indian Patent Office. Application No.202211015312 A, 78857.

37. Ram R., Gautam N., Paik P., Kumar S. and Sarkar A. (2022) A novel and low-cost smartphone integrated paper-based sensor for measuring starch adulteration in milk, Microfluidics and Nanofluidics. (26), 103.

38. Maity S., Tomar M. S., Wasnik K., Patra S., Modak M. D., Gupta P., Pareek D., Singh M. and Paik P. (2022) Azadirachta Indica seed derived carbon nanocapsules: cell imaging, depolarization of mitochondrial membrane potential and dose dependent control death of breast cancer, ACS Biomater. 8(8), 3608–3622.

39. Panigrahi G., Himadr M., Wasnik K., Patra S., Gupta P., Pareek D., Maity S., Mandey M. and Paik P. (2022) Hollow Mesoporous SiO2-ZnO Nanocapsules and effective in vitro delivery of anticancer drugs against different cancers with low doses of drugs, Materials Chemistry and Physics, 287, 126287.

40. Modak M. D., Chaudhary A. K. and Paik P. (2022) Self-assembly of upconversion nanoparticles and its luminescence. arXiv identifier 2206.01267.

41. Mittal R., Prince A. A., and Fredo A. R. J. (2022). Time-Sliced Architecture for Efficient Accelerator to Detrend High-Definition Electroencephalograms. IEEE Transactions on Instrumentation and Measurement, 71, 1-9.

42. Shaji S., Ronickom J. F. A., Ramaniharan A. K., and Swaminathan R. (2022). Study on the effect of extreme learning machine and its variants in differentiating Alzheimer conditions from selective regions of brain MR images. Expert Systems with Applications, 209, 118250.

43. Kotha R., Rani P., Robert F., Thomas C. B., Chelliah S. K., and Agastinose Ronickom, J. F. (2023). Damage monitoring in fibre-reinforced polymer composites using adaptive threshold methods and geometric features. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 45(1), 14.

Proceedings of International Conferences *(From 1st April 2022 to 31st March 2023)*

1. Khushali Sharma, Adyasha Dash and Deepesh Kumar. 2023. January. Investigating the Effect of EEG Channel Selection on Inter-subject Emotion Classification. 312-316 13th International Conference on Cloud Computing, Data Science & Engineering (confluence), Noida, India, January 2023.
2. Praveen Kumar, Neeraj Sharma. 2022. Outcome modelling in MRI-guided radiotherapy In Annual Congress on ENT & Radiology (ACENTR 2022), August 2022.
3. Praveen Kumar, Neeraj Sharma. 2022. Design and synthesis of computational anthropomorphic brain phantoms for radiotherapy and radiology In International conference on Oncology & Radiology (ICOR 2022), December 2022.
4. Praveen Kumar, Neeraj Sharma. 2023. Application of Monte Carlo Methods in Nuclear Medicine and Radiotherapy In Quantum Physics and Nuclear Technology, Paris, France, March 2023.
5. Pranshu CBS Negi, Sachin Negi, Neeraj Sharma. 2022. Gait Analysis-Based Identification of Neurodegenerative Diseases Using Machine Learning Techniques. 1-6 International Conference on Advances in Computing, Communication and Materials (ICACCM), 2022.
6. Polymers as Engineered nanotherapeutics, (21-09-2022)-MRS-NUS, September 2023.
7. Engineering polymeric nanomedicine for control therapeutic applications, Bio-Remedi 2022, IIT-Guwahati, December 2022.

Proceedings of National Conferences *(From 1st April 2022 to 31st March 2023)*

Kindly Provide Brief Details of 5 Articles from the Department/School with maximum no. of Citations in last 5 years

1. Sinha, P., Yadav, A., Tyagi, A., **Paik, P.**, Yokoi, H., Naskar, A. K., ... & Kar, K. K. (2020). Keratin-derived functional carbon with superior charge storage and transport for high-performance supercapacitors. Carbon, 168, 419-438. [**Citations: 91**]

   Brief Abstract: This work reports a scalable method to synthesize hierarchically porous, hetero-atom doped activated carbon nanosheet from waste biomass–human hair, and demonstrates the use of this carbon as an ultra-high performance electrode material for supercapacitor applications.

2. Malan, N. S., & **Sharma, S**. (2019). Feature selection using regularized neighbourhood component analysis to enhance the classification performance of motor imagery signals. Computers in biology and medicine, 107, 118-126. [**Citations: 91**]

   Brief Abstract: In motor imagery (MI) based brain–computer interface (BCI) signal analysis, mu and beta rhythms of electroencephalograms (EEGs) are widely investigated due to their high temporal resolution and capability to define the different movement-related mental tasks separately. However, due to the high dimensions and subject-specific behaviour of EEG features, there is a need for a suitable feature selection algorithm that can select the optimal features to give the best classification performance along with increased computational efficiency. The present study proposes a feature selection algorithm based on neighbourhood component analysis (NCA) with modification of the regularization parameter.

3. Varshney, N., Sahi, A. K., Poddar, S., & **Mahto, S. K.** (2020). Soy protein isolate supplemented silk fibroin nanofibers for skin tissue regeneration: Fabrication and characterization. International Journal of Biological Macromolecules, 160, 112-127. [**Citations: 38**]

   Brief Abstract: Biocompatible soy protein isolate/silk fibroin (SPI/SF) nanofibrous scaffolds were successfully fabricated through electrospinning a novel protein blend SPI/SF. The potential of fabricated scaffolds for skin tissue regeneration was evaluated by in vitro culturing of standard cell lines i.e., fibroblast cells (L929-RFP (red fluorescent protein) and NIH-3T3) and melanocytes (B16F10). The outcomes revealed that all the fabricated nanofibrous scaffolds were non-toxic towards normal mammalian cells. In addition, healing of full-thickness wound in rats within 14 days after treatment with a nanofibrous scaffold demonstrated its suitability as a potential wound dressing material. Interestingly, we found that nanofibers induced a noticeable reduction in the proliferation rate of B16F10 melanoma cells.

4. Jain, P. K., **Sharma, N.,** Giannopoulos, A. A., Saba, L., Nicolaides, A., & Suri, J. S. (2021). Hybrid deep learning segmentation models for atherosclerotic plaque in internal carotid artery B-mode ultrasound. Computers in Biology and Medicine, 136, 104721. [**Citations: 54**]

   Brief Abstract: The automated and accurate carotid plaque segmentation in B-mode ultrasound (US) is an essential part of stroke risk stratification. Previous segmented methods used AtheroEdge™ 2.0 (AtheroPoint™, Roseville, CA) for the common carotid artery (CCA). This study focuses on automated plaque segmentation in the internal carotid artery (ICA) using solo deep learning (SDL) and hybrid deep learning (HDL) models.

5. Kumar, C., Gaur, A., Tiwari, S., Biswas, A., Rai, S. K., & Maiti, P. (2019). Bio-waste polymer hybrid as induced piezoelectric material with high energy harvesting efficiency. Composites Communications, 11, 56-61. [**Citations: 40**]

   Brief Abstract: Toxicity, biodegradability, biocompatibility and complex synthesis techniques are the major challenges in development for self-powered piezoelectric nanogenerators for biomedical applications. Here, we report a novel bio-waste hybrid with polymer for self-powered nanogenerator by using abundantly available natural self-aligned collagen fibrous fish scale as an efficient energy harvester.

Other activities

International collaboration/achievements by the Department/School *(From 1st April 2022 to 31st March 2023)*

1. Rice University, Houston, USA
2. Vienna University of Technology, Austria

Indian Faculty visits in the Department/School/School *(1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1.	Prof. Sujatha N., Professor, Biophotonics Lab, Biomedical Division, Department of Applied Mechanics, Indian Institute of Technology, Madras, Chennai, Tamil Nadu, India	Scientific talk	13/03/2023 (10-11 AM) Seminar Hall of School of Biomedical Engineering, IIT (BHU), Varanasi

Foreign Faculty Visits in the School *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1.	Dr. Sridhar Hannenhalli, Senior Investigator, Cancer Data Science Laboratory, National Institute of Health (NIH), USA	Scientific talk	Date of Talk: 12th August 2022 Time: 3.30 PM to 4.30 PM Venue: Seminar Hall of School of Biomedical Engineering
2.	Dr. Priya Rani, Lecturer, Discipline of Electrical and Biomedical Engineering, School of Engineering, RMIT University, Melbourne, Australia	Scientific talk	16/12/2022 (11 AM - 12 noon) Seminar Hall of School of Biomedical Engineering, IIT (BHU), Varanasi

Key Instruments:

** School of Biomedical Engineering has established a high-end departmental equipment facility where students are working in various molecular biology techniques including Western blotting, PCR, Gel electrophoresis, Nanodrop etc. In the picture a student from SBME is monitoring the gels in Gel-Doc.

** Students are performing cell culture, and observing the cells under microscope. Photo has been captured in the departmental instrument facility at the School of Biomedical Engineering.

20. School of Materials Science and Technology

Full Name of School: School of Materials Science and Technology, IIT-(BHU) Varanasi-221005

Year of Establishment: 1978

Coordinator of the School: Dr. Akhilesh Kumar Singh, w.e.f. 1st January 2023

Brief introduction of the School:

The School of Materials Science and Technology is an internationally renowned Centre of Materials Research and Education. It was established in 1978 following the recommendations of the V Plan Visiting Committee of the UGC. It serves as the Institute's nodal center for fostering interdisciplinary teaching and research in the field of materials science and technology. School runs successful Ph.D., M.Tech. and Integrated Dual Degree (IDD) programmes since 1982, 1984 and 2005, respectively. All these students are gainfully employed, several of them in premier Research and Development organizations, industry and teaching institutions. The syllabi of different programs are revised periodically to include topics of current significance in the field. Integrated 5-year dual degree programme is leading to combined B.Tech. & M.Tech. degrees. This program has been initiated from the session 2005-06 through JEE.

The School has a modest four floor building. The laboratories are equipped with modern and sophisticated equipment for materials preparation, characterization, processing and phase transformation studies. Working in these frontiers areas the faculty members of the School have generated more than Rs. 15 crores during the last five years through various projects/schemes funded by agencies like DST, SERB, DBT, IMPRINT, DST-Nanomission, BRNS, SPARC, DRDO, UGC-DAE-CSR, etc. and have published more than 250 research papers in reputed journals such as Nature Comm., Signal Transduct Target Ther, Appl. Phys. Lett., Phys. Rev. B, J. Phys. Cond. Matter, J. Appl. Phys., Macromolecules, Dalton Trans., J. Controlled Release, J. Mater. Chem, J. Phys Chem., Nanoscale, RSC Advances, Langmuir, Sensors and Actuators B., Scientific Report etc.

Major areas of Research

- Nanomaterials for Energy, Health and Electronics
- Magnetic materials and Nanomagnetism
- X-ray and Neutron Crystallography
- Ferroics and Multiferroics
- Metals, alloys and multifunctional materials
- Functional Materials and Devices
- Biopolymers for drug delivery
- Polymer nanocomposites
- Sensors and Biosensors
- Thin film devices and organic electronics
- Advanced Ceramics

Area of the School (in square meters): The School has a modest building of about 16,000 sq. ft. floor area.

Infrastructure

Sl. No.	Particulars	Number
1	No. of classrooms	One
2	No. of lecture halls	One
3	No. of laboratory	Nineteen
4	No. of computers available for students in the School	Thirty five

Unique Achievement / Preposition of the School:

Academic Programmes offered

Ph.D., M. Tech and Integrated Dual Degree (B.Tech+M.Tech.)

Students on Roll *(From 1st April 2022 to 31st March 2023)*

(Please give the number of students only, under the respective years)

Sl. No.	Programme	Programme	I Year	II Year	III Year	IV Year	V Year & above
1	Dual Degree	Dual Degree	-	22	25	14	23
2	M. Tech/ M. Pharm	M. Tech/ M. Pharm	20	19	-	-	-
3	Ph. D (Under Institute Fellowship)	Ph. D (Under Institute Fellowship)=25	1	6	9	4	5
4	Ph. D (Under Project Fellowship)	Ph. D (Under Project Fellowship)=03	-	1	2	-	-
5	Ph. D (Under Sponsored Category)	Ph. D (Under Sponsored external fellowship)=26	1	7	6	6	6

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
ÌNDIA					
1.	Ankita Singh	18111002	NanoDCAL software for nanoelectronics material and device Simulation	27th Dec. 2022, to 28th Dec., 2022, Impulse Technology (Online)	Self
2.	Prince Kumar Maurya	18111014	THE INTERNATIONAL CONFERENCE ON BEYOND FOSSIL FUELS:The Future of Alternative Energy Technologies [B:FAT 2020]	23rd July to 25th July, 2022, Department of Ceramic Engineering IIT (BHU), Varanasi (Poster Presentation)	SERB India
3.	Rohit Kumar Gupta	21111010	2nd National Conference on Advance Nanomaterials and Applications (ANA-2023), CUSB, Gaya	20-22 March 2023 Central University of South Bihar, Gaya, Bihar (Oral Presentation)	SERB India
4.	Rohit Kumar Gupta	21111010	THE INTERNATIONAL CONFERENCE ON BEYOND FOSSIL FUELS: The Future of Alternative Energy Technologies [B:FAT 2020]	23rd July to 25th July, 2022, Department of Ceramic Engineering IIT (BHU), Varanasi (Poster Presentation)	SERB India
5.	Antima	21111003	International Conference on Beyond Fossil Fuel: The future of Alternative Energy Technologies (B: FAT -2020)	23rd July to 25th July, 2022, Department of Ceramic Engineering IIT (BHU), Varanasi (Poster Presentation)	SERB India
6.	Antima	21111003	2nd National Conference on Advance Nanomaterials and Applications (ANA-2023)	20-22 March 2023 Central University of South Bihar, Gaya, Bihar (Oral Presentation)	SERB India
7.	Kundan Kumar Mishra	21112010	2nd National Conference on Advance Nanomaterials and Applications (ANA-2023), CUSB, Gaya	20-22 March 2023 Central University of South Bihar, Gaya, Bihar (Poster Presentation)	SERB India
8.	Vikash Yadvendu	21112017	2nd National Conference on Advance Nanomaterials and Applications (ANA-2023), CUSB, Gaya	20-22 March 2023 Central University of South Bihar, Gaya, Bihar (Poster Presentation)	SERB India
9.	Priyanka	21111007	2nd National Conference on Advance Nanomaterials and Applications (ANA-2023), CUSB, Gaya	20-22 March 2023 Central University of South Bihar, Gaya, Bihar (Oral Presentation)	SERB India
10.	Utkarsh Pandey	19111008	6th IEEE ICEE 2022.	11-14 December 2022, Bengaluru	NA

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
11.	Pawan Kumar Ojha	18111503	IX International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS-2022)	13-17 December, 2022	Self
12.	Priyanka	21111007	Synthesis and Characterisation of CVD Grown Semiconducting WS_{e2} Thin Film over SiO_2/Si Substract (IUMRS-ICA 2022) (Poster Presentation)	19-23 December, 2022, IIT-Jodhpur	Institute
13.	Sadhana Yadav	21111011	Photoluminescence study of $La_{1-x}Eu_xCoO_3$ perovskite phosphor materials (IUMRS-ICA 2022).	19-23 December, 2022, IIT-Jodhpur	Self
14.	Prosun Mondal	21111008	Simultaneous co-site doping effects in high temperature lead-free $BiFeO_3$-$BaTiO_3$ based piezoceramics prepared via air quenching (IUMRS-ICA 2022).	19-23 December, 2022, IIT-Jodhpur	Self
15.	Deep Mala	20111504	Development of Lead-free low Band gap $BaTi_{(1-x)}Ni_xO_3$Ceramics for Ferro-Photovoltaic Applications (IUMRS-ICA 2022).	19-23 December, 2022, IIT-Jodhpur	Self
16.	Rajarshi Chakraborty	20111515	"Solution-Processed $LiNbO_3$ Thin film as a Gate Dielectrie of a Ferroelectric Thin Film Transistor" (IEEE-ICEE-2022)	11-14 December 2022, Bengaluru.	NA
17.	Shivani Rastogi	20111521	International Conference on Advanced Materials, Skyrmions in Full Heusler (X_2YX) compounds: A Micromagnetic Simulation (ICAM-2023).	20-24 February 2023, Goa University. Goa	NA
18.	Shipra Gupta	18111010	Asian Polymer association (APA-GOA 2023), The Internationals Centre Goa, India.	23-25 February 2023, Goa.	NA
19.	Nisha Shahi	18111005	International Conference on Advanced Materials, Anti-side disorder driven enhanced intrinsic anomalous Hall conductivity in spin gapless semiconducting Mn_2CoAI Heusler compounds(ICAM-2023).	20-24 February 2023, Goa University. Goa	NA
20.	Rajnandini Sharma	18111007	Physics of Strongly Correlated Electron Systems (PSCES) 2023, Magnetic Energy dissipative factors of spin-coated Y_3FesO_{12} thin films	15-17 March 2023. IISER, Pune.	NA
21.	Gaurav Kumar Shukla	18111502	Physics of Strongly Correlated Electron Systems (PSCES) 2023, Magnetic Energy dissipative factors of spin-coated Y_3FesO_{12} thin films	15-17 March 2023. IISER, Pune.	NA

Names of students/scholars who got prizes and awards outside the Institute *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1.	Vikash Yadvendu	21112017	Best Poster Presentation	20-22 March 2023 Central University of South Bihar, Gaya, Bihar	2nd National Conference on Advance Nanomaterials and Applications (ANA-2023), CUSB, Gaya
2.	Nisha Shahi	18111005	Best Poster Presentation	20-22 March 2023 Central University of South Bihar, Gaya, Bihar	2nd National Conference on Advance Nanomaterials and Applications (ANA-2023), CUSB, Gaya

Names of Students/Scholars who went for foreign Internship

Sl. No.	Name of Student	Roll No.	Name of the Organization	Place of Internship	Country	Duration
1.	Taranga Dehury	18111012	SERB_PURDUE	Purdue University Indiana's Land Grant University	West Lafayette, Indiana United States	1.3 Year
2.	Benugopal Bairgya	21111501	NIMS	National Institute of Materials Science	Tsukuba, Japan	I Year

Faculty & their Activity: Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of Ph.D. Degree	Major Areas of Specialization
PROFESSORS			
1	Prof. Rajiv Prakash (Ph.D.) 17100	January, 2000	Organic Conducting Polymers; Organic Electronics and Sensors/Biosensors
2	Prof. Pralay Maiti (Ph.D.) 17337	1996	Biomaterials; Energy materials; Drug delivery
ASSOCIATE PROFESSORS			
1	Dr. (Mrs.) Chandana Rath (Ph.D.) 17280	December, 2000	Nanostructured materials, Magnetism, Ion Irradiation
2	Dr. Akhilesh Kumar Singh (Ph.D.) 17387	2006	Smart Materials, Structural Phase Transitions in Electroceramics, Synthesis and Characterization of Novel Electroceramics,
3.	Dr. Chandan Upadhyay (Ph.D.) 18433	2004	1. Static and dynamic magnetic properties of Nanoparticles 2.Quantum Materials 3. Computational Materials Science
4.	Dr. Bhola Nath Pal (Ph.D.) 19817	November, 2005	Solution processed thin film devices, Optoelectronics devices, Nanoelectronics
ASSISTANT PROFESSORS			
1	Dr. Ashish Kumar Mishra, (Ph.D.) 50065	July, 2011	Carbon and TMDs nanomaterials, Energy and Environmental Applications, Optoelectronic Applications
2	Dr. Shrawan Kumar Mishra, (Ph.D.) 50071	March, 2010	Magnetism, condensed matter, memory and spintronics devices
3	Dr. Sanjay Singh (Ph.D.) 50072	2013	**Heusler alloys, X-ray & Neutron Diffraction, Quantum Transport & Quantum Materials**
4.	Dr. Nikhil Kumar, (Ph.D.) 50250	2017	Mechanical Behaviour of Materials, Additive Manufacturing, Development of high strength ferrous and non-ferrous alloys
5.	Dr. Ravi Panwar (Ph.D.) 50316	2015	Electrical & electronic materials, microwave metamaterials, and FSSs for stealth technology and electromagnetic compatibility

Technical and Non-Teaching Staff

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
1.	Ankit Jain, MCA	Junior Assistant (50140)	10/01/2020
2.	Samir Kumar Dubey B.A., M.A. (Sociology), Diploma in Electrical Engg.	Senior Technician (18632)	06/08/2008
3.	Sitaram Tiwari, Diploma in Mechanical Engg. (Pursuing)	Senior Technician (19592)	04/09/2012
4.	Mahendra Kumar Patel B.A., COPA and B.Sc. (Physics, Chemistry, Mathematics)	Senior Technician (19599)	04/09/2012

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

Sl. No.	Coordinator	Title	Period
1.	Dr. Nikhil Kumar	Composites in Defense (Present status and way forward)	Feb 26- March 02, 2023
2.	Dr. Nikhil Kumar Dr. Sanjay Singh	Metal and alloys for Defense Applications	March 02 – 06, 2023

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings

Sl. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1.	Prof. Pralay Maiti	RB Memorial Conference on Translational Research in Medicine (TRIM 2022), Design of drug delivery vehicles for better healthcare	IIT Bombay on April 19, 2022
2.	Prof. Pralay Maiti	International e-Conference on Nanomaterials & Nanoengineering (APA Nanoforum 2022) Controlled Drug Delivery for Better Healthcare	Asian Polymer Association during February 24-26, 2022.
3.	Prof. Pralay Maiti	Deliver keynote speech in Taiwan-India 2022, Exchange workshop and Symposium on Intensifying connection of Sustainable Technology (TIEWS-2022).	4-6 September 2022, IIT-Guwahati, India
4.	Prof. Pralay Maiti	Deliver a lecture symposium on "Science and Technology of Polymers and Advanced Materials through Innovation, Entrepreneurship and Industry: SPSI-MACRO-2022."	2-4 November 2022, Dr. Homi Bhabha Raod, Pune, Maharashtra, India.
5.	Prof. Pralay Maiti	Deliver invited talk Online LIVE on Demand "Sustainability in Energy Sectors Using Polymers" (ICMEC 2022).	12-14 December 2022, New Delhi India.
6.	Prof. Pralay Maiti	Deliver invited talk in National Academy of Sciences (NASI), Jharkhand.	20 January 2023, CSIR –NML), Jamshedpur.
7.	Prof. Pralay Maiti	Deliver invited talk in DPM 2023, National Conference, "New Developments in Polymeric Materials (DPM-2023)."	2 – 3 March 2023, Thiruvananthapuram, Kerala, India.
8.	Dr.(Mrs.) Chandana Rath	Collaborative research work Temperature dependent Raman spectroscopic measurement.	26th April 2022- 30th April 2022, NISER, Bhubaneswary.
9.	Dr.(Mrs.) Chandana Rath	Tools and Techniques in Interdisciplinary sciences	11-16th July 2022, Sunbeam college for women, Varanasi
10.	Dr.(Mrs.) Chandana Rath	Recent Advancement in Materials Science (RAIMS-2022) Department of Chemistry.	17-20 November 2022 VSSUT, Burla, Sambalpur Odisha.
11.	Dr.(Mrs.) Chandana Rath	Research Work (Low temperature Raman Measurements)	30.11.22 - 02.12.22 National Institute of Science Education and Research, (NISAR), Bhubaneswar, Odisha.
12.	Dr.(Mrs.) Chandana Rath	Invited Talk potential collaborations in the area of multiferroics and nanostructured magnets.	09.12.22 - 13.12.22 Department of Physics, IISER, Pune. Bhubaneswar, Odisha.
13.	Dr.(Mrs.) Chandana Rath	Invited Talk at IUMRS ICA-2022, Magnetic, Spintronics and Superconductor materials .	17.12.22 - 22.12.22 Department of Electrical Engineering, IIT Jodhpur,
14.	Dr.(Mrs.) Chandana Rath	Experiments and discussion in the laboratory.	27.12.22 - 31.12.22 Institute of Physics, IOP, Bhubaneswar, Odisha.
15.	Dr.(Mrs.) Chandana Rath	Deliver an Invited Talk	08.02.23 - 09.02.23 Electron Microscope Society of India (EMSI-2023). University of Delhi, Delhi.
16.	Dr.(Mrs.) Chandana Rath	Attend the conference "Emergent Materials for Energy and Enviroment.	03.03.23 - 08.03.23 Department of Chemistry (EMEE-2023) IIT-Roorkee.
17.	Dr.(Mrs.) Chandana Rath	Deliver an Invited Talk World conference on Thermoelectrics and Materials (WEC-2023)	14.03.23 - 18.03.23 Jaipur National University, Jaipur, Rajasthan.
18.	Dr. Akhilesh Kumar Singh	To Deliver a talk at Avadh Univerity	10.06.2022, Avadh Univeristy, Ayodhya.

19.	Dr. Akhilesh Kumar Singh	To Deliver a talk Synergistic Training Utilizing the Scientific and Technological Infrastructure (STUTI) of DST.	24.08.2022, Univeristy of Allahabad, Prayagraj.
20.	Dr. Akhilesh Kumar Singh	Invited talk Synergistic Training Utilizing the Advanced Research Instrumentation in collaboration.	26.08.2022, Babasaheb Bhimrao Ambedkar University of Lucknow.
21.	Dr. Akhilesh Kumar Singh	Invited talk 12th National Conference on Emerging materials& Nanotechnology (NCEMS-2022).	18.11.2022, (ISCAS) Institute of Solid State and Materials Science, Jammu.
22.	Dr. Akhilesh Kumar Singh	Invited talk 19th National Seminar on Crystallography (NCS-2022).	28.08.2022, Department of Physics, University of Jammu.
23	Dr. Bhola Nath Pal	Collaborative research work for SERB Project.	20-22 June 2022, Vidyasagar University Rd, Rangamati, Midnapore, West Bengal
24.	Dr. Bhola Nath Pal	Deliver Lecture & Research Work 6th International Conference on Emerging Electronics (ICEE-2022)	11-14 December, 2022. Hilton, Bangalore, India
25.	Dr. Bhola Nath Pal	Research & Collaboration (INST-2022).	23-26 March, (INST-Dept. of Science and Technology), Mohali, Punjab, India.
26.	Dr. Ashish Kumar Mishra	INYAS mid-year meet at Bhabha Atomic Research Centre (BARC), Mumbai, Maharashtra	September 16-18, 2022
26.	Dr. Ashish Kumar Mishra	THERMANS 2022 (DAE-BRNS), Khalsa College, Amritsar, Punjab	November 02-04, 2022
28.	Dr. Ashish Kumar Mishra	International Conference on Frontiers in Materials Engineering (ICGME-2022)	December 14-16, 2022 IIT-Indore
29.	Dr. Ashish Kumar Mishra	**DST-STUTI** sponsored hands-on training program on "Training for developing skills on Research equipment in Physics and Biotechnology" Department of Physics, Central University of South Bihar, Gaya	January 22, 2023
30.	Dr. Ashish Kumar Mishra	National Science Day camp, Department of Physics, Central University of South Bihar, Gaya, Bihar	February 28, 2023
31.	Dr. Sanjay Singh	Invited talk on "Atomic ordering, Berry curvature and anomalous Hall in Co_2-based Heusler alloys" in APCOM-2022, Slovak Republic.	June 23, 2022
32.	Dr. Sanjay Singh	Invited talk on "Atomic ordering and Berry phase driven anomalous Hall in cobalt-based Heusler alloys" at QMAT IIT Kanpur	September 20, 2022
33.	Dr. Sanjay Singh	Invited talk entitled as Quantum technology, delivered at IIT Delhi-UB (University of Buffalo) conclave.	November 30, 2022
34.	Dr. Sanjay Singh	Invited talk on "Atomic ordering and Berry-phase driven anomalous Hall in Heusler compounds" at IACS Kolkata	February 12, 2023
35.	Dr. Sanjay Singh	Invited talk on "Understanding the atomic ordering and magnetic structure: Fundamental and analysis tool" at CUSB, Gaya.	22 January 2023
36.	Dr. Sanjay Singh	Atomic ordering and Berry phase driven anomalous Hall in cobalt-based Heusler alloys, Gaya.	March 22, 2023
37.	Dr. Sanjay Singh	Invited talk on "Understanding the atomic ordering and magnetic structure: Fundamental and analysis tool" at IIIT, Allahabad.	June 25, 2023

Special lectures delivered by faculty members in other institutions

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1.	Dr. Ashish Kumar Mishra	Electrochemical energy generation and storage systems	Central University of South Bihar, Gaya, Bihar,	22-01-2023
2.	Dr. Ashish Kumar Mishra	Raman Spectroscopy- A Noble Discovery from India	Central University of South Bihar,Gaya, Bihar,	28-02-2023 (Virtual mode)
3.	Dr. Ashish Kumar Mishra	Optothermal Raman Spectroscopy for Thermal Transport Study in 2D Materials	Khalsa College, Amritsar, Punjab	04-11-2022

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
4.	Dr. Ashish Kumar Mishra	Transition Metal Dichalcogenides as Efficient Electrocatalysts for Environmentally Friendly Rechargeable Zinc Air Battery	Indian Institute of Technology, Indore, Madhya Pradesh	14-12-2022
5.	Dr. Shrawan Mishra	Probing quantum criticality of heavy fermions with soft-x-rays	University of Hamburg	17/05/2022
6.	Dr. Shrawan Mishra	Heavy fermions $CeCOIn_5$	University of Stockholm	15/07/2022
7.	Dr. Sanjay Singh	Atomic Ordering, Berry curvature and anomalous Hall effect in Co based Heusler alloys	Lovely Professional University, Phagwara, Punjab.	18/02/2022

Visits abroad by faculty members

Sl. No.	Name of Faculty Member	Country Visited	Date of Leaving India	Date of Returning India	Purpose of Visit	Funding from
1.	Dr.(Mrs.) Chandana Rath	West Lafayette, USA	23.06.2022	14.08.2022	Collaborative research work	PURDUE University
2.	Dr.(Mrs.) Chandana Rath	Germany	03.10.2022	12.10.2022	Experiments using standard XAFS	JNCASR
3.	Dr. Chandan Upadhyay	Hamburg, Germany	05.12.2022	14.12-2022	Synchrotron x-ray diffrcton	DESY
4.	Dr. Bhola Nath Pal	Taiwan	01.12.2022	09.12.2022	Collaborative work	Ming Chi University
5.	Dr. Sanjay Singh	Italy	28.05.2022	07.06.2022	Experiments and collaborative work	University of West Bohemia
6.	Dr. Sanjay Singh	Hamburg, Germany	09.09.2022	17.09.2022	Synchrotron experiments	DST-DESY

Honours and awards

Sl. No.	Name of Faculty Member	Details of Award
1.	Prof. Pralay Maiti	11th National Petrochemicals Awards (2022)
2.	Dr Ashish Kumar Mishra	Indian National Young Academy of Science (INYAS) Membership- 2022
3.	Dr. Sanjay Singh	Emerging Leader in the field by Journal of Physics D: Applied Physics

Fellowships of academic and professional societies

Sl. No.	Name of Faculty Member	Details of Fellowship
1	Dr. A. K. Singh	Joint Secretary of the Indian Crystallographic Association (ICA) for the period 2019-2022.
2	Prof. Pralay Maiti	Fellow of West Bengal Academy of Science and Technology
3	Dr. Chandana Rath	Council Member of MRSI, India 2019-2022
4	Dr. Sanjay Singh	Indian National Young Academy of Sciences (INYAS) membership (2021-24)
5	Dr. Ashish Kumar Mishra	Indian National Young Academy of Sciences (INYAS) membership (2022-25)

In past Fellowships are listed below.

Sl. No.	Name of Faculty Member	Details of Fellowship
1.	Prof. Rajiv Prakash	Asia Pacific Academy of Materials

Books, monographs authored/co-authored

Sl. No.	Name of Author/ Co- Author	Title	Publisher
1.	Dr. Ashish Kumar Mishra	**Chapter:** Layered Chalcogenides: Evolution from Bulk to Nano-Dimension for Renewable Energy Perspectives, **Book:** Nanomaterials- Advances and Applications	**Springer Nature**, ISBN 978-981-19-7962-0, Pages: 177-204
2.	Dr. Ashish Kumar Mishra	**Chapter:** Supercapacitor: Carbon Based Nanostructures for Supercapacitor Application, **Book:** Nanomaterials for Sustainable Energy Applications	**CRC Press Taylor and Francis Group,** ISBN: 978-1-003-20870-9, Pages: 77-100

Editorial boards of journals

Sl. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1.	Prof. Pralay Maiti	Editorial Board Member	Signal Transduction and Targeted Therapy
2.	Prof. Pralay Maiti	Editorial Board Member	MedComm (Wiley)
3.	Dr. Chandana Rath	Editorial Board Member	Annals of Applied Sciences
4.	Dr. Ashish Kumar Mishra	Associate Editor	Mapana Journal of Sciences
5.	Dr. Nikhil Kumar	Editorial Board Member	Journal of Materials Science and Chemical Engineering

Design and Development Activities: New facilities added

Sl. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1.	Laser and mapping facility for existing Raman system	~ 18
2.	Probe sonicator	~ 2
3.	Magnetron sputtering	35 Lakhs
4.	FMR-Ferromagnetic Resonance	36 Lakhs

Patents filed

Sl. No.	Name of Faculty Member	Title of Patent
1.	Dr. Ashish Kumar Mishra	A non-invasive analytical device for detection of a biomolecule, Indian Patent Application No. 202311003683, Date- 18-01-2023.
2.	Dr. Ashish Kumar Mishra	A molybdenum diselenide nanostructured cathode based rechargeable zinc air battery, Indian Patent Application No. 202211020589, Date- 05-04-2022.
4..	Dr. Ravi Panwar	A method for fabricating heterogeneous nanocomposite fused perforated microwave absorber, patent approved for filing, 2022.

Research and Consultancy: Sponsored research projects *(Ongoing only)*

Note: Sponsored project name is to be given only in case a faculty member is Project Incharge

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1.	Photonic radiative cooler for passive sub-ambient cooling	2019-2022	IMPRINT-II (SERB)	41.88	Prof. Pralay Maiti
2.	Aging studies and estimation of thermal properties of liner materials	2019-2022	DRDO	175.0	Prof. Pralay Maiti
3.	3D Bio-Stereolithography for Engineering Functional Tissues (CCPI)	2020-2025	SERB	37.2464	Prof. Pralay Maiti
4.	Multifunctional Nanostructured Mn/Fe doped CeCrO3 for Photocatalyst and Magnetic Switching	2020-2023	Core Research Grant-SERB, India	49 Lakhs INR	Dr. Chandana Rath
5.	Investigation of structural transformation in Rare earth doped HfO_2 by X-ray absorption spectroscopy	2020-2023	UGC-DAE CSR, Indore,	1.5 Lakhs with Travel cost	Dr. Chandana Rath
6.	Defects Analyses of Compound Semiconductor wafers	2021-22	Applied Materials India Pvt. Ltd	10.2	Dr. Chandan Upadhyay
7.	Development of High Tc Lead Free Piezoelectric Materials for Energy Harvesting	March, 2020-February-2023	SERB	49.4 lakhs	Dr. Akhilesh Kumar Singh
8.	Development of high performance, CMOS compatible and colour selective narrow-band photodetector for high-resolution imaging application	February 2020-January 2023	SERB, India	67.10	Dr. Bhola Nath Pal
10	Investigation of two dimensional transition metal dichalcogenides nanostructures as effective SERS substrates	December 2020-December 2023	SERB, India	43.82	Dr. Ashish Kumar Mishra
11.	DST-FIST Level-II Project	2019-2024	DST	~Rs. 395 lakhs	All faculty members

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
12.	Mott Transistors Based Neuromorphic Memory Devices	Sep 2018 - Sep 2022	DST, India.	101	Dr. Shrawan Mishra
13.	Nanoscale Interfacial Magnetic Skyrmions and its Applications in Memory Devices	Feb 2019- Aug 2022.	DST, India	103	Dr. Shrawan Mishra
14.	Czochralski based Single Crystal Growth facility for Intermetallic systems (upgradation to existing polycrystalline sample preparation by arc melting	2023-2025	SERB -DST	20 Lakh	Dr. Sanjay Singh
15.	Study of composition and thermo-mechanical processing of 4-8% Cu Al alloy for fabricating the fuselage skins and frames for aerospace application,	2022-2024	DST-CST	11 Lakhs	Dr. Sanjay Singh
16.	Investigation of Anomalous Nernst effect in shape memory Heusler alloys, SERB-DST (CRG)	2022-2025	SERB-DST	68.42 lakh	Dr.Sanjay Singh
17.	Ramanujan Fellowship research Grant~	2017-2022	SERB India	35 Lakh	Dr. Sanjay Singh
18.	Elastocaloric effect measurement setup to study caloric effect in shape memory alloys, Funding Agency-UGC-DAE CSR, Indore, India	2018-2022	UGC-DAE	11 Lakh	Dr. Sanjay Singh
19.	Preparation and characterization of Heusler alloys for spintronics, Indo-Korea Science and Technology Center (IKST), Bengaluru, India	2021-2022	IKST, Bengaluru	14.75 Lakh	Dr.Sanjay Singh
20.	Effect of composition and microstructural alternation on the constant and dynamic loading response of Al-Mg-Si alloys for electric vehicle applications.	Nov.2022 to Nov. 2024	SERB (SRG)	33 Lakh	Dr. Nikhil Kumar
21.	Study of Composition and thermo-mechanical processing of 4.8% Cu-Al alloy for fabricating the fuselage skins and frames for aerospace application.	Nov.2022 to Nov. 2025	UP-CST Sponsored	10.92 Lakh	Dr. Nikhil Kumar

Faculty members' participation with other universities under MoUs *(Ongoing only)*

Dr. Sanjay Singh has been nominated for fulfilling the contract of MOUs between University of West Bohemia (UWB) and Indian Institute of Technology (Banaras Hindu University) IIT-(BHU)).

Research Publications

Sl. No.		No.
1	Total Number of Papers Published in Refereed International Journals	60
2	Total Number of Papers Presented in National Conferences	5
3	Total Number of Papers Presented in International Conferences	2

Refereed International Journals

1. Performance improvement of CO2 air conditioner by integrating photonic radiative cooler as sub-cooler or/and roof envelope, Jay Prakash Bijarniya, Jahar Sarkar and Pralay Maiti, Energy Conversion and Management 251, 115019 (1-11) (2022)
2. Dehydro-halogenated Poly(vinylidene fluoride) Based Anion Exchange Membrane for Fuel Cell Applications, Om Prakash, Shyam Bihari, Keshav, Shivam Tiwari, Ravi Prakash and Pralay Maiti , Materials Today Chemistry 23, 100640 (1-8) (2022)
3. Highly enhanced energy storage properties of H_2O_2 Hydroxylated rare earth ferrites ($LaFeO_3$ and $GdFeO_3$) Nanofillers in Poly (Vinylidene Fluoride) based Nanocomposite Films; V.P. Singh; C.B.Singh, S.K. Satyarthi; D. Kumar, Akhilesh Kumar Singh; J. Mater. Sci.: Mater. Electron. (Accepted) (2022).
4. Structural and wavelength dependent optical properties of $La_{1-x}Eu_xCoO_3$ perovskite phosphor; S. Yadav, D. Kumar, R.S. Yadav, S.B. Rai, Akhilesh Kumar Singh; Ceram. Inter. (Accepted) (2022).

5. Development and characterization of (1-x)$BiYO_3$-x$BiMnO_3$ ceramics for Ferro-photovoltaic applications; P. Prajapati, Akhilesh Kumar Singh; Ceram. Inter. 48(17), 25128-25139 (2022).
6. Structural and photoluminescence properties of Cr^{3+} doped $LaVO_4$ phosphor; E. Rai, R.S. Yadav, D. Kumar, Akhilesh Kumar Singh, V.J. Fulari, S.B. Rai; Solid State Sci. 129(1), 106904 (2022).
7. Quenching of spin-orbit coupling and signature of Griffiths Phase in nanocrystalline $La_{0.6}Ba_{0.4}MnO_3$ perovskite manganite; D. Kumar, Akhilesh Kumar Singh; J. Solid State Chem. 309, 122986 (2022).
8. Control of Layering in Aurivillius Phase Nanocomposite Thin Films and Influence on Ferromagnetism and Optical Absorption; L. Mu¨ hlenbein, C.B. Singh, Akhilesh Kumar Singh, I. Fina, C. Himcinschi, A. Lotnyk, A. Bhatnagar; ACS Appl. Electron. Mater. 4(4), 1997-2004 (2022).
9. Band gap tuning of ferroelectric $PbTiO_3$ by Mo doping; P. Prajapati, Akhilesh Kumar Singh; J. Mater. Sci.: Mater. Electron. 33(5), 2550-2565 (2022).
10. Improved photoluminescence in Eu^{3+} doped $LaVO_4$ phosphor via co-doping of Li^+/Ca^{2+} ions; E. Rai, R. S. Yadav, D. Kumar, Akhilesh Kumar Singh, V. J. Fulari, S. B. Rai; J. Lumin. 241(1), 118519 (2022)
11. Effect of Strontium doping on the electrochemical Pseudocapacitance of Y 1- x Sr x MnO 3¨ perovskites. Abhay Narayan Singh , Krishna Gopal Nigam , Rakesh Mondal , Vishal Kushwaha , Asha Gupta , Chandana Rath and Preetam Singh Physical Chemistry Chemical Physics 25 (1), 2023, 326-340
12. Structural and optical properties along with magnetization reversal and bipolar switching in nanoparticles of CeCr1-xFexO3 (x = 0 and 0.05), Manish Kumar Yadav and Chandana Rath, **Journal of Magnetism and Magnetic Materials, Volume 543, 1 February 2022, 168610**
13. Effect of Mn doping on the electronic and optical properties of Dy2Ti2O7: a combined spectroscopic and theoretical study, R. Upadhyay, M. Shukla, R. K Pandey, *Chandan Upadhyay* Journal of Physics: Condensed Matter 35, 335502 (2023)
14. Antiferromagnetic ordering to cluster-glass-like transition behavior in $DyVO_4$ R Upadhyay, M Shukla, *Chandan Upadhyay* Journal of Physics and Chemistry of Solids 173, 111108 (2023)
15. Evidence of Griffith phase in Quantum critical region of $Dy_2Ti_{1.8}Mn_{0.2}O_7$ R Upadhyay, M Shukla, R Sain, M Tolkiehn, *Chandan Upadhyay* Journal of Magnetism and Magnetic Materials 556, 170308 (2023)
16. Structural and Magnetic Properties of Dimeric and Tetrameric Copper (II) Complexes with Simple Bidentate Ligands and Phosphate Bridges P Sureshbabu, *Chandan Upadhyay*, S Sabiah ChemistrySelect 7 (28), e202200916 (2022)
17. Tunable photoluminescence and energy transfer of Eu^{3+}, Ho^{3+}-doped $Ca_{0.05}Y_{1.\ 93-x}O_2$ nanophosphors for warm white LEDs applications. A Dwivedi, M Srivastava, A Srivastava, *Chandan Upadhyay*, SK Srivastava, Scientific Reports 12 (1), 1-15 (2022)
18. A reversible and efficient probe for dual mode recognition of Al^{3+} and Cu^{2+} with logic gate behavior: Crystal structure, theoretical and in-vivo bio-imaging investigations P Yadav, R Kumar, S Srikrishna, AK Pandey, LH Choudhury, *Chandan Upadhyay*, Vinod P Singh, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 267, 120552 (2022)
19. Nila Pal, Rajarshi Chakraborty,.... and Bhola Nath Pal, 2023, Solution Processed Li-Al_2O_3/$LiNbO_3$/Li-Al_2O_3 Stacked Gate Dielectric for a Non-volatile Ferroelectric Thin Film Transistor, *J. Alloys Compd.* 2023, 960, 170691
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25. Nila Pal, Baishali Thakurta, Rajarshi Chakraborty, Utkarsh Pandey, Vishwas Acharya Sajal Biring, Monalisa Pal, and Bhola N. Pal, Application of Microwave Synthesized Ultra-smooth a-C Thin Film for the Reduction of Dielectric/Semiconductor Interface Trap States of an Oxide Thin Film Transistor, *J. Mater. Chem. C, 2022 10, 14905-14914*

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40. Anupam K Singh, Parul Devi, Ajit K Jena, Ujjawal Modanwal, Seung-Cheol Lee, Satadeep Bhattacharjee, Boby Joseph, , Sanjay Singh, Pressure induced isostructural phase transition in biskyrmion host hexagonal MnNiGa, Phys. Status Solidi RRL, 2200057 (2022)

41. Gaurav K. Shukla, Ajit K. Jena, Nisha Shahi, K. K. Dubey, Indu Rajput, Sonali Baral, Kavita Yadav, K. Mukherjee, Archana Lakhani, Karel Carva, Seung-Cheol Lee, Satadeep Bhattacharjee, Sanjay Singh, Atomic disorder and Berry phase driven anomalous Hall effect in Co2FeAl Heusler compound, Phys. Rev. B 105, 035124 (2022).

42. Examining the Mechanical Response and Microstructural Evolution of Heat-Treated Al-5Si-Cu Alloy for Automotive Applications. O.O. Ajide, O.C. Adedokun, N. Idusuyi, N. Kumar, O.A. Aogo, O.J. Ajao, A.S. Adebayo, K.K. Sexena, Ankita Joshi & Chander Prakash. Advances in Materials and Processing Technologies, 2023
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45. Enhancement of strength and ductility of Fe–13Al–16Mn–5Ni –0.8C steel by annealing at high temperature Nikhil Kumar, Kirtika Singh, Aparna Singh Materials Science and Engineering: A 850, 143577 2022
46. Development and Performance Evaluation of a Mini-potentiostat for Corrosion Experimentations F. A. Musa, O. O. Ajidea, N. Idusuy, A. Adebayoa, B. P. Odunaro, O. P. Obasi ...Journal of Engineering Research and Reports 22 (7), 39-45 2022
47. Microstructural evolution after heat treatment of high specific strength steel: Fe-13Al-16Mn-5Ni-0.8C and correlation with tensile properties Nikhil Kumar, Kirtika Singh, Aparna Singh Materialia 2022
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53. Hardness measurement of Al-Mg-Si alloy: Experimentation and Theoretical Validation N Kumar Metallography, Microstructure, and Analysis 2022
54. Severe plastic deformation of Al-Mg-Si alloys processed through rolling techniques: A Review N Kumar Metallography, Microstructure, and Analysis 2022
55. Fatigue Life Examination and Crack Propagation Characteristics of Two Ferrous Based Alloy Materials O.O. Ajide, O. Onakoya, I.G. Akande, Kuldeep K Saxena, Kahtan A. Mohammed International Journal on Interactive Design and Manufacturing 2022
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57. Effect of Water and Mercury Quenching on the Microstructure and Mechanical behavior of Room Temperature Rolled zircaloy-2 Dharmendra Singh, Sunkulp goel, Nikhil Kumar, Abhishek Kumar Indian Journal of Engineering and Materials Sciences 29 (DOI: 10.56042/ijems ... 2022
58. Influence of Casting Moulds on the Tensile and Corrosion Characteristics of Palm Kernel Shell Ash Reinforced Al6063-SiC Composite OO Ajide, TO Dada, N Idusuyi, FA Musa, OA Aogo, AS Adebayo, N Kumar Proceedings of Fifth International Conference on Inventive Material Science ...2022
59. Nikunj Goyal, Ravi Panwar, Dielectric characterization of electromagnetic mixing model assisted optimization derived heterogeneous composites for stealth technology, *IEEE Transactions on Dielectrics and Electrical Insulation*, 2022, Accepted.
60. R. Yadav, R. Panwar**,** Effective medium approximation fused optimization strategy derived new kind of honeycomb microwave absorbing structure, *IEEE Transactions on Magnetics*, 2022, Early Access.

Proceedings of International Conferences

1. Hissariya R., and Mishra S. K. (2011) Antisites driven magnetic transition study in La_2NiMnO_6, J. Phys.: Conf. Ser. 2070 012060.
2. Ojha P. K., and Mishra S. K. (2021) Synthesis & characterization of nanostructure VO_2 thin films, J. Phys.: Conf. Ser. 2070 012098.
3. O. O. Ajide; T. O. Dada; N. Idusuyi; F. A. Musa; O. A Aogo; A. S. Adebayo; **N. Kumar**. Influence of Casting Moulds on the Tensile and Corrosion Characteristics of Palm Kernel Shell Ash Reinforced Al6063-SiC Composite. **Proceedings of Fifth International Conference on Inventive Material Science Applications. ICIMA 2022**
4. Anand Sharma and Bhola Nath Pal, Sol-gel derived high performance low-voltage thin film transistor, Materials Today: Proceedings, ***Materials Today: Proceedings*** 2022, 48, 573–575

Other activities

International collaboration/achievements by the Department/School:

- Kyushu Inst. of Tech, (Japan)
- Univ. of Girona (Spain)
- KAIST (S. Korea)
- Univ. Appl. Sci. (Russelsheim, Germany)
- Universität Mainz (Germany)
- Max Planck Institute for Chemical Physics of Solids, Dresden (Germany)
- Institute of Laue Langevin , Grenoble (France)
- Technical University of Munich (Germany)
- Max Planck Institute for Iron Research, Düsseldorf (Germany)
- Technical University Dresden (Germany)
- IMEM-CNR, Parma (Italy)
- Institute of Physics, Praha (Czech Republic)
- European Synchrotron Radiation Facility, Grenoble (France)
- Ming Chi University of Technology (Taiwan)

Foreign Faculty Visits in the Department/School/School

1. Prof. Takaaki Manaka Dept. of Electrical & Electronics Engineering Tokyo Institute of Technology, Japan
2. Prof. Shyam S. Pandey Dept. of Biological Functions & Systems, Kyushu Institute of Technology, Japan

Key Instruments:

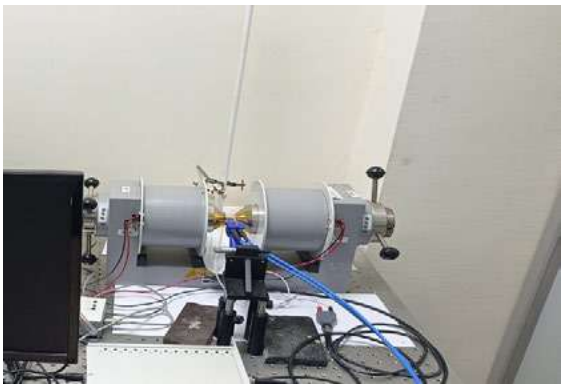

Figure 1. FMR set up. Operation possible for thin films samples only at room temperature. Exploration of magnetization relaxation dynamics is key objective of this set using till 17 GHz frequency excitation.

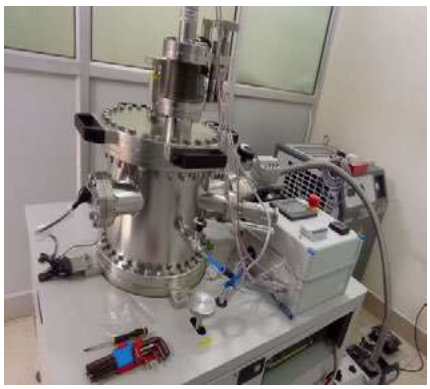

Figure 2. DC-magnetron sputtering units with four different targets and one magnetron source.

21.Department of Chemistry

Full Name of Department: Chemistry, IIT(BHU)

Year of Establishment: 1985

Head of the Department: Prof. Yogesh Chandra Sharma (w.e.f. 09.08.2021)

Brief Introduction of the Department/School:

The Department of Chemistry, IIT(BHU), previously known as Department of Applied Chemistry (Institute of Technology), was established in the year of 1985. Earlier this Department was functioning as a Section in the School of Basic Sciences in Banaras Hindu University-Varanasi. This Department currently constitutes 20 faculty members including 06 Professors, 04 Associate Professors and 10 Assistant Professors. The prime responsibility of the department is to organize the teaching of chemistry courses in M.Sc, Ph.D, B. Tech and integrated M. Tech programs. In addition, this department is also providing an excellent research platform to the students in various thrust areas of chemistry.

The Department of Chemistry offers two-year M.Sc and five-year Dual Degree M. Tech program in Industrial Chemistry and Ph. D programs in Organic, Inorganic, Physical and Analytical chemistry. More than 125 Ph. D's have been awarded from this department and about 50 students are currently pursuing their research. Research programs in the department have been supported by DST, CSIR, BRNS, UGC and AICTE etc. The department has received 85 lakhs from DST-FIST for the establishment of research and teaching facilities. The Central Facilities Instrumentation Lab. of the department are presently equipped with sophisticated instruments including AAS, LC-MS & GC-MS, UV-Vis spectrophotometers, FTIR, and powder-XRD, AFM, Table Top NMR, DLS (Particle size analyser), Vertical Autoclave, Thermo Gravimetric Analyzer System (TGA 4000), Bomb Calorimeter/Digital Bomb Calorimeter (SHI-218) etc.

Major areas of Research

Nanoparticles for adsorption and catalytic applications; Composite materials Organic synthesis, Carbohydrate chemistry; Photocatalytic degradation, Corrosion inhibitors, Anti-wear/extreme pressure lubricant additives, Sensors, Energy materials, Hydrogen evolution, Carbon dioxide reduction, Energy conversion, Battery, Drug design, Organometallic chemistry, Bioinorganic chemistry, Bioorganic chemistry, Theoretical and kinetics aspects of reactions, etc.

Area of the Department (in square meters): 503 square meter (Total Plinth Area)

Infrastructure

Sl. No.	Particulars	Number
1	No. of Classrooms	03
2	No. of Lecture Halls	01
3	No. of Laboratories	03
4	No. of Computers available for students in the Department	10

Students on Roll *(From 1st April 2022 to 31st March 2023) (Please give No. of students only in respective years)*

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & Above
1	Dual Degree	20	19	17	12	11
2	M.Sc.	24	22	NA	NA	NA
3	Ph. D (Under Institute Fellowship)	(T.A. Fellowships: 18)				
4	Ph. D (Under Project Fellowship)	Project: BRNS:01 DST-Inspire: 05 CSIR: 08 UGC: 12 Total=26				
5	Ph. D (Under Sponsored Category)	Nil				

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Conference/Seminar/ Symposia/Workshop	Date & Venue	Financial Assistance From
ÌNDIA					
1	Shweta Singh	18051003	RSC-CFOS 2023	04th Dec.2022, IIT Roorkee	IIT BHU
2	Arti Saoj	18051005	International Conference on Physical Science and Technology (ICPST-2022) (Virtual)	21st - 22nd May 2022 and Institute For Engineering Research and Publication (IFERP)	NA
3	Arti Saroj	18051005	International Conference On "Emerging Materials for Sustainable Development (EMSD)" (Virtual)	10th - 11th October 2022 and CSIR-CSIO, Chandigarh	NA
4	Arti Saroj	18051005	National Conference on Indian Knowledge system, Organised by IKS Centre IIT(BHU)	28th Feb-1st Mar 2023	NA
5	Vishnu Shankar Rai	18051507	ASEM 2023	16th to 18th March 2023 National Conference, B.H.U., Varanasi	Self
6	Anshu Shrivastava	19051014	SEFCO 2022	26th to 27th Aug. 2022, CSIR-IIP, Dehradun	Fellowship contingency
7	Anshu Shrivastava	19051014	DST-STUTI	15th to 21st Sep. 2022, SMIT, Sikkim	DST
8	Nivedita Singh	19051501	MetWaste 2023	27th to 28th Feb. 2023, IIT BHU	Self
9	Atul Kumar Tiwari	19051502	A hands on Training Program on Biological Electron Microscopy	29th Aug. to 04th Sept. 2022 AIIMS, New Delhi	DST, India
10	Atul Kumar Tiwari	19051502	International Conference on Emerging Trends In Microbiology	28th Feb. to 01st March 2023 Department of Botany, M.L.K. PG Collage, Balrampur, UP, India	Self
11	Uttam Kumar	20051504	ISMC 2022	7th to 11th Dec. 2022, BARC, Mumbai.	Project
12	Uttam Kumar	20051504	SEFCO 2022	23rd to 25th Aug. 2022, CSIR-IIP, Dehradun.	Project
13	Uttam Kumar	20051504	4 minutes research pitch	04th April 2022, IIS, Jaipur.	Self
14	Uttam Kumar	20051504	MetWaste 2023	27th to 28th Feb. 2023, IIT BHU	Self
15	Uttam Kumar	20051504	DST-STUTI	15th to 21st Sept. 2022, SMIT, Sikkim	DST
16	Nitin Kumar	21051004	CFOS-2022	01st to 04th Dec.2022 IIT Roorkee	R&D IIT BHU, Varanasi, U.P
17	Mahesheswari Yadav	22051004	MetWaste 2023	27th to 28th Feb. 2023, IIT BHU	SELF
ABROAD					
1	Aman Govind Soni	20054002	Singapore Asia Symposium (Online)	04th -05th August 2022	AMGEN

Names of students/scholars who got prizes and awards outside the Institute *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1	Arti Saroj	18051005	Best Research paper	21st and 22nd May 2022, Institute For Engineering Research and Publication (IFERP)	IFERP
2	Uttam Kumar	20051504	Best poster presentation	7th to 11th Dec. 2022 BARC, Mumbai	BARC, Mumbai

Names of Students/Scholars who went for foreign Internship *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of the Organization	Place of Internship	Country	Duration
1	Sangeeta Mishra	18053011	Virtu Financial	Virtu Financial, Singapore	Singapore	09th May 2022 to 9th July 2022
2	Aman Govind Soni	20054002	AMGEN	Kyoto University	Japan	07th June to 23rd July 2022

Faculty & their Activity

Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
PROFESSORS			
1	Prof. P. C. Pandey, M. Sc., Ph.D., Empl. ID. 12106	1986	Sensors Technology, bio electrochemistry, Organically modified silicate based Nanomaterial and opt electrochemistry
2	Prof. S. H. Hasan, M. Sc., Ph., Empl. ID. 13674	1989	Nanomaterials, Nuclear Materials, Water Remediation
3	Prof. V. Srivastava, M. Sc., Ph.D., Empl. ID. 17040	1985	Synthetic Organic and Green Chemistry
4	Prof. Y. C. Sharma, M. Sc., Ph.D. and D.Sc, Empl. ID. 17326	1984-1991	Water Pollution Control; Adsorption and Diffusion; Catalysis; Renewable Energy; Biodiesel Production and Characterization
5	Prof. Dhanesh Tiwary M. Sc., Ph.D., Empl. ID. 17328	1992	Bioremediation, composites for photoderadation, Development of surface functionalized iron oxide and mesoporous silica
6	Prof. K. D. Mandal, M.Sc., Ph.D., Empl. ID 17327	1989	Electro -Ceramics, Nano-materials, Materials Chemistry, Solid State Chemistry
ASSOCIATE PROFESSORS			
1	Dr. Sundaram Singh, M. Sc., Ph.D., Empl. ID. 18364	1994-1999	Synthetic Organic Chemistry, Microwave Assisted Organic Synthesis
2	Dr. Indrajit Sinha, M. Sc., Ph.D. and Postdoc, Empl. ID. 17329	2000	Chemistry of nanomaterials and Computational Chemistry
3	Dr. Jeyakumar Kandasamy, M. Sc., Ph.D. and Postdoc, Empl. ID. 19849	31 July 2008	Organic Synthesis, Carbohydrate Chemistry
4	Dr. Manisha Malviya M. Sc., Ph.D, Empl. ID. 18365	2008	Synthesis of Metal oxide nanoparticles, renewable energy, photo electrochemistry, bio electrochemistry, alkaline fuel cell
ASSISTANT PROFESSORS			
1	Dr. Asha Gupta, M. Sc., Ph.D. and Postdoc, Empl. ID. 50169	03.12.2010	Electrochemistry, Physical Chemistry, Catalysis
2	Dr. Arindam Indra M. Sc., Ph.D. and Postdoc, Empl. ID. 50172	18th August 2012	Artificial photosynthesis, Bioinspired energy conversion, Metal Organic Framework (MOF) derived catalysts for the water splitting, Photocatalytic organic reaction, Catalysis, Energy Conversion
3	Dr. V. Ramanathan, M. Sc., Ph.D., Empl. ID. 50208	May 2009	Laser Spectroscopy, Raman Spectroscopy and Imaging, Computational chemistry
4	Dr. Pandeeswar Makam M. Sc., Ph.D. and Postdoc, Empl. ID. 50259	29th Sept. 2011	Bio-inorganic chemistry, Supramolecular chemistry and Bio-organic chemistry
5	Dr. Samya Banerjee M. Sc., Ph.D. and Postdoc, Empl. ID. 50262	20th June 2015	Bio-inorganic, Organometallic chemistry, Co-ordination chemistry
6	Dr. Rosy, M. Sc., Ph.D. and Postdoc, Empl. ID. 50266	14th Feb. 2017	Electrochemistry, Electroanalytical Chemistry, Volta metric Sensors, Electrochemical Energy Storage, Atomic Layer Deposition, Nano materials

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD Degree	Major Areas of Specialization
7	Dr. Saravanakumar Elangovan, M. Sc., Ph. D and Postdoc, Empl. ID.50312	19th Jan. 2017	Organometallic Chemistry, Homogeneous Catalysis, Biomass Conversions, Green Chemistry
8	Dr. Prabhat Tripathi, M. Sc., Ph. D and Postdoc, Empl. ID.50319	01st Sept. 2018	Nanoscale Biophysics, Protein folding dynamics and Translocation, Solid-state nanopore, Physical Chemistry
9	Dr. Bhuvaneshwari B, M.Sc., M.Phil., Ph.D, Empl. ID.50324	Dec. 2013	Design of Materials for Energy (Electrocatalyst for Fuel Cell and Electrolyser), Environment (Electrochemical Reduction of Nitrate) and Battery Recycling, Electro-organic Synthesis (E-Shuttle catalysis).
10	Dr. Rakesh Kumar Saunthwal, M.Sc., Ph.D and Postdoc, Empl. ID.50330	26th Feb. 2017	Synthetic Organic Chemistry: Asymmetric Synthesis, Catalysis and Reaction Methodology

Technical and Non-Teaching Staff

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
1	Mr. Param Hans Ram, B.Sc.(Hons) & LLB	Technical Superintendent	15.12.2008
2	Mr. Prakash Narayan Pandey, P ost Graduate	Technical Superintendent	22.12.1990
3	Mr. Sundip Kumar, Intermediate (Science)	Technical Superintendent	26.02.2007
4	Mr. Rajesh Kumar, Intermediate (Science)	Jr.Technical Superintendent	06.08.2008
5	Mr. Jagdish Kumar, B.Sc.(Hons)	Jr.Technical Superintendent	06.08.2008
6	Mr. Pooran Singh Rana, Intermediate (Science)	Jr.Technical Superintendent	25.07.2014
7	Mr. Chhote Lal, High School	Jr.Technical Superintendent	25.07.2014
8	Mr. Jibrial Ali,	Sr. Technician	03.09.2012
9	Ms. Anshu Kaushal, M.Sc. (Computer Science)	Sr. Assistant	20.05.2017
10	Mr. Rambish Gond, M.A (Sociology), MBA	Sr. Assistant	07.06.2017
11	Mr. Lakhan Chand Jana, (9th Pass)	Ex. Peon	24.06.2000
12	Mr. Amit Anand Singh, B.A. (Hons), B. Lib. I. Sc. & M. Lib. I. Sc.	Care Taker Cum-Clerk	02.08.2017
13	Mr. Niraj Kumar, Intermediate	MTS	19.01.2017

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

(From 1st April 2022 to 31st March 2023)

Sl. No.	Coordinator	Title	Period
1	Dr. Asha Gupta (Role: Co-convener)	The International Conference on Beyond Fossil Fuels: **The future of alternative energy technologies**	July 23rd -25th 2022, Venue: Complex, I. Sc. (BHU), Varanasi, Uttar Pradesh, India. Pin-Code: 221005.
2	V. Ramanathan	DHARA-National Conference on Bharatiya Rasayanashastra	Feb. 13th -14th 2023
3	V. Ramanathan	National Conference on Indian Knowledge Systems	Feb. 28th to March 01st 2023

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1	Dr. Jeyakumar Kandasamy	Brainstorming Meeting On Chemistry At The Interface (BSCI-2022)	Dec. 26th to 27th 2022, Department of Chemistry, Banaras Hindu Universit.
2	Dr. Jeyakumar Kandasamy	Emerging Trends and Challenges in Advanced Materials (ETCAM)	Feb. 27th to 28th 2023, Saveetha Institute of Medical And Technical Sciences (SIMATS), Chennai.
2	Dr. Jeyakumar Kandasamy	NOST-XXII	Feb. 17th to 20th 2023, IIT Bomaby
4	Dr. Asha Gupta	ChemCatCon 2.0 A Chemical Catalysis Conference	May 14th - 16th 2022, IIT-Gandhinagar Campus, IIT, Palaj, Gujarat 382355.
5	Dr. Samya Banerjee	Metal Complexes for Biomedical Applications (MCBA2022)	Oct. 24th 2022, ChemBioChem Virtual Symposium.
6	Dr. Rosy	International Conference on Electrochemistry in Industry, Health and Environment	Feb. 7th to 11th 2023, Mumbai, India**.**
7	Dr. Rosy	National Seminar on Electrochemical Energy Conversion & Storage-2022	Sept. 28th to 9th 2022, DRDO-NSTL, Vishakhapatnam, India.
8	Dr. Rosy	International Conference on "Future of Energy with Science and Technology (FEST 2022)	Nov. 29th to 30th 2022, Hotel Crowne Plaza, New Delhi.
9	Dr. Saravanakumar Elangovan	MTIC	Dec. 2022 & Banaras Hindu University
10	Dr. Arindam Indra	Modern Trends in Inorganic Chemistry	Dec.15th to 17th 2022

Special lectures delivered by faculty members in other institutions *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1	Prof. K. D. Mandal	Importance of Science in Daily life	Siddhartha University Kapilvastu U.P.	28.02.2023
2	Dr.Jeyakumar Kandasamy	Invited Lecture	NIT Warangal	24.03.2023
3	Dr. V. Ramanathan	A Fragrant Story of Self-Reliance: The History of Self Sandalwood	University of Mumbai	29.07.2022
4	Dr. V. Ramanathan	Indian Contribution to Chemistry & Introduction to the Indian National Young Academy of Sciences	Central University of Arunachal Pradesh	12.10.2022
5	Dr. V. Ramanathan	Surface enhanced Raman spectroscopy with novel bismuth substrates	Central University of Jammu	11.11.2022
6	Dr. V. Ramanathan	'Raman and Surface Enhanced Raman spectroscopy for non- invasive detection: from molecules to disease diagnosis'	DRDE, Gwalior	16.11.2022
7	Dr. V. Ramanathan	Indian scientific heritage in chemistry, materials and metallurgy: An overview.	Central University of Punjab, Bathinda	19.11.2022
8	Dr. V. Ramanathan	Indian Knowledge Systems	Guru Ghasidas Vishvavidyalay (Central University of Chattisgarh)	03.02.2023
9	Dr. V. Ramanathan	Indian scientific heritage in metallurgy	IIT Indore	20.03.2023

Visits abroad by faculty members *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Country Visited	Date of Leaving India	Date of Returning India	Purpose of Visit	Funding from
1	Dr. Samya Banerjee	UK	08.06.2022	14.07.2022	Research	Royal Society, UK, (AL/211023)
2	Dr. Rosy	Israel	03.07.2022	22.07.2022	Research as Visiting Professor	CPDA and Bar-Ilan University, Israel

Honours and awards *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Award
1	Dr. Samya Banerjee	2022 Dalton Division Horizon Prize by the Royal Society of Chemistry
2	Dr. Rakesh Kumar Saunthawal	2022 Best Productivity Award (As Judged by Continuous, Superior Performance in Solving Difficult Problems and Advancing Research Projects- Denmark Group)

Fellowships of academic and professional societies *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Fellowship
1	Dr. Samya Banerjee	Newton International Fellowships Alumni 2022 by the Royal Society, UK

Books, monographs authored/co-authored *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Author/ Co- Author	Title	Publisher
1	C.B. Verma, **Vandana Srivastava,** T.W. Quadri, C.M. Hussain, E.E. Ebenso (Eds.), ,	Smart Anticorrosive Materials Trends and Opportunities	*Elsevier*, 2023: DOI: https://doi.org/10.1016/B978-0-323-95158-6.00016-3
2	S. Yadav, D. Singh Chauhan, **Vandana Srivastava,**	Book Chapter: Anti-coronavirus and antiviral activity of medicinal plants, in **Phytochemicals in Medicinal Plants,**	*De Gruyter*, pp. 269-290. 2023 ISBN: 9783110791891. DOI: https://doi.org/10.1515/9783110791891-012
3	D. S. Chauhan, **Vandana Srivastava,** Y. Lin, M.A. Quraishi,	Book Chapter: Polymers as Corrosion Inhibitors for Sweet Environment, in: Polymeric Corrosion Inhibitors for Greening the Chemical and Petrochemical Industry,	*Wiley-VCH GmbH*, 2022, pp. 193-220. ISBN: 9783527349920. DOI: https://doi.org/10.1002/9783527835621.ch9
4	Dwivedi P, Narvi S S, Tewari R P, **Tiwary D**	Nanobiotechnology for Safe Bioactive Nanobiomaterials	CRC Press Book ISBN:9781003217343
5	Ojha A, Mishra A and **Tiwary D**	Chpter-10: Nanomaterials in sustainable industrial applications in Environmental Sustainability and Industries Technologies for Solid Waste, Wastewater, and Air Treatment , pp 239-257 (2022)	Elsevier
6	Ojha A, Mishra A and **Tiwary D**	Chpter-4: Microplastic in the Aquatic Ecosystem and Human Health Implications in Plastic and Microplastic in the Environment: Management and Health Risks pp 49-62 (2022)	John Wiley & Sons Ltd
7	Amisha Soni, Manisha Malviya and **Dhanesh Tiwary**	CHAPTER 10 Carbon quantum dots as corrosion inhibitors 187-203	Smart Anticorrosive Materials Trends and Opportunities, Elsevier publication
8	Arindam Indra	Hydrogen Production Technologies From Renewable Sources	Elsevier

Editorial boards of journals *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1	Prof. Prem Chandra Pandey	Associate Editor	Frontier in Chemistry
2	Prof. Prem Chandra Pandey	Guest Editor	Materials
3	Dr. Arindam Indra	Review Editor	Frontiers in Fuels
4	Dr. Arindam Indra	Special Issue Guest Editor	Materials

Design and Development Activities

New facilities added *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Centre for Indian Knowledge Systems	INR 40 lakhs
2	Fume hood	INR 2.5 lakhs
3	Schlenk line	INR 2.2 lakhs
4	Weighing Balance	INR 1.75 lakhs
5	Nitrogen Container	INR 0.5 lakhs
6	Chemical Photoreactor	INR 6.5 lakhs
7	Glove-Box for fabricating and Testing Li/Na-ion Batteries/Coin Cells	INR 28 lakhs
8	Flame-t-xr1; spectroelectrochemical set up + ocean optics	8,55,000/-

Patents filed *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title of Patent
1	Prof. Prem Chandra Pandey	Process for Prussian Blue Nanoparticles Mediated Sensing of Cesium Ions as A Function of Magnetic Moment, Indian Patent Application No. 202211035260
2	Prof. Prem Chandra Pandey	A Process Makingporous Nanostructured Silica with Option of Tuning Carbon, Nitrogen, Palladium, Cobalt/Nickel in Desired Ratio for Potential Catalytic Applications with Example in Water Splitting, Indian Patent Application No. 202211058096
3	Prof. Prem Chandra Pandey	A Process for Making Porous Nanostructured Silicate Encapsulated Palladium-Cobalt-Nickel Trimetallic Nanoparticles for Green Hydrogen Production, Indian Patent 202311002062
4	Dr. Rakesh Kumar Saunthwal	Novel High Yielding, Economical, Eco-Friendly and Selective Method for The Preparation of Deuterated Alkyl Arenes" Akhilesh K. Verma, Monika Patel, Rakesh Kumar Saunthwal (IN201711013462.) (https://patentscope.wipo.int/search/en/detail.jsf?docId=IN232575846&_cid=P21-KD4HST-30384-1)

Research and Consultancy

Sponsored research projects *(Ongoing only) Note: Sponsored project name is to be given only in case a faculty member is Project In charge*

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1	Utilization of low grade coal for production of high quality graphene and carbon nano-particles for energy storage	2023-2025	Central Mine Planning and Design Institute Ltd	86.67	Dr. Yogesh Chandra Sharma
2	Studies on development of low global warming potential (GWP) compounds and their blends as alternatives for common refrigerants	2023-2026	Ministry of Environment, Forest and Climate Change, GOI	50.0	Dr. Yogesh Chandra Sharma
3	Development of magnetically recyclable visible light photocatalysts for H_2O_2 production.	2019-2023	BRNS	34.05	Dr. Indrajit Sinha
4	Development of Metal-Organic Framework Derived Single-Atom Catalysts for Industrial Scale Water Electrolysis and Selective Synthesis of Value-Added Products		DST-DAAD	Not released yet	Dr. Arindam Indrra
5	IKS@IITBHU	May 2022-April 2024	AICTE, MoE	40	Dr. V. Ramanathan
6	Exploration of Mineral acids in ancient Indian texts	May 2022-April 2024	AICTE, MoE	10	Dr. V. Ramanathan
7	""New "metabolite-amyloids" hypothesis for the origin of life"	2022-2024	Science & Engineering Research Board (SERB)	~30.00	Dr.Pandeeswar Makam

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
8	Development of Photo-activated Transfer Hydrogenation Catalysis for Next Generation Cancer Therapy	2021-2026	DST-Inspire Faculty Fellowship Government of India, (DST/ INSPIRE/04/2019/000492)	INR 35 Lakhs	Dr. Samya Banerjee
9	Bioactivation of Cyclopentadienyl Rings in Organometallic Complexes	2021-2023	Royal Society, UK, (AL/211023)	INR 10.6 Lakhs	Dr. Samya Banerjee
10	Development of Stable and Tethered Os (II)-based Catalysts for Reductive Stress Mediated Photo-catalytic Anticancer Activity	2022-2024	Science and Engineering Research Board (SERB), (SRG/2022/000030)	INR 29.23 Lakhs	Dr. Samya Banerjee
11	Proof of concept of developing in-cell reductive stress by Ir(III) transfer hydrogenation catalysts	2023-2026	Board of Research in Nuclear Sciences (BRNS), (54/14/09/2022-BRNS-R)	INR 23 Lakhs	Dr. Samya Banerjee
12	Design, Function, and Utilization of Multifunctional Surface Coatings for Next-Generation Lithium-ion Batteries	Dec 2021-2023	DST-SERB	33 Lakhs	Dr Rosy
13	Establishment of nanopore biophysics laboratory to measure the structural fluctuation of single biological molecules	2023-2024	IIT (BHU)	10 lakhs	Dr. Prabhat Tripathi

Research Publications *(From 1st April 2022 to 31st March 2023)*

1	Total Number of Papers Published in Refereed National Journals	01
2	Total Number of Papers Published in Refereed International Journals	120
3	Total Number of Papers Presented in International Conferences	07

Refereed International Journals *(From 1st April 2022 to 31st March 2023)*

1. **Atul Kumar Tiwari, Munesh Kumar Gupta, Govind Pandey, Shivangi Pandey, Prem C. Pandey,** AmineFunctionalized Silver Nanoparticles: A Potential AntiviralCoating Material with Trap and Kill Efficiency to Combat Viral Dissemination (COVID19), Biomedical Materials & Devices https://doi.org/10.1007/s44174-022-00044-x.

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103. Kanchan Yadav, Shubham Garg, Ankush Kumar Singh, Sanjay Singh, Avanish Singh Parmar, **Rosy***, Protein nano Dots conjugated AuNP, Poly-Lysine biointerface for the selective voltammetric estimation of Melatonin in pharmaceutical and food samples, **Microchemical Journal** 179, 2022, 107563 (**Impact Factor**: 5.304; ISSN: 0026-265X).

104. Tripathi, Prabhat, Behzad Mehrafrooz, Aleksei Aksimentiev, Sophie E. Jackson, and Meni Wanunu. (2023) Marcus-like translocation kinetics of a knotted protein. *Biophysical journal*122, no. 3: 309a.

105. Tripathi, Prabhat, and Meni Wanunu. Track: Structure and Dynamics Perspectives on Enzyme Function Measuring the free energy landscape of individual proteins using nanopores. (2023) *PROTEIN SCIENCE*. Vol. 32. 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY.

106. Prabhat Tripathi, Arash Firouzbakht, Martin Gruebele, and Meni Wanunu. (2022) Threading Single Proteins through Pores to Compare Their Energy Landscapes**.** *Proceedings of the National Academy of Sciences, USA*, 119 (39) e2202779119.

107. Prabhat Tripathi, Arash Firouzbakht, Martin Gruebele, and Meni Wanunu. (2022) Direct observation of single-protein transition state passage by nanopore ionic current jumps." *The Journal of Physical Chemistry Letters*, 13, 25, 5918–5924.

108. Prabhat Tripathi, Morgan Chandler, Christopher Michael Maffeo, Ali Fallahi, Amr Makhamreh, Justin Halman, Aleksei Aksimentiev, Kirill Afonin, and Meni Wanunu. (2022) Discrimination of RNA Fiber Structures Using Solid-State Nanopores." *Nanoscale,14, 6866-6875*.

109. Development and Validation of a Chemoinformatic Workflow for Predicting Reaction Yield for Pd-Catalyzed C-N Couplings with Substrate Generalizability"N. Ian Rinehart, **Rakesh K. Saunthwal**, Joël Wellauer, Andrew F. Zahrt, Lukas Schlemper, Alexander S. Shved, Raphael Bigler, Serena Fantasia, Scott E. Denmark, ChemRxiv **2023** (10.26434/chemrxiv-2022-hspwv-v2).

110. Enantioselective intramolecular α-arylation of benzylamine derivatives: synthesis of a precursor to levocetirizine **Rakesh K. Saunthwal,** Maria Schwarz, Rajendra K. Mallick, William Terry-Wright, Jonathan Clayden, *Angew. Chem. Int. Ed* ***2023****, e202216758 (*https://doi.org/10.1002/anie.202216758).

111. "Expedient Access to Polyaromatic Biaryls by Unconventional Ag-Catalyzed Cycloaromatization of Alkynylthiophenes and Au-Catalyzed Double C–H Activation" **Rakesh K. Saunthwal**, Kapil Mohan Saini, Nicolas Grimblat, Abhinandan K. Danodia, Sushil Kumar, Vincent Gandon and Akhilesh K. Verma, Org. Lett. **2022**, 24, 5018–5022 (https://doi.org/10.1021/acs.orglett.2c01665).

112. "C(sp^3)-Arylation by Conformationally Accelerated Intramolecular Nucleophilic Aromatic Substitution (SNAr)"; Steven M. Wales, **Rakesh K. Saunthwal,** and Jonathan Clayden, Acc. Chem. Res. **2022**. 55, 1731-1747 (These authors contributed equally to this work) **Most Read article** (https://doi.org/10.1021/acs.accounts.2c00184).

113. "Enantioselective one-carbon ring expansion of aromatic rings by simultaneous formation and chromoselective irradiation of a transient coloured enolate; **Rakesh. K. Saunthwal,** James Mortimer, Andrew Orr-Ewing and Jonathan Clayden, Chem. Sci., **2022**, 13, 2079. (https://doi.org/10.1039/D1SC06684F).

114. Carbon Quantum Dots: Synthesis, Structure, Properties, and Catalytic Applications for Organic Synthesis, Yadav, Pradeep Kumar, Chandra, Subhash, Kumar, Vivek, Kumar, Deepak, **Hasan, Syed Hadi,** 2023, Catalysts 13 (2), 422.

115. Self-assembly of Cu-TMA based semiconducting fibrous metallogels for fabrication of active electronic device with high rectification ratio.Kumar, V., Upadhyay, R.K., Bano, D., (...), Jit, S., **Hadi Hasan, S.,** 2023. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 291, 116359.

116. Yadav, Meena, **Sharma,** Yogesh **Chandra**, Approach to microalgal biodiesel production: Insight review on recent advancements and future outlook, Biofuels, Bioprod. Bioref. 17:242–260 (2023)

117. Jaiswal, Siddhi, Sahani, Shalini and Sharma**, Yogesh Chandra (2022).** Enviro-benign synthesis of glycerol carbonate utilizing bio-waste glycerol over Na-Ti based heterogeneous catalyst: Kinetics and E- metrics studies, J Environmental Chemical Engg, 10, Article No 107485.

118. Pradhan, Geetanjali, Jaiswal, Siddhi, and **Sharma,** Yogesh **Chandra (2022).** Exploring the promotional effect of transition metals (Cr and V) on the catalytic activity of MgO for glycerol carbonate synthesis. Molecular Catalysis 526, Article No. 112332.

119. Gupta, Pankaj Kumar, Mustafa, H.I., Singh, Bhaskar and Sharma, **Yogesh Chandra (2022),** Bioremediation of petroleum contaminated soil-water resources using neat biodiesel: A review, Sustainable Energy Technologies and Assessments, 53, Part D, @022, Article no 102703.

120. Singh, Veena, Chavan, Supriya B. and **Yogesh C. Sharma,** Experimental Investigation of Engine Performance for 2nd Generation Biodiesel Derived from $Mg_2Zr_5O_{12}$ Catalyst, Energies Vol 53, Article No 102703, 2022.

Refereed National Journal *(From 1st April 2022 to 31st March 2023)*

1. Misra, **V Ramanathan** (2022) Belousov–Zhabotinsky reaction: an open-source approach. Proceedings of the Indian National Science Academy 88 (3), 243-249.

Proceedings of International Conferences *(From 1st April 2020 to 31st March 2021)*

1. Vartika Verma, **Yogesh Chandra Sharma,** Synthesis and Characterization of Cerium-modified Biochar: A Potential Material for Defluoridation. In "Emergent Materials for Energy and Environment (EMEE-2023)" **Poster presentation title: IIT Roorkee,** March 4, 2023 - March 05, 2023.

2. Archana Pandey, **Yogesh Chandra Sharma,** Ajay S Kalamdhad, Recent advances in the use of nanocelluloses as bio-based adsorbent for heavy metal ions removal, (Poster). In: "Emergent Materials for Energy and Environment (EMEE-2023)" IIT-Roorkee, March 04-05, 2023.

3. **Sunita Maurya**, **Yogesh Chandra Sharma,** "Synthesis of solketal fuel additive using bio-diesel byproduct glycerol through SO_4^{2-} /ZrO_2^2 - Al_3 catalyst" (Poster), At, "Emergent Materials for Energy and Environment (EMEE-2023)" IIT-Roorkee, March 4, 2023 - March 05, 2023.

4. Neeraj Kumar Verma, **Yogesh Chandra Sharma**, Mesoporous activated carbon supported γ mesoporous alumina synthesis and removal of toxics dyes from wastewater medium. In International Conference on Nanotechnology: Opportunities & Challenges, November 28-30, 2022 (online).

5. Kulveer Singh, Chitra Singh, and **Manisha Malviya.** An Electrochemical Ascorbic Acid Sensor Constructed by Ferrocene Palladium Nanoparticles Modified Graphite. Recent Advances in Nanotechnology: Select Proceedings of ICNOC 2022, Springer Proceedings in Materials.

6. **Tripathi, Prabhat,** Behzad Mehrafrooz, Aleksei Aksimentiev, Sophie E. Jackson, and Meni Wanunu. 2023 "Marcus-like translocation kinetics of a knotted protein." *Biophysical journal*122, no. 3, Annual Meeting Biophysical Society, Feb 2023: 309a.
7. **Tripathi, Prabhat,** and Meni Wanunu. 2023 "Track: Structure and Dynamics Perspectives on Enzyme Function Measuring the free energy landscape of individual proteins using nanopores." *PROTEIN SCIENCE*. Vol. 32. 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY, Jan 2023.

Any other Information

➢ **Dr. Yogesh Chandra Sharma (Prof. & Head)**

1. Attended selection committee meeting at IIT Patna,
2. Attended a meeting of Senate of IIT Patna, Aug., 01, 2022
3. Attended a meeting of Board of Studies in Chemistry, BBAU, Lucknow.

Key Instruments:

Figure. 1 UV-Visible spectrophotometer (Model: Cary 60, Agilent).

Figure. 2 UV-Vis diffuse reflectance spectrophotometer (Model: UV-2600, Shimadzu)

22.Department of Mathematical Sciences

Full Name of Department: Department of Mathematical Sciences

Year of Establishment: 1985

Head of the Department: Prof. Sanjay Kumar Pandey w.e.f. 01.01.2022

Brief introduction of the Department/School: Department of Mathematical Sciences began its journey in the year 1968 as a section to assist engineering departments of the institute, which in the true sense, pioneered engineering education in the nation. It soon acquired the status of a full-fledged department in 1985. The department caters to the needs of the undergraduate as well as post-graduate students of the Institute. It runs a five years Integrated Dual Degree program in Mathematics & Computing since 2005. This is one of the most sought courses offered by the institute. The top jobs in terms of the annual package by reputed MNCs are offered to the students for this course which indicates the popularity and usefulness of the course for the industrial growth in general and software industry, in particular, under present circumstances. The department aims to emphasize research in analysis, algebra, topology, mathematical modelling, functional analysis, numerical optimization**,** harmonic analysis, fracture mechanics, solid mechanics, fluid dynamics, heat and mass transfer, biomathematics, digital image processing, graph theory, parallel computing, queuing theory and many more fields of applied nature. The department's contribution is enormous in terms of numerous research papers published in reputed international and national journals over the past few decades. Computing is the glamour of the department. It annexes several dimensions in terms of new and growing areas of research and further facilitates the simulation of mathematical models constructed for interdisciplinary areas.

AREAS:

Major areas of Research: Fluid Dynamics: (incompressible fluids), Fluid Dynamics: Gas Dynamics, Topology, Functional Analysis, Solid Mechanics, Harmonic Analysis, Algebra (ring and modules), Heat & Mass Transfer, Numerical Analysis, Operations research, Optimization, Graph Theory, Number Theory, Differential Geometry, Differential Equation, Algebraic Geometry, Complex Geometry, Applied Probability

Area of the Department (in square meters): 1. New Building = 1080 Sq-meter,

2. Old Building = 585 Sq-meter

Infrastructure

Sl. No.	Particulars	Number
1	No. of classrooms	04
2	No. of lecture halls	02
3	No. of laboratory	02
4	No. of computers available for students in the Department(Computer lab)	80

Students on Roll *(From 1st April 2022 to 31st March 2023)*

(Please give the number of students only, under the respective years)

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1	Dual Degree	57	59	58	48	23
2	M. Tech/ M. Pharm	NA	-	-	-	-
3	Ph. D (Under Institute Fellowship)	02	00	03	09	18
4	Ph. D (Under Project Fellowship)	-	-	-	01	-
5	Ph. D (Under Sponsored Category) CSIR/UGC/DST	11	11	12	26	42

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of student	Roll no.	Conference/Seminar/Symposia/ Workshop	Date & venue	Financial assistance from
Ìndia					
1	Anshika	19121019	International Symposium (ISOGTDM23)	01-03 Feb 2023, ISI Delhi	IIT BHU, Varanasi
2	Anshika	19121019	International Conference (IGCM 2023)	27-30 Mar 2023, IISC Bangalore	IIT BHU, Varanasi
3	Anshika	19121019	International Conference on Dynamical Systems, Control and their Applications	01-03 July 2022 IIT Roorkee	Online Self
4	Krishan Kumar	19121001	International Symposium (ISOGTDM23)	01-03 Feb 2023, ISI Delhi	IIT BHU, Varanasi
5	Sapna Baluni	19121010	International Conference	08-10 Dec 2022, Calcutta Mathematical Society Kolkata	IIT BHU, Varanasi
6	Nand Kishor	20121507	International Symposium (ISOGTDM23)	01-03 Feb 2023, ISI Delhi	IIT BHU, Varanasi
7	Nand Kishor	20121507	International Conference (IGCM 2023)	27-30 Mar 2023, IISC Bangalore	IIT BHU, Varanasi
8	Ankita Sharma	19121004	Indian women and Mathematics	27-29 Dec 2022 , IISER, Pune	IISER, Pune
9	Ankita Sharma	19121004	International Cimpa School on Geometric Structures on Surfaces, Moduli Spaces and Dynamics	12-22, Dec 2022, DST BHU	Self Finance
10	Babita	19121006	International Conference (ICNAAO)	*Dec. 19-22, 2022, IIT(BHU) Varanasi*	IIT BHU, Varanasi
11	Babita	19121006	Workshop	*Feb. 20-25, 2023, NISER Bhubaneswar*	NISER Bhubaneswar
12	Sunil kumar	20121509	International Workshop on Numerical Analysis of Ordinary and Fractional Partial Differential Equations	27-31 Dec, (Online)	Self
13	Sunil kumar	20121509	International Conference(ICFCTAN-23)	27-29 Jun 2023 (online)	Self
14	Sunil kumar	20121509	International conference (ICDECP23)	15-17 June 2023, IIT Mandi	IIT BHU, Varanasi
15	Jayanta Sarkar	20121514	International Conference (ICNAAO)	Dec. 19-22, 2022, IIT(BHU) Varanasi	IIT BHU, Varanasi
16	Arnab Mapui	20121513	workshop (control theory for differential equations)	Nov 28-Dec 10, 2022, IISER Kolkata	IISER Kolkata
17	Chetna biswas	19121018	International conference (ICDSNM-22)	May 20-21, 2022 (online)	Self
18	Smrati Pandey	*20121510*	International Conference on Graphs, Network And Combinatorics	*10-12 January 2023 & Online (Organizer : Ramanujan College , University Of Delhi)*	IIT BHU, Varanasi
19	Chetna Biswas	19121018	Mathematical Analysis & Simulation (ICAMAS - 2022)	08 - 10 December, 2022 , kolkata	IIT BHU, Varanasi
20	Shivaprakasha	21121509	The 37th Annual Conference of the Ramanujan Mathematical Society	*06- 08, Dec. 2022, SSN College of Engineering, Chennai, TN, India*	IIT BHU, Varanasi
21	Shivaprakasha	21121509	88th Annual Conference of The Indian Mathematical Society	*27-30, Dec. 2022, Birla Institute of Technology, Mesra, Jharkhand,*	IIT BHU, Varanasi
22	Shubham Kumar Tiwari	21121506	Workshop on Mathematical Modeling and Dynamical Systems with applications using Mathematica and Matlab	11-18 July, 2022	SERB
23	*Shweta*	*19121009*	*Indian Society of Theoretical and Applied Mechanics*	*14-16 Dec. 2022, IIT MANDI*	SERB

Sl. No.	Name of student	Roll no.	Conference/Seminar/Symposia/ Workshop	Date & venue	Financial assistance from
24	*Pooja Rani*	*19121013*	*International CIMPA school on Geometric structures on surfaces, Moduli spaces and Dynamics*	*12-22 Dec 2022, DST BHU*	SELF
25	*Promod Sharma*	*18121004*	*AIS- Geometric Group Theory, WORKSHOP*	*NEHU, 30/05/2022-11/06/2022*	SELF
26	*Promod Sharma*	*18121004*	*AIS-Representation Theory, WORKSHOP*	*CMI, 20/06/2022-09/07/2022*	SELF
27	*Promod Sharma*	*18121004*	*CIMPA- International CIMPA school on Geometricstructures on surfaces, Moduli spaces and Dynamics WORKSHOP*	*BHU, 12/12/2022-21/12/2022*	SELF
28	*Promod Sharma*	*18121004*	*IWM Annual conference*	*IISER PUNE, 27/12/2022-29/12/2022*	IWM
29	*Promod Sharma*	*18121004*	*International Conference on Algebra, Analysis and Applications*	*MANIPAL INSTITUTE OF TECHNOLOGY, MAHE, 06/01/2023-08/01/2023*	IIT BHU, Varanasi
30	*Animesh Sarkar*	*20121504*	*CIMPA Course on Metric Geometry*	*DST-BHU, Varanasi, 18/04/2022 - 26/04/2022*	Self
31	*Animesh Sarkar*	*20121504*	*Annual Foundation School - II*	*NISER, Bhubaneswar, 20/06/2022 - 16/07/2022*	Self
32	*Animesh Sarkar*	*20121504*	*NCMW - Elliptic Curves, Elliptic Functions and Transcendence*	*HRI, Prayagraj, 24/11/2022 - 03/12/2022*	Self
33	*Animesh Sarkar*	*20121504*	*NCMW - Jacobi Forms*	*IIT Guwahati, 12/12/2022 - 24/12/2022*	Self
34	*Animesh Sarkar*	*20121504*	*Workshop on Number Theory*	*NISER, Bhubaneswar, 20/02/2023 - 25/02/2023*	Self
35	*Mansi Mishra*	*19121002*	*International CIMPA school on Geometric structures on surfaces, Moduli spaces and Dynamics*	*12-22 Dec 2022, DST BHU*	SELF
36	*Lavish Bansal*	*19124019*	*Research Week With Google (Workshop Series)*	*29 Jan 2023 - 31 Jan 2023, Bangalore India*	Google
37	*Pooja Rani*	*19121013*	*Indian Women and Mathematics Annual Conference 2022-23*	*IISER PUNE*	IWM
38	*Mohd Shahvez Alam*	*20121502*	*Annual Foundation School - II*	*NISER, Bhubaneswar, 20/06/2022 - 16/07/2022*	Self
39	*Mohd Shahvez Alam*	*20121502*	*NCMW - Elliptic Curves, Elliptic Functions and Transcendence*	*HRI, Prayagraj, 24/11/2022 - 03/12/2022*	Self
40	*Mohd Shahvez Alam*	*20121502*	*Workshop on Number Theory*	*NISER, Bhubaneswar, 20/02/2023 - 25/02/2023*	Self
41	*Aakansha*	*18121016*	*10th Indo-German Conference on Computational Mathematics (IGCM-2023)*	*IISc Banglore, 27/03/2023 - 30/03/2023*	Self
42	*Pradeep Rai*	*19121005*	*National Workshop on Cryptology (NWC)-2022*	CDOT, New Delhi , 22-24 November 2022	CRSI
43	*Pradeep Rai*	*19121005*	*INDOCRYPT-2022*	TCG-CREST, Bose Institute Kolkata, 11-14 December 2022	IIT BHU, Varanasi
44	*Pradeep Rai*	*19121005*	*International Conference on Algebra, Analysis and Applications*	MIT, MAHE Manipal, 06-08 January 2023	IIT BHU, Varanasi
45	Ritika Singh	19121008	8th International Congress on Computational Mechanics and Simulation	IIT Indore, 09-11 DECEMBER 2022	IIT BHU, Varanasi

Sl. No.	Name of student	Roll no.	Conference/Seminar/Symposia/ Workshop	Date & venue	Financial assistance from
46	Ritika Singh	19121008	88th Annual Conference of the Indian Mathematical Society	BIT Mesra, 27-30 DECEMBER 2022	IIT BHU, Varanasi
47	Arnab Mapui	20121513	AFS-1	NIT Durgapur, 12th Dec 2022-7th Jan 2023	NIT Durgapur
48	Arnab Mapui	20121513	Workshop, Training on Matlab software	IIT(BHU), 6th-10th Feb 2023	Self
49	Arnab Mapui	20121513	International conference on dynamical systems, control and their application	IIT Roorkee, July 01-03, 2022	Self
50	*Priyanka Rajput*	*19121014*	*International Conference on Fractional Calculus: Theory, Applications and Numerics*	*NIT Puducherry, Jan 27-29, 2023 (Online)*	Self
51	*NIKHIL SRIVASTAVA*	*18121007*	*10th Indo-German Conference on Computational Mathematics (IGCM-2023)*	*IISc Banglore, 27/03/2023 - 30/03/2023*	Self
52	*ANKIT PRAJAPATI*	*18121509*	67th Congress of the Indian Society of Theoretical and Applied Mechanics (ISTAM-2022)- an International Conference	*IIT MANDI, 14-16 December 202*	IIT BHU, Varanasi
53	*Jesmina Pervin*	*18121018*	International Conference on Number Theory and Graph Theory (ICNG 2023)	18-20 January 2023, MIT, MAHE, Manipal	IIT BHU, Varanasi
54	*Jesmina Pervin*	*18121018*	Seminar and Research Discussion	21-31 January, Cochin University of Science and Technology, Kerala	*Self*
55	*Jesmina Pervin*	*18121018*	International Conference on Recent Advances in Graph Theory and Allied Areas (ICRAGAA 2023)	02-04 February 2023, St. Aloysius College Elthuruth, Thrissur, Kerala	IIT BHU, Varanasi
56	*Shweta*	*19121009*	International Conference on Computational Partial Differential Equation and Application (ICCPDEA-2022)	06-08 September 2022, BML MUNJAL UNIVERSITY, Gurugram	self
57	*Shweta*	*19121009*	International Conference on Recent Advances in Mathematical Fluid Dynamics (ICRAMFD-2022)	02-04 December, MNIT Jaipur (Online)	Self
58	*Anshima Singh*	*18121512*	An International Conference on "Dynamical Systems, Control, and Their Applications"(ICDSCA 2022)	July 01-03, 2022, Indian Institute of Technology Roorkee, Roorkee, India (online)	Self
59	*Anshima Singh*	*18121512*	2nd International Conference on "Orthogonal Polynomials, Special Functions and Computer Algebra: Applications in Engineering"	October 15-16, 2022, Anand International College of Engineering,Jaipur, (Online)	Self
60	*Anshima Singh*	*18121512*	*37th Annual Conference of Ramanujan Mathematical Society*	*December 06- 08, 2022, SSN College of Engineering, Chennai, TN, India (Offline)*	IIT BHU, Varanasi
61	*Shweta*	*19121009*	Recent Trends in Mathematical and computational Sciences (RTMCS), Conference	Feb. 3-5, 2023 BHU, varanasi	SELF
62	*Anshiam Singh*	*18121512*	International Symposium on Recent Advances in Computational Analysis and Modelling (ISRACAM-2022)	June 20-24, 2022, Indian Institute of Technology Roorkee, Roorkee, India (offline)	IIT BHU, Varanasi
63	*Pratima Tiwari*	*18121012*	*37th Annual Conference of Ramanujan Mathematical Society*	*December 06- 08, 2022, SSN College of EngineeringChennai, TN, India (Offline)*	IIT BHU, Varanasi
64	*Shruti*	*21121002*	*IST-Partial Differential Equations (2022)*	*21st Nov,2022 to 3rd Dec, 2022, Tezpur University, Assam*	*Self*
65	*Anupam Pandey*	*18121520*	*67th Congress of the Indian Society of Theoretical and Applied Mechanics (ISTAM-2022)- An International Conference*	*14-16 December, 2022, IIT Mandi, Himanchal Pradesh*	IIT BHU, Varanasi
66	Md Arzoo Jamal	*18121502*	International Conference on Dynamical Systems, Control and Their Applications	July 01-03, 2022, IIT Roorkee	Online

Sl. No.	Name of student	Roll no.	Conference/Seminar/Symposia/ Workshop	Date & venue	Financial assistance from
67	Md Arzoo Jamal	*18121502*	67th Congress of the Indian Society of Theoretical and Applied Mechanics (ISTAM2022),	December 14-16, IIT Mandi	IIT BHU, Varanasi
68	Sunny Singh	*18121504*	International Conference on Algebra,Mathematical Analysis Simulation (ICAMAS 2022) Organized by Calcutta Mathematical Society, Kolkata (India)	Dec 08-10, 2022. Kolkata	IIT BHU, Varanasi
69	Sunny Singh	*18121504*	International Conference on Dynamical Systems, Control, and Applications (ICDSCA 2022)	July 01-03, 2022 IIT Roorkee	Self
70	Sunny Singh	*18121504*	International Conference on Dynamical Systems and Numerical Methods (ICDSNM-2022)	May 20-21, 2022 Jamia Millia Islamia, New Delhi	Self
71	Kaushal Gupta	*18121522*	88th Annual Conference of the Indian Mathematical Society	Mesra, Ranchi December 27-30, 2022	IIT BHU, Varanasi
	Satish Kumar	*18121501*	88th Annual Conference of the Indian Mathematical Society	Mesra, Ranchi December 27-30, 2022	IIT BHU, Varanasi
Abroad					
1	Ritika Singh	19121008	6th International Conference on Structural Integrity and Durability	Dubrovnik, Croatia (online), 20-23 SEPTEMBER 2022	SELF
2	*NIKHIL SRIVASTAVA*	*18121007*	9th International Conference on Differential and Functional Differential Equation (DFDE-2022)	*Jun. 28- Jul. 05, 2022, at RUDN University, Moscow, Russia (ONLINE)*	*SELF*
3	*NIKHIL SRIVASTAVA*	*18121007*	9th International Conference on Computational Methods in Applied Mathematics (CMAM-2022)	*Aug. 29-Sep 02, 2022, at TU Wien, Vienna, Austria (OFFLINE)*	*SERB*
4	*Anshima Singh*	*18121512*	*International Conference on "Fractional Calculus and its Applications"*	*November 21-26, 2022, Department of Mathematics, University of Lagos, Nigeria (Online)*	*Self*
5	Kumi Rani	*18121510*	2nd International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME-2022)	16-18 November 2022, The Maldives National University, Maldives	IIT BHU, Varanasi
6	Kaushal Gupta	*18121522*	International E-conference of young researchers in Algebra and Number theory: In Faculty of Science,	Dhar El Mahraz Fez, Morocco between January 12-13, 2023.	Self
7.	Satish Kumar	*18121501*	International E-conference of young researchers in Algebra and Number theory: In Faculty of Science,	Dhar El Mahraz Fez, Morocco between January 12-13, 2023.	Self

Names of students/scholars who got prizes and awards outside the Institute *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of student	Roll no.	Name of prize	Date & venue	Prize awarded by
1	Ankit Kumar	18121020	Raman Charpak fellowship	10 February 2023 to 09 June 2023	Indo-French Centre for the Promotion
2	Lavish Bansal	19124019	DAAD-WISE Scholarship	15 May 2023 - 23 July 2023, Technical University of Munich, Germany	German Academic Exchange Service(DAAD)
3	Lavish Bansal	19124019	Summer Research Fellowship (SRF)	9 May 2022 - 2 July 20222, Indian Institute of Science(IISc), Bengaluru India	Indian Academy of Sciences (IASc)
4	Pranav S	20124053	DAAD-WISE Scholarship	11 May 2023 - 19 July 2023, Technical University of Darmstadt, Germany	German Academic Exchange Service(DAAD)

Names of Students/Scholars who went for foreign Internship *(From 1st April 2022 to 31st March 2023): Note:*

Individual faculty members should provide the data

Sl. No.	Name of student	Roll No.	Name of the organization	Place of internship	Country	Duration
1	Pranav S	20124053	Visual Artificial Intelligence Lab, Changwon National University, South Korea	South Korea	South Korea	

Faculty & their activities: Faculty and their areas of specialisation

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD degree	Major areas of specialization
Professors			
1	Tanmoy Som, Ph. D Emp. No. 18386	1986	Functional Analysis, Fuzzy Set Theory, Mathematical Modeling, Image Processing, Soft Computing
2	Lal Pratap Singh Ph.D Emp. No.17162	1987	Nonlinear Waves in Gasdynamics, Computational Fluid Dynamics
3	Sanjay Kumar Pandey Ph.D Emp. No. 17315	1998	Biomechanics, Fluid Dynamics, Graph Theory, Digital Image Processing
4	Santwana Mukhopadhyay, Ph.D Emp. No. 17180	1998	Some problems of wave propagation in elastic, generalized magneto-thermoelastic and thermo-viscoelastic solids
5	Subir Das, Ph.D, Emp. No.18373	1999	Fracture Mechanics, Mathematical Modelling, Nonlinear Dynamics
6	Santosh Kumar Upadhyay Ph.D, D.Sc., Emp. No 18409	1999	Wavelet Analysis, Functional Analysis, Pseudo-Differential Operator
7	Murali Krishna Vemuri Ph.D.,Emp. No.50167	1999	Harmonic Analysis, Differential Geometry
Associate Professors			
1	Ashok Ji Gupta, Ph.D Emp. No17179	2003	Theory of Rings and Modules
2	Rajeev, Ph.D, Emp. No. 17745	2009	Moving boundary problem (Stefan problems), Computational schemes for the parabolic PDE.
3	Vineet Kumar Singh Ph.D, Emp. No.19772	2009	Computational Approach for Integral Equations and Differential Equations, Numerical Wavelets Analysis, Operational Matrix Methods, Computational Approach for Fractional Mathematical Models.
4	Rajesh Kumar Pandey Ph.D, Emp. No.19846	2009	Numerical Methods for Fractional Integro-Differential Equations, Image Processing
5	Sunil Kumar, Ph.D, Emp. No. 50069	2012	Numerical analysis, Image Processing, Artificial Intelligence
Assistant Professors			
1	Anuradha Banerjee, Ph.D Emp. No. 19773	2012	Stochastic Modelling in Queuing Theory
2	Debdas Ghosh, Ph.D Emp. No.50068	2014	Multiobjective Optimization, Interval Optimization, Fuzzy Geometry
3	Lavanya Selvaganesh, PhD, Emp. No. 50070	2008	Graph Theory, Network Sciences, Analysis of Complex Networks
4	Abhash Kumar Jha, Ph.D Emp. No. 50242	2017	Number Theory, Siegel Modular forms and Jacobi Forms
5	Sheela Verma, Ph.D Emp No. 50280	2019	Spectral Geometry, Analysis on Manifolds, Riemannian Geometry
6	Divya Goel, Ph.D, Emp No. 50281	2020	Analysis of partial Differential equations
7	Anoop Singh, Ph.D, Emp No. 50309	2021	Algebraic Geometry, Complex Geometry

Sl. No.	Name, Qualifications, Employee No.	Date of award of PhD degree	Major areas of specialization
8	Rakesh Arora, Ph.D, Emp No. 50314	2020	Analysis of Partial differential equations.
9	Amit Kumar, Ph.D, Emp No. 50318	2018	Applied Probability
10.	Manish Kumar Khandelwal Ph.D, Emp No. 50331	2014	Computational Fluid Dynamics, Hydrodynamic Stability Analysis

Technical and Non-Teaching Staff

S. No.	Name, Qualifications	Designation, Employee No.	Date of appointment in the department
1	Mr. Anil Kumar Mishra B.A	Technical Superintendent Emp No. 18068	19.2.2007
2	Dr. Piush Kumar Singh Ph.D	Junior Technical Superintendent Emp No. 18649	06.08.2008
3	Mr. Som Deo Keshari B Com(H), M Lib I.Sc.	Junior Superintendent Emp No. 19879	18.02.2015
4	Mr. Amod Kumar Patel B.Tech	Office Assistant	30.05.2014
5	Ms. Nagma Parveen M.A	M.T.S. (Skilled)	26.05.2022
6	Mr. Pintu Kumar Mahto B.Sc	M.T.S. (Un Skilled)	13.04.2018

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

(From 1st April 2022 to 31st March 2023)

S. No.	Coordinator	Title	Period
1	Anoop Singh	Algebraic invariants on manifolds	16-11-2022 –30-11-2022
2	Tanmoy Som	2nd International Conference on Nonlinear Applied Analysis & Optimization and National Mathematics Day	Dec 19 -22, 2022

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members in academic institutions and public sector undertakings *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty member	Title	Period and venue
Seminars/Symposia/Conferences			
1	Anoop Singh	37th RMS conference	06-12-2022 – 08-12-2022, SSN college of Engineering, Chennai.
2	Anoop Singh	Conference on Algebraic Geometry	12-12-2022 – 16-12-2022 HRI (DAE), Prayagraj, December 12-16, 2022
3	Anoop Singh	Vector Bundles in Chennai	06-02-2023 – 11-02-2023 Department of Mathematics, Indian Institute of Technology Madras, Chennai, India
4	Vineet Kumar Singh	ICMC 2023	06-01-2023 - 08-01-2023, Department of Mathematics, BITS Pilani, Goa Campus
5	Rajesh K Pandey	ICDSCA-2022	International Conference on Dynamical Systems, Control and their Applications(ICDSCA-2022), Department of Mathematics, IIT Roorkee during July 1-3, 2022.
6	Rajesh K Pandey	May 23-29, 2022	A High-End workshop (KARYASHALA) on "Artificial Intelligence In Drug Discovery: Quickening The Pace From Bench To Bedside" under the Accelerate Vigyan scheme of SERB held at Dept of Pharmacy, IIT(BHU) Varanasi.

Sl. No.	Name of faculty member	Title	Period and venue
7	Abhash Kumar Jha	Number Theory in India	IIT Kanpur, April 5-9, 2022
8	Abhash Kumar Jha	Workshop on Jacobi Forms	IIT Guwahati, December 12-24, 2023
9	Abhash Kumar Jha	Workshop on Number Theory	NISER Bhubaneswar, Feb. 20-25, 2023
10	Lavanya Selvaganesh	8th Indo-US Workshop on Mathematical Chemistry	Jawaharlal Nehru University, Delhi, Virtual mode, Sep 13-17, 2022.
11	Lavanya Selvaganesh	37th Annual Conference of Ramanujan Mathematical Society	SSN College of Engineering, Chennai, December 6-8, 2022
12	Lavanya Selvaganesh	Annual Conference of Indian Mathematical Society	BIT Mesra, Ranchi, December 27-30, 2022
13	Lavanya Selvaganesh	International Conference on Recent Advances in Graph Theory and Allied Areas-2023	St. Aloysius College, Trichur, Kerala, India, February 02-04, 2023
14	Rajeev	International Conference on Nonlinear Analysis and Applications (ICNAA-2022)	22-23 November 2022, School of Fundamental and Applied Sciences, Don Bosco University, Assam (collaboration with the Institute of Physics and Mathematics, Technological University of the Mixteca, Mexico)
15	Sheela Verma	Indian Women and Mathematics (IWM) Annual Conference 2022-2023	December 27-29, 2022 IISER Pune
16	M. K. Vemuri	CIMPA - School on Geometric Structures on Surfaces, Moduli Spaces and Dynamics	12-22 December, DST, BHU
17	Santosh Kumar Upadhyay	National conference on Harmonic Analysis and Applicantions	02-04 December 2022, IIT- (ISM), Dhanbad.
Meetings			
1	Anoop Singh	TOPICS IN HODGE THEORY	20-02-2023 – 25-02-2023, ICTS (TIFR), Bangalore
2	Abhash Kumar Jha	L-functions, circle method and applications	ICTS Bengaluru, June 26-July 01, 2022

Special lectures delivered by faculty members in other institutions *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty member	Topic of lecture	Institution	Date
1	Anoop Singh	Algbero-Geometric invariants of the moduli space of Lie algebroid connections	Harish- Chandra Research Institute (HRI) (DAE), Prayagraj, India	04-05-2022
2	Anoop Singh	Line bundles on the moduli space of parabolic connections	37th Annual Conference of Ramanujan Mathematical Society, SSN College of Engineering, Chennai	December 6-8, 2022
3	Anoop Singh	On the relative opers in dimension one	Harish- Chandra Research Institute (HRI) (DAE), Prayagraj, India	10-09-2022
4	Lal Pratap Singh	Peer Pressure	Banaras Hindu University	22-02-2023
5	Lal Pratap Singh	Simulation of Dam-Break Problem using Random Choice Method	Dr. Harisingh Gour Vishwavidyalaya (A Central University), Sagar, M. P.	18-09-2023
6	Rajesh K Pandey	A Mathematical Approach for Medical Imaging (Retinal Blood Vessel Segmentation)	A High-End workshop (KARYASHALA) on "Artificial Intelligence In Drug Discovery: Quickening The Pace From Bench To Bedside" under the Accelerate Vigyan scheme of SERB during May 23-29, 2022 held at Dept of Pharmacy, IIT(BHU) Varanasi.	May 24, 2022

Sl. No.	Name of faculty member	Topic of lecture	Institution	Date
7	Abhash Kumar Jha	Spaces of cusp forms spanned by eta quotients and applications	ICTS Bengaluru	June 28, 2022
8	Abhash Kumar Jha	L-functions associated to Jacobi Forms	NISER Bhubnaeswar	Feb. 23, 2023
9	Lavanya Selvaganesh	Potential Application of Novel AL indices as Molecular Descriptors	8th Indo-US Workshop on Mathematical Chemistry, Jawaharlal Nehru University, Delhi, Virtual mode,	Sep 13-17, 2022.
10	Lavanya Selvaganesh	Structural Characterization of Connected Q-Integral Graphs	37th Annual Conference of Ramanujan Mathematical Society, SSN College of Engineering, Chennai	December 6-8, 2022
11	Lavanya Selvaganesh	Superpower Graphs of Finite Groups	Annual Conference of Indian Mathematical Society, BIT Mesra, Ranchi	December 27-30, 2022.
12	Lavanya Selvaganesh	Predicting the Physicochemical Properties of PCB Congeners Using SDD Index	International Conference on Recent Advances in Graph Theory and Allied Areas-2023, St. Aloysius College, Trichur, Kerala	February 02-04, 2023.
13	Rajeev	Finite Difference method to a moving boundary problem	International Conference on Nonlinear Analysis and Applications (ICNAA-2022)	22-23 November 2022 Don Bosco University, Assam
14	Sheela Verma	Spectral Geometry	Cimpa School on Geometric Structures on Surfaces, Moduli Spaces and Dynamics, BHU, India	December 12-22, 2022
15	M. K. Vemuri	Spectral Geometry	Cimpa School on Geometric Structures on Surfaces, Moduli Spaces and Dynamics, BHU, India	12-22 December, 2022
16	Debdas Ghosh	A detour of trust-region methods in optimization	International workshop on Optimization Techniques in Industrial and Engineering Applications, Department of Mathematics, VIT AP	07-Jan-2023
17	Sanjay Kumar Pandey	Atmospheric Vortices	Academic4Nation Internship Programme, Fujita Health University, Japan	January 30, 2023
18	Sanjay Kumar Pandey	The beauty of the queen that loved unyielding principles	UGC-HRDC, Allahabad University, Prayagraj (11th Induction Programme)	Feb 22, 2023
19	Sanjay Kumar Pandey	The beauty of the queen that loved unyielding principles	UGC-HRDC, Allahabad University, Prayagraj (12th Induction Programme	March 23, 2023

Visits abroad by faculty members *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty member	Country visited	Date of leaving India	Date of returning India	Purpose of visit	Funding from
1	M. K. Vemuri	USA	2 July, 2022	20 July, 2022	Research	self

Honours and awards *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty member	Details of award
1	Prof. S.K. Pandey	Guest Faculty, Vedic Vijyan Kendra, BHU, Varanasi
2	Prof. S.K. Pandey	Member, RDC, Dr. APJ Abdul Kalam Tech. Uni., Lucknow
3	Prof. S.K. Pandey	Member, Board of Studies, NIIT, Patna
4	Prof. S.K. Pandey	Member, Board of Studies, Sampurnanand Sanskrit University, Vns.
5	Prof. S.K. Pandey	Member, Board of Studies, Vedic Vijyan Kendra, BHU, Varanasi
6	Dr. Rajesh Kumar Pandey	Guest Faculty, SIMS, BHU, Vns.
7	Dr. Abhash Kumar Jha	Guest Faculty, SIMS, BHU, Vns.
8	Prof. S.K. Pandey	Guest Faculty, Vedic Vijyan Kendra, BHU, Varanasi

Editorial boards of journals *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty member	Position (editor/ member)	Name of journal
1	S K Pandey	Executive Editor	Journal of International Academy of Physical Sciences
2	S K Pandey	Member, Editorial Board	ISST Journal of Mathematics and Computing System
3	Rajesh K Pandey	Guest Editor	Fractal and Fractional
4	Santosh Kumar Upadhyay	Member, Editorial Board	Journal of Frontier applied mathematics and statistics
5	Subir Das	Editor	Chinese Journal of Physics (CJP)
6	Subir Das	Associate Editor	STRPM - An International Journal

Research and Consultancy

Sponsored research projects *(Ongoing only)*

Note: Sponsored project name is to be given only in case a faculty member is Project Incharge

Sl. No.	Title	Period	Funding agency	Amount (in lakhs of Rs.)	Project P.I
1	Investigation of size effects on vibration and thermoelastic damping in nano-electro-mechanical systems (NEMS) of piezoelectric materials	2022-2025	SERB (Under MATRICS Scheme)	@ Rs. 2 L /Year (As per MATRICS, SERB)	Santwana Mukhopadhyay
2	Wavelets Adaptive Schemes for Singular Integral Equations	2022-2025	SERB (Under MATRICS Scheme)	Rs. 6,60,000	Vineet Kumar Singh
3	Adaptive Computational Approach for Riesz Fractional Advection Dispersion Wave Equations	2023-2026	SERB (Under Core Research Grant)	Rs 21,67,264	Vineet Kumar Singh
4	Wavelets Adaptive Schemes for Tumor Growth Models	2023-2026	Council of Science and Technology, Uttar Pradesh	Rs, 11,44,000	Vineet Kumar Singh
5	Non-local elliptic equations with critical growth non-linearities	2023-2025	SERB (Under Startup Research Grant)	Rs.1471284	Divya Goel
6	*L*-functions associated to modular forms and non-vanishing of Poincare series	2022-2024	SERB(SRG)	INR 1471734	Abhash Kumar Jha
7	Certain space of cusp forms spanned by eta quotients and application	2022-2025	SERB(MATRICS)	INR 660000	Abhash Kumar Jha
8	Applications of Spectral Graph Theory in Analyzing the Structural Properties of Large Scale Networks	March 2019 – June 2022	SERB, India	INR 6,60,000	Lavanya Selvaganesh
9	A Numerical Study of Some Non-classical Diffusion/Heat Equations with Free Boundaries	Jan-2023 to Jan-2026	SERB (Under MATRICS Scheme)	INR 6,60,000	Rajeev
10	Isoperimetiric bounds and obstacle placement problems for mixed steklov-Dirichlet eigencalues on Riemannian manifolds	2022-2024	SERB(SRG)	INR 1471624	Sheela Verma
11	On Developing Polynomial-time Interior-Point Methods for Robust Multiobjective Convex Optimization Problems	2022-2024	SERB, MATRICS	6.6 L	Debdas Ghosh
12	Existence and Stability analysis of periodic solutions of variable time impulsive neural networks	2021-2024	SERB, MATRICS	INR 6,60,000	Subir Das
13	Study and Analysis of Interfacial cracks in composite media	2022-2025	NBHM, DAE	As per NBHM, DAE rule	Subir Das
14	Study of Two Dimensional Fractional Order Nonlinear Transport Phenomena Problems in Porous Media	2022-2025	BRNS, BARC	INR 14,84,800	Subir Das

Research publications *(From 1st April 2022 to 31st March 2023)*

Total number of papers published in refereed National journals	3
Total number of papers published in refereed International journals	118
Total number of papers presented in National conferences	1

Refereed International journals *(From 1st April 2022 to 31st March 2023)*

1. Singh Anoop (2022) Line bundles on the moduli space of parabolic connections over a compact Riemann surface. Advances in Mathematics. 402: paper no. 10836.
2. Singh Anoop (2022) A note on the moduli spaces of holomorphic and logarithmic connections over a compact Riemann surface. Annals of Global Analysis and Geometry. 62 :579–601.
3. Singh Anoop and Upadhyay Abhitosh (2022) On the relative opers in dimension one. Forum Mathematicum. 34(3): 793–808.
4. Gupta Pooja and Singh L.P. (2022) On the evolution of magnetic shock wave in the mixture of gas and small solid dust particles. Chinese Journal of Physics. 77: 1912-1926.
5. Srivastava Shobhit Kumar, Chaturvedi Rahul Kumar and Singh Lal Pratap(2022) Weak discontinuities in one-dimensional compressible nonideal gas dynamics. Zeitschrift für Naturforschung A. 77(5):437-447 .
6. Shweta, Chaturvedi Rahul Kumar, Singh L.P. (2022) Shock wave solution for the planar, cylindrically, and spherically symmetric flows of non-ideal relaxing gas, Chinese Journal of Physics. 80:118-126.
7. Dixit, A., Sahu, D. R., Gautam, P., and Som, T (2022) Convergence analysis of two-step inertial Douglas-Rachford algorithm and application, Jour of Applied Mathematics and Computing, 68(2), 953-977. (SCIE/SCOPUS: IF 1.686) (SJR:Q2-.45) (published April 2022)
8. Pandey Megha, Agrawal Vishal and Som Tanmoy (2022) Fractal dimension of multivariate a-fractal functions and approximation aspects,), Fractals(World Scientific), 30(7), 2250149 p 1-17. https://doi.org/10.1142/S0218348X22501493. (SCI/SCOPUS IF; 4.555)(SJR: Q1- 0.64).
9. Agrawal Vishal, Som Tanmoy and Verma S (2022) On bivariate fractal approximation, The Jour of Analysis 30 (4) , 1765-1783.
10. Tiwari Anoop Kumar and Som Tanmoy(2022) An Intuitionistic Fuzzy Bireduct Model and its Application to Cancer Treatment,Pankhuri Jain, , Computer and Industrial Engineering(Elsevier) (SCI/SCOPUS: IF5.431) (SJR:Q1-1.32), 168, 108124.
11. Singh S. , Som Tanmoy (2022), Intuitionistic Fuzzy Rough Sets: Theory to Practice, Mathematics in Computational Science and Engineering, 91-133.
12. Ghosh Debdas, Gupta Diksha and Som Tanmoy(2022) Analytical Fuzzy Space Geometry II, Fuzzy Sets and Systems (Elsevier), **(SCI/SCOPUS , IF: 3.343). (**SJR: Q1-1.34).
13. Kashif M, Dwivedi KD & Som T(2022) Numerical solution of coupled type Fractional order Burgers' equation using Finite Difference and Fibonacci Collocation Method, , Chinese Journal of Physics 77(9), 2314-2323.
14. Jain Pankhuri, Tiwari Anoop Kumar and Som Tanmoy(2023) Fuzzy Rough assisted Missing Value Imputation and Feature Selection, , Neural Computing and Applications 35 , 2773–2793.
15. Jain Pankhuri and Som Tanmoy (2023) *Multigranular rough set model based on robust intuitionistic fuzzy covering with application to feature selection,* , International Journal of Approximate Reasoning (SCI/SCOPUS , IF: 3.816). (SJR: Q1-1.07)
16. Senapti Abhishek, Kumar Ajay, Som Tanmoy (2023) Convergence analysis of modified Bernstein–Kantorovich type operators, Rendiconti del Circolo Matematico di Palermo Series 2, 1-16.
17. Agrawal Vishal, Som T and Verma S (2023) A note on stability and fractal dimension of bivariate a-fractal functions, , Numerical Algorithms , 1-23.

18. Senapati Abhishek, Kumar Ajay, Som Tanmoy(2023) On Stancu-type Integral Generalization of modified Jain Operators, Filomat 37(22)(SCIE/SCOPUS: IF 0 .988) (SJR:Q2-.43)

19. Agrawal V., Pandey M., and Som T. (2023) Box dimension and fractional integrals of multivariate α- fractal interpolation functions, Mediterranean Journal of Mathematics, 20 (164). doi: 10.1007/s00009-023-02368-4.

20. Jamal M.A., Kumar R., Mukhopadhyay S. and Das S. (2022) Fixed-time stability of dynamical systems with impulsive effects. Journal of the Franklin Institute. 359(7): 3164-3182.

21. Jangid K. and Mukhopadhyay S. (2022) Variational Principle and continuous dependence results on the generalized poro-thermoelasticity theory with one relaxation parameter. Continuum Mechanics and Thermodynamics. 34(3): 867-881.

22. Shivay O.N. and Mukhopadhyay S. (2022) Thermomechanical interaction due to mode-I crack under modified temperature-rate dependent two-temperature thermoelasticity theory.Waves in Random and Complex Media. 1-20.

23. Gupta M., Jangid K. and Mukhopadhyay S. (2022) Domain of influence results of dual-phase-lag thermoelasticity theory for natural stress-heat-flux problem. Zeitschrift für angewandte Mathematik und Physik. 73 (4): 169.

24. Fernández J.R., Mukhopadhyay S., Quintanilla R. and Shivay O.N. (2022) On the existence and decay in a new thermoelastic theory with two temperatures. Zeitschrift für Analysis und ihre Anwendungen. 41 (1): 37-48

25. Jangid K. and Mukhopadhyay S. (2022) Thermoelastic interactions on temperature-rate-dependent two-temperature thermoelasticity in an infinite medium subjected to a line heat source. Zeitschrift für angewandte Mathematik und Physik. 73 (5): 196.

26. Singh B., Kumar H. and Mukhopadhyay S. (2022) Analysis of size effects on thermoelastic damping in the Kirchhoff's plate resonator under Moore–Gibson–Thompson thermoelasticity. Thin-Walled Structures. 180: 109793.

27. Kumar H. and Mukhopadhyay S. (2022) Size-dependent thermoelastic damping analysis in nanobeam resonators based on Eringen's nonlocal elasticity and modified couple stress theories. Journal of Vibration and Control 29 (7-8): 1510-1523.

28. Jamal M.A., Mapui A., Das S. and Mukhopadhyay S. (2023) Further results on fixed-time synchronization of the memristor neural networks with impulsive effects. Communications in Nonlinear Science and Numerical Simulation. 118: 107038

29. Singh Aman, Srivastava Nikhil, Singh Vineet, Singh Somveer Vineet Kumar (2022), Computational technique for multi-dimensional non-linear weakly singular fractional integro-differential equation, Chinese Journal of Physics, 80, 305-333

30. Srivastava Nikhil, Singh Aman, Singh Vineet (2022) Computational algorithm for financial mathematical model based on European option, Mathematical Sciences *Math Sci*) https://doi.org/10.1007/s40096-022-00474-0.

31. Maurya Rahul Kumar, Singh Vineet, (2023) A high order adaptive numerical algorithm for fractional diffusion wave equation on non-uniform meshes, Numerical Algorithms, https://doi.org/10.1007/s11075-022-01372-1

32. Yadav Poonam, Singh B.P, Anatoly A. Alikhanov, Singh Vineet Kumar,(2023) Numerical scheme with convergence analysis and error estimate for variable order weakly singular integro-differential equation, International Journal of Computational Methods, https://doi.org/10.1142/S0219876222500463.

33. Srivastava Nikhil, Singh Vineet Kumar (2023), L3 approximation for Caputo derivative and its application to time-fractional wave equation-(I),Mathematics and Computers in Simulation, Volume 205, March 2023, Pages 532-557

34. Kumar Yashveer, Srivastava Nikhil , Singh Aman, Singh Vineet Kumar, (2023) Wavelets Based Computational Algorithms for Multidimensional Distributed Order Fractional Differential Equations with Nonlinear Source Term, Computers and Mathematics with Applications, Volume 132, 15 February 2023, Pages 73-103

35. Kumar Yashveer, Yadav Poonam, Singh Vineet Kumar, (2023) Distributed Order Gauss-Quadrature Scheme for Distributed Order Fractional Sub-Diffusion Model,Chaos, Solitons and Fractals.Vol. 170: 113358, 2023.

36. Pandey S K and Chandra S,(2023) Transportation of particulate suspension in a Newtonian fluid by dilating peristaltic waves in a tube of uniform cross-section: Application to flows in normal oesophagus, Chinese Journal of Physics.

37. Maiti S, Pandey S K and Mishra JC (2022), Electroosmotic flow of a rheological fluid in non-uniform micro-vessels, Journal of Engineering Mathematics 135 (1), 8 (1-24).

38. Pandey S.K, Tiwari S K and Pandey K, (2022) Fluid Transport in a Tube of Variable Cross-Sectional Area by Peristaltic Waves of Dilating Amplitude: A Mathematical Model for Investigating Impact of Hiatus Hernia on Swallowing, Journal of International Academy of Physical Sciences 26 (1), 0-10.

39. Mishra U, Agrawal A, J. C. R. Mathew, R. K. Pandey, P. Chattopadhyay,(2022) An efficient approach for image de-fencing based on conditional generative adversarial network, Signal, Image and Video Processing, 2022, doi: 10.1007/s11760-022-02215-1.

40. S. Kumar, R. K. Pandey, K. Kumar, S. Kamal, T. H. Dinh, (2022) Finite Difference–Collocation Method for the Generalized Fractional Diffusion Equation, Fractal and Fractional, 6(7) (2022) 387.

41. F Sultana, RK Pandey, D Singh, O P Agrawal, (2022) High order approximation on non-uniform meshes for generalized time-fractional telegraph equation, MethodsX, 9, 101905.

42. D. Pandey, R. K. Pandey, R. P. Agarwal, (2023) Numerical Approximation of Fractional Variational Problems with Several Dependent Variables Using Jacobi Poly-Fractonomials, Mathematics and Computers in Simulation, 203 (2023) 28-43.

43. E. Goel, R. K. Pandey, S. Yadav, O. P. Agrawal, (2023) A numerical approximation for generalized fractional Sturm–Liouville problem with application, Mathematics and Computers in Simulation, 207 (2023) 417-436.

44. S. Kumari, R. K. Pandey, R. P. Agarwal, (2023) High-order approximation to generalized Caputo derivatives and generalized fractional Advection-diffusion equations, Mathematics, (2023).

45. P K Pandey, R K Pandey, O. P. Agrawal, (2023) Sturm's theorems for generalized derivative and generalized Sturm-Liouville problem, Mathematical Communications, Accepted

46. D Singh, RK Pandey, S Kumari, (2023) A fourth order accurate numerical method for non-linear time fractional reaction–diffusion equation on a bounded domain, Physica D: Nonlinear Phenomena 449 (2023), 133742.

47. Arora R., Fiscella A.,Mukherjee T., Winkert P. (2023), Existence of ground state solutions for a Choquard double phase problem, Nonlinear Anal. Real World Appl. 73, 103914, 22 pp.

48. Arora R. and Shmarev S. (2023), Double-phase parabolic equations with variable growth and non-linear sources, Adv. Nonlinear Anal., (12), 304-335.

49. Arora R. and Shmarev S. (2023), Existence and regularity results for a class of parabolic problems with double phase flux of variable growth, Rev. Real Acad. Cienc. Exactas Fis. Nat. Ser. A-Mat. 117:34.

50. Arora R. and Shmarev S. (2023), Existence and global second-order regularity for anisotropic parabolic equations with variable growth, J. Differential Equations 349, 83-124.

51. Arora R., Fiscella A.,Mukherjee T., Winkert P. (2023),, On double phase Kirchhoff problems with singular nonlinearity, Adv. Nonlinear Anal., 12, no. 1, Paper No. 20220312, 24 pp.

52. Divya Goel, Yeduha Pinchover, and Georgios Psaradkis, (2022) On weighted Lp-Hardy inequality on domains in Rn, Pure Appl. Funct. Anal. 7, no. 3, 1025–1033.

53. Divya Goel, Vicentiu D. Radulescu and K. Sreenadh,(2022) Variational framework and Lewy-Stampacchia type estimates for nonlocal operators on Heisenberg group, Ann. Fenn. Math. 47, no. 2, 707–721.

54. Divya Goel, Sushmita Rawat, and K. Sreenadh, (2022) Critical growth fractional Kirchhoff elliptic problems, accepted in Advances in Differential Equations.

55. A. Goswami and A. K. Jha, (2022) Congruences for some partition functions, J. Ramanujan Math. Soc., 37, 241-256.

56. A. Goswami, A. K. Jha and A. K. Singh, (2022) Some identities for the partition function, J. Math. Anal. Appl., 508(2022).

57. A. K. Jha and L. Vaishya, (2023) Estimates for the shifted convolution sum involving Fourier coefficients of cusp forms of half-integral weight, Funct. Approx. Comment. Math., 68, 7-18.

58. A. Goswami, A. K. Jha, B. Ki9m and R. Osburn (2023), Asymptotics and sign patterns for coefficients in expansions of Habiro elements, Mathematische Zeitschrift, accepted for publication.

59. Abhay Rajpoot and Lavanya Selvaganesh,(2022) Study of Bounds and Extremal Graphs of Symmetric Division Degree Index for Bicyclic Graphs with Perfect Matching, Iranian Journal of Mathematical Chemistry, 13(2):145-165. https://doi.org/10.22052/IJMC.2022.243396.1605

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61. Arunkumar, G., Peter Cameron, Rajat Kanti Nath, and Lavanya Selvaganesh, (2022)Super Graphs on Groups - I, *Graphs and Combinatorics,* 38, 100 . https://doi.org/10.1007/s00373-022-02496-w

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67. T V Anoop, Sheela Verma (2022), Szego-Weinberger type inequalities for symmetric domains in simply connected space forms, Journal of Mathematical Analysis and Applications, 515(2), 126429.

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72. S. Kumar, M. A. T. Ansary, N. K. Mahato, Debdas Ghosh, Y. Shehu Newton's Method for Uncertain Multiobjective Optimization Problems Under Finite Uncertainty Set Journal of Nonlinear and Variational Analysis, Accepted Manuscript, 2023

73. Abhishek Singh, Debdas Ghosh Improved Nonmonotone Adaptive Trust-region Method to solve Generalized Nash Equilibrium Problems Journal of Nonlinear and Convex Analysis, Accepted Manuscript, 2023

74. Abhishek Singh, Debdas Ghosh A globally convergent improved BFGS method for generalized Nash equilibrium problems SeMA Journal, Accepted Manuscript, 2023

75. Anshika, Krishan Kumar, Debdas Hukuhara Dini Hadamard ε-Subdifferential and Hε-subgradient and their Applications in Interval Optimization Ghosh Journal of Applied and Numerical Optimization, Accepted Manuscript, 2023

76. S. Ghosh, D. Ghosh, A. Pretrusel, X. Zhao Generalized Hukuhara Weak Subdifferential and its Application on Identifying Optimality Conditions for Nonsmooth Interval-valued Functions Journal of Nonlinear and Variational Analysis, Accepted Manuscript, 2023

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78. Anshika, D. Ghosh, R. Mesiar, H-R Yao, R. S. Chauhan Generalized-Hukuhara Subdifferential Analysis and Its Application in Nonconvex Composite Interval Optimization Problems Information Sciences, Accepted Manuscript, 2022

79. A K Debnath, Debdas Ghosh Generalized-Hukuhara Penalty Method for Optimization Problem with Interval-valued Functions and its Application in Interval-valued Portfolio Optimization Problems Operations Research Letters, Accepted Manuscript, 2022
80. Krishan Kumar, Debdas Ghosh and Gourav Kumar Weak sharp minima for interval-valued functions and its primal-dual characterizations using generalized Hukuhara subdifferentiability Soft Computing, Accepted Manuscript, 2022
81. Debdas Ghosh and Suprova Ghosh Sufficient Optimality Conditions and Duality for a Nonsmooth Interval-Valued Optimization Problem with Generalized Convexity via g H -Clarke Subgradients Continuous Optimization and Variational Inequalities, Accepted Manuscript, 2022
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86. R Singh, S Das, Schmidt method to study the disturbance of steady-state heat flows by an arbitrary oriented crack in bonded functionally graded strips Composite Structures 287, 115329, 2022-Accepted
87. A Tanwar, R Singh, S Das, H Altenbach, Interaction among offset parallel cracks in an orthotropic plane under thermo-mechanical loading ZAMM-Journal of Applied Mathematics and Mechanics/Zeitschrift für Angewandte ,2022-Accepted
88. S Jaiswal, S Das, JF Gómez-Aguilar A New Approach to Solve the Fractional Order Linear/Non-linear Two-Dimensional Partial Differential Equation Using Legendre Collocation Technique Few-Body Systems 63 (3), 56, 2022-Accepted
89. SS Chouhan, R Kumar, S Sarkar, S Das Multistability analysis of octonion-valued neural networks with time-varying delays Information Sciences 609, 1412-1434, 2022-Accepted
90. A Kumar, S Das, S Baluni, VK Yadav, J Lu Global quasi-synchronisation of fuzzy cellular neural networks with time varying delay and interaction terms International Journal of Systems Science 53 (12), 2679-2693, 2022-Accepted
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92. S Baluni, S Das, VK Yadav, J Cao Lagrange -Exponential Synchronization of Non-identical Fractional-Order Complex-Valued Neural Networks Circuits, Systems, and Signal Processing 41 (10), 5632-5652, 2022-Accepted
93. S Baluni, VK Yadav, S Das, Quasi projective synchronization of time varying delayed complex valued Cohen-Grossberg neural networks, 2022-Accepted
94. M Singh, S Das, Rajeev, SH Ong, Novel operational matrix method for the numerical solution of nonlinear reaction–advection–diffusion equation of fractional order Computational and Applied Mathematics 41 (7), 306, 2022-Accepted
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97. C Biswas, S Das, A Singh, M Chopra SOLUTION OF FRACTIONAL-ORDER REACTION-ADVECTION-DIFFUSION EQUATION ARISING IN POROUS MEDIA Journal of Porous Media 26 (1) ,2023-Accepted
98. A Kumar, S Das, S Singh Quasi-projective synchronization of inertial complex-valued recurrent neural networks with mixed time-varying delay and mismatched parameters Chaos, Solitons & Fractals 166, 112948,2023-Accepted

99. C Biswas, S Das, A Singh, H Altenbach Solution of variable-order partial integro-differential equation using Legendre wavelet approximation and operational matrices ZAMM-Journal of Applied Mathematics and Mechanics/Zeitschrift für Angewandte ,2023-Accepted ...

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102. SS Chouhan, S Das, S Singh Multiple μ μ-stability analysis of time-varying delayed quaternion-valued neural networks, Mathematical Methods in the Applied Sciences,2023-Accepted

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107. Maurya, Amit , Singh Jay, Upadhyay, Santosh Kumar (2023) The Bessel wavelet transform of distributions in D' L2- type space. International Journal of Wavelets, Multriresolution and Information prcessing, pgs. 17.

108. Sukla Pragya, Upadhyay S.K. (2023) Wavelet multiplier associated with the Watson transform. RACSAM, pgs. 21.

109. Upadhyay S.K. and Mohd Sartaj, (2023) Pseudo-differential Operators of Homogeneous symbol class associated with the Weinstein transform. Acta Mathematica Sinica, English Series, pgs 32.

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111. Maurya Jay Singh, Upadhyay S K (2023) Characterizations of the Inversion formula of the continuous Bessel wavelet transform of Distributions in the - space. Fractals pgs. 19 vol. 30.

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113. Srivastava, H.M., Sukla Pragya, Upadhyay S.K. (2022) The localization operators and wavelet multipliers involving the Watson transform. J. Pseudo-Differ. Oper.Appl., pgs. 21

114. Srivastava, H.M., Mishra Kush Kumar, Upadhyay S.K. (2022) Characterization of Continuous Fractional Bessel Wavelet Transforms. Mathematics, pgs. 11 vol 10.

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116. Maurya J.S. and Upadhyay S.K., (2022) The Bessel Wavelet Transform of Distributios in Space. International Journal of Wavelets, Multiresolution and Information Processing, pgs. 34 vol. 20.

117. Upadhyay Prateep, Upadhyay S.K. and Shukla K.K., (2022) Schrodinger Equation Based ECG Signal Denoising. Chienes Journal of Physics, pgs. 19 vol. 77.

118. Srivastava, H.M., Singh, Reshma, Upadhyay S.K., The Bessel Wavelet Convolution Involving the Hankel transform. Journal of Nonlinear and Convex Analysis, pgs 12 vol. 23.

Refereed National journal *(From 1st April 2022 to 31st March 2023)*

1. Manikandan S. and Singh A. (2022) A criterion for the existence of logarithmic connections on curves over a perfect field. Indian J Pure Appl Math, 53(2), 330–339.
2. Kumar C P ANIL and Singh A. (2022) On a conjecture of Kelly on (1, 3)-representation of Sylvester–Gallai designs. Proc. Indian Acad. Sci. (Math. Sci.), 132, article n0. 24.
3. Biswas I., Das P. and Singh A. (2022) Chen–Ruan cohomology and moduli spaces of parabolic bundles over a Riemann surface. Proc. Indian Acad. Sci. (Math. Sci.), 132, article n0. 31.

Proceedings of National conferences *(From 1st April 2022 to 31st March 2023)*

1. Ajay Kumar and Lavanya Selvaganesh, Structural Characterizations of Complement of Conjugate Graph, International Conference on Wavelet Analysis and Graph Theory, (15-16, September, 2022) SASTRA Deemed University, Tamilnadu, India.

Distinguished Visitors *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of the visitor & designation	Date of visit	Purpose of visit
1	Anisa Chorwadwala	27 July 2022	Seminar
2	Yashonidhi Pandey	28 July 2022	Seminar

Other activities

International collaboration/achievements by the Department/School *(From 1st April 2022 to 31st March 2023)*

1. Prof. Peter Cameron, School of Mathematics and Statistics, University of St Andrews, Fife, UK.
2. Prof. Dr. Ismail Naci CANGUL, Bursa Uludag University, Faculty of Arts and Science, Department of Mathematics, Gorukle 16059 Bursa/Turkey
3. Prof. S. Lakshmivarahan, University of Oklahoma, Norman, USA

Indian faculty visits in the Department/School/Unit *(1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty member	Purpose of visit	Date and venue
1	Dr. Anisa Chorwadwala IISER, Pune	To deliver a Invited talk	27.07.2022 Seminar Room, Department of Mathematical Sciences
2	Prof. Chandan, Singh Dalawat, HRI Prayagraj	colloquium talk	13.03.2023 Seminar Room, Department of Mathematical Sciences

Foreign faculty visits in the Department/School/Unit *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty member	Purpose of visit	Date and venue
1	Prof. Apala Majumder Oxford University & Bath University	To deliver a Invited talk	04.05.2022 Seminar Room, Department of Mathematical Sciences

Any other Information

Publications in Edited Book

1. Some Remarks on Multivariate Fractal Approximation, (Megha Pandey, Vishal Agrawal and Tanmoy Som), "Frontiers of Fractal Analysis: Recent Advances and Challenges", CRC Press, 2022, 1-23. (April).
2. Intuitionistic Fuzzy Rough Sets: Theory to Practice (Shivani Singh & Tanmoy Som), Mathematics in Computational Science and Engineering, Wiley-Scrivener Publishing LLC (Editors: R Bhardwaj, J Mishra, S Narayan, G Suseendran), 2022, 91-133.
3. H Singh, HM Srivastava, RK Pandey, Special Functions in Fractional Calculus and Engineering, CRC Press 2023.
4. TN Dinh, Shyam Kamal, RK Pandey, Fractional-Order System Control Theory and Applications, Fractal and Fractional, MDPI, 2023

Reviewer for journals

Lavanya Selvaganesh	Reviewer	i) JOURNAL OF ALGEBRAIC COMBINATORICS ii) Discrete Applied Mathematics (Elsevier) iii) Journal of IMS iv) AMS Math Reviews, USA v) The Journal of Analysis, Springer vi) AKCE International Journal of Graphs and Combinatorics

Membership in External bodies

Dr. Lavanya Selvaganesh	Life Member: Academy of Discrete Mathematics and Applications, India. Indian Mathematical Society, Ramanujan Mathematical Society. Indian Science Congress Association, Member: American Mathematical Society, European Mathematical Society, Canadian Mathematical Society, Society for Industrial and Applied Mathematics and International Linear Algebra Society

23. Department of Physics

Full Name of Department: Department of Physics, IIT(BHU), Varanasi

Year of Establishment: 1985 (Formerly Department of Applied Physics, IT, BHU, Applied Physics Section 1968)

Head of the Department: Prof. Sandip Chatterjee **w.e.f.** 01.01.2021

Brief Introduction of the Department:

1.1 Introduction

Department of Physics (formerly Department of Applied Physics, IT, BHU / Applied Physics Section, 1968) established in 1985, is a center of excellence for quality research and teaching in Physics & Applied Physics. The evolution of Department of Physics in its present form took over nine decades. Since its inception, physics teaching was both integral and essential part of the technical education to enable young minds having good grinding in physical sciences. Therefore, initially all the three colleges (BENCO, TECHNO & MINMET) had their own faculty members in Physics to do the job. A turning point came in 1968 when BENCO, TECHNO & MINMET were merged under one umbrella of Institute of Technology, Banaras Hindu University (IT-BHU). This then made it meaningful to have all the physics teachers from these three colleges to join hands together to form an Applied Physics Section as a part of newly formed School of Applied Sciences. Finally, we became a Department of Applied Physics of IT-BHU in 1985. At long last, we became a Department of Physics in 2012 soon after the conversion of IT-BHU into IIT (BHU) on 29 June 2012. Faculties of the department have been pursuing cutting edge front line research in various areas and in collaboration with prestigious national and international institutes. The Department currently offers research programmes in the field of Solar Physics & Space Physics, Astrophysics, Cosmology, High Energy Physics, Nuclear & Particle Physics, Optics and Optical Instrumentation, Fibre Optics, Photonics & Optoelectronics, Condensed Matter Physics & Materials physics, Microwave Remote Sensing, Bio-physics and Composite Materials, Energy Studies & Solid State Ionics, Quantum statistical mechanics and dynamics, Quantum entanglement and quantum information theory etc.

Major areas of Research

The department has a rich heritage and history of scientific research in space physics including theoretical study of the planetary atmosphere and solar magnetic field. In the mid 1970s, the whistler wave at low latitude were recorded for the first time and published in the prestigious "Nature" by the group of our department. $(SP)^2RG$ has been making significant contributions to the theory and modeling of solar plasma in optical, ultraviolet, X-ray, gamma-ray, and in the atomic spectroscopy – especially in the field of diagnostics of electron and proton beams and of the plasmas they heat. This group has been making seminal contributions in the areas of 'MHD waves and transients in the solar atmosphere' and also in 'science communication'. Theoretical calculations related to pitch-angle, cross-sections, scattering are also being carried out. Another group is actively working on the origin of the solar magnetic field, its dynamics using magnetohydrodynamics and the mysterious solar cycle using a novel theoretical (dynamo) model. The SP^2RG has equipped with VLF-Antenna for upper Earth atmospheric measurements; Advanced Solar Computation and Analyses Laboratory (ASCAL) to analyse the large-scale solar observational data and model its magnetic atmosphere. SP2RG has global collaborations (e.g., UK, Poland, Russia, China, Austria, Spain, USA, Belgium, etc.) as well as participation in international (e.g., Royal Society; Polish National Science Foundation etc.), and national (e.g., 2m- National Large Solar Telescope; Aditya-I) projects. In year 2021, a MoU is signed between the IIT (BHU) and Bar Ilan University Israel and The Nigata University Japan with the help of an initiative from a colleague from the Department of Physics and this MoU includes collaborative work and student/research scholars exchange.

The department has now several strong theoretical physics groups (Astrophysics & Astronomy, High Energy Physics, Nuclear & Particle Physics etc.) who are actively working on stellar seismology, internal structure and evolution of stars, Structures and Dynamics of the Interstellar Medium, Large-scale gas fragmentation and star formation in galaxies, and Gravitational Lensing as an Astrophysical Probe, Cosmology / Cosmic Microwave background - Statistical Isotropy, Component separation, Low energy QCD at high precision, flavour physics, phenomenology of top, Higgs, vector-like fermions and singlet scalar fields, and model building, Nuclear Physics (Gamma Ray Spectroscopy, Nuclear structure model calculations - cranked Nilsson Strutinsky Model, Shell Model calculations).

The Department carries out a wide range of frontier research activities related to magnetism and superconductivity and semiconductors, nanostructures, thin films and nano-materials and is backed by many sophisticated equipment and measurement techniques. Though the main emphasis of these works is on fundamental aspects, many of the results have a potential for application in industries. In the materials science, we study the electronic, physical, mechanical, optical, and chemical properties of materials, most often in relation to their structure, and use this knowledge to understand and optimize their properties and create new, improved materials and devices. Work in Soft Condensed Matter and Bio-physics is also a front-line research area of the department. "Soft" condensed matter research explores areas like adhesion, friction, wetting, the movement of fluids in porous media, Modelling self-assembly and phase separation kinetics in the complex soft materials, understanding recent single molecule force spectroscopy experiments on biopolymers, Polymers under shear flow, etc. Biophysics and nanotechnology group aim is to investigate the interaction between 2D, 1D, and 0D materials with proteins and DNA. The main focus of this group is to develop sustainable technologies using green synthesis method utilizing medicinal plants and biopolymers for biomedical, energy and environmental applications like biosensors, drug delivery, OLED, bioelectronics and other nanotechnology applications using various experimental techniques and computational methods. Another theoretical physics group is also involved in understanding non-equilibrium dynamics of quantum many body systems with long range interaction.

Optics, Photonics and Fiber optics is emerging new field of research in our country. We establish a research lab with essential facilities to pursue the theoretical, experimental and computations researches in the field of Photonics. We are engaged in the theoretical analysis of photonic crystals and quasi photonic crystals composed of graded, dispersive and negative index materials. These works would be useful in study of the photonic crystals having such type of materials for various applications. It will open new window to design several photonic crystal devices like sensors, reflectors, switches etc. Research works on the Optical Instrumentation, Non-Destructive Imaging testing and optical instrumentation for biology and medicine, Computational Optics and Imaging through random complex media have also been initiated in our department. Such works has variety of practical applications in underwater imaging, bio-medical optics, space applications etc.

Research on remote sensing is also one of the frontline research areas in the Department. In this field, the growth of agricultural crops are monitored, classification of crops and the recognition of shape/size of buried objects are done by scatterometer measurements and satellite image analysis. Such studies are useful in designing of sensors, urban planning, crop classification, crop-yield and soil moisture estimation for agricultural planning.

Moreover, one of the groups is actively engaged in different types of luminescent materials, particularly inorganic nanostructures/phosphors having potential applications in the area of energy harvesting, bio-imaging and for advance lighting applications, etc. Composite material studies are also pursued at the Department and the lab for such studies is in development.

Research in the field of Green Energy and Solid State Ionics is also carried out in this Department. The energy studies explore the various fuel cells, materials, etc. to optimize the renewable energy sources. In the Green Energy area, the work on anode, cathode and electrolyte materials of Solid Oxide Fuel Cells (SOFC) is in focus. Also, preliminary establishment of lab towards the fabrication and characterization for Solar cells has been done. In addition to it, some work on hydrogen energy has also been started. Towards Solid State Ionics, the ion dynamics of the structurally disordered and crystalline materials is being studied. This study is not only restricted to the amorphous materials but also has been extended to the various materials of SOFC. Also, the work has also been started in the field of materials for nano piezo- pyro energy harvesters.

Area of the Department (in square meters): 1844 Square Meters

Infrastructure

Sl. No.	Particulars	Number
1	No. of Classrooms	01
2	No. of Lecture Halls	01
3	No. of Laboratory	16
4	No. of Computers available for students in the Department	~60

Unique Achievement / Preposition of the Department/School

Department's vision is to promote new ideas and innovations in physical sciences. Our mission is to offer world class education, research guidance and also leadership in physical sciences. Our aim is to become a high ranking in Physics Department globally in terms of teaching quality, research contributions and academic leadership.

Under new curriculum process (which Institute has started in 2014) Department offers two physics courses at B. Tech-Part-I level as an institute science course and two physics courses to preparatory students. We also offer several electives and open electives under this new flexible project based curriculum. Our 5-year Integrated M. Tech. programme (IMD) in Engineering Physics which started in 2005 has been converted to Integrated Dual Degree (IDD) Programme from 2014 and is running successfully. Main objective of this course is to impart knowledge of various core technical disciplines without compromising on the basic physics and mathematics courses. The course gives an insight to the disciplines of engineering as well as science, and practical working experience through industrial training / summer internship, project / dissertation work to enhance the working skills of the students. Department has started the M.Sc. Programme in Physics from 2019 and students are admitted through JAM.

Students of IMD/IDD (Engineering physics) are awarded with several fellowships to go abroad to pursue higher studies, involved in several project works in both science and technology, present their research works in different workshop/ conference/symposia. They also pursue summer internship in industries and reputed institutions/universities in India and abroad. Many of these students are also recruited by reputed national and multinational companies.

The Department offers research programmes in the field of Solar Physics & Space Physics, Fibre Optics, Photonics & Optoelectronics, Condensed Matter Physics & Materials physics, Microwave Remote Sensing, Bio-physics and Composite Materials, Energy Studies & Solid State Ionics. About 90 Ph.D. students have received their PhD degree so far from the department. Many of our alumni (Ph.D., IMD) are well placed in reputed Institutes / University in India and abroad.

Department has a strong component to deliver popular science lecture and publish articles in magazines like Scientific American and newspapers.

Faculty members in the Department working in the frontier areas of research have published in International journals of high impact factor (e.g. Nature Comm., Nature Astronomy, JACS, Physical Review Letters, PRE, Astrophysical Journal, Solar Physics, Astronomy & Astrophysics, MNRAS, J. Mat. Chem., Nanotechnology Reviews, Chemosphere, PCCP, SSI, RSC Adv., Optica, Optics Letter, Phys Rev A Etc.), published book and authored book chapters.

Department successfully organized several National (RTCMP, NCTP), International workshop / Conferences (DYNAMIC SUN-I, THERMANS-2016, ABSMSNW-2017, ICFNM-2019, AMBT-2021), GIAN Course Work, and Ishan Vikas Programme of MHRD for school students from North East Students, student's convention 'JIGYASA' (2015, 2016, 2017), Institute Day, etc. in recent years.

Several Indian and Foreign distinguished faculty members visited the Department to deliver seminar, colloquium.

Dr. Anil Bharadwaj, an alumnus of the Department received Shanti Swarup Bhatnagar award in 2007 for outstanding contribution in the field of Earth, Atmosphere, Ocean, and Planetary Sciences. He also received Infosys Science Foundation award-2016 in Physical Sciences category.

Faculty Members & Alumni of the Department have received several fellowships, senior membership and lifetime memberships of various academic and professional societies like Royal Astronomical Society (FRAS), Astronomical Society of India (ASI), Optical Society of India (OSI), Optical Society of America (OSA) , International Academy of Physical Sciences (at Allahabad, India), Materials Research Society of India (MRSI), Indian Physics Association (IPA), Indian Thermal Analysis Society (ITAS), Indian society for Materials Chemistry (ISMC) (at BARC, Mumbai), International Astronomical Union (IAU), European Astronomical Society (EAS), International Academy of Astronautics (IAA) on Comparative Climatology – Studying Planetary Climate to Understand our Planet, Max-Planck Society fellowship, Japanese Society of Promotion of Science (JSPS) fellowship, National Science Foundation (NSF-China) young scientist award, NASA/NRC Associate, Commonwealth Academic Staff Fellow: Glasgow, Cambridge and Oxford universities (1990-91), Indian National Science Academy (INSA), New Delhi etc.

Faculty members have received several awards/honours like e.g. Indira Gandhi Prize for Popularization of Science-2011 (Science Communications) by Indian National Science Academy (INSA), NATIONAL AWARD of 1,00,000/- for Outstanding Efforts in Science and Technology Communication through Books and Magazines for 2005, 2004 Award for Popular Writing

on Solar Physics (American Astronomical Society/Solar Physics Division), 'MPAE Gold Pin' Award (1999) by Max-Planck-Institut für Aeronomie (MPAE) Germany in recognition of the outstanding contributions to the SUMER/SoHO science, D.Sc. Honoris Causa, INSA Young Scientist Medal, Humboldt Research Fellowship etc.

The department has enriched with many excellent faculties and faculty strength has increased to 22. Currently, in the department major research activities are going in theoretical as well as in experimental physics. The Department has been granted DST-FIST support and many other projects funded by national and International agencies namely DST, Department of Bio Technology (DBT), BRNS, DRDO, CSIR etc. Faculty members have several National, International Research collaboration, MOU, VLF-Global-Network Project etc.

Academic Programmes offered

New Courses Introduced *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Course Code	Course name	Course credit
1	PHY308	Concepts of Kinetics and Thermal Physics	9
2	PHY407	Simulation Methods in Statistical Physics	9
3	PYM545	Wave Optics and Imaging	9
4	PYM546	Statistical and Quantum Optics	9

Students on Roll *(From 1st April 2022 to 31st March 2023)*

(Please give No. of students only in respective years)

Sl. No.	Programme	I Year	II Year	III Year	IV Year	V Year & above
1	Dual Degree	31	29	31	25	22
2	M. Tech/ M. Pharm/ M.Sc.	24	24	-	-	-
3	Ph. D (Under Institute Fellowship)	21	5	2	3	26
4	**A.** Ph. D (Under Project Fellowship) **B.** Ph.D. (Other Funding Agency)	-- 7	-- 14	-- 7	-- 20	-- 13
5	**A.** Ph. D (Under Sponsored Category) **B.** Ph. D (Under Full Time External & Part Time Category)	-- --	-- 3	-- 2	-- 2	-- 1

Names of students/scholars who attended conferences/workshops/seminars and symposia abroad or in India *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
ÌNDIA					
1.	Ajay Shankar Bangwal	16171004	Workshop on "Electrochemistry Techniques" by SARTHI, held at BHU	07-08 April 2022	Self
2.	Manisha Chauhan	17171014	Workshop on "Electrochemistry Techniques" by SARTHI, held at BHU	07-08 April 2022	Self
3.	Manisha Chauhan	17171014	4th Global Summit on FMSR.	08-09 November 2022 (Online)	Self
4.	Manisha Chauhan	17171014	ICAMN 2022.	22-24 December 2022 (Online)	Self
5.	Sambhab Dan	17171501	Spectroscopy of Novel Superconductor (SNS 2022)	12-16 December, IISc Bangalore	Self
6.	Labanya Ghosh	17171505	IX International conference on Perpectives in Vibrational Spectroscopy (ICOPVS-2022)	13-17 December 2022, Indore	STGS
7.	Srishti Dixit	18171006	IX International conference on Perpectives in Vibrational Spectroscopy (ICOPVS-2022)	13-17 December 2022, Indore	STGS

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
8.	Srishti Dixit	18171006	IUMRS-ICA- 2022	19-23 December 2022, Jodhpur	STGS
9.	Srishti Dixit	18171006	Workshop on Faculty Development Program on Material Characterization (2022)	23-27 September, 2022	Self
10.	Kuldeep Kumar Shrivastava	18171007	Student Conference on Optics and Photonics (SCOP-2022)	28-30 September 2022, PRL Ahmedabad	RSGF
11.	Kuldeep Kumar Shrivastava	18171007	Conference on Optics, Photonics and Quantum Optics (COPAQ-2022)	10-13 November 2022, IIT Roorkee	STGS, RSGF
12.	Uma Sharma	18171010	Workshop on "Electrochemistry Techniques" by SARTHI, BHU	07-08 April 2022	Self
13.	Uma Sharma	18171010	AFMFP-2022, NIT Jalandhar	06-08 August 2022 (Online)	Self
14.	Uma Sharma	18171010	IUMRS – ICA 2022, IIT Jodhpur.	19-23 December, 2022, IIT Jodhpur	STGS
15.	Uma Sharma	18171010	Online training on Rietveld Refinement	25 Jan – 2 Feb, 2023 (Online)	Self
16.	Satya Vijay Kumar	18171012	IUMRS- ICA 2022, IIT Jodhpur	19-23 December, 2022, IIT Jodhpur	Self
17.	Ashish Kumar Ranjan	18171501	IUMRS – ICA 2022, IIT Jodhpur.	19-23 December, 2022, IIT Jodhpur	STGS
18.	Ashish Kumar Ranjan	18171501	Online training on Rietveld Refinement	25 Jan – 2 Feb, 2023 (Online)	Self
19.	Tushar Sarkar	18171502	GIAN course on Digital and Dynamic Holography with Applications	12-17 December, IIT Patna	NA
20.	Avinash Chauhan	18171504	Bangalore School on Statistical Physics – XIII (HYBRID)	11-22 July 2022 (Online)	NA
21.	Avinash Chauhan	18171504	5th International Conference on Soft Materials	11-16 December 2022 MNIT Jaipur	Institute
22.	Avinash Chauhan	18171504	8th Indian Statistical Physics Community Meeting	01-03 February 2023 ICTS Bengaluru	Institute
23.	Avinash Chauhan	18171504	Training on MATLAB Software	06-10 February 2023 IIT (BHU)	NA
24.	Avinash Chauhan	18171504	Workshop on Soft Matter : From Physics to Biology	17-23 March 2023 BHU	NA
25.	Nidhi Goel	18171505	DAE Symp. On Nuclear Physics 2022	01-05 December, 2022 Cotton University, Guwahati, Assam	Instittue
26.	Dheeraj Kumar	18171506	IUMRS- ICA 2022	19-23 December, 2022 Jodhpur	STGS
27.	Pawan Kumar	18171507	Aditya-L1 Workshop	27 June to 6 July, Aries, Nainital	ISRO Grant
28.	Pawan Kumar	18171507	YAM-2022	9-13 November Aries, Nanital	IIT (BHU)
29.	Pawan Kumar	18171507	41st ASI meeting 2023	1-5 March IIT Indore	Ramanujan Fellowship
30.	Manisha	18171508	COPaQ 2022	10-13 November, 2022, IIT Roorkee	IIT (BHU)

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
31.	Manisha	18171508	Training Program on Dimensional Metrology and applications of Laser Interferometers	01-02 December, 2022, CSIR- National Physical Laboratory, New Delhi	NA
32.	Shivam Awasthi	18171510	International Conference On Emerging Materials for Sustainable Development (EMSD-2022)	09-11 October 2022, Chandigarh	Self
33.	Shivam Awasthi	18171510	International Conference on Emerging Materials for Technological Applications (ICEMTA-2022)	23-25 November, 2022 Vishakhapatnam	Self
34.	Shivam Awasthi	18171510	International Conclave on Materials, Energy and Climate (ICMEC 2022)	12-14 December, 2022 New Delhi	self
35.	Shivam Awasthi	18171510	66thDAE Solid State Physics Symposium (DAE SSPS 2022)	18-22 December, 2022, Ranchi	STGS
36.	Samiksha Shrivastav	19171001	Bangalore School on Statistical Physics – XIII (HYBRID)	11-22 July 2022 Online Mode	NA
37.	Samiksha Shrivastav	19171001	The School on Stochastic Thermodynamics in Biology	27 Nov- 03 Dec 2022	NA
38.	Samiksha Shrivastav	19171001	5th International Conference on Soft Materials	11-16 December 2022, MNIT Jaipur	Institute
39.	Samiksha Shrivastav	19171001	8th Indian Statistical Physics Community Meeting	01-03 February 2023, ICTS Bengaluru	Institute
40.	Samiksha Shrivastav	19171001	Training on MATLAB Software	06-10 February 2023, IIT (BHU)	NA
41.	Harsh Kumar	19171002	Advanced Microscopy and its Application in Materials Science	08-10 November 2022,IIT Madras	STGS
42.	Harsh Kumar	19171002	APS March Meet	20-22 March, 2023 (Virtual)	Self
43.	Sourav Chandra	19171004	COPaQ 2022	10-13 November, 2022, IIT Roorkee	IIT (BHU)
44.	Sourav Chandra	19171004	Training Program on Dimensional Metrology and applications of Laser Interferometers	01-02 December, 2022, CSIR- NPL, New Delhi	NA
45.	Neha Patel	19171005	IX International conference on Perpectives in Vibrational Spectroscopy (ICOPVS-2022)	13-17 December 2022, Indore	Self
46.	Anuvrat Tripathi	19171006	IUMRS ICA-2022	19-23 December 2022, IIT Jodhpur	Self and STGS
47.	Santosh Kachhap	19171008	Training program on "Experimental Methods for Nanotechnology Research"	02-08 April 2022, Banasthali Vidyapith, Rajasthan	DST
48.	Santosh Kachhap	19171008	Hands-on Training Workshop on "Synthesis and Characterization of Nanomaterials for Energy, Lighting & Bio-imaging Applications"	07-13 November 2022, IIT ISM Dhanbad, Jharkhand	DST
49.	Santosh Kachhap	19171008	Conference on "Perovskite Society of India Meet-2023 (PSIM-2023)".	01-03 March 2023, IIT Roorkee, Uttarakhand	UGC
50.	Santosh Kachhap	19171008	Conference on "2nd National Conference on Advanced Nanomaterials and Applications (ANA-2023)"	20-22 March 2023, Central University of South Bihar, Bihar	UGC
51.	Kaustubh Naik	19171009	Smart material for sustainable technology (SMST 2022)	13-16 October 2022	STGS

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
52.	Kaustubh Naik	19171009	International conference on Biomaterials, Regenerative medicines and devices	14-18 December, 2022	Self
53.	Neelam Singh	19171011	XXV DAE-BRNS HEP Symposium	12-16 December 2022, IISER Mohali	IIT(BHU)
54.	Neelam Singh	19171011	Workshop on Data and Machine Learning at the LHC (DML@LHC)	22-28 August 2022, IIT Hyderabad	Self-financed
55.	Neelam Singh	19171011	Future Flavours: Prospects for Beauty, Charm and Tau Physics (Online)	25 April- 06 May 2022 (Online)	NA
56.	Sarita	19171012	CoPaQ 2022	10-13 November, 2022, IIT Roorkee	IIT(BHU)
57.	Akanksha Gautam	19171013	COPaQ 2022	10-13 November, 2022, IIT Roorkee	IIT (BHU)
58.	Manisha Sharma	19171015	One week training program on "Application of XRD technique in materials science and engineering" (STUTI- 2022	22-28 August, 2022	DST
59.	Manisha Sharma	19171015	PSIM 2023, IIT Roorkee	03 March, 2023	Self
60.	Manisha Sharma	19171015	ANA-2023, South university of bihar, Gaya.	20-23 March, 2023	Self
61.	Vindya Vashishth	19171018	41st meeting of ASI-2023	01-05 March, 2023, IIT Indore	Ramanujan Fellowship + Institute's STGS
62.	Pawan Kumar Mishra	19171019	School on Stochastic Thermodynamics in Biology, IIT Bombay	27 Nov-03 Dec 2022, IIT Bombay	IIT Bombay
63.	Pawan Kumar Mishra	19171019	Frontiers in Active and Soft matter, UoH & TIFR Hyderabad	10-11 February, 2023	STGS+Self
64.	Swarnima Singh	19171020	Hands on training program on "Fuel cell,Solar simulator and electrochemical Workstation", BHU	23-24 September 2022	Self
65.	Swarnima Singh	19171020	ICAMN-2022 JP Institute (online)	22-24 December 2022	Self
66.	Swarnima Singh	19171020	Online training on Rietveld Refinement	25Jan-02 Feb 2023	Self
67.	Swarnima Singh	19171020	Hands on training on "Solar cell and OLED simulation using Setfos software "(Online)	03-04 February 2023	Self
68.	Shubham Garg	19171021	Smart material for sustainable technology (SMST 2022)	13-16 October 2022	STGS
69.	Shubham Garg	19171021	International conference on Biomaterials, Regenerative medicines and devices	14-18 December, 2022	Self
70.	Ashish Kumar Singh	19171023	Bangalore School on Statistical Physics – XIII (HYBRID)	11-22 July 2022 (Online)	NA
71.	Ashish Kumar Singh	19171023	Workshop on Molecular Dynamics Simulation and Analysis	05-07 August 2022 NIT Jalandhar	NA
72.	Ashish Kumar Singh	19171023	5th International Conference on Soft Materials	11-16 December 2022 MNIT Jaipur	Institute
73.	Ashish Kumar Singh	19171023	Training on MATLAB Software	06-10 February 2023 IIT (BHU)	NA
74.	Ashish Kumar Singh	19171023	Workshop on Soft Matter : From Physics to Biology	17-23 March 2023 BHU	NA

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
75.	Sachin Singh	19171026	Training program on "Experimental Methods for Nanotechnology Research"	02-08 April 2022, Banasthali Vidyapith, Rajasthan	DST
76.	Sachin Singh	19171026	International conference on "Smart Materials for Sustainable Technology-II".	13-16 Oct 2022, IIT Bombay	INSPIRE
77.	Sachin Singh	19171026	Conference on "2nd National Conference on Advanced Nanomaterials and Applications (ANA-2023)"	20-22 March 2023, Central University of South Bihar, Bihar	INSPIRE
78.	Vartika Singh	19171503	XXV DAE-BRNS HEP Symposium	12-16 December, 2022, IISER Mohali	IIT(BHU)
79.	Vartika Singh	19171503	Workshop on Data and Machine Learning at the LHC (DML@LHC)	22-28 August, 2022, IIT Hyderabad	Self-financed
80.	Vartika Singh	19171503	Future Flavours: Prospects for Beauty, Charm and Tau Physics (Online)	25 April- 06 May 2022 (Online)	NA
81.	Swayangsiddha Ghosh	19171504	UGC-DAE Solid State Physics Symposium (DAE SSPS 2022)	18-22 December, 2022	STGS
82.	Swayangsiddha Ghosh	19171504	DST-India sponsored INDO-ITALIAN workshop in Centre for High Pressure Research School of Physics 2022	29-30 December, 2022	Self
83.	Swayangsiddha Ghosh	19171504	Workshop on Faculty Development Program on Material Characterization (2022)	23-27 September, 2022	Self
84.	Mamta Prajapati	19171505	DAE Symp. On Nuclear Physics 2022	01-05 December, 2022, Cotton University, Guwahati, Assam	Institute
85.	Mamta Prajapati	19171505	School on Data Acquisition and Analysis	22-24 February, 2023 Inter-University Accelerator Centre, New Delhi	Accommodation by IUAC, New Delhi and travel from INSPIRE Fellowship
86.	Tarun Kathariya	19171506	IURMS-ICA 2022	19-23 December, 2022, IIT Jodhpur	IIT(BHU), Varanasi
87.	Tarun Kathariya	19171506	STUTI Workshop	23-29 January, 2023, SHATHI, BHU, Varanasi	Self
88.	Anu B Sreedevi	20171502	Aditya L1 Workshop	27-30 November, 2022, MAHE, Manipal	Ramanujan Fellowship
89.	Anu B Sreedevi	20171502	ASI 2023	01-05 March, 2023, IIT Indore	ISRO Grant
90.	Shruti	20171503	International conference on "Smart Materials for Sustainable Technology-II".	13-16 Oct 2022, IIT Bombay	PMRF
91.	Shruti	20171503	Online Hands-on training program on "Rietveld Refinement".	25 Jan – 02 Feb 2023 (Online)	PMRF
92.	Shruti	20171503	Training program on "Experimental Methods and Numerical Techniques" organised under DST-STUTI	22 – 28 Feb 2023, Banasthali Vidyapeeth	DST
93.	Akash Biswas	20171506	41st meeting of the ASI- 2023	01-05 March, 2023, IIT Indore	Ramanujan Fellowship
94.	Amit Yadav	20171508	COPaQ 2022,	10-13 November, 2022, IIT Roorkee	IIT(BHU)

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
95.	Harish Verma	20171512	Indo-Korea International Workshop/ Technical virtual training on Nanoparticle-Based Plasma Bioscience,	04-05 May, 2022, CCS University, Meerut, Plasma Bioscience Research centre, Kwangwoon University, Seoul, South Korea	Self
96.	Harish Verma	20171512	International workshop Nanomaterials for Photovoltaic Devices,	17-18 May, 2022, Department of Physics, CCS University, Meerut Czech Technical University in Prague.	Self
97.	Harish Verma	20171512	Workshop on particle characterization techniques (PCT-2022),	30 May-06 June, 2022, Department of Chemistry & International Research Centre, Satyabhama Institute of Science and Technology, CSIR	Self
98.	Harish Verma	20171512	Centre for development of advanced computing,	22 June, 2022, Ministry of Electronics & IT (MeitY), Govt. of India	Self
99.	Harish Verma	20171512	ACS Chemistry of life, Workshop,	29 June, 2022, ACS-IIT BHU	Self
100.	Harish Verma	20171512	Introduction to Multiscale Materials Modeling,	18-21 July, 2022, IIT Dharwad	Self
101.	Harish Verma	20171512	NanoDCAL Software for Nanoelectronics materials and device simulation workshop,	03 September, 2022, Impulse Technology	Self
102.	Harish Verma	20171512	Advanced Materials for Sensing and Energy Applications,	21-25 September, 2022, Electronics and ICT Academy, IIT Roorkee	Self
103.	Harish Verma	20171512	GT-TSC'22,	08-09 December, 2022, Institute of Science BHU	Self
104.	Harish Verma	20171512	BSCI-2022S,	26-27 December, 2022, Department of Chemistry, BHU	Self
105.	Pratikshya Jena	20171515	Frontiers in Non Equilibrium Physics	17-20 January, 2023, The Institute of Mathematical Sciences, Chennai	STGS
106.	Tanushree Karmakar	20171516	COPaQ 2022,	10-13 November, 2022, IIT Roorkee	IIT(BHU),
107.	Tanushree Karmakar	20171516	Training Program on Dimensional Metrology and applications of Laser Interferometers	01-02 December, 2022, CSIR- NPL, New Delhi	NA
108.	Jay Narayan Mishra	20171517	Workshop on "Electrochemistry Techniques" by SARTHI, BHU	07-08 April 2022	Self
109.	Jay Narayan Mishra	20171517	AFMFP-2022, NIT Jalandhar (Oral Presentation)	06-08 August 2022 (Online)	Self
110.	Jay Narayan Mishra	20171517	One week training program on "Instrumental Method on material analysis", Sri Venkateshwar University Tirupati (STUTI-2021)	22-28 August 2022	DST

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
111.	Jay Narayan Mishra	20171517	SMST – 2022, IIT Bombay (Poster presentation)	13-16 October 2022	STGS
112.	Bhimraj Singh	21171001	One Week Training Program on Research Instruments in Condensed Matter and Nuclear Physics	19-25 September, 2022	DST
113.	Prateek Agrawal	21171002	COPaQ 2022	10-13 November, 2022, IIT Roorkee	NA
114.	Devendra Kumar Verma	21171003	Bangalore School on Statistical Physics – XIII (HYBRID)	11-22 July 2022 Online Mode	NA
115.	Devendra Kumar Verma	21171003	Workshop on Molecular Dynamics Simulation and Analysis	05-07 August 2022, NIT Jalandhar	NA
116.	Devendra Kumar Verma	21171003	5th International Conference on Soft Materials	11-16 December 2022, MNIT Jaipur	Institute
117.	Devendra Kumar Verma	21171003	Training on MATLAB Software	06-10 February 2023, IIT (BHU)	NA
118.	Devendra Kumar Verma	21171003	Workshop on Soft Matter : From Physics to Biology	17-23 March 2023, BHU	NA
119.	RamPratap	21171006	COPaQ 2022	10-13 November, 2022, IIT Roorkee	NA
120.	Pramod Kumar	21171010	ASEM-23	16-18 March, 2023, MMV BHU	Self
121.	Pramod Kumar	21171010	BSCI-2022S,	26-27 December, 2022, Department of Chemistry, BHU	Self
122.	Saikat Gayen	22171003	Radio Astronomy School (RAS)	13-24 March, 2023, NCRA, TIFR, Pune	Organising Institute
123.	Saikat Gayen	22171003	Exploring the Sun and Heliosphere using ADITYA-L1	25-27 Feb 2023, IIT (BHU) Varanasi	NA
124.	Saikat Gayen	22171003	Workshop on 21-cm Cosmology in the Square Kilometre Array Era	31st Oct – 4th Nov, ISI Kolkata	Organising Institute and SKA India
125.	Shikha	22171012	Smart material for sustainable technology (SMST 2022)	13-16 October, 2022	Self
126.	Mohit Rathor	21171015	COPaQ 2022	10-13 November, 2022, IIT Roorkee	IIT (BHU)
127.	Aayush Mittal	21171501	STUTI Workshop,	18-24 July, 2022, Department of Physics, AMU Aligarh	Funded by DST
128.	Aayush Mittal	21171501	BSCI-2022S,	26-27 December, 2022, Department of Chemistry, BHU	Self
129.	Partha Sarathi Mondal	21171502	Frontiers in Non-Equilibrium Physics	17-20 January, 2023, The Institute of Mathematical Sciences, Chennai	STGS
130.	Ankita Chowdhury	21171505	COPAQ 2022	10-13 November, 2022,IIT Roorkee	NA
131.	Shivam Kumar Chaubey	21171506	COPaQ 2022	10-13 November, 2022, IIT Roorkee	IIT(BHU)

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
132.	Rajni Baranwal	21171507	STUTI Workshop,	18-24 July, 2022, Department of Physics, AMU Aligarh	Funded by DST
133.	Rajni Baranwal	21171507	IURMS-ICA 2022,	19-23 December, 2022, IIT Jodhpur	IIT- BHU, Varanasi
134.	Sneha Yadav	21171510	DAE Solid State Physics Symposium (SSPS 2022)	18-22 December, 2022	PMRF
135.	Sneha Yadav	21171510	Workshop on FDP on Material Characterization	23-27 September, 2022	Self
136.	Vikash Kumar Gupta	21171512	One Week Training Program on Research Instruments in Condensed Matter and Nuclear Physics	19-25 September, 2022	DST
137.	Anish Kumar	22171007	Steady state phenomena in soft matter, active and biological system	16-18 March, 2023	PMRF contingency
138.	Divya Kushwaha	22171010	Steady state phenomena in soft matter,active and biological system	16-18 March, 2023	Self
139.	Shanas Fatima	22171504	National workshop on Fluorescence and Raman Spectroscopy FCS XIII	06-11 January 2023, IISER TVM	IIT (BHU), Varanasi
140.	Shanas Fatima	22171504	Conference on "Perovskite Society of India Meet-2023 (PSIM-2023)".	01-03 March 2023, IIT Roorkee, Uttarakhand	NA
ABROAD					
1.	Bhagyashree Verma	17171502	American Geophysical Union Fall Meeting 2022	12-16, December, 2022. USA (Online)	Self
2.	Sanjeet Kumar Patel	18171001	Cosmoglobe Winter Workshop	23-27 January, 2023 held at University of Oslo, Norway	University of Oslo, Norway
3.	Sanjeet Kumar Patel	18171001	Cosmological Component Separation course	22 Aug. – 02 Sep., 2023 at University of Oslo, Norway	University of Oslo, Norway
4.	Shubham Kumar Singh	18171011	American Geophysical Union Fall Meeting 2022	12-16, December, 2022. USA (Online)	Self
5.	Manisha	18171508	Frontiers in Optics, FiOLS	17-20 October, 2022, USA (Online)	NA
6.	Manisha	18171508	Digital Holography and Three-Dimensional Imaging 2022	01-04 August, 2022 Cambridge, UK (Online)	NA
7.	Manisha	18171508	International conference on Holography Meets Advanced Manufacturing (HMAM)	20-22 February, 2023 Estonia (Online)	NA
8.	Anuvrat Tripathi	19171006	Seminar Presentation at Department of Physics, University of Witwatersrand, Johannesburg, South Africa.	26 Feb. – 03 March, 2023 at Department of Physics, University of Witwatersrand, Johannesburg, South Africa.	DST-SERB and host's project.
9.	Akanksha Gautam	19171013	International conference on Holography Meets Advanced Manufacturing (HMAM)	20-22 February, 2023 Estonia (Online)	NA
10.	Vindya Vashishth	19171018	IAUGA 2022	02-11 August 2022, Busan, South Korea	IAU, IIT (BHU)

Sl. No.	Name of Student	Roll No.	Conference/Seminar/Symposia/ Workshop	Date & Venue	Financial Assistance From
11.	Sanjeev Sanyal	19171501	Cosmoglobe Winter Workshop	23-27 January, 2023 held at University of Oslo, Norway	University of Oslo, Norway
12.	Sanjeev Sanyal	19171501	Cosmological Component Separation course	22 Aug. – 02 Sep., 2023 at University of Oslo, Norway	University of Oslo, Norway
13.	Anshul Verma	19171502	Cosmoglobe Winter Workshop	23-27January, 2023 held at University of Oslo, Norway	University of Oslo, Norway
14.	Anshul Verma	19171502	Cosmological Component Separation course	22 Aug. – 02 Sep., 2023 at University of Oslo, Norway	University of Oslo, Norway
15.	Anu B Sreedevi	20171502	IAUGA 2022	02-11 August 2022, Busan, South Korea	IAU, IIT (BHU)
16.	Akash Biswas	20171506	Solar and Stellar Dynamo: A new Era	13-17 June, 2022, ISSI, Bern, Switzerland	ISSI Bern (Young Researcher Support Grant)
17.	Amit Yadav	20171508	International conference on Holography Meets Advanced Manufacturing (HMAM)	20-22 February, 2023, Estonia (Online)	NA
18.	Tanushree Karmakar	20171516	International conference on Holography Meets Advanced Manufacturing (HMAM)	20-22 February, 2023 Estonia (Online)	NA
19.	Mohit Rathor	21171015	International conference on Holography Meets Advanced Manufacturing (HMAM)	20-22 February, 2023 Estonia (Online)	NA
20.	Shivam Kumar Chaubey	21171506	International conference on Holography Meets Advanced Manufacturing (HMAM)	20-22 February, 2023 Estonia (Online)	NA

Names of students/scholars who got prizes and awards outside the Institute *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of Prize	Date & Venue	Prize awarded by
1.	Shivam Awasthi	18171510	Best Oral Presentation	14th Dec, New Delhi	International Association of Advanced Materials (SWEDEN)
2.	Akanksha Gautam	19171013	Best Poster Paper Award in conference COPaQ 2022	10-13 November, 2022, IIT Roorkee	IIT ROORKEE
3.	Akanksha Gautam	19171013	1st prize for best poster in Holography at International conference on Holography Meets Advanced Manufacturing (HMAM)	20-22 February, 2023,Estonia (online)	University of Tartu, Estonia.
4.	Shubham Garg	19171021	Best poster	16 Oct 2023, Iit-Bombay	SMST
5.	Tanushree Karmakar	20171516	2nd prize for best poster in Holography at International conference on Holography Meets Advanced Manufacturing	20-22 February, 2023,Estonia (online)	University of Tartu, Estonia.
6.	Mohit Rathor	21171015	3rd prize for best poster in Holography at International conference on Holography Meets Advanced Manufacturing	20-22 February, 2023,Estonia (online)	University of Tartu, Estonia.

Names of Students/Scholars who went for foreign Internship *((From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Student	Roll No.	Name of the Organization	Place of Internship	Country	Duration
1	Manthan Badbadia	19174014	Johannes Gutenberg-Universität	Mainz	Germany	1st June to 30th July, 2022

Faculty & their Activity: Faculty and their areas of specialisation

Sl. No.	Name, Qualification, Employee No.	Date of Award of PhD Degree	Major Areas of Specialization
PROFESSORS			
1	Prof. Debaprasad Giri, Ph.D., 17048	January 1997	Statistical Physics; Soft Condensed Matter Physics; Computational Bio-Physics
2	Prof. Prabhakar Singh, M.Tech., Ph.D., 18366	16th June 2005	Condensed matter physics Materials Science and Technology
3	Prof. Sandip Chatterjee, Ph.D., 18478	May 1997	Topological Insulators, Multiferroic Materials, Magnetism.
4	Prof. Rajendra Prasad, Ph.D., 17276	1998	Remote Sensing, Satellite image analysis, crop growth variables and soil moisture retrieval algorithms development for their monitoring
5	Prof. Raghava Varma	1990	Wastewater treatment, Acclerator Physics, Water, Experimental Particle and Nuclear Physics.
ASSOCIATE PROFESSORS			
1	Dr Anita Mohan PhD, 17041	1996	Physics and Diagnostics of Solar, EUV and X-Ray Emission Processes; Synthesis of composites; Tribology
2	Dr. Praveen Chandra Pandey, Ph.D., 18359	2001	Fiber Optics & Photonic Crystal Fibers, PBG and Metamaterials, Photonic materials.
3	Dr. (Mrs.) Shail Upadhyay, Ph.D., 18536	March 2000	Experimental Condensed Matter; Electro ceramic
4	Dr. Abhishek Kr. Srivastava, Ph.D., 19771	2006	Solar Physics
5	Dr. Rakesh Kumar Singh, Ph.D., 50222	8th August 2009	Optics: Experiment, Theory & Computation
6	Dr. Avanish Singh Parmar, Ph.D., 50021	7th August 2009	Biophysics, Nanotechnology, Hybrid Materials
ASSISTANT PROFESSORS			
1	Dr. Sunil Kumar Mishra, Ph.D., 50020	2nd June 2012	Quantum Infomation, Quantum Spins systems, Frustrated Magnets
2	Dr. Saurabh Tripathi, Ph.D., 50028	2012	Structural Phase Transitions in ferroics, Short and long range ordering in functional materials, Experimental Condensed Matter & Materials Science
3	Dr. Swapnil Patil, Ph.D., 50029	30th July 2010	Experimental Condensed Matter Physics; ARPES investigations of the electronic structure of materials
4	Dr. Shradha Mishra, Ph.D, 50033	February 2009	Condensed matter theory, soft matter and statistical physics
5	Dr. Prasun Dutta, Ph.D., 50036	2011	Physics of Interstellar Medium Radio Astronomy Observations and Interpretations, Statistical astrophysics and cosmology
6	Dr. Rajeev Singh, Ph.D., 50170	21st December 2013	Quantum Physics, Quantum Optics, Quantum Information
7	Dr. Somnath Nag, Ph.D., 50173	20th July 2014	Nuclear Physics (Gamma Ray Spectroscopy, Nuclear structure model calculations – cranked Nilsson Strutinsky Model, Shell Model calculations)
8	Dr. Sunil Kumar Singh, Ph.D, 50182	28th September 2011	Spectroscopy Lasers Nanophotonics
9	Dr. Gauhar Abbas, Ph.D., 50199	14th December 2012	Theoretical High Energy Physics
10	Dr. Awaneesh Kumar Singh, Ph.D.; 50213	11th October 2011	Soft Matter Physics, Statistical Physics, Physical Chemistry

Sl. No.	Name, Qualification, Employee No.	Date of Award of PhD Degree	Major Areas of Specialization
11	Dr. Bidya Binay Karak, Ph.D., 50217	August 2013	Solar Physics; Magnetohydrodynamics (MHD) and its application in Sun and other stars; Astrophysical Fluids, Turbulence, and Convection; Dynamo Theory, Sunspot and Solar Cycle, Chaotic behaviours of Astrophysical Objects
12	Dr. Pavan Kumar Aluri, Ph.D., 50219	5th June 2013	Cosmology – Cosmic Microwave Background – Statistical isotropy
13	Dr. Biswanath Bhoi, Ph.D., 50303	24th February 2016	Magnetic thin films and Nanoparticles (Ferrites and Garnets), Spintronics, Spin-wave dynamics and applications, Cavity Magnonics, Photon-magnon coupling, Hybrid system for quantum information transportation devices.
14	Dr. Kul Deep Verma, Ph.D., 50311	3rd Mach 2017	Asteroseismology, Stellar Astrophysics, Galactic Archaeology, Machine Learning
Visiting Faculty			
1	Dr. Arvind Kumar Tripathi, FAC-VF-17	2000	Planetary & Space Sciences, Planetary Space Weather

Technical and Non-Teaching Staff

Sl. No.	Name, Qualifications	Designation, Employee No.	Date of Appointment in the department
1	Rahul Kant Chaudhary, M. Tech.	Sr. Assistant	13.05.2017
2	Awadhesh Kumar Srivastava, B.Com & B. Lib	Skilled Clerical Staff	10.06.2016
3	Vikash Singh, B.Sc.	Skilled Staff	21.12.2010
4	Ramji Ram, High School & Agricultural Diploma	Sr. Technical Superintendent	30.05.1987
5	Manjul Tiwari, B.Sc. & Diploma in Applied Videography	Sr. Technical Superintendent	15.12.2008
6	Bhanu Pratap Prasad, Intermediate Science	Sr. Technical Superintendent	19.11.1990
7	Sujeet Kumar Bose, BA & Diploma in Electrical Engineering	Technical Superintendent	22.02.2007
8	Pankaj Kumar Asthana, B.Sc.	Jr. Technical Superintendent	05.08.2008
9	Upendra Prasad, M.Sc.& M.Ed.	Jr. Technical Superintendent	16.08.2008
10	Kumar Vikram, Intermediate Commerce & DCA+Tally	Jr. Technical Superintendent	27.08.2004
11	Uma Shankar Pandey, Intermediate	Multi Tasking Staff	16.12.2016
12	Anil Kumar Pal, BA & ITI Diploma	Multi Tasking Staff	05.05.2017

Short-term courses/workshops/seminars/symposia/conferences organised by faculty members

(From 1st April 2022 to 31st March 2023)

Sl. No.	Cordinator	Title	Period
1.	Dr. Abhishek Kumar Srivastava; Organizing Member	A 1-day workshop titled "Origin and Evolution of Solar Eruptive Phenomena: Observations, Modeling and Sun-Earth Connection"	01 March 2023; The Annual Meeting of the Astronomical Society of India (ASI), IIT Indore.
2.	Dr. Avanish Singh Parmar (Convener)	Smart Materials for Sustainable Technology (SMST-II) at IIT Bombay	13-16 October 2022
3.	Dr. Bidya Binay Karak & Dr. Abhishek Kumar Srivastava	Aditya L1 Support Cell Third Third Workshop	25-27 February, 2023

Short-term courses/workshops/seminars/symposia/conferences/training programmes *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title	Period and Venue
Seminars/Symposia/Conferences			
1.	Prof. Prabhakar Singh	National Conference on Advances in Solar Energy Materials (ASEM-23)	18 March, 2023, Mahila Mahavidyalya BHU.
2.	Prof. Prabhakar Singh	47th ICACC	Hilton Daytona Beach Oceanfront Resort Daytona Beach, FL United States during 22.01.2023 to 27.01.2023
3.	Prof. Prabhakar Singh	Bandgap Engineering and Electrochemical Properties of Disordered $LaFeO_3$ and Heterostructures	MS&T22 at Pittsburgh, USA During 09.10.2022 to 12.10.2022
4.	Dr. Abhishek Kumar Srivastava	TIFAC TECHNOLOGY VISION 2047, National Consultative Meeting	20th -21st March, 2023, BHU, Varanasi
5.	Dr. Abhishek Kumar Srivastava	The 3rd Aditya-L1 Workshop	25-27 February 2023, IIT (BHU)
6.	Dr. Abhishek Kumar Srivastava	National Brainstorming Session on Empowering Young Scientists of India	24-25 January 2023, IIT (BHU)
7.	Dr. Abhishek Kumar Srivastava	International Workshop on "Solar-stellar Connections, Flares, and Superflares" (https://www.virac.eu/speakers)	04 August 2022
8.	Dr. Abhishek Kumar Srivastava	National Brainstorming Session on Empowering Young Scientists of India	29-30th June 2022, SPU, Mandi, India
9.	Dr. Rakesh Kumar Singh	Optica-Digital Holography and Three-Dimensional Imaging (Invited talk)	1-4 August 2022, Cambridge University, United Knigdom by the Optical Society of India
10.	Dr. Rakesh Kumar Singh	SCOP 2022: 7th Student Conference on Optics and Photonics (Invited talk)	28-30 September 2022, PRL, Ahmedabad, India
11.	Dr. Rakesh Kumar Singh	COPaQ 2022- Conference on Optics, Photonics & Quantum Optics (Invited talk)	10-13 November 2022, IIT-Roorkee, India
12.	Dr. Rakesh Kumar Singh	Smart Materials for Sustainable Technology-II (SMST-2022)- (Invited Talk)	13-16 October 2022, IIT Bombay, Mumbai
13.	Dr. Rakesh Kumar Singh	UEC-SAARC Symposium on Emerging Technologies(USSET) (Invited talk)	13-14 December 2022, UEC, Tokyo, Japan
14.	Dr. Rakesh Kumar Singh	International Conference on Holography Meets Advanced Manufacturing (HMAM) (Invited talk)	20-22 February 2023, University of Tartu, Estonia (Online)
15.	Dr. Rajeev Singh	Smart Materials for Sustainable Technology-II (SMST-2022)	13-16 October 2022, IIT Bombay, Mumbai
16.	Dr. Somnath Nag	IDATEN workshop	06-08/07/2023, KBW Main Auditorium at GSI, GSI Helmholtzzentrum für Schwerionenforschung GmbH Planckstraße 164291 Darmstadt (Hybrid Mode)
17.	Dr. Gauhar Abbas	Frontiers in Particle Physics 2023	March 10-12, 2023
18.	Dr. Pavan Kumar Aluri	Cosmoglobe Workshop 2022	May 2-6, 2023 (online) by University of Oslo, Norway
19.	Dr. Pavan Kumar Aluri	National Conference on Indian Knowledge Systems	Feb. 28th – Mar. 01st, 2023, organized by IKS Center, IIT(BHU), Varanasi
20.	Dr. Kul Deep Verma	Simulations and Validation	December 12-13, 2022; 3rd (virtual) hands on workshop organised by the PLATO WP12 office, France
Meetings			
1.	Dr. Somnath Nag	BTR Presentation session TIFR Mumbai	20-21/06/2022, TIFR Mumbai (Hybrid Mode)
2.	Dr. Somnath Nag	Presentation of INGA proposals at VECC 2023	04-06/01/2023 , VECC Kolkata (Hybrid Mode)
3.	Dr. Somnath Nag	PAC presentations IDATEN RIBF231	05.12.2022, online

Special lectures delivered by faculty members in other institutions *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
1.	Prof. Prabhakar Singh	Stable Perovskite Photovoltaics	Department of Physics, Shri mata Vaishno Devi University, Jammu.	1st September 2022
2.	Prof. Prabhakar Singh	Engineering Materials for Sustainable Growth	MMMUT Gorakhpur on National Science Day	28 February 2023
3.	Dr Praveen Chandra Pandey	One-dimensional photonic crystals composed of graded index materials	MKL(PG) College, Balarampur, UP, India	17 December 2022
4.	Dr. Praveen Chandra Pandey	Optical techniques used In characterization of Phosphors	STUTI-23, Department of Physics, Institute of Science, BHU in association with SATHI-BHU and Banasthali Vidyapith, Rajasthan	24 January 2023
5.	Dr. A.K. Srivastava	Contribution of India in the Development of Astronomy & Astrophysics	National Workshop under the frame-work of NEP-2020, SPU, Mandi, HP.	30 June 2022
6.	Dr. Abhishek Kumar Srivastava	Flares and Quasi-Periodic Pulsations in Some Stellar Coronae	online International Workshop on "Solar-stellar Connections, Flares, and Superflares" (https://www.virac.eu/speakers)	4 August 2022
7.	Dr. Abhishek Kumar Srivastava	Cutting Edge Perspective in Solar Physics in India	The 8th BRICS Astronomy Working Group Workshop (BAWG 2022), October 18-20, 2022	18 October 2022
8.	Dr. Rakesh Kumar Singh	Pilot assisted coherent light to see through randomness	Bar-Ilan University, Israel	30 November 2022
9.	Dr. Rakesh Kumar Singh	Correlation assisted imaging to see through randomness	PSGR Krishnammal college for women (Anna University) Coimbatore	03 February, 2023
10.	Sunil Kumar Mishra	Quantum teleportation via spin chains	"Webinar" on Quantum World MNIT Jaipur	14 April, 2022
11.	Dr. Saurabh Tripathi	Short-range ordering driven relaxor ferroelectricity in average cubic (Pm-3m) phase of a lead-free smart material	4th International Conference on Graphene and Novel Nanomaterials (GNN2022), Shenzhen (China)	21-24 August, 2022
12.	Dr. Somnath Nag	Nuclear Physics : A Journey from Birth of Universe to Our Existence	St K C Memorial English School, Varanasi	01 March 2023
13.	Dr. Somnath Nag	Observation of Possible Wobbling Phenomenon	TIFR Mumbai	20-21 June, 2022
14.	Dr. Somnath Nag	Quantum phase transition in ^{96}Mo	VECC Kolkata	04-06, January 2023
15.	Dr. Somnath Nag	Probing octupole collectivity and electric dipole moments in neuron-rich Ba, La, and Ce isotopes by lifetime measurement of excited states	PAC presentations IDATEN RIBF231	05, December, 2022
16.	Dr. Somnath Nag	Study of odd-A ^{145,147,149}La isotopes	KBW Main Auditorium at GSI, GSI Helmholtzzentrum für Schwerionenforschung GmbH Planckstraße 164291 Darmstadt (Hybrid Mode)	06-08 July 2022
17.	Dr. Sunil Kumar Singh	Photon conversion in rare-earth doped inorganic materials	Indo-Us Joint Meeting, Indian Institute of Technology Delhi	28-30, November 2022
18.	Dr. Sunil Kumar Singh	Photon upconversion in lanthanides: Basics, mechanism, and applications	STUTI Training Program on "Synthesis and Characterization of Nanomaterials for Energy, Lighting & Bio-imaging Applications" Indian Institute of Technology (ISM) Dhanbad	07-13, November 2022
19.	Dr. Sunil Kumar Singh	Lanthanide doped hybrid nanostructures for optical encryption	International Conference on Smart Materials for Sustainable Technology-II, Indian Institute of Technology Bombay, Mumbai	13-16 October, 2022
20.	Dr. Gauhar Abbas	The Age of Flavour	Centre for Theoretical Physics, amia Millia Islamia, New Delhi	22 December 2022

Sl. No.	Name of faculty Member	Topic of Lecture	Institution	Date
21.	Dr. Awaneesh Kumar Singh	5th International Conference on Soft Materials	MNIT Jaipur	11-16 December, 2022
22.	Dr. Bidya Binay Karak	Understanding the nonlinearity and predictability of the solar dynamo	ARIES Nainital	12 April, 2022
23.	Dr. Bidya Binay Karak	Models for long-term cycle variabilities	International Space Science Institute, Bern, Switzerland.	13-17 June, 2022
24.	Dr. Bidya Binay Karak	Understanding and Modelling the Magnetic Cycles of Sun and Sun-like stars	University of Hyderabad	26 September, 2022
25.	Dr. Bidya Binay Karak	Recent Developments in the Babcock-Leighton Dynamo Theory for the Solar Cycle	FM5, IAU General Assembly, Busan South Korea	02-11 August, 2022

Visits abroad by faculty members *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Country Visited	Date of Leaving india	Date of Returning India	Purpose of Visit	Funding from
1.	Prof. Prabhakar Singh	USA, Daytona Beach, FL	22.01.2023	28.01.2023	47th ICACC	SERB travel grant
2.	Prof. Prabhakar Singh	Pittsburgh, USA	08.10.2022	13.10.2022	International Conference on MS&T	CPDA
3.	Dr. Anita Mohan	France	30 / 11/ 2022	16/ 12/ 2022	Research discussions on the common interests, as well as to explore the possibilities of answering jointly to calls for projects and thus to initiate our collaboration.	CPDA
4.	Dr. Rakesh Kumar Singh	Israel	29.11.2022	07.12.2022	Academic meeting and invitation by the Optical Society of America (Optica) student chapter at the Bar Ilan University	Partially from the Optical Society of America (Optica) & IIT (BHU)
5.	Dr. Bidya Binay Karak	Switzerland	June 12, 2022	June 25, 2022	Invited talk in conference + Meeting	CPDA + Host (International Space Science Institute, Bern)
6.	Dr. Bidya Binay Karak	South Korea	August 2, 2022	August 11, 2023	Invited keynote speaker	Ramanujan fellowship (SERB)

Honours and awards *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Award
1.	Dr. Rakesh Kumar Singh	Best Teacher Award-2023, IIT-BHU
2.	Dr. Rakesh Kumar Singh	2nd prize winner in the individual category; Dare 2 Dream 3 contest By the DRDO/ Govt of India, Got cash award of 4 Lakhs INR

Fellowships of academic and professional societies *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Details of Fellowship
1.	Dr. Rakesh Kumar Singh	Senior Member Optica (optical Society of America)
2.	Dr. Rakesh Kumar Singh	Senior Member SPIE- USA
3.	Dr. Rakesh Kumar Singh	Life Member Optical Society of India
4.	Dr. Bidya Binay Karak	Division of Plasma Physics, Association of Asia Pacific Physical Societies (AAPPS-DPP)

Books, monographs authored/co-authored *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Author/ Co- Author	Title	Publisher
1.	Vinu R V, Z Chen, Rakesh Kumar Singh, and J. Pu	G Ghost Diffraction Holography: A Correlation Assisted Quantitative Tool for Complex Field Imaging and Characterization	Intech Open ISBN978-1-80356-564-4, Ed. Prof. Joseph Rosen
2.	Debarati Pal, Swapnil Patil	'Advancement of Topological Nanostructures for Various Applications' in the book titled 'Advanced Materials and Nano Systems: Theory and Experiment (part-1)'	Bentham Science Publishers
3.	Priyam Singh, Sachin Singh, P Singh, SK Singh	Application of Upconversion in Photocatalysis and Photodetectors	Wiley ISBN: 9783527349654
4.	Biswanath Bhoi and Mangesh Diware	"Nanomagnets: Basics, Applications, and New Perspective." in the book "Fundamentals of Low Dimensional Magnets, Series in Material Science and Engineering,	CRC Press

Editorial boards of journals *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Position (Editor/ member)	Name of Journal
1.	Dr. A.K. Srivastava	Associate Editor in Solar and Stellar Physics	Frontiers in Astronomy and Space Sciences
2.	Dr. Bidya Binay Karak	Guest Editor	Frontiers in Astronomy and Space Scienc
3.	Dr. Pavan Kumar Aluri	Topic editor : Dark Energy and Dark Matter of the Universe	Frontiers in Astronomy and Space Sciences (eIISN:2296-987X)

Design and Development Activities

New facilities added *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Metrohm Autolab Electrochemical workstation	20.75
2	Educational Beta Kit Model SP5600 KIT D, Sr. No. 23661 for IDD and MSc students in Nuclear Physics Lab	6.5
3	Workstation	2.98

Patents filed *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Title of Patent
1	Dr. Avanish Singh Parmar	A composite hydrogel composition and a method of preparation thereof. (File no. 202311009955)

Research and Consultancy

Sponsored research projects *(Ongoing only)*

Note: Sponsored project name is to be given only in case a faculty member is Project Incharge

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
1.	Fabrication of Cathode materials and SOFC for energy applications	2021-2024	UP CST	11.44 Lakhs	Prof. Prabhakar SIngh
2.	High Proton conducting metal phosphonate electrolytes for fuel cell applications	2022-2024	Naval Research Board (NRB) DRDO.	41.20 Lakhs	Prof. Prabhakar SIngh
3.	Surface modification of porous electrodes for energy storage systems	2023-2026	India-Taiwan S&T Cooperation Programme – Call for Proposal (CFP) 2021 (DST-MOST)	33.90 Lakhs	Prof. Prabhakar SIngh

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs of Rs.)	Co- ordinator
4.	Modifications in Behaviour of 2D Materials induced by confinement of Ionic Liquids	2022-2025	Teachers associate (SERB)eship for research excellence	18.30 Lakhs	Prof. Prabhakar SIngh
5.	Development of microwave scattering algorithms for retrieval of crop biophysical parameters and soil moisture using polarimetric SAR satellite data.	3-years	ISRO	3073520.00	Prof. Rajendra Prasad
6.	Synthesis of movable monostatic radar mapping system for soil moisture retrieval	2 years	NGP-DST New Delhi	2753849.00	Prof. Rajendra Prasad
7.	Development of rare-earth-free metal vanadate phosphors for latent fingerprint detection	2023-2026	SERB	24.31 Lakhs	Dr. Praveen Chandra Pandey
8.	Novel Observations and Modeling of the Heating and Dynamical Plasma Processes in the Localized Solar Atmosphere	2022-2025	ISRO	28.03 Lakhs	Dr. Abhishek Kumar Srivastava
9.	Study of polarimetric parameters from laser speckle	2020-2023	CSIR	29.73 Lakhs	Dr. Rakesh Kumar Singh
10.	Scattering assisted imaging: Exploiting randomness of the light	2020-2023	SERB	34.21 Lakhs	Dr. Rakesh Kumar Singh
11.	Spatially resolved digital Holography polarization microscope for diagnosis application	2021-2024	DBT	41.44 Lakhs	Dr. Rakesh Kumar Singh
12.	Tailoring correlations of light using plasmonic and nanostructues	2021-2024	BRNS	33.68 Lakhs	Dr. Rakesh Kumar Singh
13.	Study of Quantum Chaos and multipartite entanglement using Quantum Circuits	2022-2025	SER DST	21.55 Lakhs	Dr. Sunil Kumar Mishra
14.	Enhancement of detection capability of Pyro-electric detectors in Infrared(IR) and Terahertz (THz) region	2023-2026	DRDO	94.003	Saurabh Tripathi
15.	Experimental study of anisotropy in nuclear charge and current distribution that results in interplay of electric and magnetic rotation in Xe nuclei	3 years	SERB	16.74 Lakhs	Dr. Somnath Nag
16.	Novel and Efficient Hybrid Material of CsPbBr3 Nanocrystals and Organic Complexes for Multi-stimuli and Dynamic Optical Encryption and Decryption	2022-2025	SERB, DST, New Delhi	21.01 Lakhs	Dr. Sunil Kumar Singh
17.	A new paradigm for flavour problem, no. CST/D-1301	2023-2026	The Council of Science and Technology, Govt. of Uttar Pradesh	10.40 Lakhs	Dr. Gauhar Abbas
18.	Higgs Physics within and beyond the Standard Model,no. CRG/2022/ 003237	2023-2026	Science and Engineering Research Board, Department of Science and Technology, Government of India	11.77 Lakhs	Dr. Gauhar Abbas
19.	Exploring the origin and dynamics of magnetic cycles of low main sequence stars	2018-2023	SERB/DST	38.00 Lakhs	Dr. Bidya Binay Karak
20.	On understanding the solar activity and preparing for space weather prediction using a state-of-art dynamo model	2020-2023	ISRO/RESPOND	30.99 Lakhs	Dr. Bidya Binay Karak

Faculty members' participation with other universities under MoUs *(Ongoing only)*

1. Dr. Rakesh Kumar Singh with Bar Ilan University, Israel
2. Dr. Rakesh Kumar Singh with Niigata University, Japan
3. Dr. Rakesh Kumar Singh with The University of Electro-Communications, Tokyo, Japan

Research Publications *(From 1st April 2022 to 31st March 2023)*

Sl. No.		No.
1	Total Number of Papers Published in Refereed International Journals	118
2	Total Number of Papers Presented in National Conferences	02
3	Total Number of Papers Presented in International Conferences	25

Refereed International Journals *(From 1st April 2022 to 31st March 2023)*

1. Sharma M, Singh Priyam, Singh SK, Singh P (2022) Li+ aided self-activated Ca9Y1–x–yErxYby(VO4)7 phosphors for efficient dual-mode emission and temperature sensing application, Optical Materials 133, 112925.
2. Singh Priyam, Kachhap S, Singh P, Singh SK (2022) Lanthanide-based hybrid nanostructures: Synthesis, classification, properties and multifunctional applications, Coordination Chemistry Reviews 472, 214795.
3. Singh Pragati, Pandey R, Singh P (2022) Influence of Mg-substitution on structural and electrical properties of ion conducting Ca-doped tri-yttrium gallate, International Journal of Applied Ceramic Technology, Article DOI: 10.1111/ijac.14275.
4. Ranjan A, Jha P, Jha PK, Singh P (2022) Anisotropic Photoconduction in ultrathin CuO: A nonreciprocal system?, J. Appl. Phys. 132(19), 195701.
5. Chou YS, Devi N, Yen SC, Singh P; Chen YS (2022) Study on the self-discharge of an all-vanadium redox flow battery through monitoring individual cell voltages, ACS Sustainable Chem. Eng. 10, 37, 2245–12251.
6. Yadav AK, Verma ON, Pandey R, Jha N, Singh P (2022) Ion dynamics and electrical transport in lanthanum silicate apatite (La9.67Si6O26.5), Applied Physics A, 128, 861.
7. Yadav Ak, Jha PA, Jha PK, Jha N, Singh P (2023) Influence of ionic radii on the conduction mechanism in Lanthanum silicate oxyapatite, Materials Chemistry and Physics 297, 127444.
8. Singh S, Kumar M, Jha PK, Jha PA, Singh P (2023) Observation of grey cesium tin bromide with unusual phase transition, EPL (Europhysics Letters), 141, 26001.
9. Yadav Ak, Jha PA, Jha PK, Jha N, Singh P (2023) Overlapping large polaron tunnelling in lanthanum silicate oxyapatite, Journal of Physics: Condensed Matter 35(09) 095702.
10. Bharti PC, Jha PK, Jha PA, Singh P (2023) Observation of isomorphic phase transition in non-perovskite Green CsSnI3, Materialia27, 101646.
11. Chauhan M, Bangwal AS, Singh P (2023) Electrochemical performance of A-site substituted SmSrNiO4-δ for energy storage applications, International Journal of Hydrogen Energy48, no. 14, pp. 5518–5528.
12. Gupta PK, Anand K, Alam Md, Ghosh S, Kumari S, Pal A, Singh M, Shukla KK, Yen P. Tsung-Wen, Huang Shin-Ming, Ghosh AK, Chatterjee S (2022) Reentrant double glassy states and simultaneous presence of short-and long-range ordering in metamagnetic Co-doped Bi0· 5La0· 5Fe0· 5Mn0· 5O3 multiferroic, Solid St. Sci., 131, 106930.
13. Ghosh L, Gangwar VK, Singh M, Kumar SV, Dixit S, Verma A, Sharma DK, Kumar S, Saha S, Ghosh AK, Chatterjee S (2022) Lattice dynamics of Bi1. 9Dy0. 1Te3 topological insulator, Physica B: Condensed Matter, 640, 414050.
14. Alam Md, Pal A, Ghosh S, Singh RK, Ghosh AK, Chatterjee S (2022) Effect of f–d and d–d Interactions on Dielectric and Optical Properties of Pyrochlore Eu2–xFexTi2O7, Phys. status solidi (b) [https://doi.org/10.1002/pssb.202100643]
15. Alam Md, Pal A, Anand K, Ghosh S, Tripathi S, Singh RK, Ghosh AK, Yang HD, Chatterjee S (2022) Relaxor–super-paraelectric behaviour and crystal-field–driven spin-phonon coupling in pyrochlore Eu2Ti2O7, Euro Phys. Letts. 137 26003.

16. Alam Md, Ghosh L, Majumder S, Singh P, Kumar SV, Dixit S, Kumar D, Anand K, Kumari S, Ghosh AK, Choudhary RJ, Chatterjee S (2022) Multifunctional behaviour in B-site disordered double perovskite EuPrCoMnO6, J. Phys. D: Appl. Phys. 55 255003.

17. Kumari S, Anand K, Alam Md, Ghosh L, Ghosh S, Gupta P, Singh R, Jain AK, Yusuf SM, Ghosh A.K, Mohan A, Chatterjee A (2022) Spontaneous exchange bias and large dielectric constant in Bi0. 8Tb0.2Fe0. 8Mn0. 2O3 multiferroic, Journal of Applied Physics 132, 183909.

18. Pal A, Anand K, Patel N, Das A, Ghosh S, Yen P Tsung-Wen, Huang Shin-Ming, Singh RK, Yang HD, Ghosh AK, Chatterjee S (2022) Interplay of spin, phonon, and lattice degrees in a hole-doped double perovskite: Observation of spin–phonon coupling and magnetostriction effect, Journal of Applied Physics132, 223906.

19. Gangwar VK, Kumar S, Singh M, Pal D, Ghosh L, Singh P, Yufeng Z, Chen C, Schwier EF, Shimada K, Shahi P, Uwatoko Y, Patil S, Ghosh AK, Chatterjee S (2022) Roles of surface and bulk states in giant magnetoresistance and anomalous hall effect in antiferromagnetically ordered Bi 1.9 Dy 0.1 Te 3 topological insulator, Journal of Materials Chemistry C 10, 17281-17290.

20. Pal A, Anand K, Kumar D, Joshi AG, Yen P Tsung-Wen, Huang Shin-Ming, Yang HD, Ghosh AK, Chatterjee S (2022) Observation of structural change-driven Griffiths to non-Griffiths-like phase transformation in Pr2-xSrxCoFeO6 (x= 0 to 1), Journal of Magnetism and Magnetic Materials 562, 169764.

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20. Amit Yadav, Tushar Sarkar, Takamasa Suzuki, and Rakesh Kumar Singh (2023) Enhancing Phase Measurement by a factor of two in the Stokes Correlation, Engineering Proceedings, 34(1), 4, International Conference on Holography meets Advanced Manufacturing, Online, February 2023.

21. G Manna, S Rajbanshi, S Bhattacharya, B Das, Atreyee Dey, P Dey, Nidhi Goel, A Kundu, V Malik, Mamta Prajapati, Rajat Roy, Sahab Singh, Sajad Ali, Deepika Chowdhury, G Mukherjee, Somnath Nag, R Palit, AK Singh, SK Jadhav, BS Naidu, AT Vazhappilly (2022) Evidence of Antimagnetic Rotation in 141Sm, Proceedings of the DAE Symp. on Nucl. Phys 66 : 98

22. Sajad Ali, S Rajbanshi, H Pai, S Bhattacharya, A Mukherjee, Somnath Nag, S Bhattacharyya, S Chattopadhyay, G Gangopadhyay, AK Raut, Md M Shaikh, A Sharma, K Yashraj, RP Singh, S Muralithar, SS Anuj, A Goswami (2022) Spectroscopic investigation of 140Eu, Proceedings of the DAE Symp. on Nucl. Phys 66: 64

23. Nidhi Goel, Somnath Nag (2022) Shape coexistence in 72Se within framework of cranked Nilsson Strutinsky model, Proceedings of the DAE Symp. on Nucl. Phys 66: 248

24. Mamta Prajapati, Somnath Nag, H Pai, S Chakraborty, Sajad Ali, S Rajbanshi, Prithwijita Ray, A Goswami, Soumik Bhattacharya, R Banik, S Nandi, S Bhattacharyya, G Mukherjee, C Bhattacharya, Md SR Laskar, R Palit, AK Sinha, S Samanta, S Das, S Chattarjee, R Raut, SS Ghugre (2022) Octupole correlation in 114Te, Proceedings of the DAE Symp. on Nucl. Phys 66: 114

25. Nidhi Goel, Somnath Nag, P Dey, R Palit (2022) Collective rotation in 90 Zr beyond shell model excitations, Proceedings of the DAE Symp. on Nucl. Phys 66: 100

Proceedings of National Conferences *(From 1st April 2022 to 31st March 2023)*

1. Samal PK, Rath PK, Panda S, Aluri PK, Mishra DD (2022) Signal of Statistical Anisotropy in PLANCK Cosmic Microwave Background Polarization Maps. Springer Proceedings in Physics, 277:697-701. Proceedings of the XXIV DAE-BRNS High Energy Physics Symposium, Jatni, India, December 2020
2. Panda S, Aluri PK, Samal PK, Rath PK (2022) Power Asymmetry in Planck Full-Mission CMB Temperature Maps, Springer Proceedings in Physics, 277:719-723 Proceedings of the XXIV DAE-BRNS High Energy Physics Symposium, Jatni, India, December 2020

Kindly Provide Brief Details of 5 Articles from the Department with maximum no. of Citations in last 5 years

1. Van Doorsselaere T, Srivastava AK, Antolin P, Magyar N, Vasheghani FS, Tian H, KolotkovD, Ofman L, Guo M, Arregui I, De Moortel I, Pascoe D (2020) Coronal Heating by MHD Waves, Space Science Reviews, 216 (8), 1-40. **(Citation: 109)**
2. Srivastava AK, Shetye J, Murawski K, Doyle JG, Stangalini M, Scullion E, Ray T, Wójcik DP, Dwivedi BN (2017) High-frequency Torsional Alfvén Waves as an Energy Source for Coronal Heating, Nature Sci. Rep. (https://www.nature.com/articles/srep43147), Volume 7, id. 43147. (Citation: 117)
3. Shukla D, Das M, Kasade D, Pandey M, Dubey AK, Yadav SK, PArmar AS (2020) Sandalwood-derived Carbon Quantum Dots as Bioimaging Tools to Investigate the Toxicological Effects of Malachite Green in Model Organisms, Chemosphere 248, 125998 (Citation: 39)
4. Shukla D, Pandy FP, Kumari P, Basu N, Tiwari MK, Lahiri J, Kharwar RN, Parmar AS (2019) Label-free Fluorometric Detection of Adulterant Malachite Green using Carbon Dots Derived from Medicinal Plant Source Ocimum tenuiflorum, Chemistry SELECT, 4 (17), 4839-4847 (Citation: 27)
5. Yang Z, Bethge C, Tian H, Tomczyk S, Morton R, Zanna G, McIntosh SW, Karak BB, Gibson S, Samanta T, He J, Chen Y, Wang L (2020) Global maps of the magnetic field in the solar corona, Science 369, 694 (Citation: 80)
6. Karak BB, Mandal S, Banerjee D (2018) Double-peaks of the solar cycle: An explanation from a dynamo model, The Astrophysical Journal, 866, 17 **(Citation: 34)**

Distinguished Visitors *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of the visitor & Designation	Date of Visit	Purpose of Visit
1	Prof. Gregory N Morscher ASEC 504, Mechanical Engineering Department, University of Akron, Akron, OH 44325	07.02.2023 to 19.02.2023	To deliver a series of lectures under the Fulbright-Nehru Fellowships, jointly funded by the Governments of India and the U.S.
2	Prof. Umesh Garg , Professor of Physics at the University of Notre Dame	13.02.2023	Deliver a talk on "From Heavens to Earth, the Little Nucleus Reigns Supreme "

Other activities

International collaboration/achievements by the Department *(From 1st April 2022 to 31st March 2023)*

1. Dr. Bidya Binay Karak is continuing collaboration with an international team of leading scientists sponsored by the International Space Science Institute (ISSI), Bern. Through this team, Dr. Karak and his student Mr. Akash Biswash participated in the team meeting which was held during 20-24 June 2022. The full travel and other costs of Akash for attending this team meeting at Bern was fully funded by ISSI.
2. Dr. Pavan Kumar Aluri, Assistant Professor, Department of Physics, IIT(BHU) initiated a collaboration agreement with University of Oslo (UiO), Norway and IIT(BHU) under the project Global Component Separation Network (GCSN) sponsored by Norwegian Research Council with UiO as the project host institution. Under this agreement, three Ph.D. students working with Dr. Pavan Kumar Aluri attended two fully funded in person workshops during Aug. 22nd - Sep. 02nd, 2022 and Jan. 23rd - 27th, 2023 at the University of Oslo, Norway.

Indian Faculty visits in the Department *(1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Dr. Kiritkumar Makwana, Department of Physics, Indian Istitute of Technology, Hyderabad	Presentation/Talk	26 July 2022, Department of Physics, IIT(BHU)

Foreign Faculty Visits in the Department *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Name of Faculty Member	Purpose of Visit	Date and Venue
1	Prof. Gregory N Morscher ASEC 504, Mechanical Engineering Department, University of Akron, Akron, OH 44325	To deliver a series of lectures under the Fulbright-Nehru Fellowships, jointly funded by the Governments of India and the U.S.	07-19 February, 2023, Department of Physics, IIT(BHU)

Any other Information

1. Dr. Abhishek Kumar Srivastava is SOC Member, Hinode-15/IRIS-12 Meeting, Prague, Czech Republic during September 19-23, 2022.
2. SOC Member for 2022-2025 for organizing Astronomical Society of India (SOC) annual meetings SOC Member for 2022-2025 for organizing Astronomical Society of India (SOC) annual meetings.

24. Centre for Computing and Information Services

Year of Establishment: April, 2017

Head of the Department during the year 2022-23:

Prof. Rajeev Srivastava w.e.f. 01 August 2017

1. Background:

Centre for Computing and Information Services inaugurated on 6th April 2017 has been established as a central facility to provide 24x7 digital backbone to the Computing, Web, Email and Network services of the institute. Centre for Computing and Information Services offers high-end computational servers, high availability web servers, network services and provides a robust platform for various academic and research importunities of the institute. Licensed software, email services and in-house software development for the institute needs are also managed by the Centre. CCIS is one of the growing unit and projects are in early stage for developing it into a facility centre poised horizontally to meet the crescent demand of computerization and software solution required for scientific and research infrastructure of the institute.

2. Services Offered

2.1 Computing

Services:

Management of the user login and authentication to all the compute nodes. Running multiple software and their license servers.

We have licenses of following software running on our servers:

- MathWorks Campus Wide License Standard Campus Configuration.
- ANSYS- Academic Multiphysics solution with following licenses:
  - ANSYS Academic Multiphysics Campus 50/500
  - ANSYS Academic Research Chemical Kinetics (5 Tasks)
  - ANSYS Academic Research Scade Suite (1 Tasks)
  - ANSYS Academic Teaching Scade Suite (25 Tasks)
  - ANSYS Academic Ensight Post Processing tool (5 Tasks)
  - ANSYS Additive Suite (5 tasks)
  - ANSYS Discovery Ultimate Enterprise (5 Tasks)
  - ANSYS Academic Spaceclaim tool (25 Tasks)
  - ANSYS Academic Research Ls-Dyna (25 Tasks)
  - CasaXPS – Unlimited Pack (Windows desktop)
  - ANSYS Academic Lumerical Research–5 Task (Product with 3 Year TECS)
  - ANSYS GRANTA Edupack – 10 Task (Product with 3 Year TECS)
  - ANSYS LSTC University Department – 500 Core (Annual Lease for 3 Year)
- Mathematica Software (Perpetual software, network version): 30 User licenses
- CST Studio Software (Perpetual) with basic components: 01 No each.
- Origin Lab Software (100, Network version, Perpetual license)
- MedeA VASP – 01 User (MedeA core GUI, Job/Task Server, VASP, VASP GUI, LAMMPS GUI, Infomatica, COD & COD GUI)

- Simulia ABAQUS- 2 Users license (Research Edition)
- Gaussian, GaussView and TCP Linda Software: Site License for Linux Platform.

User can login to the compute nodes and run their application using available purchased licensed software or open source software.

Hardware:

Three Compute Servers are available for providing the computing facility to all the students and faculty members of the Institute. Server are having following configuration:

- 1x Dell R-930 Server: Populated with 4x18 core of Intel Xeon E7-8870 v3 @ 2.10 GHz processor with 45MB L3 Cache, 256GB DDR4 RAM, 8 x 1.2TB 15K hot plug SAS, 01 NVIDIA Tesla P4 GPU
- 3xDell R-730 Server: Populated with 2x10 core of Intel® Xeon® processor E5- 2660v3 @ 2.60 GHz with 25MB L3 Cache, 2U Form factor, 128 GB DDR4 RAM, 3 X 600GB 15K hot plug SAS, 01 NVIDIA Tesla K 40C
- 1xDell R-540 Server: 2 X Intel® Xeon® Silver 4114 2.2G, 10C/20T, 9.6GT/s, 96GB RAM, 3 X 600GB 10K RPM SAS 12Gbps HDD
- 1xDell R-440 Server: 2 X Intel® Xeon® Gold 6132 2.6G,14C/28T,10.4GT/s, 12 X 16GB RAM, 3 X 600GB 10K RPM SAS 12Gbps HDD
- GPU Computer Server: Populated with 2 x Intel Xeon E5-2609 v4 (8 Cores,20M Cache, 1.70 GHz), 128GB DDR4 RAM, 8 Nos. NVIDIA GeForce GTX-1080Ti 11GB GDDR5x, 3584 CUDA cores.

2.2 Storage:

Services:

Providing space for the storage requirement for running scientific and research applications of the faculty and students. It is integrated with webservers to provide space for Institute website and other portals.

Hardware:

- **Dell SC4020 Storage:** Two controllers running in an active-active mode with automatic failover to each other in case of one controller failure with 20 TB on SAS 10K RPM drives and 100 TB on NL-SAS drives with 105 TB raw capacity (Approx. 70TB usable considering the RAID overhead).

2.3 Web Services

Services:

Two primary web servers are running in High Availability for hosting our Institute website. These servers are configured with RHEL Operating System. In the session 2018-19, two more web servers were installed and configured with Centos and Windows Server Operating Systems. There are multiple web servers running on virtual and physical servers catering the needs of web hosting facilities for various portals of the institute.

Applications:

New applications are designed, developed and deployed at CCIS on the regular basis as per the institute needs. Recently, CCIS has designed a new website for the institute to replace the older one. The Institute's website is built in-house and it has replaced several small websites running earlier on different domain and servers making it a truly one website of IIT(BHU). It incorporates all the departments, school, units, offices and covers all the activities governed by the institute placing a uniform structure throughout. In addition, it has decentralized access for website content modification and individual login for all the faculties to maintain their profile. Apart from institute website few of the many websites their test and backup are hosted on these servers. Some of the developed and hosted applications are listed below-

- Alumni Registration Portal.
- Alumni Giving Back Portal
- Best Faculty Award Portal
- Instrument Booking System

- Faculty appraisal portal.
- Guest housing booking system.
- Intellectual Property Rights (IPR) Portal
- Non faculty recruitment portal.
- Admin information management System.
- ERP IIT BHU.
- Rajbhasha Portal.

Hardware:

- 2xDell R-730 Server: Populated with 2x10 core of Intel® Xeon® processor E5- 2660v3 @ 2.60 GHz with 25MB L3 Cache, 2U Form factor, 128 GB DDR4 RAM, 3 X 600GB 15K hot plug SAS
- 2xDell R-440 Server: 2 X Intel® Xeon® Silver 4114 2.2G, 10C/20T, 9.6GT/s, 96GB RAM, 3 X 600GB 10K hot plug SAS.

2.4. Email Services

Facilitating with email services to the all faculty members, students and staff of the institute using Google Workspace Education Plus for Higher Academic Institution. Services includes email services, classroom and google drive etc. The entire users are allocated in various groups as per their department, section, offices, and designation, restricting them access over individual groups for sending emails.

2.5. Network Services:

Network Infrastructure at IIT (BHU) provides wired connectivity and mobility with the latest wireless security along with benefits of seamless roaming and connectivity anywhere and anytime to the users within the campus. The network comprises of CORE, DISTRIBUTION and ACCESS layer switches across the campus. Core–Distribution layer is on 10 G and Distribution to Access layer is on 1G/10G.

Deployment of WLAN comprises of Cisco WLAN Controller in High availability mode for easy access of Wi-Fi within the campus. Along with LAN connectivity, every Department, Hostel, Teachers' Flat and Guesthouse is also deployed with Indoor and Outdoor APs to get seamless Wi-Fi connectivity.

The total Fiber layout is more than 18 Km. within the IIT (BHU) campus. There are more than 9000+ users, including Faculty, Staff and Students to access the internet through Wi-Fi or LAN. The whole infrastructure includes 370+ switches and more than 1200 APs for indoor and outdoor network connectivity. The institute has 10 GBPS NKN connectivity.

3. People at CCIS

S. No.	Name	Designation
1	Prof. Rajeev Srivastava	Professor & Head of the Department
2	Dr. Roshan Singh	System Analyst (Grade-I)
3	Mr. Mahesh Pandey	System Analyst (Grade-I)

4. Conclusion

As per the available statistics, the students, faculty members and other research staff of the Institute are heavily using the software facilities hosted on the servers. After establishment of the unit, further, an extended server area has been created for hosting more servers. In addition to this new web portal are regularly developed and deployed as per the institute needs. We are continuously in process of enhancing the services available at CCIS for computing, web hosting and campus wide network.

25. Shreenivas Deshpande Library

1. Introduction:

The Indian Institute of Technology (Banaras Hindu University), Varanasi library system consists of the Shreenivas Deshpande Library and five departmental libraries supporting the Institute's teaching, research, and extension programs. All Institute students, faculty members, and employees are entitled to use the library facilities by taking library membership. Besides having an excellent print collection of over 1,50,000 books, journals, theses, dissertations, reports, standards, and pamphlets, the library also provides access to over 15,000 electronic journals, more than 3,500 e-books, and scientific, engineering, and technology databases. The library offers various facilities like a Onesearch library web-catalogue, Library Mobile App, Collaborative Learning Space, Document Delivery Service, Inter-Library Loan, Remote Access facility, e-library, modern reading room, Meeting/presentation space, etc. The library opens on weekdays from 08:00 am to 11.00 pm, including Saturday and Sunday. Also, the library is open from 08:00 am to 11:00 pm on Government holidays.

2. Manpower:

Sl. No	Name	Designation
1	Dr. Navin Upadhyay	Deputy Librarian
2	Shri. Kanu Chakraborty	Assistant Librarian
3	Smt Anshu Kaushal	Senior Assistant (Office)
4	Shri Kumar Karn	Senior Technician (Deputed from the workshop)

3. Library collection:

Collection building is one of the vital works of the library that supports the academic and research work of the students, faculty, staff, and other users. Library collection comprising books, journals, theses, reports, standards, Databases, pamphlets, and other reading material in Science, Engineering, Technology, Architecture, Planning & Design, Humanities, Social Sciences, and Management is considered its greatest asset. The total collection of the library as of March 31, 2023, stands as follows:

Sl. No	Category	Number
1	Books (Reference and General)	93,189
2	Text Book Bank	24,442
3	ST/SC Book Bank	8,740
4	Bound Volume of periodicals	17,925
5	Theses	1076
6	Dissertation	1018
7	Compact Disc	1722

The library added 1162 books, including 208 books received as donations in FY 2022-2023.

4. Journals/Databases/Standards/E-books:

The Periodical section procures and maintains print and online journals for the academic need of the Institute. In this financial year, the library added more than 200 selective titles of e-books (Textbooks and Reference Books) from publishers Elsevier, Wiley, etc. This year library purchased Economics & Political Weekly archives. It subscribed to some dropped publishers last year, like the American Insitute of Physics (AIP), The Optical Society of America (OSA), etc. Also, the library upgraded LMS Libsys-7 to Libsys-10 on the cloud, including Discovery, Remote, and Mobile app facilities. The following databases, Standards, e-books, and e-journals, are accessible through Institute networks as well Remote Access portal.

Databases:

- Bengell House
- DELNET Database
- MathSciNet
- PressReader
- SciFinder Scholar
- Scopus
- Springer Mateials
- Web of Science

Standards:

- ACI MCP
- Indian Standards (BIS)
- ASTM Standards

E-Books:

- ASM Handbooks Online
- Begell House
- Bloomsuury Architecture Library
- CBS- Architecture Planning and Design
- Elsevier (selected titles)
- McGraw Hill (selected Text and Reference books)
- Taylor & Francis (selected titles)
- Springer (selected titles)
- Wiley Online (selected titles)
- Royal Society of Chemistry (All e-books published up to 2016)
- South Asia Archives
- World E-books Library

Online *e*-Journals:

The library provides online access to more than 15,000 full-text journals 24x7 on the institute-wide network and remotely, as follows:

Publisher	Description
ACM Digital Library	ACM journals (42+), conference proceedings, magazines, newsletters, and multimedia titles.
Actapress	International Journal of Power and Energy Systems
American Concrete Institute	Materials, Structural, Concrete International & Symposium Volume ACI MCP, Materials Journals, ACI Structural Journal, ACI Concrete International, ACI Symposium Volumes
American Chemical Society	49 journals with Legacy Archive for Universities.
American Institute of Physics	It provides access to 19 full-text journals in the area of physics. Backfiles Access: 1997 onward
American Mathematical Society	The AMS journals package includes 15 online journals published by AMS, including 6 open access journals. Backfiles Access: 1999 onwards
American Physical Society	The current collection includes access to 13 leading peer-reviewed research journals. Backfiles Access: All
American Society of Civil Engineers (ASCE)	It publishes 33 journals and contains over 1, 70,000 bibliographic records of everything ASCE has published since 1970.
American Society of Mechanical Engineers (ASME)	ASME collection provides access to 29 journals, including a complete package for ASME journals + AMR.
ASTM Journals	Full package of ASTM journals.
Begell House (Engineering Research Collection)	Begell House is a STM academic publisher of medical and scientific journals and books, with a concentration on engineering and biomedical sciences. Engineering Research Collection has access of 29 e-Journals, 3 Databases, 3 Reference titles, 1 e-book & 2 Proceedings titles.
Bentham Science	Bentham Life science collection 59 titles (access 2012 to 2021).
Bloomsbury Architecture Library	Bloomsbury Architecture Library is a leading digital resource for the study of architecture, urbanism, and interior design. Its dynamic digital platform offers access to wide-ranging text and image content collections, from architectural history to cutting-edge design guidance.
Canadian Science Publishing	Canadian Journal of Civil Engineering Backfiles access: 1996 onward
Cambridge University Press	Journal of Fluid Mechanics, Backfiles Access: 2000 Onwards (Newly Added)
CIM Magazine	The Canadian Institute of Mining, Metallurgy and Petroleum (CIM) is an association for minerals industry professionals

Publisher	Description
De Gruyter	1. International Journal of Nonlinear Sciences and Numerical Simulation 2. Functional calculus and Applied Analysis
Economic and Political Weekly (including archive access)	The Economic and Political Weekly, published in Mumbai, is an Indian institution which enjoys a global reputation for excellence in independent scholarship and critical inquiry.
Emerald Engineering Collection	59 Journals of Engineering collection. Backfiles Access: 1994 Onwards
Foundry Trade Journal	Foundry Trade Journal
IEEE - IEEE/ IET Electronic Library (IEL)	The IEEE Xplore digital library provides access if more than 467 journals, 72 magazines, more than 8000 conference proceedings and standards.
Inderscience	1. International Journal of Exergy 2. International Journal of Nanomanufacturing
Indian Geotechnical Society	Indian Geotechnical Journal
Informa Healthcare	1. Drug Development and Industrial Pharmacy 2. Pharmaceutical Biology 3. Expert Opinion on Drug Delivery
Institute of Materials, Minerals and Mining	Advances in Applied Ceramics: Structural, Functional and Bioceramics
Informs	The entire 16-journal INFORMS PubsOnLine Suite package
IOP	It provides access to 76 full-text journals in the area of physics. Backfiles Access: 10 years rolling back
JSTOR	JSTOR Archive provides access to more than 2500 journals and primary content on an access fee basis.
Microwave Journals	Microwave Journals
NACE International	Corrosion
Nature	Nature
PNAS	Proceedings of the National Academy of Sciences of the United States of America publish more than 3200 papers annually.
Project MUSE	Project MUSE promotes creating and disseminating essential humanities and social science resources through collaboration with libraries, publishers, and scholars worldwide—more than 733+ journal access. Backfiles Access: All access
Royal Society of Chemistry	It provides access to RSC Gold 2018 Excluding Archives with 51 full-text journals/magazines/alerting services. Backfiles Access: 2008
SAGE	Imech collection 17 titles. Urban Studies & Planning Collection all titles
Science Direct	Nine Subject collections (Access to 1233 titles) Chemical Engineering Chemistry Computer Science Engineering Environmental Science Material Science Mathematics Pharmacology, Toxicology and Pharmaceutics Physics and Astronomy Energy (Newly added)
Science Online	Only Science Magazine
SIAM	SIAM publishes 17 peer-reviewed journals. Backfile Access: 1997 onwards
SPIE Digital Library	Journal of Applied Remote Sensing
Springer	Springer: 1700 titles
Springer Nature	Access of 17 selected titles.
Taylor & Francis	Access of 57 selected titles
The Indian Institute of Architects (IIA)	The Indian Institute of Architects (IIA) is the National body of Architects in the country. IIA is represented on various national and international committees connected with architecture, art and the building industry and is also actively associated with International Union of Architects (UIA) Commonwealth Association of Architects (CAA) and South Asian Association for Regional Co-operation of Architects (SAARCH).
The Optical Society of America	17 flagship, partnered, and co-published journals; OSA's magazine, Optics & Photonics News; and the conference proceedings from all of OSA's Topical Meetings Backfiles Access: Vol 1. Issue 1
Wiley Online Library	Access of 144 selected titles.

Print Journals:

- Architectural Digest
- Architectural Record
- CIM Magazine
- Current Science
- New Scientist

5. Research Support Tools:

- The library provides several Research Support Tools and software to support the research activities. We have also implemented a remote access (LsRemote) facility to access all the e-resources from outside the campus network. Grammarly, Turnitin, Ouriginal, and EndNote are the most popular research tools among the faculty and research scholars. There are more than 5000 regular users of Grammarly. We have Instructor and student accounts on Turnitin for all faculty and Research Scholars. More than 500 users are currently using another Plagiarism detection software Ouriginal (URKUND). More than 3400 users are availing of remote access facilities to access e-resources outside the campus. The research support tools and software available are as follows:
  - Grammarly (Writing Enhancement Tools)
  - Turnitin (Anti-Plagiarism Software)
  - Ouriginal **(**Anti-Plagiarism Software**)**
  - Endnote (Reference Tool)
  - LsRemote (Remote Access platform through LSDiscovery)
  - LSDiscovery (Onesearch and fulltext article download facility)
  - Mobile App: LSDiscovery (Web OPAC, Remote, fulltext article download, etc)

6. Infrastructure/Services/Facilities:

The complete library is fully Air-conditioned, Wi-Fi enabled, under CCTV surveillance and equipped with an alarming fire system. New reading hall with modern equipment with power backup and laptop charging connectivity on the reading tables, etc.

- **Collaboration learning space:**

  The library has created Collaborative Learning Space on the ground floor. The collaborative learning space has been designed to facilitate space for the user,s who wants to learn/discuss together/in a group to solve problems, work on a project, or have a meaningful discussion. In this space, we provided comfortable furniture and other facilities for the users.

- **Meeting/presentation space:**

  The library has created a meeting/presentation space on the first floor. This space can be used by the faculty/Research Scholar/Students for presentations or academic meetings among groups of students. The room has more than 25 sitting capacity with comfortable furniture and other facilities like a whiteboard, projector, sound systems, computer, etc.

- Apart from this, the library has created a separate property counter for depositing students' belongings, a capacity of 500 bags at a time.

- **e-Library:**

  In this space, 50 PC is meant for users to access e-books, e-databases, e-journals, and other e-resources installed in the e-Library section. All systems are highly configured modern systems with high-speed LAN connections. Some of the systems are dedicated to software testing and project implementation. The library provided comfortable furniture and other facilities to the users in this space.

- **Computer-Aided Reference Service**

  To date, we are not able to develop a computer-aided reference service unit. However, the email **"libraryservies@iitbhu.ac.in"** and "**Ask the Librarian**" link on the library website is dedicated to all types of ready reference services. Also, the library introduces the "**Request Call Back"** service for quick response for all the users. The library, on average, responds to more than 30 queries daily to users related to plagiarism checks, article requests and other library and research-related issues.

7. Scholarly Profile of faculty (IRINS) , Institutional Digital Repository (IDR) and e-Theses on Shodhganga:

The library recently created Scholars Profile IRINS (Indian Research Information Network System) and added more than 371 faculty publications on this platform, which is being regularly added and updated. The library is also enriching the IDR (Institutional Digital repository), which have currently 607 PhD thesis, 1554 articles, 20 videos, etc., which is linked to the National Digital Library and globally accessible. Until date 736 awarded Phd theses have been uploaded on the Shodhganga portal.

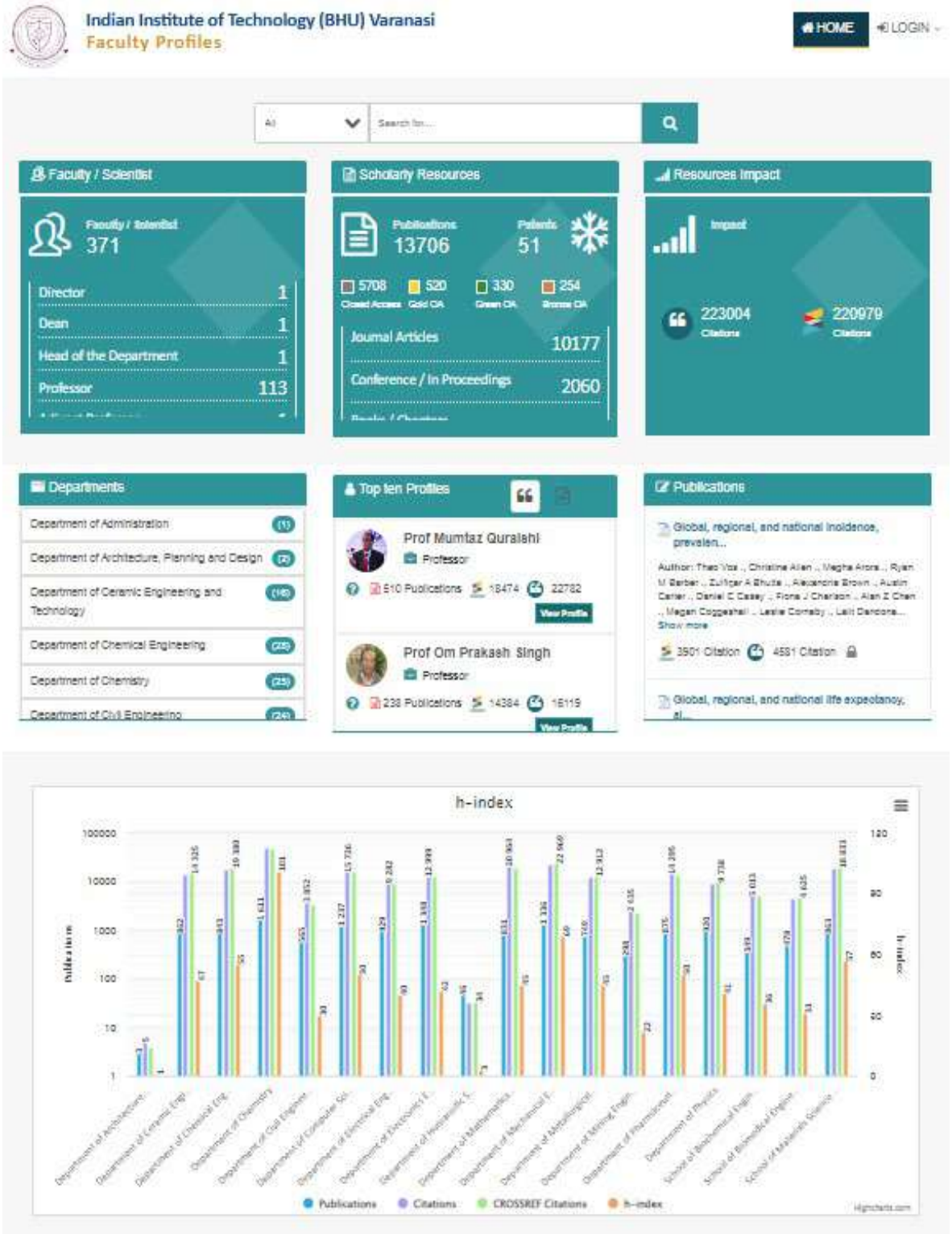

Figure: IRINS

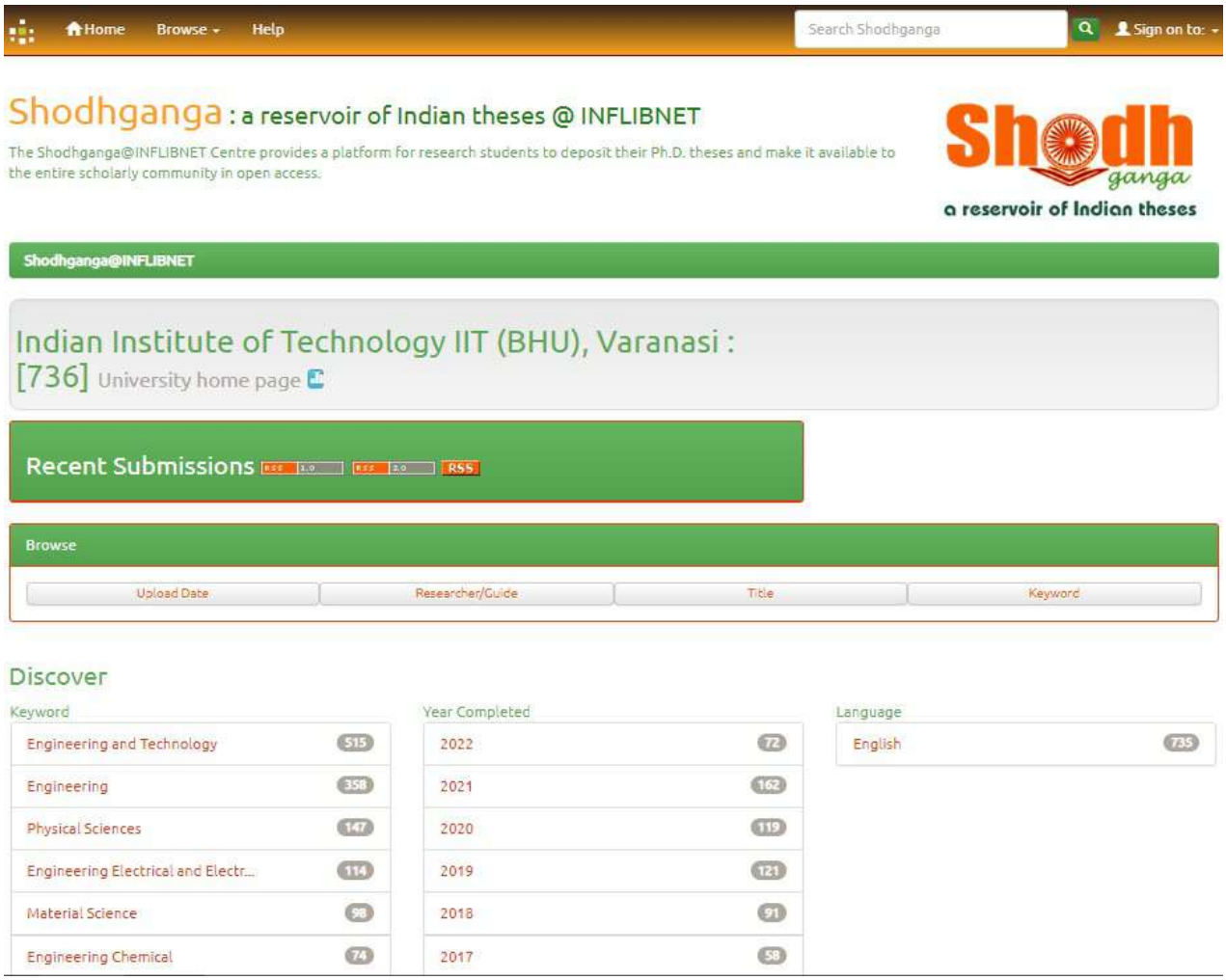

Figure: IDR

Figure: Shodhganga

8. Any Other Information/Activities/participation in conferences/lectures delivered Seminar/ Conference/Workshop Organized by the Shreenivas Deshpande Library Library:

- The Library, IIT (BHU), Varanasi in association with CAS SciFinder-n (CAS is a division of the American Chemical Society) organized a Webinar on CAS SciFinder-n for your Academic Research on Tue, Mar 21, 2023, 3:30 PM - 4:30 PM GMT+5:30 and Thu, Mar 23, 2023, 3:30 PM - 4:30 PM GMT+5:30. To improve users productivity and provide updates about enhancement, speaker was Kunte, Vinit D, Sr. Customer Success Specialist, ACS International India Pvt. Ltd. More than 140 faculty/Research scholar/ PG students joined on this online event.
- The Shreenivas Deshpande Library, IIT (BHU), Varanasi, in collaboration with Springer Nature, organized offline "Author workshop: Scientific Writing and Publishing" on 16th Sep 2022 at 2.00 PM at ABLT Hall, IIT (BHU), Varanasi for Faculties , Research Scholars, and MTech Students. This workshop aims to disseminate information about scientific writing and publishing. the speaker was Ms Suvira Srivastava, Publishing Director - Journals, Springer Nature. Also, the editor give tips to researchers to help them become smart researchers and authors. Other topics like Open access, OA funding support, ethical issues and Plagiarism, free author tools by Springer Nature, etc was covered in this workshop. More than 175 faculty/Research scholar/ PG students joined on this offline event.

Lecture Delivered in Conference/ Webinar /Workshop by Deputy Librarian:

- Delivered lecture in the 5th Faculty Induction Program through online mode, July 12 to August 8, 2022, at HRDC, BHU Varanasi.
- Delivered lecture in Faculty Induction Program through online mode, 23rd Feb 2023, at HRDC, Ranchi University, Jharkhand.

Research publication by Deputy Librarian:

- Chakraborty, M., Chakraborty, K., & **Upadhyay, N.** (2022). A Descriptive Study on GNU General Public License of Patients Information Management System to Manage NGOs and Charitable Trust Hospitals. *International Conference on Emerging Digital Library Platforms: Shaping Digital Transformation and National Data Exchange (ICEDLP 2022)*, Bangalore, India.
- **Upadhyay, N**., Chakraborty, K., Upadhyay, S. R., & Pandey, B. N. (2022). Usage pattern of e-resources during COVID-19 and post COVID-19: A study. CALIBER 2022/11, 397-407p.
- Gaurav, K., **Upadhyay, N**., Singh, T., & Chakraborty, K. (2022). Analysis of Web-Based Content of Indian Institute of Technology Libraries through Websites: A Study. *Journal of Advancements in Library Sciences*, *9*(2), 24-33p.

Seminar/Conference/Workshop attended by Deputy Librarian:

- Attended 13th International CALIBER is «Envisioning Digital Transformation in Libraries for NextGen Academic Landscape», Organized INFLIBNET Center, Gandhinagar, Gujrat, India in collaboration with BHU, Varanasi, Uttar Pradesh, India from 17th to 19th November 2022.
- Participated a Webinar on CAS SciFinder-n for your Academic Research on Tue, Mar 21, 2023, and Thu, Mar 23, organized CAS SciFinder-n (CAS is a division of the American Chemical Society).

Lecture Delivered/presentation in Conference/ Webinar /Workshop by Assistant Librarian:

- Presented a paper "A Descriptive Study on GNU General Public License of Patients Information Management System to Manage NGOs and Charitable Trust Hospitals." at *International Conference on Emerging Digital Library Platforms: Shaping Digital Transformation and National Data Exchange (ICEDLP 2022)*, on 9th Aug-12th Aug, 2022. Bangalore, India.
- Presented a paper "Usage pattern of e-resources during COVID-19 and post COVID-19: A study"at 13th International CALIBER 2022, 17th to 19th Novemver-2022, BHU, Varanasi, Uttar Pradesh, India.
- Delivered lecture and presentation on "The Digital Dilemma: Intellectual Property Rights (IPR): Challenges and solutions" at National Webinar on Intellectual Property Right (IPR): Challenges and solutions in Research, *21th March, 2023 (Tuesday),* Organized by Thakur Someshwar Singh Govt. College Naigarhi, Dist-Rewa (MP).

Research publication by Assistant Librarian:

- Chakraborty, M., **Chakraborty, K.,** & Upadhyay, N. (2022). A Descriptive Study on GNU General Public License of Patients Information Management System to Manage NGOs and Charitable Trust Hospitals. *International Conference on Emerging Digital Library Platforms: Shaping Digital Transformation and National Data Exchange (ICEDLP 2022)*, Bangalore, India.
- Upadhyay, N., **Chakraborty, K.,** Upadhyay, S. R., & Pandey, B. N. (2022). Usage pattern of e-resources during COVID-19 and post COVID-19: A study. CALIBER 2022/11, 397-407p.
- Gaurav, K., Upadhyay, **N**., Singh, T., & **Chakraborty, K. (2022).** Analysis of Web-Based Content of Indian Institute of Technology Libraries through Websites: A Study. *Journal of Advancements in Library Sciences*, *9*(2), 24-33p.

Seminar/Conference/Workshop attended by Assistant Librarian:

- Attended 13th International CALIBER is «Envisioning Digital Transformation in Libraries for NextGen Academic Landscape». Organized INFLIBNET Center, Gandhinagar, Gujrat, India in collaboration with BHU, Varanasi, Uttar Pradesh, India from 17th to 19th November 2022.
- Participated SLA Engineering Community webinar on "Exploring the Open Access Landscape in Engineering" on 22nd March 2023, India.
- Participated a Webinar on CAS SciFinder-n for your Academic Research on Tue, Mar 21, 2023, and Thu, Mar 23, organized CAS SciFinder-n (CAS is a division of the American Chemical Society).
- Attented DELNET webinar on "Resaerch Data Management Landscape: what Librarians & Researchers Need to Know?" on May 31, 2022, New Delhi, India.
- Attented panel discussion on "Citizen Empowerment through Digital Transformation Government" on May 26, 2022, New Delhi, India.
- Participated on a Quiz on PM Garib Kalyan Anna Yojana on good governance by MoEIT, GOI, India, on April 27, 2022.

Budget allocated and expenditure the F.Y. 2022-23

Total budget under Plan OH-35 (Purchase of books, journals & e-subscriptions) Rs. 8,95,76,484 /- were allocated and utilized.

Library Pictures (Reading Hall, e-Library and Periodical Section)

Library Building

Reading hall

e-Library

Institute Faculty & Alumni Publication

Book Stack with Reading space

New Arrival Books

26. Students Life

Games and Sports Council:

Although the year 2022-23 was having some pandemic effect, but this didn't stop the Games and Sports Council from being active. In the beginning of year 2022, games and sports council organized annual sports festival of IIT BHU Spardha, Intra-freshers, inter IIT sports meet, general championship, and inter hostel annual athletics meet.

Spardha'22 (14th to 16th October 2022): Spardha is the annual sports festival of the Indian Institute of Technology (IIT) BHU, organized by the Sports Council of IIT BHU. The event aims to promote sportsmanship, encourage healthy competition, and provide a platform for students from various colleges to showcase their athletic talents. Spardha 2023 took place between the 14th and 16th of October 2023, with a series of sports events and activities.

The opening ceremony of Spardha 2023 was held on 13th October at the Gymkhana Ground of IIT BHU. The ceremony commenced with great enthusiasm and energy, captivating the audience. One of the main highlights of the ceremony was a spectacular Mallakhamb performance by Mallakhamb Artist India, showcasing the traditional Indian gymnastics form. Mr. Vishesh Bhriguvanshi, the captain of the Indian Basketball Team, graced Spardha 2023 as the Guest of Honour. His presence added prestige to the event and inspired the participants. Mr. Bhriguvanshi shared his experiences and insights during his address, motivating young athletes and emphasizing the importance of sports in personal and professional growth.

Spardha 2023 witnessed impressive participation of nearly 2500 students from 20 renowned colleges across India. Spardha 2023 was honored by the presence of renowned international athletes who graced the event with their participation. Mohit Chhillar, a prominent kabaddi player, and Vishal Krishna Yadav, a talented boxer, were among the esteemed athletes who attended the sports fest. Spardha 2023, the annual sports fest of IIT BHU, proved to be a resounding success. It provided a platform for students from various colleges to compete, showcase their sporting prowess, and foster a spirit of healthy competition. The presence of the Indian Basketball Team captain, Mr. Vishesh Bhriguvanshi, and distinguished international athletes like Mohit Chhillar and Vishal Krishna Yadav added prestige and motivation to the event.

Intra-Freshers (November 2022):

The council conducted an Intra-Fresher tournament for all the sports in the council to promote the sports spirit and enthusiasm among freshers in the institution. Every sport saw very good participation from the freshers and thrilling competition. It also provided the freshers clarity to join the sports they are interested in and where they can excel as an athlete and represent the institute with pride in Inter-IIT sports meet and other sports out-festivals.

Inter -IIT Sports-Meet:

The teams participated in Inter-IIT Sports Meet held at IIT Delhi and IIT Roorkee. The Hockey team bagged a silver medal. The IIT-BHU contingent had an overall position of 19th among all participating 23 IITs.

General Championship (January to February 2023):

The council conducted an Inter-Hostel General Championship tournament to promote the sporting culture in the institute. Each sport conducted a tournament, in which the teams of every hostel participated. It was a thrilling competition among the hostels, the winning hostels were as follows:

Boys:

1st : Dhanrajgiri-2

2nd : Limbdi

3rd : C V Raman and Vishweshwaraiya (Tie)

Girls:

1st : New IIT Girls

2nd : SC Dey

3rd : GSMC Extension

Sports Out Festival:

Aavhan (IIT Bombay) (24th to 26th March 2023):

The Cricket, Football, Kabaddi, Kho-Kho, Lawn-Tennis, and Table-Tennis teams participated in the out-festival Aavhan (IIT Bombay).

Aavhaan (DTU) (6th to 8th April 2023):

The Volleyball team participated in the out-festival of Aavhaan (DTU).

Inter-Hostel Annual Athletics Meet (14th April 2023):

The athletics team holds an important place in the council as it has many events represented by a single team. So, to unleash the potential of students in athletics events, the council conducted an Inter-Hostel Athletics Meet in which all the best athletes from the respective hostels participated and had a rip-roaring competition.

Cultural Council:

The Cultural Council, one of the established bodies in Gymkhana, is the beating heart and melodious soul of IIT (BHU) Varanasi. During the 2022-23 session, the 7 clubs of the Cultural Council, Dance Club, Fine Arts Cub, Indian Music Club, Quiz Club, Theatre Club, The Literary Club and Western Music Club successfully organized a number of workshops, showcases, events and competitions in the online mode to promote and enhance the cultural activities among the students.

The Cultural Council started the session 2022-23 with the Cultural Council Orientation on 29th October, an evening full of live performances and interactive sessions in the Swatantrata Bhawan by the seven clubs of the Council.

The Cultural Council is indebted to Hon. Dean of Student Affairs Dr. LP Singh, Hon. Associate Dean of Student Affairs Dr. Rajesh Kumar, Hon. Cultural Councillor Dr. Amitesh Kumar, Acting Vice President Mr. Ajay Kumar Redu, Acting Astt. Vice President Mr. Srikanth Pawar, General Secretary Mr. Ajitesh Pandey, Joint General Secretary Debarati Bandopadhyay, and the respective club position holders for their consistent support and direction in the organizing of the activities.

AAGMAN: INTRA FRESHERS EVENT (25-26TH March'23) The annual intra-freshers cultural competition Aagman'22 was organized with immense success for the first-year students in the Swatantrata Bhawan Theatre hall. Conducted in offline mode, this 2-day long extravaganza, by the 7 clubs of the cultural council, witnessed an all-time high, 850+ participation from first-year students in 31 different categories of the cultural events and received huge participation and applause.

The categories of the events are:

- Western music club (battle of bands, solo singing, solo instrumental)
- Masquerades club (skit, monologue)
- Dance Freakz club (Duets, Dance Solos, Group Dance, Showcase)
- Literary Club (English Creative Writing, Story Telling, Word Games, Debate, Just-A-Minute, Stand-Up, Memes, Shipwreck,
- Quiz Club (Quiz Prelims, Quiz Finals)
- Indian Music Club (Solo Singing, Solo Instrumentals, Duets, Bands)
- Fine Arts Club (Doodling, CD Painting, Jewellery designing)

IIT BHU MUN'22:

A total of 300 delegates from across the globe experienced international diplomacy through academic debating in this year's conference. The Opening Ceremony was held on the 3-5 February 2023. It was endorsed by Narendra Modi, chief guest Dr Ajay Kumar, former defence secretary of India, Notably, it received endorsements from the Indian Ambassador to Uzbekistan, Shri Manish Prabhat H.E. Mr. KD Dewal, Ambassador of India to Armenia and Georgia, Mr. Oliver Frank, Deputy Head of Mission, Embassy of Switzerland to India and Bhutan, and Mr. Amish Tripathi, best-selling Indian author of the Shiva Trilogy.

Moreover, the edition was embraced by collaborations with important international organizations like UNESCO, UNIC BHUTAN, and G-20. An extensive discussion, diplomacy, and debate across three days were held within the following

committees: LOK SABHA, DISEC, AIPPM, INTERNATIONAL PRESS, UNCSW, CCC, and UNODC.

AAGMAN: INTRA FRESHERS EVENT (25-26th march, 2023):

The annual intra-freshers cultural competition Aagman'21 was organised with immense success for the first-year students in the swatantrata bhawan theatre hall. Conducted in the online mode, this 2-day long extravaganza, by the 7 clubs of the cultural council, witnessed **an all-time high, 850+ participation** from first-year students in 31 different categories of the cultural events.

The categories of the events were:

- Western music club (battle of bands, solo singing, solo instrumental)
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- Dance Freakz club (Duets, Dance Solos, Group Dance, Showcase)
- Literary Club (English Creative Writing, Story Telling, Word Games, Debate, Just-A-Minute, Stand-Up, Memes, Shipwreck, वाद वि वाद, आशभ्ु षण, रचनात्मक लेखन, हिखोज)
- Quiz Club (Quiz Prelims, Quiz Finals)
- Indian Music Club (Solo Singing, Solo Instrumentals, Duets, Bands)
- Fine Arts Club (Doodling, CD Painting, Jewellery designing)

ONLINE EVENTS:

During the summer of 2022 when there were no on-campus activities, the clubs conducted various online events without losing enthusiasm and used the opportunity to its full potential. With the Literary club's Kalam se Kagaz tak, Hindi Mahotsav, Memefest'23, Dance club's Move 5.0, Indian music club's Symphony'22, Fine arts club's Kalakriti'22 and Quiz Club's Environment day quiz, all the clubs kept their cultures alive.

WORKSHOPS:

The Western Music Club, the Literary club, the Dance Club and the Fine arts club conducted interactive workshops to increase the scope of knowledge and learning throughout the session. They served the purpose of educating the students on the various art forms existing in each club and the ways through which one could improve their skills and excel in these fields.

KASHIYATRA'23 (21st-23rd JANUARY 23):

Kashiyatra, IIT BHU Varanasi, the Annual Socio-Cultural fest of IIT BHU Varanasi, the 3-day fest brimming with Indian culture fused with the enthusiasm of the youth was held successfully in full swing. The three-day extravaganza sent a wave of hysteria and zeal all over the campus of IIT BHU Varanasi. Safarmana, the theme launch event of Kashiyatra, marked an evening filled with jaw-dropping showcases by various clubs, including the Dance club, Masquerades, and the Western music club, while famous artists like Darshan Rawal, Anubhav Bassi, Anurag Halder, MJ5, Raftaar and so on, graced the stages during the fest and gave dazzling performances for the crowd. Some of the events organized by the clubs during the fest are as follows –Literary club, masquerades, dance freakz, fine arts club, quiz club, western music, indian music club

EBSB:

The Cultural Council also helped in the conduction of Central Government Scheme of 'EBSB' or 'Ek Bharat Shreshth Bharat' in collaboration with IIT Delhi. Many competitions were held under the event such as constitutional day celebration (26th January 23), Janajatiya Gaurav diwas (15th November 22).

Science & Technology Council:

Inter College Achievements:

- National Finalist in Flipkart Grid 4.0 Robotics (Autonomous Drone) Challenge
- Won first prize in case study and second prize CosmoMath competition @ NSSC'22, IIT KGP
- Won first prize in Tryst'23 case study competition @ IIT Delhi
- Grabbed 7th position at InterIIT Tech Meet 11.0 for ISRO's problem statement.

- Bronze medal in INTER IIT Kharagpur Tech meet'23.
- First position among all the IITs in the Grow Simplee Event in Inter IIT Tech Meet 11.0
- Bronze medal The Paradime Product Case Challenge INTER IIT Tech Meet 11.0
- Silver medal in CloudPhysician problem statement in INTER IIT Tech Meet 11.0
- Silver medal in ConsenSys problem statement in INTER IIT Tech Meet 11.0
- Silver Medal Ground-Zero, The Red Brick Summit @ IIM Ahmedabad
- 1st, 2nd and 3rd in PMx @ IIT Guwahati
- Gold medal in Indian Case Challenge @ IIT KGP
- 3rd and Finalists Impetus 4.0 @ MICA Ahmedabad
- 3rd in PM School Case Challenge, DineOut Case Challenge
- Rank 1 in ICPC Amritapuri and Kanpur 2021 regional rounds.
- Rank 4 and Rank 6 in ICPC Mathura Kanpur 2022 online round and regional round respectively.
- Selections in multiple Open Source Programs including Linux Foundation Fellowship, Summer of Bitcoin, Summer of Reproducubility, XROS Fellowship and Google Summer of Code.
- CSAW 2022, CTF 3rd and 5th in India region organized by NYU (New York University)
- Bronze Medal in SNEAKING INTO THE CYBERCRACKS by Saptang Labs, InterIIT Tech Meet 11.0
- Among top 25 teams qualified for final round of Boeing National Aeromodelling Festival at IIT Kanpur
- First Position in Encode organized by IIT G
- Grabbed 7th Position in InterIIT Tech Meet 11.0 in Jlr Robotic Charger Challenge
- Top 10 among biomimetic design in Biognosis, Shasstra, IIT Madras

Events:

- Telescope handling workshop, obervation session and theoretical session on evolution of universe
- Astrophotography Workshop - mobile astrophotography and camera handelling
- Workshop series on OpenSource and Astronomy - Code to Cosmos
- Tracking, observing and photographing "Green Commet" week.
- Workshop on evolution of Universe.
- Workshop on Disrupting Travel through Crypto
- Case Study Event: Innovation quest
- Industrial Visit
- Weekly release of reports: Innosights
- Organised COPS CTF for freshers
- Organized COPS Week for all the freshers in 4 domains
- Organized CSOC 2023 with over 8 different tracks
- Organized Multiverse of Languages for freshers
- Workshop on SolidWorks and Intro to Automotive Engineering
- Organized SAE Mentorship Program
- Organized Hardwired and (workshops for the event on Ros and computer vision basics)
- Organized Vision (for freshers) and (workshops for the Event-Computer vision and pybullet workshop)
- Robotic Summer Bootcamp Phase 1 & 2 (Covering all aspects of Robotics)

- Freshers workshop on microcontrollers
- Session on GSOC in Robotics
- DroneVision Workshop on computer vision used in Drones
- Drone101 Workshop on Introduction to Drones Fundamentals
- RC plane fabrication Workshop and flying test
- Launched the Casebook'22, Product Handbook and Analytics Internship Guide
- Conducted BASH 5.0 for freshers
- Conducted Chai with Titans with the VC firm Titan Capital
- Conducted SARC Tank in collaboration with IIT Bombay
- Launched the Prodes (Product Design) community
- Conducted Posh Panels - GD plus Turncoat event
- Conducted the oncampus round of the Hult Prize
- Bootcamp on consulting internships

Guest Speaker Sessions:

- Aditya-L1 Workshop - Guest lecture by Prof. Dipankar Banerjee, Director, ARIES, Nainital ASTRO
- Session on women achievements in Robotics- Guest Talk by Louise Poubel and Nidhi Malhotra
- Ask Me Anything Session (AMA) | Robotics Club, IIT (BHU) Varanasi Club, Club of Programmers, IIT BHU and The Research Community, IIT (BHU) Varanasi, organized an AMA session with Harsh Agarwal
- Private Equity and Venture Capital 101 by Akul Jindal | The Business Club
- Attracting opportunities as a UX designer by Ansh Mehra | The Business Club
- Consulting AMA by Shobhit Shubhankar | The Business Club
- Stock Market complete workshop by Harhshal Mandhane | The Business Club
- Getting into the world of Quant by Vivek Agarwal | The Business Club
- Day in the life of a consultant by Arjun Mehra | The Business Club
- Understanding Human Behavior by Priyanka Srinivasagopala | The Business Club
- Demystifying Venture Capital by Bipin Shah | The Business Club
- Analytics 101 by Sajan Tonge and Chirag Jangra | The Business Club
- Organized 8 sessions from prominent speakers as a part of Jay Chaudhary Lecture Series (JCLS) | COPS
- Organized a session on use of Elastic Search | COPS

Technex -

- SUPERNOVA: AstroQuiz, Scientist of Utopia, Exploring the Interstrellar, Astrophotography
- SHE, TreasHawks, Fake Investors, Dragon Pitch; Industrial Visit.
- SAE Extreme Engineering: Build It, Bridge The Gap, Axelerate, Hydracs
- ROBONEX: Robowars, MazeX, Robotics Conclave
- Riqueza: VCIC, Prodomania, StrategyWise, Techanalytics
- Ascension: Momentum, DroneTech, Aeroglisseur, LaTrajectoire
- Byte the Bits: MLWare, Hack It Out, Capture The Flag, International Coding Marathon, Polyglot, GameJam

Social Service Council:

Jagriti

The 5th edition of the Annual Socio-Awareness weekend of IIT (BHU) Varanasi: Jagriti'23 was held from 7th April to 9th April 2023, with an average footfall of 30000. Jagriti aimed to spread awareness about social issues and encourage individuals to come forward and make a difference in their communities. It inspired people to address social issues and help create a better world. In Jagriti we conducted various events, such as On-the-spot painting, Dhadkan-social poetry competition, alfaz-shayari competition, police case event, social entrepreneur and social innovation challenges. guest lectures, and interactive sessions with famous social workers and civil servants.

- **Guest talks in Jagriti –**

  On the first day of Jagriti, a guest talk on 'Impact Consulting' featuring Mr. Venkatesh Chaturvedi, a prominent professional working in the CEO office of Samagra Governance, a renowned government consulting firm was successfully organized. The event aimed to provide attendees with insights into the field of impact consulting and its significance in driving positive change within organizations and society.

  On the second day, we organized a guest talk featuring Mr. Pulkit Singh, an esteemed alumnus of IIT (BHU) and the All India Rank 26 holder in the UPSC examination for the IAS batch of 2020. The event aimed to inspire and educate attendees about the convergence of social service and civil services, highlighting Mr. Singh's remarkable work in the tribal districts of Maharashtra to uplift tribal communities and integrate them into the mainstream.

  Jagriti'23 was concluded with this engaging talk with Mr. Ashish Mishra, a distinguished alumnus of IIT (BHU) and the All India Rank 52 holder in the UPSC examination for the IAS batch of 2021. The event aimed to inspire and enlighten attendees about the joys and challenges of public service, showcasing Mr. Mishra's remarkable journey and the triumphs he has achieved in his role as a civil servant.

  Jagriti, in collaboration with E-CELL IIT (BHU), successfully organized a guest talk featuring Mr. Ravi Teja Akondi, the CEO and co-founder of iMumz and an alumnus of IIT (BHU). The event aimed to inspire and educate attendees about entrepreneurship, innovation, and the journey of a successful startup.

  Jagriti, in collaboration with E-CELL IIT (BHU), organized a guest talk featuring Mr. Suhas Motwani, the esteemed co-founder of The Product Folks. The event aimed to provide valuable insights into scaling and building communities for early-stage startups. He discussed the strategies adopted to nurture and engage a thriving community of entrepreneurs, product managers, and industry experts

- **Sahyog-**

➢ Sports day:

- Celebrated on Major Dhyan Chand's birthday (August 27th) in the school playgrounds.
- Engaged students in a wide range of indoor and outdoor games, promoting physical fitness, teamwork, and sportsmanship.
- Winners were awarded prizes, encouraging a spirit of healthy competition among students.
- The event created a lively and energetic atmosphere, fostering active participation and promoting the values of sportsmanship and physical well-being.

Gram mela:

- Conducted on January 28th at the government school in Tikari village.
- Based on a pre-survey conducted in Tikari village, volunteers planned and organized stalls to address specific community needs.
- Showcased various government schemes, providing explanations on eligibility criteria, required documents, and registration processes.
- Career counseling sessions guided students and parents on further education and available career opportunities.
- Vocational training programs, including support from Beggar's Corporation, equipped individuals with job-specific skills, empowering them for better livelihoods.
- Health checkups were conducted by doctors from the Dental and General Medicine departments of IMS, BHU. The NGO Smile Foundation also provided support.

Health and Hygiene club-

- **Medicine collection**: The Medicine Collection Drive organized by the Health and Hygiene Club of IIT-BHU (Indian Institute of Technology, Banaras Hindu University) was an initiative aimed at collecting spare medicines from students' homes and bringing them to the institute. The drive was likely conducted to address the issue of medication shortages or to assist individuals who may not have access to necessary medications.The objective of the drive was to encourage students to contribute to the cause of improving healthcare accessibility by donating unused or spare medicines that were in good condition and within their expiration dates
- **Monkeypox awareness**: The Monkeypox Awareness Instagram post by the Health and Hygiene Club aimed to educate and inform the audience about the viral disease known as monkeypox. Monkeypox is a rare, zoonotic disease caused by the monkeypox virus, which is similar to but milder than smallpox. The post likely included a visually appealing graphic or image related to monkeypox, along with concise and informative text.
- **Spot the green**: The Spot the Green Treasure Hunt organized by Health and Hygiene Club, was a highly anticipated event during Jagriti, with a substantial participant count of 50-60 individuals. It took place on April 7th, providing an exciting and thrilling experience for all involved. The Spot the Green Treasure Hunt had a significant impact on the participants, providing them with a platform to develop and showcase their skills. The event challenged their mental agility, physical endurance, and ability to work under pressure. Participants developed critical thinking skills, learned to think outside the box, and honed their decision-making abilities. To add to the excitement, an attractive prize of 8,000 was up for grabs.
- **Survey in sahyog (gram mela):** Some of the members from HHC visited Grammela'23, organized by the Sahyog Club, for a primary health survey. The survey found that the villagers did not understand basic hygiene practices and often suffered from preventable diseases. We talked to more than 50 villagers and found that : Only 30% of the villagers knew how to wash their hands properly. Only 20% of the villagers had access to a toilet. 50% of the villagers suffered from diarrhea in the past year. More than 50% of women still use cloth during the menstrual cycle and hesitate to discuss that.
- **Animal welfare community**

  The Animal Welfare Community of IIT-BHU's Health and Hygiene Club focused on improving the lives of stray animals on campus. Their initiatives included providing water arrangements, creating shelters, ensuring regular food provision, and facilitating medical treatments. During summers, the community placed water bowls throughout the campus to provide hydration to stray dogs. They monitored and refilled the bowls regularly. Shelters made from scrap materials were constructed for vulnerable females and their newborn puppies. These shelters were regularly checked and repaired by volunteers.
- **Meme making event as** part of our efforts to promote health and hygiene awareness among students, the Health and Hygiene Club organized a pre-event in anticipation of Jagriti'23, our flagship event. We hosted a meme making competition that garnered significant interest, with over 50 enthusiastic participants registering to showcase their creativity and humor. The objective of the meme making event was to convey important health and hygiene messages in a fun and relatable manner. By leveraging the power of memes, we aimed to capture the attention of our student community and encourage them to adopt healthy practices. Topics such as hand hygiene, sanitation, mask-wearing, healthy eating, and mental health were creatively portrayed in the memes.

Events

- **Daan Utsav -**The best way to celebrate the birth anniversary of the "Father of Nation" is to celebrate the joy of giving. People come together to donate their time, skills, resources, knowledge and education to celebrate India's most prominent festival **f**rom October 2 to October 8. We came forward and celebrated this week with students too as 'Daan Utsav'. Collaborated with NGOs, schools, corporates, and government organizations to make a positive impact and support those in need.
- **Abhipraya 2022:**
  - Abhipraya is the annual freshers' competition to introduce the club to the freshers. It consists of a series of events to showcase and glimpse work at the Social Projects' Club.
  - This year a case study event was held with 4 case studies. The topics of the case studies were: saving electricity, value chain of agriculture, plastic maneuver and reclaiming e-waste.

- It focused on the problem-solving ability of the group. Each team was asked to provide a valuable solution, plan of action, or a business model in front of judges.

Achievements:

Hult

Team Vasanam, led by 5 students from the socials project club, made it to the on-campus final. Vasanam focused on Fashion-Oriented bio textiles called "Biofibril" - a speculative aesthetic fabric. Biofibril employed sustainable practices to produce garments from bacterial cellulose, a biodegradable material that produces fewer microfibers than traditional clothes. Unlike traditional manufacturing methods, synthetic fibers, and fast fashion practices that have resulted in pollution, waste, and greenhouse gas emissions, Biofibril produces highly biodegradable clothes. The team walked door to door to local shops, taking surveys, measuring the favorability of the fiber, working on its marketing strategy, and securing the first position in the abstract and the top 10 in the final presentations

Smart and Innovative Solution

Some of our volunteers participated in Smart and Innovative Solution conducted by United Nations India, in which we pitched an idea for helping blind people cross the road, Our vision was in Early stage Innovation, and our team came in 8th place overall under the leadership of professor Dr. Agnivesh Pani. The purpose of sharing this information is that after competing in this hackathon, we learned about many problems people in society face, many of which have been solved and implemented. Many of them are still in the early stages, with no prototype.

Projects:

Krishi: -

Small and marginal farmers with less than two hectares of land account for 86.2% of all farmers in India but own just 47.3% of the crop area.

- Motive: -
  - The main motive behind Krishi Project is to connect farmers with wagers and those who rent agricultural equipment.
  - Giving employment to local laborers and agricultural machinery owners.
- Social Impact: -
  - It will help the farmers get wagers and agricultural machinery at any time, reducing the loss of crops.
  - It will provide a platform where farmers can get information about all new schemes launched by the government, weather reports, pesticide and insecticide indicators, a guide for careers in the agriculture stream, and free consultants for any queries in farming.
- Progress: -
  - The website is built with the help of the MERN stack. we used MongoDB as the database, NodeJS as the backend, and HTML, CSS, JavaScript, and ReactJs as a framework for the front-end development of the website.
  - The website allows users to log in with user authentication; every user's profile is displayed on the profile page.

27. Training and Placement Cell

Overview

The Training and Placement Cell of the Indian Institute of Technology (BHU) was developed as a separate unit in the Institute as early as 1977-78. Since its inception, the Cell has been coordinating the placement of final-year students in various industries and research organizations and making arrangements for summer internships for B.Tech./ IDD/M.Tech. students every year as part of their academic curriculum. More than 21,000 B.Tech./ IDD students and M.Tech./M.Pharm. /Ph.D. has been placed through this Cell with lucrative compensation packages in leading industries in the country and abroad.

Large numbers of prestigious companies, both from the public and private sector, have visited our Institute, and their number has greatly increased from mere 16 in 1977 to 308 in the academic session 2022-23. During this session, the recruitment process started on 1st December, 2022. Companies such as Google, Microsoft, Oracle, Flipkart, Graviton, ThoughtSpot, Sciforn, UI Path, Mudrex, Nvidia, DE Shaw, Intuit, Qualcomm, Uber, Samsung, Wells Fargo, Texas Instruments, Slice, Paypal, Phone Pe, Confluent, Cisco, ServiceNow, Disney, AiDash, P&G, Marvell, Myntra, Sprinklr, Walmart, JP Morgan, Flipkart, Airamatrix, etc.

Around 330 students from other institutes were also given internships through the Cell.

List of staff members associated with the Training and Placement Cell.

Sl. No.	Name	Designation
1	Prof. Sushant Kumar Shrivastava	Coordinator
2	Dr. K. P. Sarawadekar	Dy. Coordinator
3	Dr. Surya D. Yadav	Dy. Coordinator
4	Sri. Ashish Kumar Vishwakarma	Senior Assistant
5	Sri. Mohit Srivastava	Office Assistant (Highly-Skilled)
6	Sri. Shravan Kumar Dubey	Office Assistant (Highly-Skilled)
7	Sri. Surendra Kumar	Attendant (Semi-Skilled)
8	Sri. Jaswant Lal Roshan	Attendant (Semi-Skilled)

The number of students who enrolled for the campus placement during 2022-23: **1428**

The number of companies that visited for campus recruitment:

2021-22	2022-23
303	308

List of top 40 most reputed companies that visited and recruited students(**Annexure–I** attached).

6. Number of offers made: 1240

Domestic Offers: 1217

International Offers: 43

Average CTC Package (in LPA):

2021-22	2022-23	Increment over the previous Year
21.54	22.77	5.40%

Highest (or top few) CTC package offered (Rs.)-

1. 1,20,00,000/-

2. 1,15,00,000/-

3. 91,18,716/-

4. 73,83,200/-

5. 53,03,200/-

The number of paid internships earned by the students:

2021-22	2022-23	Increment over the previous Year
534	543	1.65%

Any other achievements or highlights:

In comparison to the last year, this year (academic session 2022-23) has witnessed a percentage increase in:

i) Number of visiting companies by 1.62%

ii) Number of paid internships by 1.65%, and

iii) Average CTC by 5.40%

Annexure-I

Sl. No.	Company Names	Offers
1	Accenture Japan Ltd.	7
2	Amagi Media Labs	2
3	Amazon	18
4	App Dynamics	6
5	BNY Mellon	11
6	Cashfree Payments	4
7	Cisco	6
8	DE Shaw	4
9	DealShare	3
10	Flipkart	4
11	Goldman Sachs	5
12	Google	17
13	Graviton	1
14	Hilabs	6
15	Javis	8
16	JP Morgan Chase & Co.	20
17	Media.net	2
18	Microsoft	30
19	MyKaarma	4
20	NAVI	26
21	Nium	4
22	Nutanix	4
23	Nvidia	3
24	Oracle	22
25	Paypal	3
26	Piramal Group	10
27	Qualcomm	5
28	Rakuten	24
29	Salesforce	3
30	Samsung (Delhi)	12
31	Samsung Bangalore	3
32	slice	2
33	Societe Generale	6
34	Sprinklr	13
35	Texas Instruments	3
36	Thoughtspot	7
37	Times Internet	4
38	Uber	2
39	VISA	4
40	Walmart	5

28. Resource and Alumni

Dean (Resource and Alumni Affairs):

Prof. Rajeev Srivastava-(w.e.f. 01/12/2020-till date)

1. **Introduction:** The Resource & Alumni office of the Institute works for the functions as delineated by the Director of the Institute (Vide letter No. IIT (BHU)/2014-15/504/L Dated 9th September 2014 and subsequent modification. The following works/functions are carried out as

   I. Alumni Processes and Functions [through dedicated office and Student Alumni Interaction Cell (SAIC)]

   II. Gandhi Technology Alumni Centre-Guest Houses. (Through Coordinator, GTAC).

   III. Alumni Interactions: Coordinating with alumni at regional, national, and international level for overall development of the Institute. Identifying and recognizing the alumni and organizing alumni reunions with the help of alumni.

   IV. Seeking and Raising Donations and Endowments for student scholarship/ awards, medals, Faculty chairs and facility development.

   V. Newer Dimensions.

2. Objectives and Achievements:

Developing effective mechanism of communication through all alumni by creating complete database, developing and using tools and technologies, websites, portals and keeping them updated with their Alma matters.

Some ongoing activities related to the above:

I. Alumni Registration portal developed for registration of alumni and collecting their contact details for enriching the database for effective communication. 16,200+ Alumni have already registered on the portal.

II. Alumni Newsletter: Being published since January-2021 and communicated monthly to all alumni groups. Keeping all the alumni updated with their Alma matters through Alumni Newsletters and posting the information on website and social media platform on regular basis

III. Regular Communications to alumni through Group Email IDs (~25000), Institute Website, Alumni Website, and Social Media Platforms (LinkedIn, Facebook, Twitter, Instagram etc.).

- Honoring the alumni through distinguished alumnus awards and facilitating them at various occasions. Seven (07) alumni were awarded with distinguished alumnus award in different categories during 2022-23.
- Organizing regular meetings/ reunions etc.
- Engaging the alumni for overall development of the Institute fraternity through intellectual talks, seminars, workshops, online classes etc.
- Interacting with alumni groups for:
- Establishment of Endowment Scholarships, Awards, Medals and other funds.
- Establishment of Alumni funded Institute Chair Positions in various Depts./ Schools/ Centers.
- Establishment of Labs and Centres.
- Following two state-of-the-art laboratories/ Centres were established by alumni donations in FY 2022-23:
  - I. Software Innovation Lab Funded by USA based Alumnus Sh. Jay Chaudhry.
  - II. Mechatronics and Automation Lab funded by Indian Alumni Sh. R.N. Tripathi.
- Exploring the possibility for minor/ major donations for Infrastructural development, development of centers, schools, facility etc.
- *Institute has also signed a MoU in 2021 with IIT (BHU) Foundation, USA established by the IIT (BHU) Alumni to achieve above goals.*

Several alumni have donated to established various endowment scholarships/ awards, labs and other facilities.

3. Alumni Association of IIT (BHU), Varanasi

Alumni Association of IIT (BHU), Varanasi (also known as AASSII) a centralized alumni association of the Institute having its office at the Institute is also now fully functional. It is registered under Societies Act, 1961 and all other alumni associations of IIT (BHU) at different places in India and around the world are considered its chapters. Some of the major activities carried out by the Alumni Association of IIT (BHU) during FY 2022-23 include:

1 AASSII's first priority was to get as many alumni as possible to register at the Alumni portal to increase communication with a large number of alumni and make them aware of developments at the institute, challenges being faced and enlist their support. With the support the Director, IIT (BHU), Dean (Resource and Alumni) and other functionaries of the Institute the association has managed to enroll several thousand alumni from across the world and current registration at the portal is more than 16,400. Alumni association is working with the office of the Dean (Resource and Alumni) and continuing their efforts to contact alumni who are yet to be part of Alumni Association and at the same time ensure that passing out students enroll at this portal on completion of their degree.

2. Life membership programme launched in the month of April, 2022 which saw almost 1400+ members subscribing to it in a span of one year. Members enjoy a varied array of schemes which benefit them and their families directly.

3. In the month of June, 2022; AASSII partnered with MakeMy Trip Ltd. (India's leading Online Travel Agency platform) to launch the MMT MyBiz platform for all AASSII life members. Benefits included under this scheme are - discounted airfare on domestic flights for members and immediate family members and dependants, attractive rebate on hotel bookings across India and discounts levied upon pre booked cabs. This again, was a successful venture post the 1st round of Group Health Insurance which happened in January last year.

4. AASSII also launched the second round of the Group Health Insurance scheme this year for its members in the months of January and February in two phases respectively which saw more than 1750+ policies being subscribed to in all.

5. AASSII's office actively participated and helped in organizing various reunions at the University campus. The office also organized and hosted breakfast for a few of these batches like 1968, 1976, 1978 and 1982.

6. AASSII's office with the help of Dean (Resource and Alumni) and Coordinator, IIT (BHU) Guest House also helps in the facilitation of booking the IIT-(BHU) guest house for all Alums.

7. Introduction of HDFC Diners credit card for all life members who fit under a certain criteria.

8. AASSII is also in talks to introduce a Life Insurance Scheme for all its members.

9. ASCII conducted a one-day meet to define Strategies for the next 3 years. Several new initiatives were discussed and have been rolled out. Some of the identified initiatives that Alumni decided to start working on are:

- One Alumni Association
- Industry Academia Collaboration
- Startup Eco-system
- Centre of Excellence
- Collaboration between Alumni, Students and Institute
- The association has identified teams and leaders for each of these initiatives to work on in a time bound manner.

10. Banaras, Lucknow and Western India associations successfully integrated with AASSII as part of One Alumni Association. Work in progress on integration of AIBA with AASII as AASSII NCR Chapter, likely completion by September/ October'23.

11. Other activities organized by alumni associations:

- A two days event on Future of EV Eco-system was organised at New Delhi. More than 250 participants attended the event. We had more than 100 prominent speakers at this summit. This event generated a lot of interest in the EV lab being planned at Institute and AASSII have written commitment from various alumni and organisations working in EV systems to fund approx 20 Crores for the lab at IIT(BHU).
- AASSII has started organising talks on soft skills at regular intervals. Motivation- Unlocking your superpower, Lifestyle,

Yoga, How to overcome challenges in life were some of the topics covered during these talks.

The Bangalore Chapter of AASSII was launched on 7th May at IISc Bangalore. Dr Hari Narayan Kota, Vish Narayan from USA and Nitin Malhotra were among the attendees. This launch was attended by more than 230 Alumni based in Bangalore. We now have approx 500 members

- registered with the AASSII BLR chapter. This chapter has been very active, organising various programs and meetings almost every month since launch of this chapter.

4. IIT (BHU) Foundation, USA

IIT (BHU) Foundation, a non-profit body based in Albany, New York, USA, was a specific response to the need for a capital campaign to support IIT (BHU). Started by our highly passionate alumni to enable IIT (BHU)'s transformation into a trendsetting pioneer of technical education over the next century. Through the benevolence of alumni donor network contemporized with the strategic plans of their beloved alma mater, the Foundation seeks to foster the development of the Institute by capital raised through generous gifts, bequests, grants, and donations of the alumni.

5. **Student Alumni Interaction Cell (SAIC):** SAIC is dedicated to providing avenues for three-fold interaction among students, alumni, and the Institute to develop a vibrant community, creating opportunities to thrive for the benefit of the commonwealth. Under the guidance of the Dean (Resource and Alumni Affairs), Prof. Rajeev Srivastava, the new SAIC team for session 2022-2023 was formed in January 2023. The Alumni Visiting Faculty (AVF) Program continued in offline semesters, with renowned alumni teaching full-credit courses as visiting faculty, witnessing 9 alumni teaching 4 courses in the odd semester and 2 courses in the even semester, with 800+ students opting for them in the 2022-23 session. The Alumni-Guided Mock Interviews Initiative witnessed 220+ alumni coming together to help 780+ students through 830+ interviews. SAIC enhanced its Social Media presence among the alumni and students through 11 initiatives, including 3 collaborative videos with the Outreach Club, 7 Instagram reels with 50k+ views, 9 Alumni Achievement posts, and initiated the #IA Remarkable series, empowering 300+ students to celebrate their achievements and express themselves better in the workplace.

   Collaborating with the Training & Placement Cell, E-Cell, Share, and more, SAIC organized 13 informative talks and workshops. We also organised the second edition of SARC TANK, a Pan IIT series of competitions in collaboration with the Alumni Cell, IIT Bombay. Two new books written by IIT (BHU) alumni were added to the Alumni Bookshelf. Volunteers from SAIC organized a booth, during the 11th Convocation Ceremony, with initiatives like 'Wall of 2022', 'Sticker Bingo', and a photo booth for the 2022 graduates who became the alumni of IIT (BHU). SAIC's 'Do Not Scan' booth also motivated the graduands to register themselves on the official alumni registration portal.

6. **Alumni Connect:** With the mission to strengthen the bond between the alumni and the students, frequent engaging sessions and formal/informal meets were organised, student volunteers from SAIC also assisted in organizing offline alumni events like AASSII AGM in Varanasi, EV Summit in Delhi, and the Western India Alumni Association meet-up.

   The yearly **Student-Alumni Mentorship Program** is aimed at providing personalized guidance to students from the Alumni. The program provided one-on-one mentorship to 750+ students by more than 450 accomplished alumni mentors across10 career domains.

   To update our alumni community about the various developments in the Institute, Student Alumni Interaction Cell (SAIC) released 13 editions of its monthly alumni newsletter - **Alma Communiqué**, from April 2022. Covering information related to each section of the Institute, each had an overall readership of 3500+ alumni from across the globe.

   In the online setting, **SAIC's website** (saic.iitbhu.ac.in) acted as the single-point platform for all alumni services and updates throughout the year.It hosted 13,700+ users and touched a total of 49,000+ page views. Apart from increasing the awareness of the **Alumni Registration Portal** through its social media platforms, SAIC also converted its database to add 6,000+ members to the portal. The current registration stands at 16,500+. Moving forward, SAIC aims to build more alumni connections and closely knit the Institute's vast alumni network together.

7. **Alumni Reunions/ Meetups:** The Institute witnessed seven joyous reunions round the year that brought together 550+ alumni families to reminisce shared memories and reconnect with the Institute.

DATE	Batch/Delegates	Number of Alumni/delegates attended
Oct 7 '22 - Oct 10 '22	1967	40+
13.10.2022	Young Diplomats from ~45 Countries	Event: Raisina Forum for Future Diplomacy 50+ delegates
Nov 4 '22 - Nov 6 '22	1982	100+
Nov 16 '22 - Nov 19 '22	1983	80+
Nov 18 '22 - Nov 21 '22	1972	80+
Dec 27 '22 - Dec 29 '22	1997	50+
Feb 2 '23 - Feb 5 '23	1978	60+
Mar 3 '23 - Mar 6 '23	1998	140+
Feb 22-25, 2023s	1968	55th reunion of 1968 Batch
08.02.2023	15 journalists /Editors from SCO Countries	Meeting with a delegation of 15 journalists/Editors from SCO countries to India
25th July 2022,	VCU Delegation	Signing of Agreement of Cooperation and Student-Staff Exchange between IIT (BHU), Varanasi and Virginia Commonwealth University (VCU), USA

Alumni Sports meet was organised with 50+ students interacting with Alumni visiting the Institute for Spardha in collaboration with the Sports council. Also, the office of Dean (Resource and Alumni) organizes the meetings with Indian and Foreign Delegates.

8. Distinguished Alumnus/Alumnae Award 2022-23:

Following alumni were conferred with Distinguished Alumnus Award 2022-23 for their major contributions in the respective categories:

Sl. No.	Name of Candidate	Category
1	Prof. Bir Bhanu	Academics
2	Sh. Raj Yavatkar	Research and Innovation
3	Dr. Ajit Singh	Industry/Entrepreneurship
4	Sh. Deepak Ahuja	
5	Sh. Ramesh Srinivasan	Profession
6	Dr. Deep Manoj Jariwala	Young Alumnus achiever awards
7	Sh. R. N. Tripathi	Distinguished Service to the Institute

9. Lecture Series:

List of Lectures organized under Institute Lecture Series in the academic year 2022-2023.

Sl. No.	Speaker	Affiliation	Topic and Date of the lecture
1	Prof. Manoj K. Harbola	IIT Kanpur	22/07/2022 Evaluation: Why and How
2	Prof.Gyaneshwar Chaubey	Department of Zoology, BHU	23/09/2022 How is South Asian's DNA different from others?
3	Shatavadhani Dr. R. Ganesh	Author, Avadhani and a Polymath	07/10/2022 The art and science of Sanskrit Poetry: An overview of Avadhanakala
4	Dr. M. Hasan	ISRO, Bengaluru	27/02/2023 Indian Space Programme: Current and Future

10. Contributions Received from Alumni/Corporates in FY 2022-23:

In FY 2022-23, total contributions received from the alumni by the Institute **Rs. 15,31,45,371/-** were received by the Institute in the FY 2022-23. The details are as follows:

Sl. No.	Name of Donors	Amount of Donation (INR)	In favour of	Type	Purpose
1	Sri R.N.Tripathi Ved Sassomedhanica Pvt. Ltd, Kanpur	1,00,00,000/-	Registrar, IIT (BHU)	Donation for establishment of Lab	For Establishment of Mechatronics and Automation Lab
2	Sh. Jay Chaudhary (CEO and Founder, ZScalar) through IIT (BHU) Foundation, USA	1,58,17,750/-	Registrar, IIT (BHU)	Donation for establishment of Software Innovation Center	For Establishment of Software Innovation Centre And faculty Chair (Total Pledged Donation: USD 1 Million)
3	Sh. Desh Desh Pandey Through IIT (BHU) Foundation, USA	7,30,55,000/-	Registrar, IIT (BHU)	Donation for Library	For Srinivas Desh Pandey Library (Institute's Main Library) (USD 1 Million)
4	Sh. Kausik Merchant	2,501/-	Registrar, IIT (BHU)	General purpose Donation	General Purpose Fund
5	Sh. Krishen Kanta Jain	5,00,000/-	Registrar, IIT (BHU)	One Time Scholarship	Jinendra Kumar Jain Scholarship
6	M/S Alpha Greph Securities Pvt. Ltd.	14,00,000/-	Registrar, IIT (BHU)	Awards to Students	Alphagrep Security Awards under CSR
7	Sh. Dinesh Chandra	50,000/-	Registrar, IIT (BHU)	General purpose Donation	General Purpose Fund
8	Sh. Sushil Kumar	5,00,000/-	Registrar, IIT (BHU)	Endowment Medal	Ram Kumar Gupta Gold Medal
9	Sh. Vishnu Malhotra	4,00,000/-	Registrar, IIT (BHU)	One time Scholarship	Merit-cum-means Scholarship
10	Alumni of 1997 Batch (Chemical Engineering)	33,20,000/-	Registrar, IIT (BHU)	Endowment Scholarship	DilipIyer Memorial Scholarship
11	Sh. Ramesh Srinivasan	3,90,42,712/-	Registrar, IIT (BHU)	Donation for Student activity centre	Student Activity Centre (Pledged USD 1.3 Millions)
12	Sh. Jagmohan and Manju Bansal	11,95,282/-	Registrar, IIT (BHU)	Endowment Scholarship	Jagmohan and Manju Bansal Scholarship
13	Sh. Naveen Kumar	5,000/-	Registrar, IIT (BHU)	Endowment	1968 Batch Donation
14	M/S Ansys Software Pvt. Ltd.	7,20,000/-	Registrar, IIT (BHU)	One-time Scholarship	Ansys Fellowship to MTech students under CSR
15	Sharman Foundation, USA	13,18,125/-	Registrar, IIT (BHU)	Donation for disbursement of scholarship	Sharman Foundation Scholarship
16	1982 Batch Fund	50,50,000/-	Registrar, IIT (BHU)	Endowment	Contribution received for 1982 Batch for general purpose development
17	Fund received through Donation portal	7,69,001/-	Registrar, IIT (BHU)	Donation	For different purposes
	Total	**15,31,45,371/- (Rs. Fifteen Crores Thirty One Lacs Forty Five Thousands Three Hundred Seventy One Only)**			

11. Year- Wise Donations Received and Donors (Last 5 years):

Session	Total Funds from Alumnus (In Lakhs of Rupees)	Total No. Of Donors
2018-19	89.41317	16
2019-20	104.98871	11
2020-21	191.87632	06
2021-22	895.11871	10
2022-23	1531.45371/-	18

29. Research and Development Activities

Introduction: Institute has a mission to fulfil the needs of the nation through Research and Innovation. Faculty members and students are engaged in cutting edge research under various schemes. To inculcate research culture in the students, the institute has set up Tinkering Labs in various departments. Students are involved in research projects from almost the early stage of their education. The institute gives partial support to the research initiatives of faculty members through grants like Seed Money, Research Support Grant, and R & D Thrust Area Grants.

The institute has also provides Lab Grants for up-gradation of teaching labs and supports Central Instrument Facility acquisitions. Faculty members of the institute are active in frontier areas of research, and Govt. research sponsoring agencies and many reputed industries have supported their efforts. A tremendous initiative of IIT (BHU) Varanasi, green and sustainable technology initiative, aims at promoting interdisciplinary research with industry collaboration for developing indigenous green, clean, and sustainable technologies that may be cost-effective, fulfil the local needs, and can be scalable to a global scale. The initiative aims to achieve excellence in research and capacity building on green & sustainable technologies and related applications, and leverage these technologies for the benefit of India.

The institute also interested in expanding collaboration with renowned foreign universities and Institutions to enhance the exchange of research activities. IIT(BHU) Varanasi since its conversion in an IIT entered 52 numbers of International MoU's with various Institute and now 29 MoU's are active. IIT(BHU) Varanasi has developed a research and innovation friendly environment supported through state of art infrastructure at Department/School level. In IIT(BHU) Varanasi, total numbers of ongoing project is 390 till F.Y. 2022-23 with amounting Rs.142,55,86,708/- including 10 Internationally funded project of amount Rs.3,20,68,641/-. The list of new and ongoing projects as well as consultancy/testing projects are shown below:

New R&D Project started in 2022-23

Sl. No	Title of Project	Period	Funding agency	Amount (in Lakh)	Name of the PI
Department of Architecture, Planning & Design					
1	Traditional Principles of settlement planning in heritage temple sites of Odisha/ erstwhile kalinga region	02 Yrs	IKS, AICTE	10.00	Dr. Rabi Narayan Mohanty
School of Biochemical Engineering					
2	Metabolic engineering of rapid growing cyanobacteria for farnesene production and its scaleup studies	03 yrs	SERB	35.09	Dr. Sanjay Kumar
3	Complete utilization of banana from farm till its disposal: A step towards the agricultural circular economy for the growth of agriculture and farmers in UP	03 years	UPCST	11.94	Dr. Vishal Mishra
4	A Novel, Rapid, High-Throughput Characterization of Microbiome Dynamics through Cytomics and Machine Learning	02 years	SERB	28.61	Dr. Abhishek Suresh Dhoble
5	Development of paper-based analytical devices for molecular sensing	06 months	I-DAPT, IIT(BHU)	2.50	Dr. Pranjal Chandra
School of Biomedical Engineering					
6	Development of Brain/Liver-on-a-Chip Models for Understanding the Role of Liver in the Progression of Alzheimer's Disease during Diabetes	2 years	DST	19.70	Dr. Sanjeev Kumar Mahto
School of Ceramic Engineering					
7	Pressure Assisted Flash Joining of Ceramic Materials	3 Years	SERB	45.91	Dr. Mohammad Imteyaz Ahmad
8	Cell laden 3-D bioprinted 2-dimensional (2-D) hydroxyapatite nanocrystals/alginate/ collagen piezo-biocomposite scaffold for bone tissue engineering applications	3 Years	SERB	36.96	Dr. Ashutosh Kumar Dubey
9	Wafer-scale integration and interfacial engineering of 2D van der Walls superlattice for next-generation nano-scale devices	3 Years	SERB	38.87	Dr. Santanu Das

Sl. No	Title of Project	Period	Funding agency	Amount (in Lakh)	Name of the PI
10	Development of nano bonded alumina magnesium borate refractory castable application for Indian petrochemical industry	3 Years	SERB	43.28	Dr. Manas Ranjan Majhi
Department of Chemical Engineering & Technology					
11	TIFAC-MSME Program	01 Year	TIFAC	20.00	Dr. BhawanaVerma
12	Effects of ceria support morphology for the synthesis of bimetallic catalysts for Nox reduction through H2-SCR	03 Years	SERB	52.47	Dr. Sweta
13	Crack modulation in dried colloidal films by soft additives	03 Years	SERB	46.86	Dr. UditaUdayGhosh
14	Numerical modelling and optimization of isothermal chemical vapor infiltration (CVI) process for C/SiC composites using MTS/H2 mixture	1.5 years	ISRO	24.78	Dr. Vijay MarutiShinde
15	Design and development of kinetically stable electrolytes for next-gen Li-ion batteries (ElectroLilon)	02 Yrs	SERB	29.40	Dr. AbirGhosh
16	Thermo-catalytic conversion of carbon dioxide into ethanol and higher alcohols	02 Yrs	SERB	33.09	Dr. Sanjay Katheria
17	Catalyst development for reforming of biomass tar model compounds for hydrogen and syngas production	02 Yrs	SERB	30.44	Dr. Rohit Kumar
18	Production, characterization and combustion studies on sustainable aviation fuel	03 Yrs	SERB	32.34	Dr. J.P. Chakraborty
Department of Chemistry					
19	IKS at IIT(BHU) Varanasi	2 Years	IKS Cell, AICTE @ GoI	40.00	Dr. V. Ramanathan
20	Mineral Acids in India prior to 15th CE: A Revisit Exploring Arthasastra and other 15th CE Rasa Sastra texts	2 Years	IKS Cell, AICTE @ GoI	10.00	Dr. V. Ramanathan
21	Development of stable and tethered Os(II)-based catalysts for reductive stress mediated photo-catalytic anticancer activity	2 Years	SERB	29.39	Dr. Samya Banerjee
22	Proof of concept of developing in-cell reductive stress by Ir(III) transfer hydrogenation catalysts	3 Years	BRNS	21.82	Dr. Samya Banerjee
Department of Civil Engineering					
23	Development of algorithms for water quality monitoring using ground instrumentation and optical sensors onboard unmanned airborne vehicle and satellite data	3 years	ISRO	25.18	Dr. Shishir Gaur
24	Development of an inexpensixe high-fidelity technique for the prediction of failure capacity of thin shell structures	02 years	SERB	24.17	Dr. Kshitij Kumar Yadav
25	Design and analysis of adaptive tow-steered laminates	02 years	SERB	32.86	Dr. AyanHaldar
26	Bringing global sustainable solutions for clean rivers in India through the concept of living lab	06 months	Danish Embasy, New Delhi	59.05	Dr. Shishir Gaur
27	A data driven toolkit for enabling multimodal freight transportation in India and Austria	02 yrs	DST	7.12	Dr. AgniveshPani
28	Making transit accessible to all : Ensuring fairness and equity in Data - Driven Transit Planning	1 year	I-DAPT, IIT(BHU)	19.92	Dr. AgniveshPani
Department of Computer Science & Engineering					
29	Developing novel therapeutic strategies for mitigating antimocrobial resistance	03 Yrs	ICAR	153.89	Prof. Sanjay Kumar Singh
30	Design and development of machine learning based methods for plant disease detection	03 Yrs	UPCST	10.44	Dr.Ravi Shankar Singh
31	Development of an Intelligent Internet of Things (IIoT)-enabled Portable Device for Early Diagnosis of Foot and Mouth disease of Dairy Cows	03 Years	SERB	48.38	Dr. PrasenjitChanak

Sl. No	Title of Project	Period	Funding agency	Amount (in Lakh)	Name of the PI
32	Algorithms with provable guarantees for dynamic social networks	03 Yrs	SERB	6.60	Dr. Lakshmanan Kailasam
33	Artificial intelligence & IoT based smart vet ecosystem for animal health patient care & precision livestock farming	03 Yrs	ICAR	59.44	Prof. Sanjay Kumar Singh
34	LoRA-enable Indoor-Outdoor Long-Range Message Sharing System: from device design-to-deployment	06 Months	I-DAPT, IIT(BHU)	2.50	Dr. H.P. Gupta
35	Development of a Low-cost, Privacy-secured and vision-based divergent behaviour prediction system for both individual and group	06 Months	I-DAPT, IIT(BHU)	2.45	Dr. TanimaDutta
36	Revisiting traditional Indian agriculture practices against climate change vulnerabilities using machine learning techniques	02 Yrs	DST	25.25	Dr. Ruchir Gupta
37	Development of disaster response system for collecting & disseminating information through social media test processing	03 Years	UPCST	8.94	Dr. Sukomal Pal
38	Development of a ligtweight Android mobile software powered by Deep Learning for identification of plant leaf disease	02 Yrs	DST	35.90	Dr. Pratik Chattopadhyay
Department of Electrical Engineering					
39	Design and development of next generation cost effective reconfigurable on-board battery charger with health and fault monitoring	02 Yrs	MeitY	198.29	Dr. R.K. Singh
40	Electrolytic capacitor less six pulse DC ling photovoltaic system connected to grid	02 Yrs	CPRI	45.44	Dr. V.N. Lal
41	Development of an efficient module-integrated battery management system	02 Yrs	MeitY	99.62	Dr. SandipGhosh
42	Multi output hybrid solar inverter for low power applications	01 Year	Ornate Agencies Pvt. Ltd.	10.08	Dr. R.K. Singh
43	Smart DC charging with integrated digital platform for CPOs and Power distribution companies	21 Month	MEITY	35.52	Dr. Santosh Kumar Singh
44	Silicon carbide devices based high voltage gain converter with novel current-source gate driver for electric vehicle powertrain	03 Yrs	SERB	49.99	Dr. Santosh Kumar Singh
45	Data anomaly detection and mitigation for distributed control and optimization with inverter-based resources (IBR) in cyber-physical networked infrastructures (CPNI)	01 Yr	I-DAPT, IIT(BHU)	32.94	Dr. R.K. Singh
46	Centre for development of drone related technologies	02 Yrs	I-DAPT, IIT(BHU)	130.00	Dr. Shyam Kamal
47	Installation of PavanVruksh for harnessing wind energy at GTAC/Institute Library Premises of IIT(BHU)	8 Month	I-DAPT, IIT(BHU)	15.95	Dr. N Krishna Swami Naidu
Department of Electronics Engineering					
48	Development of Variable data rate CCSDS complaint direct digital demodulator	2 years	ISRO	24.52	Dr. Kishor P. Sarawadekar
49	Development of wearable internet of medical things for continuous health monitoring of astronauts	3 years	ISRO	26.09	Dr. Priya Ranjan Muduli
50	Development of graphene/CNT FET based sensors for space applications	2 years	ISRO	29.62	Dr. Shivam Verma
51	Metasurface-based various components for applications in microwave and beyond	3 years	ISRO	25.33	Dr. Somak Bhattacharyya
52	Design and development of reconfigurable reflect array antenna at X-band	2 years	ISRO	27.77	Prof. Manoj Meshram
53	Design and development of implantable and ingestible antennas for biomedical applications	3 years	SERB	24.87	Prof. Manoj Kumar Meshram

Sl. No	Title of Project	Period	Funding agency	Amount (in Lakh)	Name of the PI
Department of Humanistic Studies					
54	NeetiShastras and Modernity : Understanding the reflective equilibrium between Hermeneutics of Normative Texts and Practice	2 Years	IKS, AICTE	10.00	Dr. Sukhada
Department of Mathematical Sciences					
55	Development of Cryptographically efficient lightweight MDS matrices and its extension to code-based PQC	03 Years	DRDO	23.10	Dr. Ashok Ji Gupta
56	Study of some Two dimensional fractional order nonlinear transport phenomena problems in porous media	03 Yrs	BRNS	14.84	Prof. Subir Das
57	L-functions associated to modular forms and non-vanishing of poincare series	02 Yrs	SERB	14.71	Dr. Abhash Kumar Jha
58	Nanlocal elliptic equations with critical growth nonlinearities	02 Yrs	SERB	14.71	Dr. Divya Goel
59	A numerical study of some non-classical diffusion/heat equations with free boundaries	03 Yrs	SERB	6.60	Dr. Rajeev
60	Investigation of size effects on vibration and thermoelastic damping in nano-electro-mechanical systems of piezoelectric materials	03 Yrs	SERB	6.60	Prof. Santwana Mukhopadhyay
61	Adaptive computational approach for riesz fractional advection dispersion wave equations	03 Yrs	SERB	21.67	Dr. Vineet Kumar Singh
62	Isoperimetiric bounds and obstacle placement problems for mixed steklov-Dirichleteigencalues on Riemannian manifolds	02 Yrs	SERB	14.71	Dr. SheelaVerma
63	Certain space of cusp forms spanned bt eat quotients and application	03 Yrs	SERB	6.60	Dr. Abhash Kumar Jha
Department of Mechanical Engineering					
64	On the augmentation of heat transfer from external downward facing Convex surface of Calendric	3 years	BRNS	36.49	Prof. Pradyumna Ghosh
65	Modelling of advanced polycrystalline materials for crystal plasticity simulations of machining processes	2 years	SERB	9.43	Dr. Srihari Dodla
66	Blowoff Dynamics of Afterburner Flame	3 years	DRDO (AR&DB)	98.90	Dr. Anubhav Sinha
67	Experimental investigation of stability limits, NOx emissions and blowout phenomenon of ammonia - hydrogen-nitrogen air mixtures in a non-premixed swirl combustor	02 years	SERB	31.72	Dr. Santhosh R
68	Graphite Aerosol studies in High Temperature Aerosol Facility for nuclear reactor applications	03 years	BRNS	40.50	Prof. Prashant Shukla,
69	Hybrid Solar Wind Driven Combined Heat and Power System using Organic Rankine Cycle. (P.I.D.-1747	3 Years	CST-UP	9.42	Dr. Arnab Sarkar
70	Manufacturing of complex titanium assembly part for missile using fabrication, simulation, testing & prototyping studies	2.5 years	DRDO	47.57	Prof. Santosh Kumar
Department of Metallurgical Engineering					
71	Designing metallic glass composites with immiscribe elements as alloying elements for improved plasticity	02 Yrs	SERB	33.10	Dr. Sree Harsha Nandam
72	Electronics repairing and E-waste collection system	06 Months	UBA	0.50	Prof. K.K Singh
73	Development and processing of magnetocaloric this sheets for enhanced thermomagnetic energy harvesting applications	02 Yrs	SERB	31.99	Dr. Deepak K
74	Development of high-strength vanadium microalloyed steels for heavy gauge plate	03 Yrs	Vanitec Limited, U.K.	92.96	Dr. Sudipta Patra (PI), Dr. Joysurya Basu (CoPI)

Sl. No	Title of Project	Period	Funding agency	Amount (in Lakh)	Name of the PI
75	Design, development and microstructural engineering of ultra-strong managing medium entropy alloys	03 Yrs	SERB	41.58	Dr. Praveen Sathiyamoorthi (PI)
Department of Mining Engineering					
76	Inverse estimation of uncertainty in intact rocks properties at meso-scale using full-field strain measurements	2 Years	SERB	32.46	Dr. Bhardwaj Pandit
77	Assessment of Safe Parting Thickness and Optimum Goaf Edge Support Requirement for Extraction of Pillars under Soft Cover	2 Years	CMPDI	182.29	Prof. Sanjay Kumar Sharma
78	Assessment of Work Posture of Mine Equipment Operators in Relation to Whole-Body Vibration Exposure-Using RULA, REBA and Human Modelling Approach	3 Years	SERB	38.29	Dr. Sanjay Kumar Palei
Department of Pharmaceutical Engineering & Technology					
79	Study on therapeutic and preventive efficacies of linoleic acid in hamster model of visceral leishmaniasis	2 years	ICMR	8.36	Dr. Vinod Tiwari
80	Development of peripherally acting Nanoformulation of opioids for the treatment of neuropathic pain	02 years	CST-UP	7.80	Dr. Vinod Tiwari
81	Preparation & characterization of natural products derived self-surface functionalized carbon dots for oral cancer theranostics	03 yrs	CST-UP	11.94	Dr. Alakh N. Sahu
82	Animal studies to establish the efficacy of surface polarized sodium potassium niobates for orthopaedic implant application	03 yrs	CST-UP	10.92	Dr. S. K. Mishra
Department of Physics					
83	High proton conducting metal phosphonate electrolytes for fuel cell application	02 Yrs	DRDO	41.20	Prof. Prabhakar Singh
84	Novel observations and modelling of the heating and dynamical plasma processes in the localized solar atmosphere	03 Yrs	ISRO	28.03	Dr. Abhishek Kumar Srivastava
85	Development of microwave scattering algorithms for retrieval of crop biophysical parameters and soil moisture using polarimetrics SAR satellite data	03 Yrs	ISRO	30.72	Dr. Rajendra Prasad
86	Novel and efficient hybrid material of CsPbBr3, Nanocrystals and organic complexes for multi-stimuli and dynamic optical encryption and decryption	03 Yrs	SERB	21.01	Dr. Sunil Kumar Singh
87	Development of rare-earth-free metal vanadate phoshors for latent fingerprint detection	03 Yrs	SERB	23.31	Dr. Praveen Chandra Pandey
88	A new paradigm for flavour problems	03 Yrs	UPCST	10.44	Dr. Gauhar Abbas
89	Enhancement of detection capability of Pyroelectric detectors in Infrared (IR) and Terahertz (THz) region	03 Yrs	DRDO	94.00	Dr. Saurabh Tripathi
School of Materials Science & Technology					
90	Demonstration and reproduction with scientific validation of some Ceramic Materials Knowledge System of Ancient India	2 Years	IKS, AICTE	14.22	Prof. Rajiv Prakash
91	Development of advanced Medical Textiles	5 years	Farmanex International Pvt. Ltd.	3.00	Prof. Rajiv Prakash now Dr. Chandan Upadhyay w.e.f. 21.09.22
92	Correlation studies of copper artifacts (2500-200 BCE) from Varanasi region and copper mining and smelting in tribal areas of Singhbhum	2 years	AICTE, IKS	15.24	Dr. Chandan Upadhyay
93	Effect of composition and microstructural alteration on constant and dynamic loading response of Al-Mg-Si alloys for electric vehicle application	2 years	SERB	33.05	Dr. Nikhil Kumar

Sl. No	Title of Project	Period	Funding agency	Amount (in Lakh)	Name of the PI
94	Investigation of processing techniques for the development of PPEK and Thermoplastic prepreg technologies	2.5 years	DRDO	88.74	Prof. Pralay Maiti
95	Study of composition and thermo-mechanical processing of 4-8% Cu Al alloy for fabricating the fuselage skins and frames for aerospace application	03 years	CST-UP	10.92	Dr. Nikhil Kumar
96	DNN- Derived Innovative Flexible Frequency Selective Surfaces for Stealth and 5G Electromagnetic Shielding Applications	03 years	SERB	32.56	Dr. Ravi Panwar
97	Nano-ion Chromatograph in Action - Sustainable and scalable quantum dots paves a Facile route for Rare Earth Ions Separation Through Advanced Hydrometallurgy	2 years	Ministry of Mines	11.05	Prof. Pralay Maiti

Other ongoing R&D Project in 2022-23

Sl. No	Title of Project	Period	Funding agency	Amount (in Lakh)	Name of the PI
School of Biochemical Engineering					
1	Flow and segregation of granular materials out of hoppers and two & three dimensional devices	3 Years	CST-UP	10.44	Dr. Vishal Mishra
2	Targeted drug delivery of methotrexate/ gallic acid- folate conjugated Poly L-Lysine nanoparticles	3 years	DBT	34.61	Dr. Abha Mishra
3	Strategies towards generation of functional tissue engineered construct for orthopaedic application	02 Yrs	SPARC-MHRD	23.25	Prof. Pradip Srivastav
4	How Beclin 1 mediates cross-talk between apoptosis and autophagy via ITS C-Terminal Fragment?	3 years	CSIR	32.61	Prof. Vikash Kumar Dubey
5	Re-purposing of approved drugs from Drug Bank database for possible treatment for COVID-19 by targeting SARS-CoV-2 main purpose	1 year Extended till 19.12.2021	SERB	15.40	Prof. Vikash Kumar Dubey
6	Development of bi-functional electrochemical nanobiosensors for bacterial exotoxin detection: Implication towards screening of toxin producing bacterial isolates	5 Years	SERB	38.00	Dr. Pranjal Chandra
7	Validation of Glutathione synthetase from Leishmaniadonovani as new drug target or discovery of new drug candidate	3 years	ICMR	41.42	Prof. Vikash Kumar Dubey
8	Characterization of indigenous cow's dung and urine for scientific advancement and development of utility items	3 years	DST - SUPRA	31.40	Dr. Abhishek Suresh Dhoble
9	Integrated computational and experimental studies to potential therapy of kala-azar targeting Dephosphocoenzyme A Kinase (LdDPCK) of the pathogen as a target	2 Years	I-DAPT, IIT(BHU)	20.00	Prof. Vikash Kumar Dubey
10	Bioengineering of living materials to fabricate functionalized bacterial nanocellulose for high performance applications	5 Years	DBT	42.50	Dr. Prodyut Dhar
11	Design and Validation of field deployable miniaturized Nano-Bio-Sensing System for Detection of the Parasitic liver fluke fasciolagigantica	3 years	ICMR	45.37	Dr. Pranjal Chandra
12	Human IL-2 fused leishmanialtrypanothione synthesis (TS) as protein vaccine candidates	22 month	ICMR	46.13	Prof. V.K. Dubey

Sl. No	Title of Project	Period	Funding agency	Amount (in Lakh)	Name of the PI
13	Development and evaluation of an innovative poly herbal Bi layer wound dressing material	3 Years	DRDO	32.03	Dr. Pradeep Srivastava
School of Biomedical Engineering					
14	Neem seed based nanocapsules and nanomedicine for targeted drug delivery and cancer therapy	3 Years	SERB	40.46	Dr. Pradip Paik
15	Functional-hollow-porous-bipolymer based Nanoformulations and Interventions for treatment of Cancer and prevention of Tuberculosis, concept of nanomedicine with multiple drugs for multiple diseases.	3 Years	DST	52.18	Dr. Pradip Paik
16	Developing Psyllium Husk Based Polysaccharide Hydrogel into Electrospinable and 3D Printable Materials : Towards Fabrication and Comparative Evaluation of Lyophilized, Electrospun and 3D Bioplotted Scaffolds for Liver Tissue Engineering	3 years	SERB	42.52	DR. Sanjeev Kumar Mahto
17	Development of Cardiac Model for Prediction of Human Heart Failure using Noninvasive medical imaging and Computational Fluid Dyanamic techniques	03 Yrs	ICMR	52.31	Dr. Sanjay Kumar Rai
18	Development of Sparse Inverse Co-variance based functional brain connectivity scheme for the assessment of shared autistic tarits in autism and typical development	02 yrs	SERB	15.76	Dr. Jac Fredo AR
19	Design and Development of Affordable Myoelectric Prosthetic Hand	3 years	SERB-CRG	10.01	Dr. Shiru Sharma
20	Development of Microfluidic tools for neuromuscular synatogenesis and nanotoxicological studies	5 Years	DST	35.00	Dr. Sanjeev Kumar Mahto
21	Hybrid EEG-EMG based Prostheti hand for transracial amputees to perform reach and grasp tasks	2 Years	DST	37.14	Dr. Shiru Sharma
22	Portable smart in vitro diagnostic platform for monitoring thyroid disorders	3 years	CST-UP	11.94	Dr. Sanjeev Kumar Mahto & Dr. Manoj Kumar
Department of Ceramic Engineering					
23	Novel Electrode Materials for Reversible alkali –ion (Li+/Na+) capacitors and Pseudocapacitors	3 Yrs	SERB	36.65	Dr. Preetam Singh
24	Development of High Alumina(Al2O3) & DOPED High Alumina materials for Ceramic Cartridge Applications	06months	Yantransh Auto Pvt. Ltd	0.60	Dr. Santanu Das
25	Development of high strength ceramic magnet for rotating machine applications	3 years	SERB-IMPRINT	25.91	Dr. Pradip Roy
26	Metal Nanostructure assisted plasmonic hot electron induced phase transformation in 2D- Transition metal di- chacogenides for hydrogen evolution reaction	03 Yrs	STARS -MHRD	97.90	Dr. Santanu Das
27	Surface charge induced antibacterial and cellular response of Hydroxyapatite-preovskite composites for orthopaedic implant application	03 Yrs	UPCST	10.92	Dr. Ashutosh Kumar Dubey
28	Seasonal study on photocatalysis experiments in India environment	02 Yrs	IAA-RIF-2020 Grant Project, Swansea University, U.K.	15.14	Dr. Santanu Das

Sl. No	Title of Project	Period	Funding agency	Amount (in Lakh)	Name of the PI
29	Development of Nitride Ceramics thin-film for soft x-ray applications	02 YRS	UGC-DAE	0.90	Dr. Santanu Das
30	Complex of online and onsite lectures on materials for hydrogen generation by solar water splitting	4 Year	Norway Council of Education and Research, Norway	2.07	Dr. Santanu Das
31	Development of high Thorough put Processing route for CIGS PV absorber films by spray pyrolysis of Pre-synthesised Nanoparticle Ink	3 Years	SERB	46.03	Dr. M.I. Ahmad/ Dr. S. Das
32	Combined effect of dynamic electrical stimulation and surface charge on cellular functionality of electrovector and piezoelectrically toughened bioceramics	3 YEARS	SERB	43.22	Dr. Ashutosh Kr. Dubey
Department of Chemical Engineering & Technology					
33	Controlled synthesis of MoO3 nanoparticles inside mesoporous materials for oxidative dehydrogenation of organic moleciles with CO2	03 Yrs	SERB	32.29	Dr. Vijay MarutiShinde
34	Direct cooling of the Silicon Photovoltaic Module Enabled by an Array of Micro channel built in the backside EVA -Layer	03Yrs	SERB	41.52	Dr. Ravi Prakash Jaiswal
35	Removal of Benzene, Toluene, Ethylbenzene and Xylene (BTEX) using Adsorption and Bioremediation	02 Yrs	SPARC-MHRD	54.02	Dr. RS Singh (Chemical)
36	Modelling & simulation of ultra-high temperature coating on sustrate using CVD/ CVI Process	02 Yrs	DRDO	9.81	Dr. Vijay MarutiShinde
37	Detailed study on the effect of mining as well as Thermal Power Stations on Natural water bodies in Singrauli Region and Recommendation Thereof	03 Yrs	NCL	58.77	Prof PK Mishra
38	Novel integrated engineering approach for effective tar decomposition and its last minutes removal to fuel gas reforming in biomass pyro-gasification	03 Years	SERB	35.62	Prof. M.K. Mondal
39	Study the BioCNG production potential of different feedstocks	01 Year	TransBharat Biofuel Pvt. Ltd.	5.84	Dr. J.P. Chakraborty
40	Production of high-purity methane from renewable biomass through anaerobic digestion	01 Yr	TransBharat Biofuel Pvt. Ltd.	1.20	Dr. J.P. Chakraborty
41	Preparation of Dense Palladium/ Palladium-alloy Membranes and Optimization of Multi-pass Membrane Separator to Generate Ultra-Pure Hydrogen for On-site Applications	03 Yrs	SERB	42.57	Dr. R.K. Upadhyay
42	Novel integrated engineering approach for effective carbon dioxide removal using biphasic amine blends for coal-based thermal power plant	03 Yrs	SERB	21.67	Prof. Monoj Kumar Mondal
43	Investigation on Hydrogels and Development of Multi-Responsive Polymers for Healthcare Applications	02 Yrs	SERB	22.14	Dr. Debdip Bhandary
44	RKVY-RAFTAAR, Agribusiness Incubators (R-ABI) under RKVY-RAFTAAR Scheme	02Yrs	DACFW	233.00	Prof. P.K.Mishra
45	Regional characterization of atmosphericx aerosols at Varanasi Region	INITIALLY FOR 03 YRS	ISRO	28.63	Dr. RS Singh

Sl. No	Title of Project	Period	Funding agency	Amount (in Lakh)	Name of the PI
46	Design and development of a Membrane reformer protype for production of ultra pure hydrogen from methanol for fuel cell based vehicle and power generators	04months at IIT(BHU)	DST	114.36	Dr. R. K. Upadhyaya
47	NOx Removal from Diesel Exhaust by combined NOx storage Reduction and NH3 SCR System	3 Years	SERB	27.35	Dr. Sweta
48	Development & Evaluation of Infrared Nanoparticles for Cellular-wide sensitive E-field Mapping	3 Years	DST Nano Mission	51.52	Dr. Manoj Kumar
49	Pyrolysis of Biomass for the Production of Bio-oil: Experimental and Computational Study	3 Years	DST	23.50	Dr. J.P. Chakraborty
50	Fabrication of low-cost High-through out Flow Cytometer using tunablenanolenses.	3 Years	DST, New Delhi	52.09	Dr. Ankur Verma
Department of Chemistry					
51	Evaluation and Optimisation of Biodiesel Production from Microalgae	3 Years	DST	51.92	Prof. Yogesh Chandra Sharma
52	Development of portable electrochemical sensor hydrogen peroxide	3 Yrs	BRNS Mumbai	34.92	P.C.Pandey
53	Detailed lecture based curriculum development for science subjects as part of Induction Programme in AICTE COLLEGES	2 YRS	AICTE	11.52	Dr. Indrajit Sinha
54	Metal hexacyanoferrate modified screen printed electrodes for the removal of radio nuclides	03 Yrs	DRDO	41.71	Prof. P.C. Pandey
55	Development of photoactivated transfer hydrogenration in catalysis for heat generation cancer transfer	05 Years	DST	35.00	Dr. Samya Banerjee
56	Design, Function, and Utilization of Multifunctional Surface Coatings for Next-Generation Lithiumion Batteries	2 Year	SERB	33.06	Dr. Rosy
57	Bioactivation of cyclopentadienyl rings in organometallic complexes	18 months	The Royal Society, London	5.88	Dr. Samya banerjee
58	New “metabolite-amyloids” hypothesis for the origin of life	2 Year	SERB	28.71	Dr. Pandeeswar Makam
59	Towards alkaline aqueous battery and fuel cell application: Synthesis, kinetics and Operando spectroelectrochemical studies of mixed metal selenide and polypyrrole composites as potential oxygen electrocatalysts	3 Years	SERB	32.06	Dr. ManishaMalviya
60	Development of magnetically recyclable visible light photocatalysts for H2O2 Production	03Yrs	BRNS	34.05	Dr. Indrajit Sinha
61	Development of transition metal based nanocatalysts for bioinspired water oxidation	03 Yrs	CSIR	16.00	Dr. Arindam Indra
62	Developing Superior Nobel Metal free Oxygen Evolution Catalyst for Electrochemical Water oxidation and Metal -Air Battery	02 Yrs	SERB	24.64	Dr. Asha Gupta
63	Promoting water Oxidation Reaction with Electrochemically Synthesized ultrathin Layered double Hydroxide Nanosheets	02 Yrs	SERB	26.51	Dr. Arindam Indra
64	Noble multimetallics/ZnOphotocatalyst for hydrogen production from green sources	1.5 years	NPIU	13.23	Dr. Indrajit Sinha
Central Instrument Facility					
65	Table Top Sem for CIF (One Time Support Grant)	One time grant	Advanced Materials Pvt.LTd	17.31	Prof. Rajiv Prakash

Sl. No	Title of Project	Period	Funding agency	Amount (in Lakh)	Name of the PI
Department of Civil Engineering					
66	Propagation & Mitigation model of mixed road traffic noise for planning od mid- sized Indian Cities	3 Years	MHRD-IMPRINT	373.00	Dr. Brind Kumar
67	Studying few aspects of soil behaviour and In-corporation them in Limit Analysis	5 Years	DST	35.00	Dr. Manash Chakraboratory
68	Smart & Integrated Pedestrian System Design	3 Years	MHRD, MoUD, GMR Airport Devp (Ltd), Vikram Solar Pvt. LTd (Uchchatar Avishkar Yojana)	212.77	Dr. Ankit Gupta
69	Investigation on dynamic response analysis of shallow foundation resting on pond ash deposits	3 years	SERB- ECRA	36.14	Dr. Supriya Mohanty
70	Development and assessment of asphalt mastic from typical Indian and Austrian filler materials with a new test method	2 years	DST	9.50	Dr. Nikhil Saboo Now Dr. Ankit Gupta
71	River Aquifer exchanges & hydrogeological study for watershed management of betwa river basin	2 years	NRDMS	24.51	Dr. Shishir Gaur
72	Assessing the Suitability of warm mix asphalt (WMA) Technology Using Tribological and Performance Characteristics	3 years	SERB, ECRA	36.70	Dr. Nikhil Saboo
73	Rheophysics of semi-rigid road building materials and optimization of their composites for the perception of heavy transport load	2 years	DST	10.40	Dr. Nikhil Saboo now Dr. Ankit Gupta
74	Safer Roads: Development of Mix Design Methodology for OGFC Mixes	3 years	CST-UP	11.92	Dr. Nikhil Saboo now Dr. Ankit Gupta
75	Life cycle and performance of Waste Plastic roads	1.5 Years	NRIDA	20.50	Dr. Nikhil Saboo
76	Life Cycle and performance assessment of cold mix roads	1.5 Years	NRIDA	20.50	Dr. Nikhil Saboo now Dr. Abhisek Mudgal
77	Understanding the engineering behaviour of unsaturated geomaterials and implementing it in limit analysis for solving geotechnical problems	2 years	SERB	27.28	Dr. Manash Chakraborty
78	Strategic Planning for Water Resources and Implementation of Novel Biotechnical Treatment Solutions and Good Practices (SPRING)	3 years	DBT	71.27	Prof. Prabhat Kumar Singh
79	Development of guidelines for use of waste reclaimed water in pavement construction	3 years	Ministry of Road Transport & Highway	27.56	Dr. Nikhil Saboo now Dr. Ankit Gupta
80	Development of Performance based mix design process: A re-look at the Marshall Mix design process for the production of strong and durable	3 years	NHAI	92.21	Dr. Nikhil Saboo now Dr. Ankit Gupta
81	Factor affecting exhaust emissions of motorized two wheeler in an Indian Tier-II city: A case study of Varanasi	2 years	SERB	17.44	Dr. Abhisek Mudgal
82	Automatic Map Generation from High Resolution Images Applying Deep Learning Techniques	3 years	SERB	33.22	Dr. Anurag Ohri

Sl. No	Title of Project	Period	Funding agency	Amount (in Lakh)	Name of the PI
83	Improvement of delamination fracture toughness in nao-graphene particles reinforced polymer composite laminates: An experimental- numerical approach	3 years	SERB	18.30	Dr. Rosalin Sahoo
84	Experimental and Numerical Investigation on Strength Behaviour of FRP Retrofitted Beam	1 years	Dhirendra Group of Company	5.00	Dr. Pratibha Ranjan Maiti
85	A System for Quality Control and Certification of Geospatial Data for NSDI	1 years	DST	18.44	Dr. Anurag Ohri
86	Utilization of Industrial Wastes in Dense and Gap Graded Asphalt Mixes as Fillers	1.5 Years	DST	60.04	Dr. Ankit Gupta
Department of Computer Science & Engineering					
87	A Robust medical image forensics system for smart healthcare	02 Yrs	SERB	14.07	Dr. TanimaDutta
88	Research & Experiment in the area of advanced data structures and methodologies to represent and process large terrain datasets for efficient rendering	07 MONTHS	DRDO	9.95	Prof Rajiv Srivastav
89	Intelligent system for computer assisted diagnosis (CAD) OF CANINE MAMMARY TUMORS	02 Yrs	DBT	29.44	Prof Sanjay Kumar Singh
90	Multilingual document summarization in quasi stationary environment	02 Yrs	DRDO	55.56	Dr. A.K. Singh
91	Resource-optimized fog computing for smart healthcare application in IoT-enable heterogeneous networks	02 Yrs	SERB	29.06	Dr. Ajay Pratap
92	Developing Improved Algorithms for Intelligent Video Surveillance	03 Yrs	SERB	29.08	Dr. Pratik Chattopadhyay
93	Investigation risk factors and predicting complications in COVID-19 patients with Machine Learning Algorithms	08 Month	ICSSR	4.50	Dr. PrasenjitChanak
94	An Artificial Intelligence supported Intrusion Detection & Behaviour Monitoring System for Crucial Data Servers against Novel Cyber Attacks	02 Yrs	SERB	26.93	Dr. Mayank Swarnkar
95	Investigation and development of mobile sink based intelligent data routing scheme for IoT-enable wireless sensor networks	02 yrs	SERB	31.71	Dr. PrasenjitChanak
96	Optimal transport derivations in regularized wasserstein space for non-linear & linear transformations of deep neural networks	03 Yrs	SERB	6.60	Dr. TanimaDutta
97	Incorporating Intelligence in Email System	2 Years	BRNS	13.68	Dr. Ruchir Gupta
98	Development of text based matching algorithms for bartering software	01 Yrs	ASCONSOFTECH	11.62	Dr. Sukomal Pal
99	Development of an energy –efficient wireless sensor networks for precision agriculture	3 Years	DST	34.17	Dr. H.P. Gupta
Department of Electrical Engineering					
100	Mix energy Source Electric Vehicle Charging System Design and its Impact on Indian Smart –distribution - grid	3 Yrs	DST	94.49	Dr. R.K.Singh
101	Design Modelling and simulation of linear Induction Drive for Propulsion Applications	02 Yrs	CARS, DRDO	10.00	Prof. R.K.Srivastava
102	Construction of Non-monotonic Lyapunov Function for the Dynamical Systems governed by differential inclusions	03Yrs	SERB	6.60	Dr. Shyam Kamal

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103	Virtual synchronous generator for microgrid applications	03 Years	SERB	45.54	Dr. N.Krishna Swami Naidu
104	Output feed back controller design for linear parameter varying systems	03Yrs	SERB	57.32	Dr. SandipGhosh
105	Prospects of power converters for integration of electric vehicle charging stations with the existing distribution system in India	02 YRS	SPARC - MHRD	49.78	Dr. Santosh kumar singh
106	Design and analysis of linear induction motor drive for electromagnetic aircraft launching system	2.5 YRS	DRDO	30.00	Dr. RK Srivastav
107	Development of a standalone solar electric drive system for boats	01 yrs	Ornate Agencies Pvt. Ltd.	5.00	Dr. SandipGhosh
108	Prototype development of fuel cell and photovoltaic based innovative hybrid DC power pack for remote application	03 Yrs	SERB	38.10	Dr. Kalpana Chaudhary
109	Development of Cyber Resilient Protection scheme for AC Microgrid	03 Years	SERB	45.76	Dr. S.R. Mohanty
110	Design, development and demonstration of solar-IV integrated on board and off board electric rickshaw charging Infrastructure	03 Yrs	DST	87.51	Dr. V.N. Lal
111	Demonstrable Prototype of IoT enable DC/ AC smart grid at Library Building, IIT(BHU), Varanasi with solar photovoltaic Integration	02 Yrs	I-DAPT, IIT(BHU)	19.75	Dr. Rajeev Kr Singh
112	Data-driven battery sizing for standalone solar electric drive system for river boats	01 Yr	I-DAPT, IIT(BHU)	6.60	Dr. SandipGhosh
113	Design and development of Cybersecured Smart Power interface for Energy-Local Area Network (ELAN)	03 Yrs	IHUB-NTIHAC Foundation, IIT Kanpur	14.64	Dr. Santosh kumar singh
114	Development of a real-time cyber-attack detection module and its hardware-in-loop testing for an integrated power network	01 Yr	CPRI	49.92	Dr. S.R. Mohanty
115	Development of energy efficient and compact electric drive train for fuel cell electric vehicle	03 Yrs	SERB	49.17	Dr. Kalpana Chaudhary
116	Reliability evaluation and performance enhancement of grid integrated wind-solar-EV hybrid renewable energy systems	03 Yrs	SERB	41.36	Prof. R.K. Saket
117	Li-ion based inverter for household appliances	6 month	Ornate Agencies Pvt. Ltd.	5.95	Dr. R.K Singh
Department of Electronics Engineering					
118	Design Investigations of High Power MM Wave W Band Gyratron	2 Years	DRDO, CARS, Begalooru	9.90	Prof. P.K. Jain
119	"Design and development of miniaturized pattern/frequency reconfigurable MIMO antennas and its performance improvement using artificial electromagnetic material"	3 Years	SERB, New Delhi	42.52	Dr. Manoj Kr. Meshram
120	Development of Polymer and Quantum Dots Blended Tandem Solar Cells Using Low Cost Solution Processed Method	3 Years	SERB	44.86	Prof. Satyabrata Jit
121	Physical Layer Security for LTE based Wireless Networks to increase Jamming Margins	1 year	CRL- BEL	33.60	Dr. K.V. Srinivas
122	Electromagnetic Analysis, Design and Simulation of Dual Frequency (S- and C-band) Relativistic Backward wave Oscillator – A HPM Source	3 years	DRDO	46.85	Dr. M. Thottappan
123	Development of Simulation Software for Spintronic Device & Circuit Simulation	2 years	SERB	16.13	Dr. Shivam Verma

Sl. No	Title of Project	Period	Funding agency	Amount (in Lakh)	Name of the PI
124	Design development and characterization of Low loss frequency selective metamaterial waveguide coupler and antenna for 5 G Applications	3 years	SERB	6.60	Dr. Smrity Dwivedi
125	Analysis and design of sub-millimetre wave tuneable gyrotron for DNP- NMR Spectroscopy application	3 years	SERB	50.16	Dr. M. Thottappan
126	Indo- South korea Joint Network Centre for Environmental Cyber Physical Systems	3 Years	DST- Bilateral Project	24.87	Dr. Sanjeev Sharma
127	Development of a scalable volatile organic compound (VOC) sensing based intelligent cyber physical system for near real-time vehicular pollution monitoring and recommendation for reduced emissions	2 years	I-DAPT, IIT(BHU)	19.80	Dr. N. S. Rajput
128	Implementation of Terahertz Band Communication for Next generation wireless Networks	2 years	SERB	23.67	Dr. Sanjeev Sharma
129	Design and development of cognitive small-world LPWAN for Internet of things towards health monitoring	02 yrs	SERB	30.11	Dr. Om Jee Pandey
130	Development of Hand Telerehabilitation Platform for Diagnostic and Therapeutic Purposes in Physiotherapy	3 years	SERB	21.28	Dr. KishorSarawadekar
131	Metasurface-based Sensor devices for mm-wave and sub-terahertz Applications	3 years	SERB	56.21	Dr. Somak Bhattacharyya
132	Design and Development of High Gain, Wide Bandwidth Beam Steered Reconfigurable Reflectarrray Antennas for 5Gmm Wave Applications	3 Years	SERB	51.26	Dr. Manoj Kumar Meshram
133	Design and Development of Composition engineered toxic free organic inorganic Perovskite Quantum Dots Based Flexible Spectrum TunablePhotodetectors	03 Years	SERB	42.90	Prof. Satyabrata Jit
134	Electromagnetic Analysis, Design and simulation of an X-band Gyro-Twystron Amplifier	3 Years	SERB	29.10	Dr. M. Thottappan Prof. P.k. Jain
Department of Humanistic Studies					
135	Cognitive Linguistic study of perception verbs in Hindi and English: In the context of machine translation	2 Years	DST (CSRI)	13.64	Dr. Swasti Mishra
136	Integrative Environment View (IEV) for Sustainable Hyper Local Temporal & Spatial Environmental Pollution Monitoring : Case of Air Quality in Varanasi City	5 Month (One Time Support Grant)	Google Asia Pacific Ptv. Ltd	14.67	Dr. Puneet Kumar Bindlish Now Dr. N.S. Rajput
137	Analytical study of sansad adarsh gram yojana of Jayapur and Nagapur in Varanasi District	05 months	Mahatma Gandhi National Council of Rural Education	2.00	Dr. Manhar Charan
138	Language Communicator Tool for End Users	3 Years	MeitY	172.24	Dr. Sukhada
IPR					
139	NRDC Innovation Facilitation Centre	3 years	National Research Development Centre	6.00	Prof. Rajiv Prakash
Department of Mathematical Sciences					
140	Schwarz waveform relaxation methods for singularly Perturbed Parabolic Problems	03 Years	SERB	6.60	Dr. Sunil Kumar

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141	Study and analysis of Mathematical Models of Moving Boundary Problems	03 Yrs	SERB	22.44	Dr. Rajeev
142	Approximation methods for problems in fractional calculus of variations	03Yrs	SERB	21.56	Dr. Rajesh Kr. Pandey
143	Existence and Stability analysis of periodic solution of variable time impulsive neural network	03 Yrs	SERB	6.60	Prof. Subir Das
144	Study and analysis of interfacial cracks in composite media	03 Yrs	DAE	2.30	Prof. Subir Das
145	Pseudo-differential operators in partial differential equations, distribution and machine learning?	03 Yrs	SERB	6.60	Dr. Santosh Kumar Updadhyay
146	Wavelets Adaptive Schemes for Singular Integral Equations	3 Years	SERB	6.60	Dr. Vineet Kumar Singh
147	On Developing Polynomial-time Interior-Point Methods for Robust Multiobjective Convex Optimization Problems	3 Years	SERB	6.60	Dr. Debadas Ghosh
148	Robust Adaptive Mesh Methods for Singularly Perturbed Problems in Ordinary and Partial Differential Equations	03 Yrs	SERB	29.95	Dr. Sunil Kumar
149	Development of solution methods for Abel's integral equations and generalized Abel's integral equation	3 Years	DAE, Mumbai	3.32	Dr.Rajesh Kr. Pandey
150	On characterizing and Obtaining the Complete Efficient Solution Set of an Interval Optimization Problem under a D-Dominance and a variable Dominance Structure	3 Years	SERB, New Delhi	15.02	Dr. DebdasGhosh
151	Applications of Spectral graph theory in analysing the structural properties of large scale networks	03 Yrs	SERB	6.60	Dr. Lavanya Silveganeshan
Department of Mechanical Engineering					
152	Design & Development of Combined Cooling and Power Generation system	2 Years	CST-UP	9.60	Prof. S.K. Shukla
153	Development of an intelligent evaporative cooler for composite climate	2 years	DST	8.92	Dr. JaharSarkar
154	Development of Ti alloy based composites by mechanical alloying and stirrer casting route for dental applications	3 YEARS	SERB	50.21	Dr. Rakesh kumar Gautam
155	Photonic radative cooler for passive sub-ambient cooling	3 years	SERB- IMPRINT	41.88	Dr. JaharSarkar
156	Development of complex Aluminium Shell Part High pressure die-casting	1 year	DRDL Hyderabad	28.85	Prof. Santosh Kumar
157	Development of ORC technology for waste heat utilization for the generation of electricity	3 years	BRNS	29.97	Dr. JaharSarkar
158	Assessment of Structural Vulnerability through Characterisation of Tornado for a NPP Site	3 years	BRNS	30.32	Dr. Arnab Sarkar
159	Pathology on a Spinning Disc	3 years	MHRD - STARS	94.10	Dr. Arnab Sarkar
160	Impact of a microspray on a bio-mimicking surface	2 years	SERB	31.73	Dr. BinitaPathak
161	Effect of Jet Pulsation on Reacting Jet in Crossflow	2 years	SERB	32.01	Dr. AnubhavSinha
162	Assessment of Vulnerability of structures in Regard to Cyclonic Wind loads	2 years	Bureau of Indian Standards	10.76	Dr. Arnab Sarkar

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163	Prediction of Dose- Volume Histograms of Organs-at-risk in Prostate Cancer Radiation Therapy using Machine Learning	2 years	I-DAPT, IIT(BHU)	3.52	Dr. Arnab Sarkar
164	Development of Optical Fibre Cable Coloring Machine	2 years	DST	23.32	Dr. Debashish Khan
165	3D Computational and experimental study on layer dynamics and prediction of critical power law scales in double-diffusive finger convection	03 Yrs	SERB	49.30	Dr. Om Prakash Singh
166	Reactivity controlled compression ignition (RCCI) combustion engine for methanol utilization and its feasibility analysis to be adopted in hybrid electric vehicles (HEVs)	02 Yrs	SERB	27.48	Dr. Akhilendra Pratap Singh
167	Technology intervention for creative economy	1 year	Mindshare	9.35	Dr. Lakshay
168	Development of a Rubber based sheet Hydro forming setup	2 Years	DRDL, CARS Hyderabad	9.84	Prof. Santosh Kumar
169	Development of a multiplex portable spinning disc for effective monitoring of women's health during different stages of pregnancy	3 years	DST	72.94	Dr. Arnab Sarkar
170	Development of Sheet Hydro-forming Process for missile Components	2 Years	Defence Research & Development Lab (DRDL), Hyderbad	9.80	Prof. Santosh Kumar
171	Technology and Fabrication of Tabletop CNC Machine for Micro-Tubular Hydro forming Setup	Extended till 31.12.2020	BARC, Mumbai	49.32	Prof. Santosh Kumar
172	Assessment of residual stress upon friction stir welding of steel	3 Years	SERB	45.00	Dr. Mohd. Zaheer Khan Yusufzai
173	Characterization and validation of Schlieren Technique for Capturing Shock Wave	2 Years 9 months	DRDO. New Delhi	17.84	Dr. Amitesh Kumar
174	Development of Friction Stir Welding for repair work of high temperature materials like EN-24 steel	1.5 years	NCL, Singrauli	53.90	Dr. MohdZaheer Khan Yusufzai
175	Localized Electricity generation through Modular Low Temperature ORC Units	2 years	CPRI Bangalore	48.40	Prof. S. K. Shukla
176	Development of advanced nanocrystalline coatings and LASER cladding system for repair work related to HEMMS and other structural components	1.5 years	NCL, Singrauli	85.80	Dr. MeghanshuVahista
177	Study of tool wear in Diamond turn Machining & Micro Machining Process	2 years	BARC Mumbai	24.05	Prof. Sandeep Kumar
Department of Metallurgical Engineering					
178	Art, science and technology of traditional "Koftgari" metal work in India	01 Yr	INSA, New Delhi	2.85	Dr. K.K. Singh
179	Study on effect of temperature and mean stress on fatigue strength of turbine aerofoil alloy	04 Yrs	CARS, DRDO	281.90	Dr. G.S. Mahobia
180	Development of Mesoscale models to describe hot deformation and creep of low SFE materials	02 Yrs	DST	10.90	Dr. Surya Deo Yadav
181	Chemical recycling of electronic waste for sustainable livelihoods and material consumption in India	02 Yrs	GCRF-EPSRC	46.07	Dr. K.K. Singh
182	Effect of composition and microstructure on mechanical properties of 7-9%NI steel for LNG tanker and Naval application	02 Yrs	SERB	32.01	Dr. SudiptaPatra

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183	Microstructurea tailoring to develop biocompatible Cr-Fe-Mo-Nb-Ti based high entropy alloys for medical applications	02 Yrs	SERB	30.62	Dr. SubhasisSinha
184	Development of industrial waste as mold material for sustainable development of developing countries	3 Years	SERB	27.19	Dr. Jayant Kumar Singh
185	DST-INSPIRE Fellow	5 Years	DST	67.16	BreatindranathMukherji
186	Development and structural characterization of Bi2-xMx3+(y-3)/2 coating for protection against coolant & sensors	3 yrs	UGC DAE-CSR	2.95	Dr. JoysuryaBasu
187	Development of Electropulsing Facility for Synthesis of Bulk Nanostructured Materials	2 Years	B.R.N.S.	26.48	Dr. Rampada Manna, Prof. G.V.S. Sastry/ Prof. R.K. Pandey / Prof. S.N. Ojha
188	In situ electron microscopy at atomic scale for understanding nucleation growth and interfaces of omega phase	3 Yrs	SERB	65.84	Dr. JoysuryaBasu
189	Role of short range ordering in designing high entropy alloys	03 YRS	SERB	41.36	Dr. Vikash Jindal
190	Cyclic thermochemical fuel generation	03Yrs	SERB	52.63	Dr. Randhir Singh
191	Development of a unified physical model for hot deformation and creep to support the development of high temperature materials	05 Yrs	DST	35.00	Dr. Suryadeo Yadav
192	Wearer corrosion and biocompatibility of Tantalum (Ta) coated 316 L, Stainless steel for Orthopaedic Applications	03 Yrs	SERB	44.93	Dr. CK Behera
193	Development of Functionally Graded Armour Composites (FGACs) Materials	03Yrs	DRDO	91.66	Dr. Vikas Jindal
194	Mechanical behaviour of advanced high strength steel processed by additive manufacturing	03 Yrs	SERB	39.83	Dr. NC Santhi Srinivas
195	Tunable surface plasmon optical sensing behaviour of M-MoS2 (M=Cu, Ag, Au) Alloy Nanostructures	03 Yrs	SERB	44.65	Dr. Bratindranath Mukherjee
196	Creep and corrosion behaviour of Novel MRI2300 Magnesium Alloy with Nanoparticles Addition	03 Yrs	CSIR	17.22	Dr. AK Mondal
197	Development of low cost ß-Ti alloy for biomedical applications	03 YRS	SERB	40.50	Dr. KaushikChattopadhyay
198	In -situ microscopy study of age hardening in dispersion strengthened cast magnesium alloys and its ex-situ correlation with mechanical properties	03Yrs	SERB	37.36	Dr. Ashok Kumar Mondal
199	High performance rare earth free nanocomposites permanent magnet for advanced motor and alternative energy applications	04 Yrs	SERB	56.90	Dr. N.K. Prasad
200	Stability of Nanostucture and Residual Stress Developed through Ultrasonic Shot Peening in Superalloy IN718 at Elevated Temp.	02 Yrs	DRDO	28.86	Dr. KaushikChattopadhyay
201	Emergent phases in 2D quantum materials and Heterostructures	05 Yrs	DST	24.50	Dr. Joysurya Basu
Department of Mining Engineering					
202	Meter Scale Granite block Smectic clay barriers experiment and associated TMH modeling for Indian Pit mode reference geological Disposal System	3 Years	BRNS	30.88	Dr. A.K. Verma

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203	Development and validation of coupled Themo-Hydro-Mechanical (THM) models for radioactive waste repositories in fractured rocks	6 years	DST- INSPIRE	35.00	Dr. A.K. Verma
204	Landslide stability analysis in subzero environment around Kinnaur district of Himachal Pradesh, India	3 years	DST	49.73	Dr. A.K. Verma
205	Design and development of Micro Seismic based technique for monitoring and prediction of slope failure in Pandoh, Himachal Pradesh, India	3 years	SERB	49.77	Dr. A.K. Verma
206	Whole body Vibration Exposure on HEMM Operators in Surface Coal Mines – An Assessment of Various Contributing Factors	3 years	SERB	40.03	Dr. S.K. Palei
207	National Geotechnical Conclave on "Development of Early warning system (EAWS) for Landslide Hazard Mitigation on 21-22 March, 2019	One time grant	DST	5.50	Dr. A.K. Verma
208	Optimization Of capacity utilization of draglines deployed in NCL through Big data Analytics	3 years	NCL	83.97	Prof. Suprakash Gupta
209	Study for impact assessment of back filling of fly ash in abandoned gorbi mine and treatment/management of acidic water to avoid contamination of ground water and soil	2.5 years	NCL	124.80	Prof. Aarif Jamal
210	Contribution of Neighbouring Industries over the air quality of mining area	3 years	NCL	134.00	Prof. Aarif Jamal
211	Evaluation of ground behaviour in open cart and underground excavations using TDR	2 years	NCL	34.44	Prof. Sanjay Kuamr Sharma
212	Stability Evaluation of dump slopes & developing slope stability model for design of Long Term Stable Dump Slopes through proper benching & vegetation : Part A	3 years	NCL	66.80	Dr. Rajesh Rai
213	Stability Evaluation of Dump Slopes and Developing Slope Stability Models for Design of Long Term Stable Sump Slopes through Proper Benching and Vegetation – Part B	3 years	NCL	141.13	Dr. G.S.P. Singh
214	Slope stability monitoring and analysis using hyperspectral imaging	3 years	SERB	47.10	Dr. TarunVerma
215	Forewarning System for Landslide Prediction along Mangan and Chungthang road, Sikkim India	3 years	DST	43.78	Dr. A.K. Verma
216	Design of Protective Barrier Pillar Against Large Water Head in Underground Coal Mines	2 Years	CMPDI	87.47	Prof. G.S.P. Singh
217	Development of Laboratory Scale Bio-Grout Technology for Landslide Mitigation	3 Years	SERB	32.95	Dr. A.K. Verma
218	Development of prototype of early warning systems on impending goaf for underground coal mining.	3 Years	SERB	36.91	Dr. Ashok Jaiswal
Department of Pharmaceutical Engineering & Technology					
219	Pharmacological evaluation of anti-diabetic effects of some natural drugs	2 years	Natreon	28.87	Dr. Sairam Krishnamurthy
220	Synthesis and evaluation of diverse N- functionalized heterocyclic hybrids as multi target directed ligands for neuroprotectiveneurorestorative therapies	3 years	MHRD STARS	75.39	Dr. Senthil raja

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221	Exploring Anti-ineffective potential of Panchagavya : Metabolomics and Proteomics Approaches	3 years	DST	65.43	Dr. Shreyans Kumar Jain
222	Design and development of Molecular hybrids on a multifunctional framework for regulating Cholinesterases, β- secretase 1, Amyloid- β, and Oxidative Stress Against Alzheimer's Disease	3 years	ICMR	80.42	Prof. Sushant Kumar Shrivastava
223	Discovery of novel selective inhibitors of choline acetyltransferase : Lead optimization and in vivo pharmacolinectic studies	2 years	SERB	32.86	Dr. Rajnish
224	Development of toolkit for prediction of blood brain-barrier permeability using deep learning to expedite CNS drug discovery	3 years	SERB- Matrics	6.60	Dr. Rajnish
225	Safety & Efficacy of the "PL05" capsule/tablet in Animal in the treatment of gastric acidity	1 Year	Purobien Life Sciences Private Ltd.	19.75	Dr. Sunil Kumar Mishra
226	Pharmacology of Natural drugs in obesity and eating disorders	2 yrs	Natreon Inc.	26.54	Dr. Sairam Krishnamurthy
227	Novel Milk Exosomes for the combination therapy by using selected natural medicine (Paclitaxel & Colchicine) for the efficient management of breast cancer	2 years	SERB	31.38	Dr. Ashish kumar Agrawal
228	Bioluminescence based monitoring of tumor progression and treatment by apoptotic pathway	5 Years	DBT	42.50	Dr. Deepak Kumar
229	AMWATCH: Defining the AMR Burden of Antimicorbial Manufacturing Waste in Puducherry and Chennai	3 years	DBT	106.50	Dr. M.S. Muthu
230	Development of Novel Therapeutics for the Redemption from Frostbite and Burn Injury induced Chronic Pain in Military Veterans	3 years	SERB	40.81	Dr. Vinod Tiwari
231	Development & evaluation of nanocarrier for enhanced anti-microbai activity of anacrdic acid against human and plant pathogens	3 Years	DST	58.66	Dr. Sanjay Singh
232	Evaluation of some compounds in experimental Alzherimer Disease	2 years	Natreon Inc., U.S.A.	29.40	Dr. Sairam Krishnamurthy
233	Pharmacological Effect of novel formulation in experimental allergic encephalomyelitis rodent model	1 Years	DISTO Pharmaceutics	5.04	Dr. Sairam Krishnamurthy
234	Dissecting brain reward circuitry and CNS comorbidities in chronic neuropathic pain	3 years	SERB-ECRA	49.09	Dr. Vinod Tiwari
235	Phytochemical and pharmacological evaluations of bioactivity guided fractions of medicinal plants of Tripura	3 years	DBT	26.55	Dr. A.N. Sahu
236	Natural Template Based Novel Neuroprotective Molecules for the management of Alzheimer's Disease	3 years	SERB- CRG	37.20	Dr. GyanprakashModi
237	Development of novel near infrared fluroscence imaging probes for detecting amyloid beta species in eyes of Alzheimer's disease animal model	3 years	ICMR	37.00	Dr. Gyan Prakash Modi
238	Targeting kinesins Mediated regulation of nociceptors for the Treatment of Neuropathic Pain	02 yrs	SPARC - MHRD	47.53	Dr. Vinod Tiwari

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239	Self-assembled smart nano medicine for targeted therapy of advanced non-small cell lung cancer	03 Yrs	ICMR	21.80	Dr. M.S. Muthu
240	Design and development of potential multifunctional molecular hybrid for the treatment of Alzheimer's disease	03 Yrs	SERB	28.80	Prof. S.K. Shrivastava
241	Crystal Engineering of Dapagliflozin to improve its pharmaceutical properties	2 years	SERB	31.40	Dr. Dinesh Kumar
Department of Physics					
242	DST/INSPIRE Faculty Award (IFA-12-PH-21)	5 Years	DST	95.00	Dr. S.K. Singh
243	IFA-12-Ph-22 DST/INSPIRE FACULTY Award/2012 INPIRE FACULTY AWARD	5 Years	DST	76.00	Shri Sunil Kumar Mishra
244	Study of Magnetospheric Wave-Particle interaction, Aurora, Airglow and Conductivities on Planets and their Satellites	3 Years	ISRO	38.03	Dr. D. Giri/ R.P. Singhal/ O.N. Singh
245	Observations and Modelling of solar transients & space weather candidates	3 Years	SERB	17.76	Dr. Abhishek Kr. Srivastava
246	Electronic Structure evolution across quantum critical point in Li(Ti1-xVx)2O4 Li1-x Znx) V2O4	03 Yrs	SERB	55.00	Dr. SwapnilPatil
247	Collection of self-propelled particles in inhomogeneous environment : numerical & analytical Studies	03 Yrs	SERB	24.59	Dr. Shradha Mishra
248	The sun under the microscope – An integrated research activity to maximize the science return from a new generation of missions to study the sun	2 Yrs	UGC	19.28	Dr. Abhishek srivastav
249	Modelling self assembly and phase separation kinetics in the complex soft materials	03 Yrs	SERB	46.54	Dr. Awaneesh Kumar Singh
250	Ramanujan Fellowship	05 Yrs	SERB	38.00	Dr. Bidya Binay Karak
251	Investigations of new lead free perovskite materials for solar cells	03 Yrs	SERB	38.09	Prof. Prabhakar Singh
252	Tuning self assembly of fluoresent Protein Nanodots for Melanoma Skin Cancer	03 Yrs	SERB	36.68	Dr. Avanish Singh Parmar
253	On understanding the solar activity and preparing for space weather prediction using a state of the art dynamo model	03 YRS	ISRO	30.99	Dr. Bidya Binay Karak
254	Multiple reversals of the Sun's polar- field and their physical causes	02 yrs	DBT	10.34	Dr. Bidya Binay Karak
255	Scattering assisted imaging: Exploiting randomness of the light.	03 Years	SERB	34.21	Dr. R.K. Singh
256	Study of Polarmetric parameters from laser speckle	03 Years	CSIR	29.50	Dr. R.K. Singh
257	Spatially resolved digital holography polarization microscope for diagnosis applications	03 Yrs	DBT	41.44	Dr. Rakesh Kumar Singh
258	Fabrication of Cathode materials and SOFC for energy application	03 Years	UPCST	11.44	Prof. Prabhakar Singh
259	Tailoring correlations of light using plasmonic and nano structure	03 Yrs	BRNS	36.96	Dr. Rakesh Kumar Singh
260	Development of perovskite oxides SrCeO3 and SrCeO4 as high temperature thermal barrier coating (TBC) material for aerospace application	03 Yrs	DRDO	29.79	Dr. Shail Upadhyay

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261	Analytical study of hydrodynamic theory of wet active fluid	03 Yrs	SERB	6.60	Dr. Shradha Mishra
262	Experimental study of anisotropy in nuclear charge and current distribution that results in interplay of electric and magnetic rotation in Xe nuclei	03 Yrs	SERB	16.74	Dr. Somnath Nag
263	Active polar flock in quasi tow-dimensional geometry: role of confinement and boundary condition	03 Yrs	SERB	28.49	Dr. Shradha Mishra
264	Study of quantum chaos and multipartite entanglement using quantum circuits	03 Yrs	SERB	21.55	Dr. Sunil Kumar Mishra
265	Tailoring properties by altering long and short-range structures in eco-friendly, Pb-free ferroelectric perovskite oxides for energy harvesting	03 Yrs	SERB	18.53	Dr. Saurabh Tripathi
266	DST-INSPIRE Faculty Award (IFA-13 PH 54) understanding structure and dynamics of the Interstelar medium	5 Years	DST, New Delhi	35.00	Dr. Prasun Duttta
School of Materials Science & Technology					
267	J.C. Bose Fellowship	5 Years	SERB	68.00	Prof. Dhananjay Pandey
268	Polymeric Nanobiohybrids for Tissue Engineering and Drug Delivery	3 Years	SERB	23.11	Prof. Pralay Maiti
269	Development of low voltage, low power, colloidal quantum dot light-emitting transistors for next generation display technology	3 Years	SERB	55.52	Dr. BholaNath Pal
270	Development of low cost sodium ion battery: Fabrication and application of NASICON based electrodes	3 Years	DST	82.89	Prof. Rajiv Prakash
271	Understanding the mechanism of action through cell biology and upgradation of herbal drug in solution and biodegradable patch for the treatment of diabetic foot ulcer	16 months	BIRAC	28.60	Prof. Pralay Maiti
272	Elastocaloric effect measurement setup to study caloric effect in shape memory alloys	3 Years	UGC-DAE	10.41	Dr. Sanjay Singh
273	Development of anticorroshiv paints	1 Years	Harind Chem. & Pharmaceutics Pvt. Ltd.	1.20	Prof. Pralay Maiti
274	Mott transistors based Neuromorphic memory device	3 years	DST	100.98	Dr. Shrawan Kumar Mishra
275	Minimizing hysteresis in magnetic shape memory Heusler alloys for reversible magnetocaloric effect	3 years	SERB	48.39	Dr. Sanjay Singh
276	Low cost ammonia gas sensor based on polymer/polymer nanocomposite device formed by novel floating film transfer (FTM) technique	2 years	IMPRINT- SERB	35.69	Prof. Rajiv Prakash
277	Nanoscale interfacial magnetic skyrmions and its applications in memory devices	3 years	DST	103.50	Dr. Shrawan Kumar Mishra
278	Chemical modification of Gaur Gum to improve its properties	1 year	Hindustan Gum Pvt. Ltd	7.70	Prof. Pralay Maiti
279	Harnessing the synergy of low band gap organic semiconductor and highly facile floating film transfer method for low cost efficient organic electronic devices	02 Yrs	SPARC-MHRD	42.85	prof. Rajiv Prakash

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280	Aging studies and estimation of thermal properties of Liner Materials	2 years	DRDO	175.14	Prof. Pralay Maiti
281	Impact of Carbon Nanomaterial based Photocatalyst on Microalgae Growth and Lipid for improved Biodiesel	3 years	DBT	7.30	Prof. Rajiv Prakash
282	Development of high performance, CMOS compatible and color selective narrow-bandphotodetector for high resolution imaging application	3 years	SERB	67.14	Dr. Bholanath Pal
283	Development of High Te Lead Free Piezoelectric Materials for Energy Harvesting	3 years	SERB	52.71	Dr. Akhilesh Kumar Singh
284	3 D Bio Steeolithography for Engineering functional Tissues	5 Years	SERB	37.24	Prof. Pralay Maiti
285	Investigation of Structural phase transformation in HfO2 thin films using X-ray absorption spectroscopy	3 Years	UGC-DAE	0.90	Dr. ChandanaRath
286	Biodegradable path for faster wound healing including diabetic ulcers using ayurvedic medicine	3 years	DBT	27.00	Prof. Pralay Maiti
287	Investigation of two dimensional transition metal dichalogenides Nanostructure as Effective SERS Substrate	3 years	SERB	43.82	Dr. Ashish Kumar Mishra
288	Development of nanoink for anti-counterfeit products and solution	2 years	Industry Kantas Track Pack India Ltd.	1.00	Prof. Rajiv Prakash nor Dr. Chandana Rath w.e.f. 21.09.22
289	Life Line Security & System	3 years	Life Line Security & System	1.00	Prof. Rajiv Prakash now Dr. Akhilesh Kumar Singh w.e.f. 21.09.22
290	Defence analyses of Compound Semi-Conductor Wafer	1 year	Applied Materials India Pvt	10.20	Dr. Chandan Upadhyay & Prof. Rajiv Prakash
291	Fabrication of low power consuming inverted near-infra red AMOLED	3 years	DST	47.82	Dr. Bhola Nath Pal
292	Multifunctional Nanostructured Mn/Fe doped CeCro3 for Photocatalyst and Magnetic Switching	03 Years	SERB	48.56	Dr. Chandana Rath
293	Investigation of Anomalous Nernst Effect in Shape Memory Heusler Alloys	3 Years	SERB	68.42	Dr. Sanjay Singh

Major Consultancy Project FY 2022-23

Sl. No.	Department	Challan No.	Title of Consultancy Project	Funding Agency	Name of Consultants	Amount
1	Civil Engg.	3397	Longitudinal steel weld structure, jindal steel girder, ultra sound girder, light compaction etc	Executive Engineer, Konhar Cons. Division - III, pipari, sonebhadra, UP	Prof. Santosh Kumar & Dr. Suresh	1,156,400.00
2	Civil Engg.	3477	Vetting of design and drawing	B38/47, First Floor, Gurukul Nagar, Mahmoorganj, Vns	Prof. Rajesh Kumar	1,107,000.00
3	Civil Engg.	3881	Vetting of structural design & drawing	Gaurav& Associate, 101- E, Aditya Palace Gharh Road, Meerut	Prof. Rajesh Kumar	1,080,000.00
4	Civil Engg.	3936	Prof checking at design and drawing	Design Tech structural consultant, Dehradoon	Prof K KPathak	1,180,000.00
5	Civil Engg.	2047	Third Party inspection	Unit Incharge, Siddharthnagar	Prof. K KPathak	2,120,000.00
6	Civil Engg.	2048	Third Party inspection	Unit Incharge, Kushinagar, Deoria	Prof. K KPathak	2,084,000.00

Sl. No.	Department	Challan No.	Title of Consultancy Project	Funding Agency	Name of Consultants	Amount
7	Civil Engg.	3955	Vetting of structural design and drawing	DilipBuildcon Limited, Chattisgarh	Prof. Rajesh Kumar	1,189,000.00
8	Civil Engg.	4701	Third party quality control	Unit Incharge, Raibareli Unit, Raibareli	Dr. Suresh Kumar	1,740,000.00
9	Civil Engg.	4702	Third party quality control	Project Manager, Medical college hardoi Unit	Dr. Suresh Kumar	2,280,000.00
10	Civil Engg.	4703	Third party quality control	Project Manager, UPRNN Ltd., Azamgarh	Dr. Suresh Kumar	1,770,000.00
11	Civil Engg.	4728	Preparation and submission of final drawing	GM, Amitia coal mine project, singrauli	Prof S Mondal	1,923,750.00
12	Civil Engg.	4877	Safety audit of railway bridge	Sr. Divisional engineer, Lucknow, UP	Prof K KPathak	2,349,000.00
13	Civil Engg.	4752 A	Consultancy for main corriagway PPHS) post dange to the pavement BC layer of VNS ring road, Phase-II, Plg-I	Er RS Yadav, PD , NHAI, PIV Varanasi	Prof. Brind Kumar	1,404,500.00
14	Civil Engg.	5033	Hydrogeological & Geomorphological Study of Gopad River	Hindalco Industry Ltd., Singrauli, MP	Dr. B N Singh	1,215,000.00
15	Civil Engg.	5037	Site Visit	UPRNNL, Unit Incharge, State Allopathic Medical College, Deoria	Prof K KPathak	1,060,000.00
16	Civil Engg.	4754 A	Third party quality control	Prayagraj Smart City Limited	Prof. Brind Kumar	2,759,403.00
17	Civil Engg.	5101	Vetting of structural design and drawing	AGM (Project) M/s Ahluwalia Contracts Pvt. Ltd., ICCP, North Gandhi Maidan Patna Bihar	Prof. Rajesh Kumar	2,700,000.00
18	Civil Engg.	5408	Design for CC pavement for road	EE, Provincial Division, PWD, Sonebhadra	Prof Brind Kumar	1,416,000.00
19	Civil Engg.	4957	Vetting of bridges in the state of uttarakhand	Technical Consultancy Services, 14-C, GMS Road, Arawali Enclave, Dehradun	Prof. K K Pathak	1,039,500.00
20	Civil Engg.	5000	Review and third party inspection of IIMS	Nagar Ayukt, Nagar Nigam, Ayodhya, UP	Dr. Ankit Gupta	1,026,000.00
21	Civil Engg.	5729	Site visit	M/s NCC Ltd., Lucknow	Prof. P K Singh Dikshit	1,180,000.00
22	Civil Engg.	5874	Proof checking of design and drawing	M/s CemosaIntrosoft, Dwrka, New Delhi	Prof. K KPathak	1,782,000.00
23	Mining	516	Scientific study as per regulation ... strata control and monitoring	M/s CCL, Magadh, Sanghmitra Area	Dr. A.K.Verma	1,652,000.00
24	Mining	524	Review or vetting of coal by surface	M/s SECL	Prof. S K Sharma	1,296,000.00
25	Mining	536	Scientific Study to determine the stability... Bhatgaon Area	M/s SECL, Bhatgaon Area	Dr. G S P Singh	1,653,000.00
26	Mining	537	Review and Vetting of the existing SOR	M/s SECL Limited	Dr. G S P Singh	1,053,000.00
27	Mining	539	Scientific study of fly ash utilization	M/s NCL, Singrauli	Dr. Rajesh Rai	3,663,360.00
28	Mining	567	Comprehensive Study	M/s SECL, Bilaspur	Prof. A. Jamal	1,770,000.00
29	Mining	568	Scientific Study	M/s ACML, Aditya Birla	Dr. NawalKishor	1,836,000.00
30	Mining	573	Scientific study	M/s Calcon cement India Limited	Dr G S P Singh	3,132,000.00

Sl. No.	Department	Challan No.	Title of Consultancy Project	Funding Agency	Name of Consultants	Amount
31	Mining	575	Work for field test	M/s Military Engineers Services	Dr. A K Verma	1,156,400.00
32	Mining	576	Scientific study of opencart working	M/s BGR Mining & Infra Limited	Dr. Ashok Jaiswal	1,269,000.00
33	Chemical Engg.	3594, 3607, 3631, 3701	Catalyst Optimization/ Fluidized Bed Reactor/Design of fluidised bed reactor	M/s Clean Carbon Technologies Corp., USA 2025, Lyon avenue belnot, CA-94002	Dr R K Upadhyay	3,146,696.00
34	Chemical Engg.	3556, TE-30	Development of Natural Gas based membrane reformer for Fuel Cell grade Hydrogen	M/s Gail (India) Limited, Noida, UP	Dr. R K Upadhyay	4,640,000.00
35	Chemical Engg.	3706	Water Testing	M/s CPCB, Delhi	Dr. Pradeep Kumar	3,199,042.00

Patents filed in the F.Y. 2022-23

Sl. No.	Title	Application No.	Filing Date	Inventor's Name	Department/ Schools
1.	A MOLYBDENUM DISELENIDE NANOSTRUCTURED CATHODE BASED RECHARGEABLE ZINC AIR BATTERY	**2022 1102 0589**	05-04-2022	Dr. Ashish Kumar Mishra, Prince Kumar Maurya	SMST
2.	A CENTER HORIZONTAL DEVICE FOR CENTRIFUGAL CASTING AND SYNTHESIS OF FUNCTIONALLY GRADED MATERIAL	**2022 1102 1676**	11-04-2022	Basudeb Rajak, Dr. Uppu Srinivas Rao, Prof. Rakesh Kumar Gautam, Jitendra Kumar Singh	Mechanical Engg
3.	COMPOSITION AND METHOD FOR SYNTHESIS OF STRONTIUM HEXAFERRITE BASED NON-RARE EARTH MAGNETS	**2022 1103 1284**	31-05-2022	Dr. P.K. Roy, Akansha Gupta	Ceramic Engg
4.	A LOW COST FACILE FABRICATION METHOD FOR MANUFACTURING OF HIGHLY POROUS CERAMIC FOAM	**2022 1103 1785**	02-06-2022	Dr. Saroja Kanta Panda, Mr. Vaibhav Pandey, Mr. Mayank Kumar Yadav, Dr. Kalyani Mohanta	Mechanical Engg
5.	IN-SITU -SO3H FUNCTIONALIZED TWO-DIMENSIONAL MOS2 NANOSHEETS AND METHOD OF PREPARATION THEREOF	**2022 1103 3786**	13-06-2022	Dr. Santanu Das, Mr. Vivek Kumar Singh	Ceramic Engg
6.	A PORTABLE BULK HEATING DEVICE	**2022 1103 6874**		Jitendra Kumar Singh, Dr. Uppu Srinivas Rao, Prof. Ram Pyare	Mechanical Engg
7.	A SYSTEM TO REDUCE ERRORS FOR DIGITAL IMAGE FORGERY DETECTION AND METHOD THEREOF	**2022 1103 8984**	07-07-2022	Prof. Rajeev Srivastava, Ankit Kumar Jaiswal	Computer Science & Engineering
8.	A COMPOSITE-BASED ENERGY HARVESTING DEVICE AND METHOD OF PREPARATION THEREOF	**2022 1104 4511**	03-08-2022	Prof. Pralay Maiti, Shivam Tiwari	SMST
9.	POLYVINYLENE DIFLUORIDE(PVDF)/ NITROGEN-DOPED CARBON DOTS NANOCOMPOSITE FILM BASED CAPACITIVE ENERGY STORAGE DEVICE	**2022 1104 8961**	26-08-2022	Dr. Akhilesh Kumar Singh, Vishwa Pratap Singh	SMST
10.	AN ANTI-LEISHMANIAL STEROIDAL ALKALOID DRUG COMPOUND	**2022 1104 9337**	29-08-2022	Prof. Vikash Dubey, Dr. Pranjal Chandra, Ms. Naveena Menpadi	Bio Chemical Engg
11.	AN IMPROVED PHOTOVOLTAIC MODULE WITH DIRECT INTERNAL COOLING FEATURE	**2022 1105 0095**	01-09-2022	Dr. Ravi Prakash Jaiswal	Chemical Engg.
12.	AN ACCELEROMETER MOUNTING DEVICE	**2022 1105 0355**	02-09-2022	Prof. Brind Kumar, Amar Deep Pandey, Prof. Manoranjan Parida, Ashish Kumar Chouksey	Civil Engg IIT (BHU) & IIT Roorkee

Sl. No.	Title	Application No.	Filing Date	Inventor's Name	Department/ Schools
13.	POLY-VINYLIDENE FLUORIDE/ HYDRATED ANTIMONY PENTOXIDE (PVDF/HAP) BASED NANOCOMPOSITE FILM-BASED CAPACITIVE ENERGY STORAGE DEVICE	**2022 1105 0354**	05-09-2022	Dr. Akhilesh Kumar Singh, Vishwa Pratap Singh	SMST
14.	RHOMBOHEDRAL HIGH-ENTROPY ALLOY of Mn-Al-Cu-Zn-Bi	**2022 1105 1185**	07-09-2022	Dr. Nand Kishore Prasad, Sanjula Pradhan, N. S. Anuraag, Shubham Kumar Shaw	Metallurgical
15.	COCRYSTALS OF DIMETHYL FUMARATE WITH ENHANCED PHYSIO-CHEMICAL STABILITY AND BIOLOGICAL ACTIVITY	**2022 1105 5785**	28-09-2022	Dr. S. Krishnamurthy, Mr. Qadir Alam	Pharmaceutics
16.	A THROMBIN RECEPTOR ANTAGONIST FOR MANAGEMENT OF LEISHMANIASIS	**2022 1106 7169**		Prof. Vikash Kumar Dubey, Ms. Preeti Ranjan	Bio Chemical Engg
17.	DEVICE FOR ON-SITE GENERATION OF ULTRA-PURE HYDROGEN AND METHOD THEREOF	**2022 1106 8058**		Dr. Rajesh Kumar Upadhyay	Chemical Engg
18.	ECO-FRIENDLY SYNTHETIC BEADS FOR REMOVAL OF HEXAVALENT CHROMIUM FROM WASTEWATER AND METHOD OF SYNTHESIS THEREOF	**2022 1107 0192**	05-12-2022	Dr. Vishal Mishra, Veer Singh, Prof. Mohan Prasad Singh	Bio Chemical Engg
19.	AN ATTENTIVE ENCODER-DECODER BASED SYSTEM FOR TRAFFIC LIGHT DETECTION	**2022 1107 2383**		Prof. Rajeev Srivastava, Divya Singh	Computer Science & Engineering
20.	BIODEGRADABLE GEL FORMULATION AND A METHOD OF PREPARATION THEREOF	**2022 1107 4050**	20-12-2022	Prof. Pralay Maiti, Avishek Mallick Choudhary, Subham Sekhar Mandal, Ravi Prakash, Amita Santra, Naresh K. Singh, Manoranjan Sahu	SMST & Faculty of Veterinary and Animal Sciences (BHU)
21.	A COMPOSIE BACKBONE NETWORK BASED SYSTEM WITH ENHANCED AND SUPPRESSED FILTER FOR 3D VISUAL SALIENCY	**2022 1107 7467**	31-12-2022	Prof. Rajeev Srivastava, Surya Kant Singh	Computer Science & Engineering
22.	A WIRELESS BODY AREA NETWORK ENABLED FOG COMPUTING SYSTEM FOR REMOTE HEALTH MONITORING	**2023 1100 0600**	04-01-2023	Dr. Ajay Pratap, MoirangthemBiken Singh, Himanshu Singh	Computer Science & Engineering
23.	POLYMER-PARTICLE COMPOSITE RADIATIVE COOLING COATING	**2023 1100 0699**	04-01-2023	Prof. JaharSarkar, Shivam Tiwari, Prof Pralay Maiti, Jay Prakash Bijarniya	Mechanical Engg & SMST
24.	BIODEGRADABLE BAMBOO-BASED DRINKING STRAWS AND A METHOD OF PREPARATION THEREOF	**2023 1100 2340**	11-01-2023	PradyutDhar	Bio Chemical Engg
25.	A NON-INVASIVE ANALYTICAL DEVICE FOR DETECTION OF A BIOMOLECULE	**2023 1100 3683**	23-01-2023	Dr. Ashish Kumar Mishra, Rohit Kumar Gupta	SMST
26.	A METHOD OF SYNTHESIZING 2D IN-SITU FUNCTIONALIZED SO_3H/SO_3-MOS_2 NANOSHEETS FOR PHOTOCATALYTIC DYE DEGRADATION	**2023 1100 7217**	04-02-2023	Dr. Santanu Das, Mr. Vivek Kumar Singh, Dr. Bratindranath Mukherjee	Ceramic
27.	A SYSTEM AND METHOD FOR EMBEDDING VOICE BIOMETRIC BASED SECURITY MARK FOR INTELLECTUAL PROPERTY CORES PROTECTION	**2023 1100 8221**	08-02-2023	Dr. MahendraRathore	Jay Chaudhary Chair Faculty, Software Innovation Centre, IIT(BHU)
28.	A COMPOSITE HYDROGEL COMPOSITION AND A METHOD OF PREPARATION THEREOF	**2023 1100 9955**	14-02-2023	Dr. Avanish Singh Parmar, KaustabhNaik	Physics

Sl. No.	Title	Application No.	Filing Date	Inventor's Name	Department/ Schools
29.	HIGH-PERFORMANCE AQUEOUS ASYMMETRIC SUPERCAPACITOR DEVICE USING ABO_2-TYPE PSEUDOCAPACITOR ELECTRODES	**2023 1101 5019**	06-03-2023	Mr. Abhay Narayan Singh, Dr. ChandanaRath, Dr. Preetam Singh	SMST, Ceramic
30.	A DIELECTRIC MATERIAL BASED CAPACITIVE ENERGY STORAGE DEVICE AND PREPARATION METHOD THEREOF	**2023 1101 8983**	21-03-2023	PragyanandPrajapati, Akhilesh Kumar Singh	SMST
31.	POLYMER-CERAMIC COMPOSITE COATED DAYTIME RADIATIVE WATER COOLER SYSTEM	**2023 1102 0582**	23-03-2023	Prof. JaharSarkar, Shivam Tiwari, Prof Pralay Maiti, Jay Prakash Bijarniya	Mechanical Engg & SMST
32.	SUPERABSORBENT SOY-BASED CRYOGEL AND A METHOD OF PREPARATION THEREOF	**2023 1102 3611**	30-03-2023	Dr. Sanjeev Kumar Mahto, Ajay Kumar Sahi, ShravanyaGundu, NeelimaVarshney	Bio Medical Engg

List of Patents Granted in the F.Y. 2022-23

Sl. No.	Title	Application No.	Inventor's Name/ Patentee	Date of Filing	Granting Date	Patent No.
1	FORMULATION OF SILVER CONTAINING BIOACTIVE GLASS	201811017805	IIT (BHU)	11/05/2018	19/04/2022	394916
2	TRIVALENT Al+3 DOPED MAGNETITE AND A METHOD OF PREPARATION THEREOF	201811002355	IIT (BHU)	19/01/2018	18/05/2022	397040
3	A Novel Method to Prepare TiO2 Nanoparticles Through A Hydrothermal Route	3022/DEL/2015	IIT (BHU)	23/9/2015	20/05/2022	397253
4	ADVANCED ELECTRODE MATERIALS FOR SUPERIOR PSUEDOCAPACITORS AND REVERSIBLE ALKALI-ION (LI+/NA+) BATTERIES	201611007934	IIT (BHU)	07/03/2016	31/05/2022	398136
5	A NOVEL POLYMERIC PATCH FOR TREATING MELANOMA CANCER AND A METHOD THEREOF	201711045345	IIT (BHU)	18/12/2017	22/06/2022	399727
6	A METHOD AND SYSTEM FOR VARIABLE FILM DEPOSITION ON A SOLID SUBSTRATE	201611016344	IIT (BHU)	10/05/2016	24/06/2022	399997
7	EMG SENSOR FOR PROSTHETIC HAND CONTROL	201811016601	IIT (BHU)	02/05/2018	15/07/2022	401354
8	HOPPER	201811049831	IIT (BHU)	29/12/2018	18/07/2022	401550
9	COMPOSITION OF RESVERATROL-LOADED HYBRID NANOPARTICLES AND A METHOD OF PREPARATION THEREOF	201811012870	IIT (BHU)	04/04/2018	25/07/2022	401976
10	A NANOCARRIER FOR DELIVERING GENETIC MATERIALS AND A METHOD OF PREPARATION THEREOF	201811004496	IIT (BHU)	06/02/2018	29/07/2022	402599
11	A SYRINGE WITH CONTROLLED VOLUME DISPENSING SYSTEM	201811030441	IIT (BHU)	14/08/2018	03/08/2022	402911
12	METHOD OF MANUFACTURING COMBINED TYPE HUMIDITY SENSOR BASED ON TUNGSTEN DOPED Y-TYPE BARIUM HEXAFERRITE	201811004844	IIT (BHU)	08/02/2018	04/08/2022	403005
13	POROUS SILICA SHAPES AND MANUFACTURING PROCESS THEREOF	201811025421	IIT (BHU)	06/07/2018	10/08/2022	403309
14	A METHOD OF SYNTHESIS OF SOFT-HARD FERRITES	201711025371	IIT (BHU)	17/07/2017	11/08/2022	403357

Sl. No.	Title	Application No.	Inventor's Name/ Patentee	Date of Filing	Granting Date	Patent No.
15	A METHOD FOR SYNTHESIS OF CERIUM(IV) PYROPHOSPHATE COMPOUNDS	201811004846	IIT (BHU)	08/02/2018	19/08/2022	403980
16	A PORTABLE BIOSENSING SYSTEM AND METHOD FOR VISUAL DETECTION OF GLUCOSE IN BIOLOGICAL FLUIDS	201811010352	IIT (BHU)	21/03/2018	24/08/2022	404327
17	A PHARMACEUTICAL COMPOSITION OF SULFONAMIDE DERIVATIVES FOR THE TREATMENT OF ALZHEIMER'S DISEASE	201711041328	IIT (BHU)	18/11/2017	25/08/2022	404586
18	A PORTABLE TEST KIT FOR DETECTION OF GLUCOSE IN BIOLOGICAL FLUIDS AND A METHOD THEREOF	201811009239	IIT (BHU)	13/03/2018	30/08/2022	405274
19	A STRONTIUM-BASED HIGH ENERGY HARD MAGNET AND A METHOD OF PRODUCTION THEREOF	2017 1104 1329	IIT (BHU)	18-11-2017	02/09/2022	405611
20	A MULTIFUNCTIONAL HYBRID 3-(4-HYDROXY-3-METHOXY-PHENYL) PROP-2-ENOIC ACID AND SUBSTITUTED AMINEPIPERAZINE DERIVATIVES FOR THE TREATMENT OF ALZHEIMER'S DISEASE	201911000362	IIT (BHU)	03-01-2019	20/09/2022	407154
21	AN IMPROVED SEGREGATOR	201911000354	IIT (BHU)	03-01-2019	26/09/2022	407616
22	NANOHYBRID WITH HIGH ENERGY HARVESTING EFFICIENCY	201811018838	IIT (BHU)	19/05/2018	30/09/2022	408190
23	AN INSULATION BRICK AND METHOD OF PREPARATION THEREOF	201811033258	IIT (BHU)	05/09/2018	17/10/2022	409127
24	HIGH ENERGY, HIGH CURIE TEMPERATURE FERRITES FOR HIGH POWER APPLICATIONS	201811009240	IIT (BHU)	13/03/2018	21/10/2022	409556
25	AN ALKALINE EARTH METAL DOPED ZINC OXIDE NANOSHEETS AND METHOD OF PREPARATION THEREOF	201811044916	IIT (BHU)	28-11-2018	25/10/2022	409820
26	A METHOD OF PREPARING MINERAL FROM ALUMINIUM DROSS USING ORGANIC SOLVENT PRECIPITATION	201911008950	IIT (BHU)	07-03-2019	27/10/2022	410041
27	A METHOD TO REDUCE SUSPENDED PARTICULATE MATTER IN AIR	201811027390	IIT (BHU)	21/07/2018	02/11/2022	410849
28	A SYSTEM AND METHOD FOR GENERATING REAL-TIME TEXT PRESERVED OIL PAINTING USING SMART-DEVICE	201811010854	IIT (BHU)	23/03/2018	11/11/2022	411316
29	A BIOREACTOR FOR CULTURING OF LIVING CELLS OR TISSUES	201811038940	IIT (BHU)	13-10-2018	14/11/2022	411397
30	HIGH SURFACE AREA, HIGH PURITY AND HIGH CONDUCTANCE MONO-LAYERED REDUCED GRAPHENE OXIDE	201711043028	IIT (BHU)	30-11-2017	15/11/2022	411461
31	A METHOD AND A KIT FOR DETECTING CONCENTRATION OF ANTI-TUBERCULOSIS DRUG IN A BIOLOGICAL SAMPLE	202111011562	IIT (BHU)	18-03-2021	29/11/2022	412826
32	A METHOD FOR PREPARATION OF GRAPHENE-OXIDE NANOCOMPOSITES BASED SPRAYABLE PAINT COATING	201911008550	IIT (BHU)	05-03-2019	30/11/2022	413062
33	A NOVEL NANO-BINDER IN CASTABLE REFRACTORY AND A METHOD OF PREPARATION THEREOF	201811049448	IIT (BHU)	27/12/2018	01/12/2022	413374

Sl. No.	Title	Application No.	Inventor's Name/ Patentee	Date of Filing	Granting Date	Patent No.
34	A STABILIZED GREEN PRODUCT/ COMPOSITION FROM HAZARDOUS JAROSITE WASTE AND PROCESS OF PREPARATION THEREOF	201811028367	IIT (BHU)	27-07-2018	13/12/2022	414414
35	A MULTI-UTILITY EQUIPMENT	201811033581	IIT (BHU)	06/09/2018	13/12/2022	414343
36	A CYCLODEXTRIN GRAFTED POLYURETHANE HYDROGEL FOR DRUG DELIVERY AND A METHOD OF MAKING THE SAME	201811035914	IIT (BHU)	24-09-2018	16/12/2022	414797
37	A BIOACTIVE GLASS DRUG FORMULATION FOR BONE REPAIR AND REGENERATION AND A METHOD OF PREPARTION THEREOF	201811040152	IIT (BHU)	24-10-2018	30/12/2022	416075
38	A WASTE DERIVED NANO- SOL BINDER FOR CASTABLE REFRACTORY AND A METHOD OF PREPARATION THEREOF	201911016335	IIT (BHU)	24/04/2019	18/01/2023	418518
39	MAGNESIUM ZINC FERRITE-POLYURETHANE NANO COMPOSITE	201911000437	IIT (BHU)	04-01-2019	24/01/2023	419113
40	A NOVEL HYDROGEL WITH HIGH MECHANICAL STABILITY AND A METHOD OF MAKING THE SAME	201811045481	IIT (BHU)	01/12/2018	30/01/2023	419638
41	SUBSTRATE-ASSISTED SYNTHESIS OF DIVERSE MORPHOLOGIES OF UPCONVERTING NANOMATERIALS	201711014647	IIT (BHU)	25/04/2017	30/01/2023	419567
42	A METHOD OF PREPARING SYNTHETIC BEADS TO REMOVE HEAVY METALS FROM WASTE WATER	201911022735	IIT (BHU)	07/06/2019	06/02/2023	420595
43	A BIO-PIEZOELECTRIC DEVICE AND A METHOD OF PREPARATION THEREOF	201911013972	IIT (BHU)	07/04/2019	06/02/2023	420499
44	HOPPER WITH REPULSION TUBES	201911009585	IIT (BHU)	12-03-2019	02/03/2023	423762
45	MATERIAL FOR FASTER BONE HEALING	201911013103	IIT (BHU)	02-04-2019	10/03/2023	424726
46	A Process to Produce High Energy Strontium Based Permanent Magnet and A Product Thereof.	201611043294	IIT (BHU)	19-12-2016	15/03/2023	425230
47	A NOVEL POLYMERIC HYDROGEL FOR TREATING MELANOMA CANCER AND A METHOD THEREOF	201911015958	IIT (BHU)	18-09-2019	20/03/2023	425831
48	A NOVEL COMPOSITION FOR SURFACE MODIFICATION OF ANODE FOR ELECTROCHEMICAL APPLICATION	201911018781	IIT (BHU)	10-05-2019	27/03/2023	427052
49	GREEN METHOD FOR FAST REDUCTION OF GRAPHENE OXIDE	201711036056	IIT (BHU)	11-10-2017	28/03/2023	427348

MoU Signed during F.Y. 2022-23

Sl. No.	Particular	Area of Interest	Year
	Micro Small and Medium Enterprises (MSME), Government of India, New Delhi	Assisting MSME in product design and developments to achieve greater competitiveness. Provide advice and assistance to MSMEs in process design and development, value engineering including improvement in design and cost of a developed product such as alternate material usage improvement in designing etc.	02.06.2022
	Defence Research Laboratory Tezpur, Assam	To establish a close linkage and functional coordination between DRL-DRDO and IIT(BHU). To facilitate joint proposals for funds, submission of R&D Projects, conduct research trainining and consultancy with other institutions in India/abroad. To strengthen of these institutions in their respective fields of teaching and research, with exchange of students, faculty/scientists etc.	22.07.2022

Sl. No.	Particular	Area of Interest	Year
	Banaras Hindu University, Varanasi	To facilitate IPR filing	03.08.2022
	Delhi Rail Metro Corporation (DMRC) Delhi	To Establish an Centre of Excellence for Tunneling& Underground Space Engineering	31.08.2022
	DRDO	Establish Centre of DIA-CoE	06.10.2022
	Project Management Unit, Ozone Cell, Ministry of Environment, Forest and Climate Change, Government of India	Collaboration for carrying out research and development of low GWP chemicals including belnds thereof, to be used as alternatives to substances controlled under the Montreal Protocol i.e. Hydrochlorofluorocarbons/Hydrofluorocarbons	16.11.2022
	Bureau of Indian Standards	To establish BIS Chair Professor	28.11.2022
	Ministry of Heavy Industries (MHI)	To establish Centre of Excellence for Machine Tool Design	22.12.2022
	Ministry of Consumer Affairs, Food & Public Distribution	Knowledge partnership for research & development, teaching and training in the field of digital metrology and consumer goodsbeing commercialised in the country on the interdisciplinary areas	24.12.2022

Sl. No.	Particular	Area of Interest	Year
1.	University of Siegen, Germany	For academic cooperation - exchange of students, joint research proposal, joint degree program, participation in seminars and academic meetings, exchange of publications, joint quality assurance	05.05.2022
2.	University at Buffalo (UB), The State University of New York, IIT-Delhi, IIT-Kanpur, IIT-Bombay, IIT-Jodhpur, Ashoka University, Sonipat	Co-operation agreement for joint multi-institutional international education, research and training	17.05.2022
3.	Umbrella MoU- French Network of Engineering Schools members of the Federation Gay Lussac	Umbrella MoU between an Indian Network of Indian Institute of Technology and a French Network of Engineering Schools members of the Federation GayLussac	12.07.2022
4.	Virginia Commonwealth University, Virginia	Joint Research Activities in area Electric Vehicle and Research, Pharmaceutical/ Biochemical Engineering, AI Vision and Cyber Security, Materials Science and Engineering, Exchange of Faculty Members for Research, Consulting and Lecturing, Exchange of Students (UG/PG and Ph.D.) Exchange of Education Materials and Academic PUblication, Joint Publications	25.07.2022
5.	University of Electro-Communications, Japan	Exchange of Academic Staff and Administrative Staff, Exchange of Students, Academic Information and Publications, Conducting Joint Research Projects and Organizing Symposia and other activites	03.10.2022
6.	University of Buffalo (UB), the State University of New York	For establishing a Joint IIT(BHU) - UB Center for Materials and related Technology Development	27.03.2023

30. Ideation Innovation & Incubation (I-3) Foundation

Ideation Innovation & Incubation (I-3) Foundation, is an umbrella organization at IIT (BHU) Varanasi for fostering entrepreneurial ecosystem and nurturing start-ups in the East UP region. The core strength of I-3 Foundation is technology commercialization in the sectors of agricultural, agri-Business, cleantech, food safety & testing, information technology & e-commerce, bio-technology and health sector. The services offered by I-3 Foundation are mentoring, counselling, training, financial linkages, seed funding, lab facility, office facility, networking support etc. In short, I-3 Foundation administers various units which provide 'Start to Scale' support for entrepreneurship and facilitates research activities to convert into commercial ventures. Different units under I-3 Foundation are:

RKVY-RAFTAAR Agri Business Incubator (R-ABI):

R-ABI is a scheme funded by the Ministry of Agriculture and Farmers' Welfare (MoA & FW) which is working in close collaboration with other incubators. This scheme aims at strengthening the infrastructure in agriculture and allied areas in order to promote agripreneurship and agri-business by providing financial support and nurturing the incubation ecosystem in and around Uttar Pradesh. Since its inception from March 2018 total 130 start-ups were trained out of which 44 (including 14 women entrepreneurs) are incubated under R-ABI with a sanctioned amount of Rs. 477 Lakhs. A sum of Rs. 223.8 Lakhs has been disbursed as 1st & 2nd tranche to these start-ups. Key activities undertaken under R-ABI, IIT(BHU) Varanasi is mentioned below-

Key Activities:

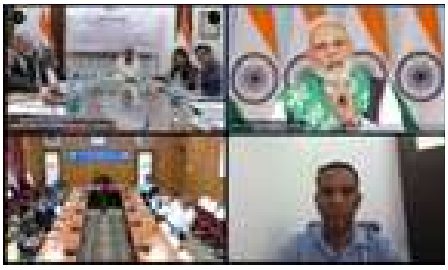
- Under the aegis of 6+Azaadi ka Amrit Mahotsav an event entitled 'किसान भागीदारी, प्राथमिकता हमारी' was organized on 26-04-2022 at two places, one at Sikhad Vaidik Krishi Kendra, Chunar, Mirzapur and the other at the office of the Incubator (R-ABI), IIT (BHU) Varanasi. At both the places, approximately 102 farmers attended the event. The work of incubated start-ups of R-ABI, IIT(BHU) were communicated to the farmers by the incubator and the start-ups present at the event.
- Several progress assessment meetings were organized during the year to monitor the progress and further grant to start-ups was recommended based on their progress.
- Agripreneurship Orientation Program (AOP) was organized between 3rd January 2023 to 10th February 2023 for the shortlisted start-ups. Various domain experts i.e. Business, Technical, & Legal shared their knowledge and expertise regarding Business Model Canvas (BMC), Company Compliance, IPR, Product Validation & Certification, Digital Marketing and Sales Value Proposition etc.
- Ministry of Agriculture and Farmers Welfare, Organized a "Kissan Samman Sammelan" event at Mela Ground, Pusa, New Delhi on 17th & 18th October 2022. Hon'ble Prime Minister Shri Narendra Modi inaugurated the event. R-ABI, IIT(BHU) Varanasi participated in the event with 7 incubated startups.
- Founder of Frenzy Farm LLP, Mr. Subodh Shah was awarded "Uttarakhand Gaurav Samman" by Government of Uttarakhand on 30th August 2022.
- Divavi Enterprises, one of our start-ups opened a retail store at Bhubaneswar, Odisha on 31st August 2022. The startup provides a platform for the promotion of tribal products developed in Jharkhand and Odisha.
- Founder of Manwani's innovative Pearl Culture LLP, Mr. Ashok Manwani was awarded 'Innovative Farmer's Award" by the Society of Krishi Vigyan, Gwalior, M.P on 19th October 2022.
- Two-days sensitization program on Organic farming and Sustainable Agriculture for women led Agripreneurs, was organized on 9th and 10th February at E-Hall, R-ABI, IIT (BHU) Varanasi.
- I-3 Foundation along with its startups participated in "Accelerator Fund for Agri Startups" which was mentioned in Budget 2023. This event was inaugurated by Hon'ble Prime Minister Shri Narendra Modi on 24th Feb 2023.
- One of our start-up M/s VN Organics Pvt. Ltd. participated in AAHAR Expo-2022 organized at Pragati Maidan, New Delhi from 14th to 18th March 2023.
- In addition to above activities, regular follow-up activities, RIC/CIC meetings were held from time to time to shorlist/ select the start-ups.
- Mentor connect were provided to the start-ups as and when required.


IIT
RKVY-RAFTAAR Agri-Business Incubator (R-ABI) IIT(BHU) Varanasi
G20
Two-days Program on
Organic Farming and Sustainable Agriculture
For women Agripeneurs
Organic farming
Sustainable Agriculture


DIVAVI गौरव का बाजार


R-ABI, IIT (BHU) Varanasi
AGRIPRENEURSHIP ORIENTATION PROGRAM (AOP)
3rd Jan - 10th Feb, 2023


SOCIETY OF KRISHI VIGYAN
Certificate
Innovative Farmer's Award




JVKS AGROTECH PVT. LTD.

NCL-IIT (BHU) Incubation Centre:

NCL-IIT(BHU) Incubation Centre (NIIC) is a collaborative effort of Indian Institute of Technology (Banaras Hindu University) and Northern Coalfields Limited and acts as a Technology Business Incubator for fostering entrepreneurship and nurturing technological start-ups of IIT (BHU) Varanasi. This association has yielded promising results and provided many start-ups with access to cutting-edge research facilities and networks that have helped them develop new technologies and expand their reach. The partnership has been an incredible experience thus far**.**

Further, NIIC has established three satellite centres at Singrauli:

1. Establishment of Khadi and Handloom Centre at Semuar village
2. Establishment of "Food Tech-Park-Training & Development Centre" as Satellite Centre of NIIC at Birkunia village of Singrauli
3. Establishment of Drone Manufacturing and Rapid Prototyping Lab, AR/VR, Sensors & Control System Labs under satellite Centre of NIIC at NCL-HQ, Singrauli

Key Activities:

- Shri Bhola Singh, CMD, Northern Coalfields Limited (NCL) Singrauli, along with his team visited the Semuar Satellite Center of NCL-IIT(BHU) Incubation Centre, IIT(BHU) Varanasi on 3rd May 2022 at Singrauli, Madhya Pradesh. Shri Singh was informed about the activities being carried out at the satellite center upon which he praised the efforts of the incubated start-ups.
- On the occasion of Children's Day, Atal Innovation Mission (AIM) organized a "*Do it yourself*" program at 10,000 Atal Tinkering Lab (ATL Lab) across the country at the same time. IIT (BHU) being a member of MoE's Institute Innovation Council (IIC) is a mentor institute for 3 Atal Tinkering Labs (ATLs) i.e. Durga Charan Girls Inter College, Sonarpura, Delhi Public School, Varanasi, & Sunbeam English School, Bhagwanpur, nominated I-3F staff to these schools for mentoring at the said event.
- Hon'ble Minister of Commerce & Industry, GOI, Shri Piyush Goyal visited the Atal Incubation Centre, BHU (AIC-BHU) on 11th November 2022 to interact with start-ups. Our start-ups, M/s Manwani's Innovative Pearl Culture LLP, M/s Allywing Solutions Pvt. Ltd., M/s Aryo GreenTech Pvt. Ltd. & M/s Freshnic Agribusiness Pvt. Ltd., got the opportunity to showcase their product/idea at the event.
- One of our startup M/s Freshnic Agricuness Pvt. Ltd. founded by Mr. Hemant Singh organized a training program for 25 farmers covering various aspects of organic farming and sustainable agriculture in Singrauli, Madhya Pradesh. He is working at the Birkuniya Satellite Center of NCL-IIT (BHU) Incubation Centre, IIT (BHU).
- Start-ups of I-3 Foundation, IIT (BHU) participated in UP Global Investors Summit held during 10th to 12th February, 2023.
- Delegates of Coal India Limited (CIL) and Northern Coalfields Limited (NCL) visited I-3 Foundation on 24th Feb 2023. They interacted with startups and invited them for "Momentous CIL, Evolution and way forwards" which will be organized in 2023-24.


किसानों ने जाने मशरूम उत्पादन, मृदा स्वास्थ्य, मॉडर्न एग्रीकल्चर एवं पशुपालन के विषय में

भूमि की उर्वरता बचाये रखने के लिए जैविक खेती को दें बढ़ावा

CISCO "thingQbator" Makerspace Program:

As a part of a CSR initiative, Cisco Systems along with NASSCOM Foundation has established a "thingQbator" makerspace at IIT (BHU). thingQbator is a network of makerspaces in partner Universities where students can learn about digital technologies in a hands-on environment, turn their ideas into working prototypes and in the process come up with local solutions to local problems. This type of program helps in accelerating innovation and entrepreneurship among the student community. Students not only play with the ideas but become creative problem solvers and strengthen the start-up ecosystem of India. Each year NASSCOM Foundation organizes COHORTs and invites application from students of various Universities and Institutes. This year also thingQbator had invited applications and 25 students of IIT (BHU) Varanasi participated in it. Out of total 720 applications, 33 start-ups reached the 3rd stage i.e. start-up stage and one start-up of IIT (BHU) reached this Stage. However, IIT(BHU) start-up just missed to reach the final i.e. felicitation stage of getting pre-seed grant of INR 5.0 Lakhs from NASSCOM Foundation.

E-Cell:

The Entrepreneurship Cell (E-Cell) is an institute body run by the students of IIT(BHU) Varanasi devoted towards acting as a symbiotic link between the entrepreneurs and the existing start-up ecosystem as well as acting as a hub where all start-ups can meet, collaborate and innovate. It helps create a Start-up Ecosystem and build relations to promote Start-ups and Entrepreneurship at IIT (BHU) Varanasi.

- Three guest talks were conducted in June on the following topics, "Bragging Rights and Prioritising Social Responsibility", "INs and OUTs of Entrepreneurship", and "Entrepreneurship by Acquisition".
- In July, four lectures were conducted under the **Impact Lecture Series.** In addition, the **ideation stage pitching event "Startbucks"** was also completed, which saw the participation of more than 300 budding entrepreneurs nationwide.
- The month of September saw the launch of E-Cell's ultimate program, the "**Build with us Cohort"**, for aspiring entrepreneurs to turn their ideas into reality. The program received a great response nationwide, with over 110 idea submissions.
- **The Start-up Help book Part-1** was also launched in the same month. The Start-up Help book series is a solution to guide budding entrepreneurs from being marooned to kickstart their entrepreneurial journey and scale their start-ups.
- In October, a guest lecture was organised featuring Aditya Arora, the CEO of Faad Network. The speaker enlightened the audience about his journey from intern to investor. The session had more than 230 attendees.
- **The innovation summit** spanned over three days from 8th-11th November was also conducted, and Mr. Prabhat Tekriwal took the workshops.
- **E-Summit'23: Augmenting Ambitions,** the annual entrepreneurship festival of IIT(BHU) Varanasi, the E-Summit, was organised from 6th-8th January. E-Summit'23, themed Augmenting Ambitions, was a grand success with huge participation from the institutes all over India. The IIT BHU Foundation was the principal sponsor for the event. **10+ VC firms/Angel Investors** participated in the summit, **and the summit partnered with 50+ brands.** E-Summit'23 consisted of many competitions, talks, panel discussions, and networking sessions.
- The month of January concluded with the restart of the series of **Ask Me Anything** (AMA) sessions. The first AMA was conducted on 28th January 2023 on "Indian Venture Capital: Challenges and Opportunities" and second AMA session on "Ideation to Launch" was conducted in February.

31. Institute Works Department (IWD)

Ever since its inception in the year 2014, Institute Works Department (IWD) in IIT(BHU) shoulders the onus of major/ minor repairs, maintenance, retrofitting, renovation and development of infrastructure along with proper operation and sustenance of existing utility lines. The upkeep and functioning of water distribution system, sewerage network, electrical overhead/underground cable lines, distribution sub-stations (DSSs), power sub-stations (PSSs) and SCADA system also pertain to the prime responsibility of IWD.

In addition to repair and maintenance of the hostels, guest house, faculty apartments/quarters and academic buildings, road side development and maintenance of the pavements/bituminous roads are duly undertaken by IWD. Depending upon the extent and quantum of work, IWD floats online tenders to award work-contracts to various vendors/contractors to execute maintenance/ development related works of IIT(BHU) under compliance of GFR and standard practices of Civil/Electrical Engineering.

Major construction works completed by CPWD under HEFA-1st loan scheme during the period from 01st April' 2022 to 31st March' 2023:

Sl. No.	Name of work	AA&ES amount (Rs. in Crores)
1.	Supply, Installation, Testing and Commissioning (SITC) of 2 nos. 2x1600 KVA Compact Substations at IIT(BHU), Varanasi	4.80
2.	Construction of Director's Residence at IIT(BHU), Varanasi	1.92
	Total	**6.72**

Major construction works in progress by NBCC (India) Ltd. under HEFA-2nd loan scheme during the period from 01st April' 2022 to 31st March' 2023:

Sl. No.	Name of work	AA&ES amount (Rs. in Crores)
1.	Construction of Morvi Hostel-II (S+10) and Dining block (2nd, 3rd & 4th Floor) at IIT(BHU), Varanasi	97.00
2.	Construction of Faculty Apartments (S+10) (Two Blocks) near Vishwakarma Hostel at IIT(BHU), Varanasi	50.00
	Total	**147.00**

Major construction works in progress by CPWD during the period from 01st April' 2022 to 31st March' 2023:

Sl. No.	Name of work	AA&ES amount (Rs. in Crores)
1.	Construction of Guest Room Block (G+4) (extension of GTAC) at IIT(BHU), Varanasi	14.50
2.	Construction of Redevelopment of Dhanrajgiri Hostel (Wing-1) at IIT(BHU), Varanasi	28.04
3.	Construction of Lecture Hall Complex (G+2) at IIT(BHU), Varanasi	22.28
4.	Construction of Academic Building for Department of Architecture, Planning & Design and Naresh C. Jain School of Decision Science & Engineering (G+5) at IIT(BHU), Varanasi	31.33
	Total	**96.15**

List of works completed/carried out by IWD during the period from 01st April' 2022 to 31st March' 2023:

Sl. No.	Name of work
1.	Landscaping work around newly constructed residence in GTAC at IIT(BHU), Varanasi
2.	Construction of chain-link fencing 5' height above brick work and c/o Pathway in west side of Guest house at IIT(BHU), Varanasi
3.	Construction of servant quarters, Guard Room & two nos. of Security Post inside Gandhi Technology Alumni Centre at IIT(BHU), Varanasi
4.	Providing and Fixing aluminium partition work of production lab at first floor in Department of Mechanical Engineering at IIT(BHU), Varanasi

Sl. No.	Name of work
5.	Supply & laying of Cable to feed power supply from STP DSS to the Aryabhatta Hostel AB & CD at IIT(BHU), Varanasi
6.	Providing and Fixing of door and windows, repair of plaster in room and lobby area and painting work in S. C. De Hostel at IIT(BHU), Varanasi
7.	Electrical wiring, Power Point Installation & Illumination work in the old Committee room and allied room of Control System lab of Electrical Engg. Deptt. at IIT(BHU), Varanasi
8.	Providing & Fixing of false ceiling, tile flooring and painting work in lab (Advance Control & Network System) In Department of Electrical Engineering at IIT(BHU), Varanasi
9.	Renovation of one no. of toilet block in Limbdi Hostel at IIT(BHU), Varanasi
10.	Repair, scraping and painting work of common area, passage and exterior of Rajputana Hostel at IIT(BHU), Varanasi
11.	Construction of R.C.C. platform, P/F of tiles, aluminium shutter and painting work in lab of Dr. Rajesh Kumar Upadhyay, Department of Chemical Engineering at IIT(BHU), Varanasi
12.	Renovation of 10 nos. of bathroom including tiles and fitting and rooms including door, glass and wardrobes etc. in Guest House at IIT(BHU), Varanasi
13.	Supply, Installation, Testing and Commissioning of battery bank and battery charging Panel in the Food Science DSS at IIT(BHU), Varanasi
14.	Electrical Installation, wiring, illumination, power point, light & fan point work in the M. Tech. classroom & Lab and Chamber of Dr. Preetam Singh in Department of Ceramic Engineering at IIT(BHU), Varanasi
15.	Supply & laying of LT cable from Vivekanand new DSS (CSS) to the GSMC Feeder Pillar at IIT(BHU), Varanasi
16.	Renovation work in the M. Tech classroom, M. Tech Lab and Chamber of Dr. Preetam Singh of Department of Ceramic Engineering at IIT(BHU), Varanasi
17.	Construction of Chain-link fencing of back side lawn and right side building in School of Material Science & Technology at IIT(BHU), Varanasi
18.	Plaster repair and exterior painting work of Electrical Engineering Department at IIT(BHU), Varanasi
19.	Repair to patch plaster and painting work in room and mess area of Aryabhatta I & II at IIT(BHU), Varanasi
20.	Plaster repair and exterior painting work of Chemistry Department at IIT(BHU), Varanasi
21.	Construction of toilet 4 nos. and bathroom 5 nos. for mess staff in A.S.N. Bose Hostel at IIT(BHU), Varanasi
22.	Providing and Fixing of false ceiling, aluminium partition, tile flooring and painting works of Electrical Microscopy facility at Department of Metallurgical Engineering at IIT(BHU), Varanasi
23.	Providing and Fixing of fly proof stainless grade 304 wire gauge for window net in Vivekanand Hostel at IIT(BHU), Varanasi
24.	Providing and fixing of false ceiling, aluminium partition, flooring and painting, wooden rack of PG Pharmacognosy lab at first floor in Department of Pharmaceutical Engg. at IIT(BHU), Varanasi
25.	Annual Operation & Maintenance Contract for round the clock routine services, Preventive/Breakdown maintenance of 1 No.33/11kV PSS (with GIS panels & AIS), 7 Nos.11kV/433V DSS, all allied Substation systems (SCADA, Battery etc.) and HT/ LT Services Line at IIT(BHU) campus, Varanasi (U.P
26.	Supply & Laying of Cable to feed power supply from STP DSS (CSS) to the S.N. Bose and Ramanujan Hostel at IIT(BHU), Varanasi
27.	Electrical wiring, power point installation works in Main Lecture Hall of LT-3 and Lecture rooms (LT-3.1.A, LT-3.1.B, LT-3.1.C, LT-3.2A, LT-3.2.B, LT-3.2.C) of LT-3 at IIT(BHU), Varanasi
28.	Supply, Installation, Testing and Commissioning of Cabling outdoor LT Panel and Earthing Works in the Metallurgical Engineering Department at IIT(BHU), Varanasi
29.	Electrical Installations, Wiring, illumination, power light & fan Point Work in the Tem of NELMIF Lab, Deptt. of Metallurgical Engg. at IIT(BHU), Varanasi
30.	Lighting, illumination & cabling work in the Lawn Tennis changing & washroom, Basketball-1, Basketball-2, Basketball-3 Court and Volleyball Court-2 of Rajputana ground gymkhana at IIT(BHU), Varanasi
31.	Electrical wiring, illumination, power point, light & fan point works in the CV Raman, GSMC Ext, S.C. Day, Dhanrajgiri, Vishwakarma, S. N. Bose Hostel, Visvesavaraiya Aryabhatta-II, GSMC Old IIT Girls, Rajputana and Morvi Hostel at IIT(BHU), Varanasi
32.	Electrical cabling work from New Science DSS to Metallurgical Engg. Deptt. to Provide uninterrupted power supply in the Metallurgical Engineering Department at IIT(BHU), Varanasi
33.	Supply, Installing, Testing and Commissioning of Silent Type 125 KVA Diesel Generator in the Dhanrajgiri Hostel-2 at IIT(BHU), Varanasi
34.	Supply, Installing, Testing and Commissioning of Silent Type 82.5 KVA Diesel Generator in the Faculty Apartment at IIT(BHU), Varanasi
35.	Comprehensive annual maintenance contract of passenger lift installed at LT-1 Lift No.52NY5204, LT-2 Lift No. 52NY5206 AND LT-3 Lift No.52NY5202, GRTA lift no 52NY5203 & Mechanical Engg. Department lift No. 52NT0098 in IIT (BHU) Varanasi.

32. Central Instrument Facility (CIF)

Overview: The central instrument facility (CIF) is equipped with sophisticated instruments to carry out characterization and analytical needs under one roof for both external and internal users from academia and industry. Our facilities are dedicated to preserving and improving the research efficiency of global standards. This facility is well-versed in exploring structural, morphological, thermal, surface and molecular properties for a wide range of nano or microscopic materials like metals, ceramic, polymers, biomaterials and composites etc. Apart from these, centre is also extending facilities for trace analysis of metallic or non-metallic contaminants. Herein, each instrument is operating under expert faculty members of this institute. With these views-

"Our mission is to provide futuristic research infrastructure and quality education services in support of advanced instrumentation."

The CIF is providing the services to the users *via* an easy-to-use online booking system that requires minimal human participation.

Dr. Kamalesh Kumar Singh, Professor of Metallurgical Engineering, leads the CIF with full-time professionals and scientific staff having their specific areas of expertise. In addition, Doctoral and PG students are also giving their expertise for the smooth operation of the instruments.

Approximate number of internal students/ users of CIF facilities: **12708** samples

Number of Institute Department/School user of CIF facilities: **14** Departments/Schools. The facility caters the need of several other Institutes.

List of facilities in CIF:

(Additional facilities created in the current financial year may be separately highlighted) With the inclusion of a new facility (waiting for shipment) in the current year, CIF has 20 instrument facilities which are tabulated below.

Sl. No.	Instruments
1	HR-TEM with EDS
2	HR-SEM with EBSD
3	SEM with EDS
4	Bench Top XRD
5	High Resolution XRD
6	MPMS
7	SPM
8	Ion Chromatography
9	Multi-function Tribometer
10	PCB Prototyping
11	FTIR
12	DSC
13	TGA
14	NMR
15	XPS with UPS
16	ICP-MS
17	BET (Surface area measurement)
18	Table top SEM
19	Confocal Laser Scanning Microscope
On process Facility, FY 2023-24	
20	Thermal- Mechanical Physical Simulator and Testing Equipment

These include morphological imaging of materials' surface resolution up to 5nm magnification range with elemental analysis. It covers a range of macro-to-micro materials of biological or non-biological types with the help of SEM, HR-SEM, HR-TEM and SPM. Room temperature or high temperature-based structural and thermal characterization is possible by XRD and TGA/DSC analyzer respectively. The functional and bonding environments of nearly all elements are possible to analyze by the combination of measurements based on FTIR, NMR and XPS system. Magnetic properties of all type of magnetic materials are possible by MPMS. Wear properties of all materials are able to perform on multi-function tribometer based on both ball-on-disk and pin-on-disk method. Surface active area with pore volume and its distribution of porous materials is also possible to analyze by BET measurement system. Complete ranges of trace analysis of WHO recommended contaminants are able to perform on ICP-MS and Ion chromatography. In addition, recently Confocal laser Scanning Microscope is introduced in order to observe the location of fluorescent moieties present in biological or any matrix system. Thus, instrumental facilities present herein are able to elaborate on any properties of concerned materials.

Any other achievements or highlights (in a paragraph)

Thermal- Mechanical Physical Simulator and Testing Equipment (TMPST)**:** Gleeble system is used to perform carefully regulated laboratory-based simulations of multi-stage metal forming processes at high temperatures and high deformation rates, such as those seen in rolling mills and other comparable large-scale metal production processes.

Model: Gleeble 3800-GTC Simulation System

Workshop & Seminar (Instrument demonstration)

Sl. No	Name & Address	Date of Visit
1.	DST STUTI ICT-A hands-on-training on Flow Cytometry by Department of Pharmaceuticals Engineering & technology	01/12/2022
2.	SERB-sponsored Karyashala on Laboratory Testing and Characterization of Construction Materials By Department of Civil Engineering	29/05/2023

CIF Lab visit for the college student

Sl. No	Name & Address	Date of Visit
1.	Sunbeam College for Women	13/05/2023

Other activities:

CIF Lab visit of the Guest and Visitors

Sl. No	Name & Address	Date of Visit
1	**Prof. Chennupati Jagadish AC** Australian National University	06/05/2022
2	**Sri. Nikesh Arora** Palo Alto Networks, CA 95054	09/12/2022
3	**Major General Ranjit Singh** Sena Medal, Vishisht Seva Medal	16/12/2022
4	**Lt Colonel Anupam Mishra** (General Staff officer 1, research	16/122022
5	**Lc Gen Lt. Colonel Sachine Deshmukh**	16/12/2022
6	**Dr. Himani Arora** Applied Materials, Inc. Santa Clara, CA 95054-3299 United States	27/12/2022
7	**Prof. Jonathan Old** University of California, Berkeley.	27/12/2022
8	**Prof. Truls Norby** Department of Chemistry, University of Oslo	02/06/2023
9	**Prof. Smagul Karazhanov** Institute for Energy Technology	02/06/2023

Director welcoming Mr. Nikesh Arora at CIF

Major Gen Ranjit Singh At CIF

Delegates group from USA with Dean (R&D) and others

33. Gandhi Technology Alumni Centre (GTAC)

About:

Gandhi Technology Alumni Centre (GTAC) has been established in 2007 with the help of alumni's of IIT(BHU) for the purpose of providing stay to guests which includes alumni's, employees, students etc. Since then, it has been a long journey till now. It has developed a lot from then.

Present Admin: Dr. Amit Tyagi (Coordinator).

Total No. of Rooms:

There are total of 72 rooms in GTAC, which includes 4 suites and 68 rooms. All rooms are air conditioned and have facilities like TV, telephone, two beds, table and chairs etc.

Dining Facilities:

Provides dining facilities to In-house guests.Provides breakfast, lunch, dinner, tea, snacks etc. to the In-house guest and provide catering facilities to the institute departments/units whenever required.

Waiting Room:

A waiting room is also there so that guest can meet someone or wait for the time being. Also, it serves purpose of meeting room in required condition.

Hall or Conference room:

For conferences, meeting, seminars etc. for the students or faculties of the Institute.

Activities:

- Provides stay to the guest during convocation of the Institute.
- BOG meetings and faculty recruitment interviews.
- Provides stay to the Alumni's and guest during alumni meet of IIT (BHU) alumni's.
- Provides stay to the participants of QIP programmes of different departments of IIT (BHU).
- Provides stay to the participants of IIT cultural programmes like Spardha and Kashi Yatra.
- Provided stay to Paramedical/Medical staff deployed in COVID 19 duty during August, 2020 to January, 2021.
- Provides stay to the participants of programmes like Technex.
- Provides stay to the parents of the students taking admission in IIT (BHU) or parents visiting their children.
- Provides stay to the friends and relatives of the IIT's faculty member and non-faculty members.
- Provides stay for the participants of the departmental programmes of IIT (BHU).

34. Main Workshop

Complete Name of Department: MAIN WORKSHOP, IIT(BHU)

Year of Establishment: 1919

Head of the Department: Prof. Santosh Kumar, Professor In-Charge, Main Workshop, IIT (BHU). w.e.f. 07.09.2020

Brief Introduction:

IIT(BHU) Main Workshop aims ***to advance and diffuse such scientific, technical and professional knowledge combined with necessary practical training at the best calculated to help in promoting indigenous industries and in developing the material resources of the country.*** IIT(BHU) workshop was used to produce every engineering items for producing machine tools – such as, Lathe and other product like electric fans, etc. This unit provides technical assistance for the maintenance and fabrication of their needed items. It may kindly be noted that, this unit is still supported by teaching department, i.e., the Mechanical Engineering Department, in terms of machines and manpower, providing technical and on job training to less privileged section of the society. This would be making extra manpower available to the IIT for producing useful products and taking various kinds of maintenance work, thereby saving enormous amount of money of the IIT. For example, new challenges of manufacturing and innovation is maintained by this workshop. The Precision Engineering Hub (PEH) services at IIT (BHU) is a central facility working 24x7 for concept design and product realization available for faculties & industries to develop new products. The processes of design, simulation and manufacturing are integrated in a digital environment through spaces like: Makers space, Designer space, Tool room & product Design and development spaces. The PEH facility also serves the professional course requirements of industries & MSME employees of various streams. It also provides infrastructure for sponsored research and industrial consultancy. The PEH houses state of the art CAD and CAM tools with latest capabilities in shape acquisition, modeling and prototyping. The facility is chargeable to have helping hand in radically expanding the domain of geometric shapes that can be realized for any product.

Major areas of Research/Work -

1. Training to B.Tech. Part-I students of all branches and B.Tech. Part-II Mech. Engg. Students to expose them to various manufacturing practice and processes.
2. Providing facilities for fabrication involved in project work to all the engineering students.
3. Helping students by way of fabricating the models and equipments for research.
4. Helping students by way of fabricating the models for Institutional Tech. Fest & Department fest like: Technex, Comet, etc.
5. Helping students in shaping the product that comes out of their creative & innovative thinking.
6. There are many new initiatives in recent time ago Precision Engineering Hub, Tinker Lab. startup etc.
7. Precision Engineering Hub facility.

Area of the Department (in square meters): 3245.33 m^2

Infrastructure

Sl. No.	Particulars	Number
1	No. of Classrooms	NA
2	No. of Lecture Halls	NA
3	No. of Laboratory / Workshop	8 Nos.+ 1 (PEH)
4	No. of Computers available for students in the Department	NA

Unique Achievement / Preposition of the Department – New Precision Engineering Hub.

Academic Programmes offered

New Courses Introduced *(From 1st April 2022 to 31st March 2023)*

Sl. No.	Course Code	Course name	Course credit
1	ME-105	Manufacturing Practice (Offered by Dept. of Mechanical Engineering and conducting by Main Workshop).	03
2	ME-106	Manufacturing Practice (Offered by Dept. of Mechanical Engineering and conducting by Main Workshop).	03

Technical and Non-Teaching Staff (Main Workshop)

Sl. No.	Name	Qualification	Designation	Emp. No.	Date of appointment in Dept.
1	Shri Basudeb Rajak	M. Tech. (Production Engineering)	Senior Technical Officer	18836	23.09.2009
2	Shri Lakhmi Chand	B.A., Diploma in Mechanical Engg.	Senior Technical Superintendent	18031	07.02.2007
3	Shri Shri Kumar	B.A., One year Diploma in Carpentry	Senior Technical Superintendent	13628	08.01.1997
4	Shri Chandra Mohan Singh	High School, Diploma in Mechanical Engg.	Senior Technical Superintendent	19627	22.02.2011
5	Shri Ravi Shankar Singh	Intermediate, Diploma in Mechanical Engg.	Senior Technical Superintendent	19268	23.02.2011
6	Shri Mahendra Kumar	Intermediate, Two year Diploma in Carpentry & Pattern Making	Senior Technical Superintendent	13626	08.01.1997
7	Shri Vikarama Prasad	High School, One year Diploma in Carpentry	Technical Superintendent	13633	12.10.1988
8	Shri Jagdish Prasad	High School, One year Diploma in Carpentry	Technical Superintendent	13632	12.10.1988
9	Shri Lal Prakash Singh	B.Com., One year Diploma in Moulder	Technical Superintendent	13631	12.10.1988
10	Shri Tej Bahadur Singh	Intermediate, ITI Wireman	Technical Superintendent	13634	12.10.1988
11	Shri Dilip Kumar Sharma	M.A., ITI Welder, ITI Wireman, Diploma in Mechanical Engg.	Technical Superintendent	18502	20.02.2007
12	Shri Sunil Kumar	B.A., ITI Machinist	Technical Superintendent	18032	20.02.2007
13	Shri Chandra Bhusan	M.Com., ITI Electronics	Technical Superintendent	18070	26.02.2007
14	Shri Vijay Kumar	Intermediate, ITI Motor Mechanic	Technical Superintendent	18051	20.02.2007
15	Shri Santosh Kumar Maurya	Intermediate, ITI Electrician	Technical Superintendent	18044	20.02.2007
16	Shri Vijay Kumar Singh	Intermediate, ITI Welder, Diploma in Mechanical Engg.	Technical Superintendent	18040	20.02.2007
17	Shri Jagdish	High School, ITI Carpentry	Junior Technical Superintendent	18675	06.08.2008
18	Shri Gopal Kumar Kharwar	Intermediate, ITI Electronics	Junior Technical Superintendent	18646	06.08.2008
19	Shri Brijesh Kumar Sharma	Intermediate, ITI Fitter	Junior Technical Superintendent	18664	06.08.2008
20	Shri Kunwar Bhadur	High School, ITI Wireman	Junior Technical Superintendent	18670	06.08.2008
21	Shri Rajendra P. Vishwakarma	Intermediate, ITI Foundry	Junior Technical Superintendent	18606	06.08.2008
22	Shri Anil Vishwakarma	M.A., ITI Welder, ITI in Electroplating	Junior Technical Superintendent	18604	06.08.2008

Sl. No.	Name	Qualification	Designation	Emp. No.	Date of appointment in Dept.
23	Shri Bipin Kumar Rai	Intermediate, ITI Fitter	Junior Technical Superintendent	18665	14.08.2008
24	Shri Banarasi Rao	Intermediate, ITI Refrigeration & AC	Junior Technical Superintendent	18667	08.08.2008
25	Shri Karun Vishwakarma	Intermediate, ITI Machinist & Grinder	Junior Technical Superintendent	18607	05.08.2008
26	Shri Jitendra Kumar	High School, ITI Turner	Junior Technical Superintendent	18663	07.08.2008
27	Shri Ravindra Kumar	Intermediate, ITI in Motor Mechanic	Junior Technical Superintendent	18602	06.08.2008
28	Shri Ajay Kumar Yadav	Intermediate, ITI Turner	Junior Technical Superintendent	18605	11.08.2008
29	Shri Gopal Krishna Shukla	B.Sc.-IT, M.Sc.-CS, ITI Instrumentation	Junior Technical Superintendent	18668	14.08.2008
30	Shri Shivendra Tiwari	Intermediate, Diploma in Mechanical Engg. & Apprenticeship from DLW	Junior Technical Superintendent	18615	06.08.2008
31	Shri Dheelip Kumar B.	High School, ITI Machinist & Apprenticeship	Junior Technical Superintendent	18671	13.08.2008
32	Shri Gopal Rana	Junior High School, Diploma in Electrician & Motor winding	Junior Technical Superintendent	19274	10.02.2011
33	Shri Ramjeet Yadav	High School	Multi Tasking Staff (unskilled)		01.05.2019

Technical and Non-Teaching Staff, Precision Engineering Hub (PEH)

Sl. No.	Name	Qualification	Designation	Emp. No.	Date of appointment in Dept.
1	Shri Arvind Kumar Singh	Intermediate, Diploma in Mechanical Engg.	Senior Technical Superintendent	18669	12.08.2008
2	Shri Bed Prakash Singh	B.A., Diploma in Mechanical Engg.	Senior Technical Superintendent	19266	12.02.2011
3	Shri Bilu Guria	High School, ITI Welder	Junior Technical Superintendent	18666	06.08.2008
4	Shri Ashwani Kumar Tiwari	Intermediate, ITI Machinist, Apprenticeship, Diploma in Mechanical Engg.	Junior Technical Superintendent	18676	05.08.2008
5	Shri Vinay Kumar Singh	Intermediate, ITI Fitter, Diploma in Mechanical Engg. Certificate in Adv. CNC & Autocad	Junior Technical Superintendent	18672	19.08.2008

Short-term courses/workshops/seminars/symposia/conferences/training programmes attended by faculty members of academic institutions and public sector undertakings *(From 1st April 2022 to 31st March 2023)*

1) Short Term Course on "Digital Manufacturing: Part I-CNC Machining" (May 23-27, 2022)
2) Lecture Series on Additive Manufacturing Part I-Materials for Additive Manufacturing (October 11-15, 2022)
3) Training program: Metal 3D printer EOS M290 (17-23 October 2022)
4) 1 Winter School on AM (February 6-10,2023)
5) Training program: Ceramic 3D Printer (26-28 March 2023)

New facilities added *(From 1st April 2022 to 31st March 2023)*—***Precision Engineering Hub***

Sl. No.	Details (Infrastructure, Equipments, etc.)	Value (in Lakhs of Rupees)
1	Metal 3D Printer with optical tomography	€ 502,900.00
2	SPM Shot Peening Machine	Rs. 5,25,000.00
3	Investment Casting Setup	Rs. 9,92,380.00

Any other Information

ACTIVITY AT THE INSTITUTE LEVEL:

1. Inspecting the furniture supplied to the different hostels of IIT (BHU).
2. Providing facilities and also the technical know-how for development of industrial and innovative products.

ACTIVITY TO OUTSIDERS:

1. Training to the students of other Engineering Colleges.
2. Providing processing and production facilities to outsiders.
3. Providing Summer Training to the undergraduates of different Engineering College.

Key Instruments:

Micro Shot Peening Machine

Metal 3D Printer with Tromograhpy

35. Finance and Accounts

INDIAN INSTITUTE OF TECHNOLOGY (BHU), Varanasi

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st MARCH 2023

Amount in Rupees

Particulars	Schedule	Current Year	Previous Year
INCOME			
Academic Receipts	9	77,77,83,806	59,87,81,798
Grants / Subsidies	10	2,52,04,08,834	2,17,39,07,850
Income from Investments	11	15,00,16,661	9,95,81,707
Interest earned	12	21,11,335	3,86,729
Other Income	12	31,58,43,325	65,05,29,924
Prior Period Income	14	2,60,56,387	-
TOTAL (A)		**3,79,22,20,348**	**3,52,31,88,008**
EXPENDITURE			
Staff Payments & Benefits (Establishment exp.)	15	2,02,97,26,642	1,67,38,96,685
Academic Expenses	16	37,09,18,778	45,05,64,014
Administrative and General Expenses	17	68,50,03,652	51,62,56,824
Transportation Expenses	18	9,51,364	10,26,326
Repairs & Maintenance	19	1,32,93,619	5,55,59,584
Finance Costs	20	7,00,39,231	5,98,50,047
Depreciation	4	45,09,42,770	36,06,55,483
Other Expenses	21	-	-
Prior Period Expenses	22	39,65,768	-
TOTAL (B)		**3,62,48,41,824**	**3,11,78,08,963**
Balance being excess of Income over Expenditure (A-B) Transfer to/ from Designated fund		16,73,78,524	40,53,79,045
alance being Surplus (Deficit) **Carried to Capital Fund**		16,73,78,524	40,53,79,045

INDIAN INSTITUTE OF TECHNOLOGY (BHU), Varanasi

BALANCE SHEET AS AT 31.03.2023

Amount in Rupees

SOURCE OF FUNDS	Schedule	Current Year	Previous Year
Corpus/Capital Fund	1	9,13,73,06,225	6,98,41,57,571
Designated / Earmarked Funds/Endowment Funds	2	42,71,53,684	1,50,23,05,715
Current Liabilities & Provisions	3	6,85,72,91,950	5,82,03,69,535
TOTAL		**16,42,17,51,859**	**14,30,68,32,821**

APPLICATION OF FUNDS	Schedule	Current Year	Previous Year
FIXED ASSETS	4		
Tangible Assets		3,59,79,70,315	2,61,52,29,797
Intangible Assets		9,42,58,216	5,67,45,148
Capital Work-In-Progress		91,59,63,108	1,30,23,66,316
INVESTMENTS FROM EARMARKED/ENDOWMENT FUNDS	5		
Long Term		25,89,77,084	16,63,32,302
Short Term		-	-
INVESTMENTS – OTHERS	6	6,24,14,39,747	5,03,60,16,151
CURRENT ASSETS	7	4,53,94,22,495	4,42,92,31,987
LOANS, ADVANCES & DEPOSITS	8	82,37,20,894	70,09,11,120
TOTAL		**16,42,17,51,859**	**14,30,68,32,821**

SIGNIFICANT ACCOUNTING POLICIES 23

CONTINGENT LIABILITIES AND NOTES TO ACCOUNTS 24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11th CONVOCATION
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प्रौद्योगिकी
संस्थान
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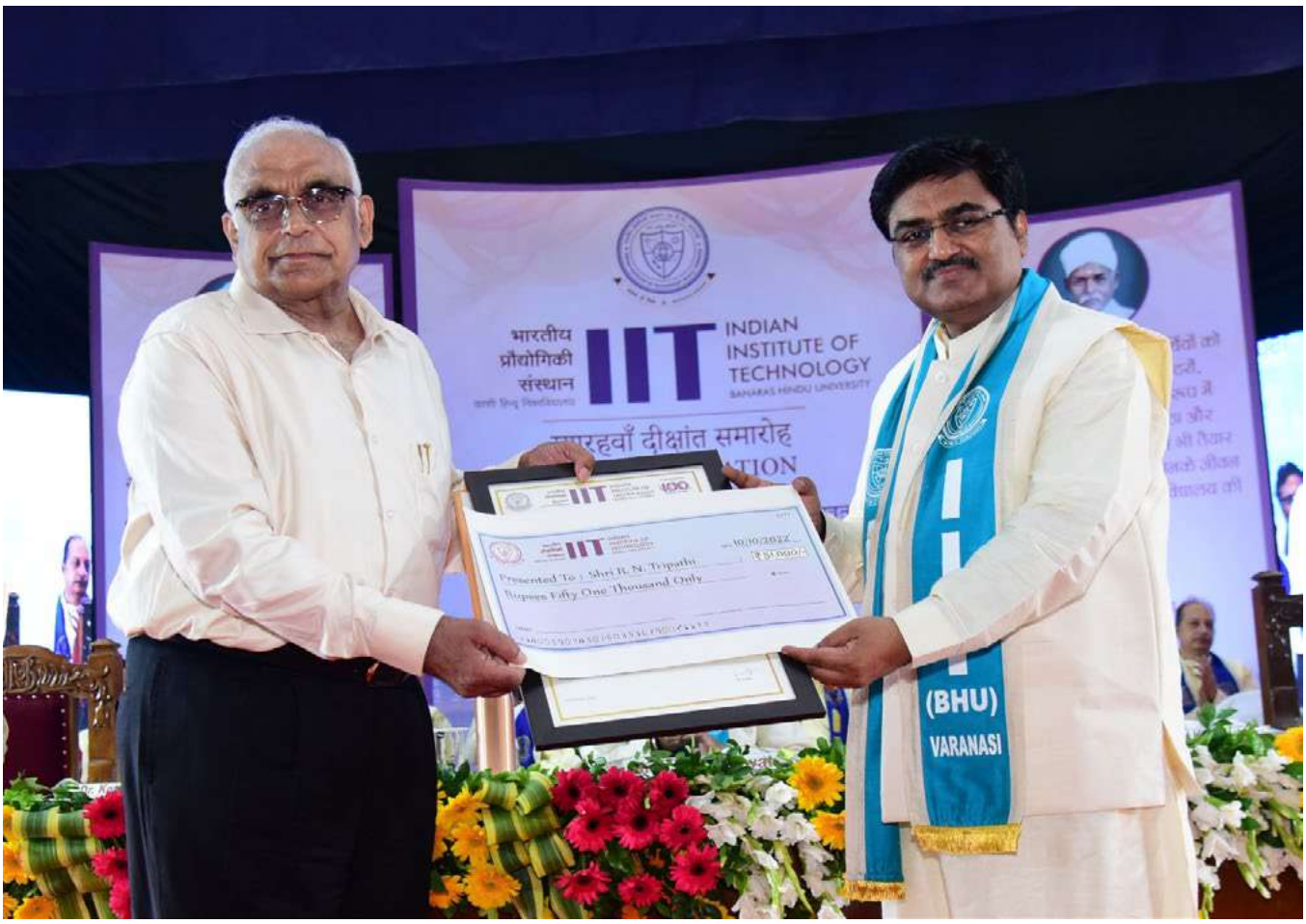
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Notes

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