



About IIIT Ranchi

Indian Institute of Information Technology Ranchi is an Institute of National Importance by an act of parliament with the Hon'ble President as a visitor of the Institute. IIIT Ranchi is funded by the Ministry of Education (MoE), Government of India, and HTE & SD, Government of Jharkhand along with the industry partners Central Coalfield Limited (CCL), Tata Consultancy Services (TCS) and Tata Technologies. IIIT Ranchi is part of the Government of India's initiative to set up new Indian Institutes of Information Technology (IIITs) on a Public Private Partnership Model. The major objective was to set up a model of education, which can produce best-in-class human resources in IT and harnessing the multidimensional facets of information technology in various domains. IIIT Ranchi is offering two undergraduate programs, B.Tech (Honours) Computer Science and Engineering and B. Tech (Honours) Electronics and Communications Engineering, M.Tech, and Ph.D. programs. IIIT Ranchi is committed to academic excellence and good governance. Presently, the areas of expertise of the departments are broadly in Microwaves & Antenna, Optical Communication and Photonics, Communication Engineering, Digital Signal and Image Processing, VLSI, Software Engineering, Data Science, Bio-informatics, IoT, Machine Learning, and Artificial Intelligence. For more information, please visit <https://iiitranchi.ac.in/>.



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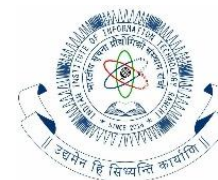


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Online International Workshop on

Photonics and Optoelectronics Devices

Jan. 26th – Jan. 30th 2024



ORGANIZED BY

Indian Institute of Information Technology Ranchi

Ranchi-834010, Jharkhand
INDIA

www.iiitranchi.ac.in

Objective of Workshop

The objective of the Workshop on Photonics and Optoelectronics Devices is to empower educators with in-depth knowledge, hands-on skills, and pedagogical strategies essential for effective teaching and research in the dynamic field of photonics and optoelectronics. This program aims to:

Enhance Subject Expertise: Equip faculty members with a comprehensive understanding of fundamental principles, advanced concepts, and emerging trends in photonics and optoelectronics devices.

Hands-on Learning: Provide participants with practical experience through online Hands-on training and demonstrations, fostering a deeper appreciation for experimental aspects and application-oriented approaches.

Curriculum Development: Assist educators in integrating cutting-edge content into their academic curricula, ensuring alignment with industry demands and technological advancements in photonics.

Research Promotion: Encourage and support faculty members to undertake impactful research in photonics and optoelectronics, fostering collaboration with industry and research institutions.

Pedagogical Innovation: Explore and share effective teaching methodologies, instructional tools, and assessment strategies tailored to engage and inspire students in the field of photonics.

Networking and Collaboration: Facilitate networking opportunities among participants, promoting collaboration, knowledge exchange, and the establishment of a community of practice in photonics education.

Professional Development: Empower faculty members with the skills and knowledge necessary to mentor students, guide research projects, and contribute to the professional development of colleagues within their institutions.

By the end of the Faculty Development Programme, participants will be equipped with the expertise and resources needed to elevate the quality of photonics and optoelectronics education, fostering innovation, research, and academic excellence within their respective institutions.

About the Workshop

- To understand the basics of Photonics and Optoelectronics Devices.
- Hands-on-tutorial on programming and simulation software.
- To provide a platform for researchers and students to network and exchange ideas with peers and experts.
- To promote collaboration and partnerships among academia, industry, and government in the field of quantum computing.
- To inspire and motivate the next generation of Photonics and Optoelectronics Devices researchers and professionals.

Course Content

Emerging Materials and Innovative Device Concepts:

- III-V and 2D Material Optoelectronic Devices.
- Nanophotonics and Bio-photonics
- Optical Sensors

Modeling and Simulation of Photonic Devices:

- Material Simulation.
- Device Simulation & Modeling of Photonic Integrated Circuit

Semiconductor Process and Manufacturing:

- Device Growth and Challenges.

Topics for hands-on training sessions:

- Quantum Technology and Spin Qubits Semiconductor Devices using **QTCAD**
- Nanoscale simulation on Quantum transport in material and nanodevices using **Nanodcal**.
- Integrated Quantum photonics (IQP) simulation using **Ansys-Lumerical**.
- Nanoelectronic Semiconductor Device Simulation using **SILCAVO TCAD**.
- Modeling Overview on Optoelectronic Devices and Silicon Photonics using **COMSOL**

OUR SPEAKERS:

Internationally acclaimed faculty members from premier institutions like IITs, NITs, IIITs, CSIR labs, Central Universities, and abroad.

Targeted Participants

UG/PG/MS students, Ph.D. students/research scholars/project students, staff/faculty members, and industry professionals working/planning to work in the future in the area of Photonics and Optoelectronics Devices domain. The participants having Electronics and Communication Engineering, Electrical Engineering, Computer Science and Engineering, or related backgrounds will benefit from this course.

Registration Details

- A **certificate** shall be issued to the participants on successful completion of the workshop,
- **Interested candidates** should fill out the **google form** at the earliest



<https://forms.gle/zQefvn5qDgAGGCDBA>

Important dates:

Last date for Registration : 23 Jan. 2024
Email to participants : 24 Jan. 2024

Registration Fees **NIL**

Seat Limited
First Come First Serve Basis

Contact Us

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