

List of Running Sponsored Projects in IIT(BHU) till 31.03.2022

Sr. No.	Title of Project
1	Identification of Gene Responsible for Degradation of Poly (ethylene terephthalate) in Ideonella sakalensis
2	Nanoparticles supported self Assembled Conducting Polymer Monolayer Based Platform for Rapid Detection of Monosodium Glutamate in Food Products
3	Funcional-hollow-porous-bipolymer based Nanoformulations and Interventions for treatment of Cancer and prevention of Tuberculosis, concept of nanomedicine with multiple drugs for multiple diseases.
4	Neem seed based nanocapsules and nanomedicine for targeted drug delivery and cancer therapy
5	How Beclin 1 mediates cross-talk between apoptosis and autophagy via ITS C-Terminal Fragment?
6	Flow and segregation of granular materials out of hoppers and two & three dimensional devices
7	Targeted drug delivery of methotrexate/gallic acid- folate conjugated Poly L-Lysine nanoparticles
8	Bioengineering of living materials to fabricate functionalized bacterial nanocellulose for high performance applications
9	Characterization of indigenous cow's dung and urine for scientific advancement and development of utility items
10	Validation of Glutathione synthetase from Leishmania donovani as new drug target or discovery of new drug candidate
11	Design and Validation of field deployable miniaturized Nano-Bio-Sensing System for Detection of the Parasitic liver fluke fasciola gigantica
12	Integrated computational and experimental studies to potential therapy of kala-azar targeting Dephosphocoenzyme A Kinase (LdDPCK) of the pathogen as a target
13	Screening of novel antibiotics from the metagenome of Himalayan glacial soil
14	Re-purposing of approved drugs from Drug Bank database for possible treatment for COVID-19 by targeting SARS-CoV-2 main purpose
15	Development of bi-functional electrochemical nanobiosensors for bacterial exotoxin detection: Implication towards screening of toxin producing bacterial isolates
16	Strategies towards generation of functional tissue engineered construct for orthopedic application
17	Screening of Novel Psychrophilic alkaline Protace from the metagenoime of Antartic soil
18	Enhancement of Lipid Content in Microalge Scenedesmus Obliquus Using Genetic Engineering Tool: a step towards biodiesel
19	Construction of Cold Inducible Expression System
20	Development and evaluation of an innovative poly herbal Bi layer wound dressing material
21	Early stage detection of Non-small cell lung cancer by developing aptamer-graphene microarray
22	Development of Cardiac Model for Prediction of Human Heart Failure using Noninvasive medical imaging and Computational Fluid Dyanamic techniques

23	Developing Psyllium Husk Based Polysaccharide Hydrogel into Electrospinnable and 3D Printable Materials : Towards Fabrication and Comparative Evaluation of Lyophilized, Electrospun and 3D Bioprinted Scaffolds for Liver Tissue Engineering
24	Development of Sparse Inverse Co-variance based functional brain connectivity scheme for the assessment of shared autistic traits in autism and typical development
25	Cyber security of critical infrastructure: National Level Medical Grid System
26	Design and Development of Affordable Myoelectric Prosthetic Hand
27	Development of Microfluidic tools for neuromuscular synaptogenesis and nanotoxicological studies
28	Hybrid EEG-EMG based Prosthetic hand for transradial amputees to perform reach and grasp tasks
30	Portable smart in vitro diagnostic platform for monitoring thyroid disorders
31	Human IL-2 fused leishmanial trypanothione synthesis (TS) as protein vaccine candidates
32	Design Development & characterization of porous Ti/SiO ₂ composite with tailored microstructure fabricated by powder metallurgy using rice husk and sucrose as space holder for orthopaedic applications
33	Seasonal study on photocatalysis experiments in India environment
34	Complex of online and onsite lectures on materials for hydrogen generation by solar water splitting
35	Novel Electrode Materials for Reversible alkali -ion (Li ⁺ /Na ⁺) capacitors and Pseudocapacitors
36	Development of glasses as plant nutrients
37	Development of high strength ceramic magnet for rotating machine applications
38	Metal Nanostructure assisted plasmonic hot electron induced phase transformation in 2D- Transition metal dichalcogenides for hydrogen evolution reaction
39	Development of Nitride Ceramics thin-film for soft x-ray applications
40	Surface charge induced antibacterial and cellular response of Hydroxyapatite-preovskite composites for orthopedic implant application
41	Development of High Alumina (Al ₂ O ₃) & DOPED High Alumina materials for Ceramic Cartridge Applications
42	Development of high Throughput Processing route for CIGS PV absorber films by spray pyrolysis of Pre-synthesised Nanoparticle Ink
43	Cold sintered ferroelectric polymer Ceramic Nano composites for Energy Storage
44	Combined effect of dynamic electrical stimulation and surface charge on cellular functionality of electrovector and piezoelectrically toughened bioceramics
45	Modelling & simulation of ultra-high temperature coating on substrate using CVD/CVI Process
46	Detailed study on the effect of mining as well as Thermal Power Stations on Natural water bodies in Singrauli Region and Recommendation Thereof
47	A Stack development of utilized regenerative Proton Exchange Membrane Fuel Cell for Large Scale Production of Ultra Pure Hydrogen Fuel, Oxygen using Solar Energy & uninterrupted Power
48	Controlled synthesis of MoO ₃ nanoparticles inside mesoporous materials for oxidative dehydrogenation of organic molecules with CO ₂

49	Direct cooling of the Silicon Photovoltaic Module Enabled by an Array of Micro channel built in the backside EVA -Layer
50	Novel integrated engineering approach for effective tar decomposition and its last minutes removal to fuel gas reforming in biomass pyro-grasification
51	Preparation of Dense Palladium/ Palladium-alloy Membranes and Optimization of Multi-pass Membrane Separator to Generate Ultra-Pure Hydrogen for On-site Applications
52	Novel integrated engineering approach for effective carbon dioxide removal using biphasic amine blends for coal-based thermal power plant
53	Investigation on Hydrogels and Development of Multi-Responsive Polymers for Healthcare Applications
54	Removal of Benzene, Toluene, Ethylbenzene and Xylene (BTEX) using Adsorption and Bioremediation
55	Study the BioCNG production potential of different feedstocks
56	Production of high-purity methane from renewable biomass through anaerobic digestion
57	RKVY-RAFTAAR, Agribusiness Incubators (R-ABI) under RKVY-RAFTAAR Scheme
58	Regional characterization of atmospheric aerosols at Varanasi Region
59	Design and development of a Membrane reformer prototype for production of ultra pure hydrogen from methanol for fuel cell based vehicle and power generators
60	Pyrolysis of Biomass for the Production of Bio-oil: Experimental and Computational Study
61	Development & Evaluation of Infrared Nanoparticles for Cellular-wide sensitive E-field Mapping
62	Fabrication of low-cost High-through out Flow Cytometer using tunable nanolenses.
63	NOx Removal from Diesel Exhaust by combined NOx storage Reduction and NH3 SCR System
64	Detailed lecture based curriculum development for science subjects as part of Induction Programme in AICTE COLLEGES
65	Development of portable electrochemical sensor hydrogen peroxide
66	Metal hexacyanoferrate modified screen printed electrodes for the removal of radio nuclides
67	Evaluation and Optimisation of Biodiesel Production from Microalgae
68	Development of photoactivated transfer hydrogenation in catalysis for heat generation cancer transfer
69	Photolabile Protected Monosaccharides: Synthesis and Application to Oligosaccharides Synthesis Using a Continuous flow
70	Photolabile Protected Monosaccharides: Synthesis and Application to Oligosaccharides Synthesis Using a Continuous flow Photoreactor
71	Design, Synthesis and Biological evaluation of O- and C- derivatives of Phenylethanoid Glycosides as a Multi-targeting Neuroprotective disease modifying agents for Alzheimer's Disease
72	Design, Function, and Utilization of Multifunctional Surface Coatings for Next-Generation Lithiumion Batteries
73	New "metabolite-amyloids" hypothesis for the origin of life
74	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
75	Bioactivation of cyclopentadienyl rings in organometallic complexes

76	Development of magnetically recyclable visible light photocatalysts for H ₂ O ₂ Production
77	Development of transition metal based nanocatalysts for bioinspired water oxidation
78	Noble multimetallics/ZnO photocatalyst for hydrogen production from green sources
79	Developing Superior Nobel Metal free Oxygen Evolution Catalyst for Electrochemical Water oxidation and Metal -Air Battery
80	Promoting water Oxidation Reaction with Electrochemically Synthesized ultrathin Layered double Hydroxide Nanosheets
81	Table Top Sem
82	Safer Roads: Development of Mix Design Methodology for OGFC Mixes
83	Strategic Planning for Water Resources and Implementation of Novel Biotechnical Treatment Solutions and Good Practices (SPRING)
84	Experimental and Numerical Investigation on Strength Behaviour of FRP Retrofitted Beam
85	INSPIRE Faculty Award
86	Development and assessment of asphalt mastic from typical Indian and Austrian filler materials with a new test method
87	Rheophysics of semi-rigid road building materials and optimization of their composites for the perception of heavy transport load
88	A System for Quality Control and Certification of Geospatial Data for NSDI
89	Utilization of Industrial Wastes in Dense and Gap Graded Asphalt Mixes as Fillers
90	Propagation & Mitigation model of mixed road traffic noise for planning of mid-sized Indian Cities
91	Smart & Integrated Pedestrian System Design
92	Development of guidelines for use of waste reclaimed water in pavement construction
93	Development of Performance based mix design process: A re-look at the Marshall Mix design process for the production of strong and durable
94	River Aquifer exchanges & hydrogeological study for watershed management of betwa river basin
95	Life cycle and performance of Waste Plastic roads
96	Life Cycle and performance assessment of cold mix roads
97	Understanding the engineering behavior of unsaturated geomaterials and implementing it in limit analysis for solving geotechnical problems
98	Factor affecting exhaust emissions of motorized two wheeler in an Indian Tier-II city: A case study of Varanasi
99	Automatic Map Generation from High Resolution Images Applying Deep Learning Techniques
100	Improvement of delamination fracture toughness in nano-graphene particles reinforced polymer composite laminates: An experimental- numerical approach
101	Investigation on dynamic response analysis of shallow foundation resting on pond ash deposits
102	Assessing the Suitability of warm mix asphalt (WMA) Technology Using Tribological and Performance Characteristics
103	Intelligent system for computer assisted diagnosis (CAD) OF CANINE MAMMARY TUMORS

104	Research & Experiment in the area of advanced data structures and methodologies to represent and process large terrain datasets for efficient rendering
105	Multilingual document summarization in quasi stationary environment
106	Investigation risk factors and predicting complications in COVID-19 patients with Machine Learning Algorithms
107	A Robust medical image forensics system for smart healthcare
108	Resource-optimized fog computing for smart healthcare application in IoT-enable heterogeneous networks
109	Developing Improved Algorithms for Intelligent Video Surveillance
110	An Artificial Intelligence supported Intrusion Detection & Behavior Monitoring System for Crucial Data Servers against Novel Cyber Attacks
111	Investigation and development of mobile sink based intelligent data routing scheme for IoT-enable wireless sensor networks
112	Optimal transport derivations in regularized wasserstein space for non-linear & linear transformations of deep neural networks
113	Development of text based matching algorithms for bartering software
114	Incorporating Intelligence in Email System
115	Development of an energy –efficient wireless sensor networks for precision agriculture
116	Design Modelling and simulation of linear Induction Drive for Propulsion Applications
117	Development of a real-time cyber-attack detection module and its hardware-in-loop testing for an integrated power network
118	Design and analysis of linear induction moter drive for electromagnetic aircraft launching system
119	Mix energy Source Electric Vehicle Charging System Design and its Impact on Indian Smart –distribution - grid
120	Design, development and demostration of solar-IV integrated on board and off board electric rickshaw charging Infrastructure
121	Demonstrable Prototype of IoT enable DC/AC smart grid at Library Building, IIT(BHU), Varanasi with solar photovoltaic Integration
122	Data-driven battery sizing for standalone solar electric drive system for river boats
123	Design and development of Cybersecured Smart Power interface for Energy-Local Area Network (ELAN)
124	Development of a standalone solar electric drive system for boats
125	Li-ion based inverter for household appliances
126	Construction of Non-monotonic Lyapunov Function for the Dynamical Systems governed by differential inclusions
127	Virtual synchronous generator for microgrid applications
128	Output feed back controller design for linear parameter varying systems
129	Prototype development of fuel cell and photovoltaic based innovative hybrid DC power pack for remote application
130	Development of Cyber Resilient Protection scheme for AC Microgrid
131	Development of energy efficient and compact electric drive train for fuel cell electric vehicle
132	Reliability evaluation and performance enhancement of grid integrated wind-solar-EV hybrid renewable energy systems
133	Prospects of power converters for integration of electric vehicle charging stations witj the existing distribution system in India

134	Physical Layer Security for LTE based Wireless Networks to increase Jamming Margins
135	Electromagnetic Analysis, Design and Simulation of Dual Frequency (S- and C-band) Relativistic Backward wave Oscillator – A HPM Source
136	Design Investigations of High Power MM Wave W Band Gyatron
137	Indo- South korea Joint Network Center for Environmental Cyber Physical Systems
138	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
139	Development of Polymer and Quantum Dots Blended Tandem Solar Cells Using Low Cost Solution Processed Method
140	Development of Simulation Software for Spintronic Device & Circuit Simulation
141	Design development and characterization of Low loss frequency selective metamaterial waveguide coupler and antenna for 5 G Applications
142	Analysis and design of sub-millimeter wave tuneable gyrotron for DNP- NMR Spectroscopy application
143	Implementation of Terahertz Band Communication for Next generation wireless Networks
144	Design and development of cognitive small-world LPWAN for Internet of things towards health monitoring
145	Development of Hand Telerehabilitation Platform for Diagnostic and Therapeutic Purposes in Physiotherapy
146	Metasurface-based Sensor devices for mm-wave and sub-terahertz Applications
147	Design and Development of High Gain, Wide Bandwidth Beam Steered Reconfigurable Reflectarray Antennas for 5Gmm Wave Applications
148	Design and Development of Composition engineered toxic free organic inorganic Perovskite Quantum Dots Based Flexible Spectrum Tunable Photodetectors
149	“Design and development of miniaturized pattern/frequency reconfigurable MIMO antennas and its performance improvement using artificial electromagnetic material”
150	Study, Design and Implementation of Frequency Selective Metasurfaces for Microwave Applications
151	Electromagnetic Analysis, Design and simulation of an X-band Gyro-Twyston Amplifier
152	Cognitive Linguistic study of perception verbs in Hindi and English: In the context of machine translation
153	Integrative Environment View (IEV) for Sustainable Hyper Local Temporal & Spatial Environmental Pollution Monitoring : Case of Air Quality in Varanasi City
154	Analytical study of sansad adarsh gram yojana of JAyapur and Nagapur in Varanasi District
155	Language Communicator Tool for End Users
156	NRDC Innovation Facilitation Centre
157	Study and analysis of interfacial cracks in composite media
158	Schwarz waveform relaxation methods for singularly Perturbed Parabolic Problems
159	Study and analysis of Mathematical Models of Moving Boundry Problems
160	Approximation methods for problems in fractional calculus of variations

161	Existence and Stability analysis of periodic solution of variable time impulsive neural network
162	Pseudo-differential operators in partial differential equations, distribution and machine learning?
163	Wavelets Adaptive Schemes for Singular Integral Equations
164	On Developing Polynomial-time Interior-Point Methods for Robust Multiobjective Convex Optimization Problems
165	Robust Adaptive Mesh Methods for Singularly Perturbed Problems in Ordinary and Partial Differential Equations
166	Development of solution methods for Abel's integral equations and generalized Abel's integral equation
167	Numerical methods for integral equations and differential equations by using Wavelets and operational matrix
168	On characterizing and Obtaining the Complete Efficient Solution Set of an Interval Optimization Problem under a D-Dominance and a variable Dominance Structure
169	Applications of Spectral graph theory in analyzing the structural properties of large scale networks
170	Development of ORC technology for waste heat utilization for the generation of electricity
171	Assessment of Structural Vulnerability through Characterisation of Tornado for a NPP Site
172	Assessment of Vulnerability of structures in Regard to Cyclonic Wind loads
173	Design & Development of Combined Cooling and Power Generation system
174	Development of complex Aluminium Shell Part High pressure die-casting
175	Development of an intelligent evaporative cooler for composite climate
176	Development of Optical Fibre Cable Coloring Machine
177	Prediction of Dose- Volume Histograms of Organs-at-risk in Prostate Cancer Radiation Therapy using Machine Learning
178	Pathology on a Spinning Disc
179	Technology intervention for creative economy
180	Development of Ti alloy based composites by mechanical alloying and stirrer casting route for dental applications
181	Impact of a microspray on a bio-mimicking surface
182	Effect of Jet Pulsation on Reacting Jet in Crossflow
183	3D Computational and experimental study on layer dynamics and prediction of critical power law scales in double-diffusive finger convection
184	Reactivity controlled compression ignition (RCCI) combustion engine for methanol utilization and its feasibility analysis to be adopted in hybrid electric vehicles (HEVs)
185	Photonic radiative cooler for passive sub-ambient cooling
186	Development of a Rubber based sheet Hydro forming setup
187	Development of a multiplex portable spinning disc for effective monitoring of women's health during different stages of pregnancy
188	Technology and Fabrication of Tabletop CNC Machine for Micro-Tubular Hydro forming Setup
189	Development of Sheet Hydro-forming Process for missile Components
190	Characterization and validation of Schlieren Technique for Capturing Shock Wave
191	Centre for Energy and Resources Development

192	Development of Friction Stir Welding for repair work of high temperature materials like EN-24 steel
193	Assessment of residual stress upon friction stir welding of steel
194	Localized Electricity generation through Modular Low Temperature ORC Units
195	Development of advanced nanocrystalline coatings and LASER cladding system for repair work related to HEMMS and other structural components
196	Study of tool wear in Diamond turn Mechining & Micro Machinig Process
197	Study on effect of temperature and mean stress on fatigue strength of turbine aerofoil alloy
198	Development of Mesoscale models to describe hot deformation and creep of low SFE materials
199	Chemical recycling of electronic waste for sustainable livelihoods and material consumption in India
200	Art, science and technology of traditional "Koftgari" metal work in India
201	Effect of composition and microstructure on mechanical properties of 7-9%Ni steel for LNG tanker and Naval application
202	Microstructurea tailoring to develop biocompatible Cr-Fe-Mo-Nb-Ti based high entropy alloys for medical applications
203	Development of industrial waste as mold material for sustainable development of developing countries
204	DST-INSPIRE Fellow
205	Development and structural characterization of $Bi_{2-x}Mx_{3+(y-3)/2}$ coating for protection against coolant & sensors
206	Development of Electropulsing Facility for Synthesis of Bulk Nanostructured Materials
207	Creep and corrosion behaviour of Novel MRI2300 Magnesium Alloy with Nanoparticles Addition
208	Development of Functionally Graded Armour Composites (FGACs) Materials
209	Stability of Nanostucture and Residual Stress Developed through Ultrasonic Shot Peening in Superalloy IN718 at Elevated Temp.
210	INSPIRE Faculty Award
211	Emergent phases in 2D quantum materials and Heterostructures
212	In situ electron microscopy at atomic scale for understanding nucleation growth and interfaces of omega phase
213	Role of short range ordering in designing high entropy alloys
214	Cyclic thermochemical fuel generation
215	Weaer corrosion and biocompatibility of Tantalum (Ta) coated 316 L, Stainless steel fotr Ortopedic Applications
216	Mechanical behaviour of advanced high strength steel procesed by additive manufacturing
217	Tunable surface plasmon optical sensing behaviour of M-MoS ₂ (M=Cu, Ag, Au) Alloy Nanostructures
218	Development of low cost β -Ti alloy for biomedical applications
219	In -situ microscopy study of age hardeining in dispersion strengthend cast magnesium alloys and its ex-situ correlation with mechanical propoerties
220	High performance rare earth free nanocomposites permanent magnet for advanced motor and alternative energy applications
221	Meter Scale Granite block Smectic clay barriers experiment and associated TMH modeling for Indian Pit mode reference geological Disposal System

222	Design of Protective Barrier Pillar Against Large Water Head in Underground Coal Mines
223	Landslide stability analysis in subzero environment around Kinnaur district of Himachal Pradesh, India
224	National Geotechnical Conclave on "Development of Early warning system (EAWS) for Landslide Hazard Mitigation on 21-22 March, 2019
225	Forewarning System for Landslide Prediction along Mangan and Chungthang road, Sikkim India
226	Inspire Faculty Award
227	Optimization Of capacity utilization of draglines deployed in NCL through Big data Analytics
228	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
229	Contribution of Neighboring Industries over the air quality of mining area
230	Evaluation of ground behaviour in open cart and underground excavations using TDR
231	Stability Evaluation of dump slopes & developing slope stability model for design of Long Term Stable Dump Slopes through proper benching & vegetation : Part A
232	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
233	Design and development of Micro Seismic based technique for monitoring and prediction of slope failure in Pandoh, Himachal Pradesh, India
234	Whole body Vibration Exposure on HEMM Operators in Surface Coal Mines – An Assessment of Various Contributing Factors
235	Slope stability monitoring and analysis using hyperspectral imaging
236	Development of Laboratory Scale Bio-Grout Technology for Landslide Mitigation
237	Development of prototype of early warning systems on impending goaf for underground coal mining.
238	Pharmacological evaluation of anti-diabetic effects of some natural drugs
239	Synthesis and evaluation of diverse N- functionalized heterocyclic hybrids as multi target directed ligands for neuroprotective neurorestorative therapies
240	Exploring Anti-ineffective potential of Panchagavya : Metabolomics and Proteomics Approaches
241	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
242	Discovery of novel selective inhibitors of choline acetyltransferase : Lead optimization and in vivo pharmacolinectic studies
243	Development of toolkit for prediction of blood brain-barrier permeability using deep learning to expedite CNS drug discovery
244	Safety & Efficacy of the "PL05" capsule/tablet in Animal in the treatment of gastric acidity
245	Bioluminescence based monitoring of tumor progression and treatment by apoptotic pathway
246	AMWATCH: Defining the AMR Burden of Antimicrobial Manufacturing Waste in Puducherry and Chennai
247	Pharmacology of Natural drugs in obesity and eating disorders

248	Novel Milk Exosomes for the combination therapy by using selected natural medicine (Paclitaxel & Colchicine) for the efficient management of breast cancer
249	Development of Novel Therapeutics for the Redemption from Frostbite and Burn Injury induced Chronic Pain in Military Veterans
250	Phytochemical and pharmacological evaluations of bioactivity guided fractions of medicinal plants of Tripura
251	Pharmacological Effect of novel formulation in experimental allergic encephalomyelitis rodent model
252	Development & evaluation of nanocarrier for enhanced anti-microbial activity of anacardic acid against human and plant pathogens
253	Development of novel near infrared fluorescence imaging probes for detecting amyloid beta species in eyes of Alzheimer's disease animal model
254	Evaluation of some compounds in experimental Alzheimer Disease
255	Natural Template Based Novel Neuroprotective Molecules for the management of Alzheimer's Disease
256	Dissecting brain reward circuitry and CNS comorbidities in chronic neuropathic pain
257	Self-assembled smart nano medicine for targeted therapy of advanced non-small cell lung cancer
258	Design and development of potential multifunctional molecular hybrid for the treatment of Alzheimer's disease
259	Targeting kinesins Mediated regulation of nociceptors for the Treatment of Neuropathic Pain
260	Crystal Engineering of Dapagliflozin to improve its pharmaceutical properties
261	Tailoring correlations of light using plasmonic and nano structure
262	Study of Polarimetric parameters from laser speckle
263	Multiple reversals of the Sun's polar- field and their physical causes
264	Spatially resolved digital holography polarization microscope for diagnosis applications
265	Development of perovskite oxides SrCeO ₃ and SrCeO ₄ as high temperature thermal barrier coating (TBC) material for aerospace application
266	DST/INSPIRE Faculty Award (IFA-12-PH-21)
267	IFA-12-Ph-22 DST/INSPIRE FACULTY Award/2012 INPIRE FACULTY AWARD
268	Study of Magnetospheric Wave-Particle interaction, Aurora, Airglow and Conductivities on Planets and their Satellites
269	On understanding the solar activity and preparing for space weather prediction using a state of the art dynamo model
270	Observations and Modeling of solar transients & space weather candidates
271	Electronic Structure evolution across quantum critical point in Li(Ti _{1-x} V _x) ₂ O ₄ Li _{1-x} Zn _x V ₂ O ₄
272	Collection of self-propelled particles in inhomogeneous environment : numerical & analytical Studies
273	Modeling self assembly and phase separation kinetics in the complex soft materials
274	Ramanujan Fellowship
275	Investigations of new lead free perovskite materials for solar cells

276	Tuning self assembly of fluorescent Protein Nanodots for Melanoma Skin Cancer
277	Scattering assisted imaging: Exploiting randomness of the light.
278	Analytical study of hydrodynamic theory of wet active fluid
279	Experimental study of anisotropy in nuclear charge and current distribution that results in interplay of electric and magnetic rotation in Xe nuclei
280	Active polar flock in quasi two-dimensional geometry: role of confinement and boundary condition
281	Study of quantum chaos and multipartite entanglement using quantum circuits
282	Tailoring properties by altering long and short-range structures in eco-friendly, Pb-free ferroelectric perovskite oxides for energy harvesting
283	The sun under the microscope – An integrated research activity to maximize the science return from a new generation of missions to study the sun
284	Fabrication of Cathode materials and SOFC for energy application
285	DST-INSPIRE Faculty Award (IFA-13 PH 54) understanding structure and dynamics of the Interstellar medium
286	Design and Development of Drone Mounted Optical Sensor for continuous monitoring of PM 2.5 & PM 10 in railway siding before, during and after loading operation
287	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
288	Radionuclide sensing platform based on functionalized polymer having nanochannels using accelerator
289	Investigation of Structural phase transformation in HfO ₂ thin films using X-ray absorption spectroscopy
290	Impact of Carbon Nanomaterial based Photocatalyst on Microalgae Growth and Lipid for improved Biodiesel
291	Biodegradable path for faster wound healing including diabetic ulcers using ayurvedic medicine
292	Aging studies and estimation of thermal properties of Liner Materials
293	Development of low cost sodium ion battery: Fabrication and application of NASICON based electrodes
294	Mott transistors based Neuromorphic memory device
295	Nanoscale interfacial magnetic skyrmions and its applications in memory devices
296	Fabrication of low power consuming inverted near-infra red AMOLED
297	Development of anticorrosive paints
298	Chemical modification of Gaur Gum to improve its properties
299	Low cost ammonia gas sensor based on polymer/polymer nanocomposite device formed by novel floating film transfer (FTM) technique
300	Development of nanoink for anti-counterfeit products and solution
301	Life Line Security & System
302	J.C. Bose Fellowship
303	Polymeric Nanobiohybrids for Tissue Engineering and Drug Delivery
304	Development of low voltage, low power, colloidal quantum dot light-emitting transistors for next generation display technology
305	Minimizing hysteresis in magnetic shape memory Heusler alloys for reversible magnetocaloric effect

306	Development of high performance, CMOS compatible and color selective narrow-band photodetector for high resolution imaging application
307	Development of High Te Lead Free Piezoelectric Materials for Energy Harvesting
308	3 D Bio Steeolithography for Enggineering fuctional Tissues
309	Investigation of two dimensional transition metal dichalogenides Nanostructure as Effective SERS Substrate
310	Multifunctional NANOstructured Mn/Fe doped CeCro3 for Photocatalyst and Magnetic Switching
311	Investigation of Anomalous Nernst Effect in Shape Memory Heusler Alloys
312	Harnessing the synergy of low band gap organic semiconductor and highly facile floating film transfer method for low cost efficient organic electronic devices
313	Elastocaloric effect measurement setup to study caloric effect in shape memory alloys

List of Completed Projects in IIT(BHU) in F.Y. 2021-22

Sr. No.	Title of Project
1	Development of nickel free nitrogen austenitic stainless steel for biomedical applications
2	Investigation of Glass - Ceramic for Capacitive Energy Storage Applications
3	Optimization of recovery of valuable metals from waste printed circuit boards (WPCBs) through modified hydrometallurgical route
4	Investigation of flow behaviour of pulsed sieve plate column through radiotracer based techniques

LIST OF ONGOING SCHEMES

S. No.	Title of Project
1	Pandit Madan Mohan Malviya National Mission on Teachers and Teaching 2016-17
2	Malviya Chair for Railway Technology 2015-16
3	Change in the project proposal budget post approval
4	Special Manpower Development Programme for Chips to System Design (SMDP-C2SD)2015-16
5	DIC 2015-16
6	Defence Corridor 2018-19
7	ARPIT 2019-20
8	LEAP – Phase 1 2018-19
9	FIST, SMST 2018-19
10	LEAP – Phase 2 2019-20
11	Unnat Bharat Abhiyan 2017-18
12	FIST Program 2018-19
13	FIST Program 2015-16
14	FIST Program 2015-16
15	FIST Program 2020-21
16	Technology Innovation Hub (TIH) 2019-20
17	RKVY-RAFTAR Agribusiness incubators 2019-20
18	Equipment for Coal Laboratory at IIT(BHU)
19	Establishment of MoRTH Chair at IIT(BHU) Varanasi 2020-21
20	GR Infraprojects Private Ltd. 2021-22
21	FIST Program 2021-22