

About the workshop

Engineering is a problem solving profession for the real-world, and so engineering education needs to be fundamentally practice-oriented. However, in India it is largely based on Chalk and Talk teaching of theory. Access to creative laboratory instruction is limited by high cost of equipment and instruments, and the lack of training of many teachers in state-of-art technology. So institutions resort to purchase and use of expensive commercial black-box type kits which give students limited learning outcomes, and little scope for innovation.

This hands-on workshop aims to introduce engineering faculty to extremely affordable and innovative DIY/BYO (Do-It-Yourself/Build-Your-Own) laboratory education modules, using inexpensive open source hardware and software. The knowledge gained can help them develop, maintain, and upgrade state-of-art education technologies and promote innovative, inventions and multi disciplinary R&D in emerging areas like robotics, IOT, smart manufacturing and creative design thinking.

Topics Covered :

- Promoting innovations in laboratory teaching and projects
- Design thinking for innovation, invention and entrepreneurship
- Open source hardware and software for affordable laboratory education
- Introducing Arduino microcontroller and Raspberry Pi microcomputer with applications
- Wireless networking technologies
- Low-cost CNC Machines-Design, Fabrication and Operations-Mill, Lathe, PCB machine, Laser engraver, Router
- Affordable robot arm and computer Integrated Manufacturing (CIM)
- Best practices in innovative engineering education

Facilitators

This Workshop will be conducted by internal IIT (BHU) faculty & IIITDM Kancheepuram experts.

About the Teaching Learning Centre, IIT(BHU)

A new Centre named 'Teaching Learning Centre (TLC)' was initiated by the Institute in July 2013 to strengthen the Teaching environment of the Institute & organize several programs to enhance teaching-learning processes at IIT (BHU). It covers all aspects of teaching, pedagogy, laboratory projects, assessment, course delivery, course design, e-learning, sharing best practices in teaching learning, Faculty development programs etc.

Contact

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Registration: by **April 05, 2018** on first -come -first -serve basis

Note:

1. *There is no registration fee for participants.*
2. *Refreshment & Lunch will be provided during workshop.*

This is supported by the scheme "Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT)"

Three Days

Hands-On Workshop

**Innovative Design
& Manufacturing Education**

April 07-09, 2018

PLEASE REGISTER HERE

<https://goo.gl/forms/yrm2tE6UjsqRKvLJ2>



Organized by & Venue

Teaching Learning Centre

ABLT Complex

Indian Institute of Technology

(Banaras Hindu University)

Varanasi – 221 005