



ACCELERATE  
विद्यया



# Workshop on High-End Optoelectronics Devices: Fabrication, Characterization, and Functionalization

02<sup>nd</sup> January – 08<sup>th</sup> January 2024



**Organized by**  
**Motilal Nehru National Institute of Technology Allahabad, Prayagraj-211004 U.P. India**  
**Electronics and Communication Engineering Department**

## About MNNIT Allahabad

Motilal Nehru National Institute of Technology (MNNIT) Allahabad, Prayagraj is one of the premier National Institute of Technology (NIT) in India. It is committed to achieve quality and excellence in academic pursuits. Established in 1961, as a Regional Engineering College, a joint enterprise of Government of India (GOI) and Government of Uttar Pradesh, the institute was transformed into NIT on June 26, 2002. With the enactment of NIT Act-2007 (29 to 2007), the institute has been granted the status of institution of national importance w.e.f. August 15, 2007.



## About the Department

The Department of Electronics and Communication Engineering offers courses leading to a Bachelor of Technology in ECE. It also offers Master of Technology courses in Communication System, Microelectronics and VLSI Design, and Signal Processing. Further, the department also enrolls candidates for PhD. For more details, please visit: <http://www.mnnit.ac.in/index.php/department/engineering/ece>

## About the Course

This 'KARYASHALA' is aimed to provide hands-on experience to the students primarily from universities, colleges, and private academic institutions on optoelectronics device fabrication/simulation and characterization tools. This is a skill development program on device fabrication and its characterization by using the modern tools to analyze the experimental results. The program is meant to support motivated PG and PhD level students with a strong will to excel in their scientific research pursuits.

## Contents

The workshop will cover different thin film deposition techniques. The participant will get chance to understand the design and fabrication/simulation of high-end optoelectronics devices. In this lieu, participants will be familiarized with characterization techniques of optical film i.e. UV-vis Spectroscopy, Ellipsometry, etc. Further, I-V measurement of optoelectronic devices like photodetector/solar cell/sensors, optical spectrum analyzer, tunable laser source, and experimental setup of surface plasmon resonance will be demonstrated. The participants will get opportunity to learn high-end characterization techniques such as XRD, AFM, SEM, etc.





## Eligibility

Person of Indian origin; Minimum qualification should be Post Graduate; Professors/Scientists/ Post-Doc Fellows/ Ph.D. Fellows/ Industry persons who are actively involved in research and development (R&D); Not more than 3 participants from one institute would be allowed. The maximum possible participants to attend this Karyashala is Twenty Five only.

**Preference will be given to those who has experience in Optoelectronics Devices.**

## Events

- ❖ Expert Talk
- ❖ Experimental Demonstration
- ❖ Software Demonstration
- ❖ Oral Presentation
- ❖ Hands-on Training Session
- ❖ Lab Visits

*Certificate of participation from MNNIT Allahabad will be awarded to all participants after successful completion of the course.*

For any query please write to:  
[workshopatmnnit@gmail.com](mailto:workshopatmnnit@gmail.com)

## Outcomes

- There are sessions for hands on experiments and visits to the research facilities and laboratories.
- Participants will be able to design & learn the fabrication/simulation of high-end optoelectronic devices through this SERB Karyashala at MNNIT Allahabad.

### Chief Patron

**Prof. Rama Shanker Verma**

Director, MNNIT Allahabad

### Patron

**Prof. Rajeev Tripathi**

ECED, MNNIT Allahabad

### Karyashala Coordinator

**Dr. Deepak Punetha**

ECED, MNNIT Allahabad

**Prof. Yogendra Kumar Prajapati**

ECED, MNNIT Allahabad

### Head of the Department

**Prof. Ram Awadh Mishra**

ECED, MNNIT Allahabad

## Fee Payment

All the selected candidates need to pay the participation fees **Rs 2,000/-** for the workshop after announcing the shortlisting. The account details for the payment will be notified to shortlisted candidates through mail.

**Boarding, lodging, and travel support (shortest route for Bus/Train [3<sup>rd</sup> AC]) will be provided to all the shortlisted participants.**

### Registration Link \*

<https://docs.google.com/forms/d/1H38OkNaUARrdFxo6SR5sSjGSYCKqcKdIIK-hxGpsJMQ/edit>



### Important Dates

Registration opens: **Nov 28<sup>th</sup>, 2023**

Last date for registration: **Dec 10<sup>th</sup>, 2023**

**Date of Shortlisting Announcement: Dec 12<sup>th</sup>, 2023**

**Last date of Fee Payment: Dec 18<sup>th</sup>, 2023**

\*Registration process require scan copy of passport size photo, institutional ID, highest degree/certificates. Selection will be on first come first serve basis.

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