

About Electronics & ICT Academy at



PDPM IIITDM Jabalpur

The Ministry of Electronics and Information Technology (MeitY), Government of India has instituted Electronics and ICT Academies in the year 2015. In the second phase, the academy at PDPM IIITDM Jabalpur aims at scalable training programmes in niche areas of Electronics and ICT for the development of the required knowledge base, skills and tools to unleash the talent of the Indian population. The Academy is identified by the MeitY as a hub of activities for capacity building through training, internships, research, and consultancy programmes in fundamental and advanced topics in electronics, information and communication technologies, the Academy conducts customized academic programmes for students, corporate sectors and researchers.

About IIITM Gwalior

Atal Bihari Vajpayee Indian Institute of Information Technology and Management (ABV-IIITM) Gwalior, established in 1997, is a premier autonomous institute recognized as an Institute of National Importance by the Government of India. Situated on a 160-acre campus near Gwalior Fort, it offers undergraduate, postgraduate, and doctoral programs in areas like Electrical and Electronics Engineering, VLSI, Computer Science, Information Technology, Management, and Engineering Sciences. The institute emphasizes interdisciplinary learning, integrating IT and management education, and is known for its cutting-edge research and strong industry connections.

Faculty Development Programme

On

Evolution and Trends in Nanoscale Devices and Packaging Technology

The primary objective of this course is to provide comprehensive insight into the evolution, current advancements, and future directions of nanoscale semiconductor devices and their packaging technologies. It aims to enhance understanding of the scientific and engineering challenges related to device miniaturization, integration, and performance enhancement at the nanoscale. Participants will explore emerging device technologies, innovative materials, and advanced packaging methods, including wafer-level, 3D integration, and heterogeneous packaging techniques. The course also intends to equip learners with the analytical tools, machine learning approaches and practical knowledge necessary to address reliability, thermal management, and signal integrity issues inherent in nanoscale device packaging, fostering preparedness for industry and research-oriented challenges in semiconductor technology.

Important Dates

FDP Dates: September 4-11, 2025

Last Date of Online Registration: 03/09/2025

Coordinators

Dr. Pankaj Sharma, IIITDM Jabalpur

pankaj.sharma@iiitdmj.ac.in

Dr. Somesh Kumar, IIITM Gwalior

somesh@iiitm.ac.in

Dr. Alok Kamal, IIITM Gwalior

Contact us

academy@iiitdmj.ac.in, eict@iiitdm.ac.in

Phone No: 8770958231

(Mr Ashvarya Agrawal)

Faculty Development Programme

On

Evolution and Trends in Nanoscale Devices and Packaging Technology

September 4-11, 2025 (Online mode)

Jointly Organized by



विश्वजीवनमूर्तं ज्ञानम्

IIITM Gwalior



and



Electronics and ICT Academy

IIITDM Jabalpur

*An Initiative of the Ministry of
Electronics and Information Technology,
Government of India*



Faculty Development Programme
On
Evolution and Trends in Nanoscale Devices
and Packaging Technology

September 4-11, 2025 (Online mode)

Resource Persons

- Prof. Yogesh Singh Chauhan, IIT Kanpur
- Prof. Pramod Kumar Tiwari, IIT Patna
- Prof. Santosh Kumar Vishvakarma, IIT Indore
- Prof. S. P. Tiwari, IIT Jodhpur
- Dr. Somesh Kumar, ABV-IIITM Gwalior
- Dr. Gaurav Kaushal, ABV-IIITM Gwalior
- Prof. Rohit Sharma, IIT Ropar
- Dr. Ambika Prasad, IIT Jammu
- Prof. Pankaj Srivastava, ABV-IIITM Gwalior
- Dr. Alok Kamal, ABV-IIITM Gwalior
- Dr. Rahul Kumar, ANSYS
- Dr. Maanvi Bhatnagar, NDS Infoserv, Mumbai

Technical Industry Partners

- M/S Vidhilekha Soft Sol. Pvt. Ltd., Gurgaon
- Ansys, India

Coordinators

Dr. Pankaj Sharma

Assistant Professor, IIITDM Jabalpur
pankaj.sharma@iiitdmj.ac.in

Dr. Somesh Kumar

Assistant Professor, IIITM Gwalior
somesh@iiitm.ac.in

Dr. Alok Kamal

Assistant Professor, IIITM Gwalior

Course Contents

- Overview of Scaling Trends and Nanoscale Challenges
- Emerging Nanoscale Devices
- Advanced Fabrication Techniques
- Defect detection at sub-10nm nodes
- Material Innovations in Devices
- Trends in IC Packaging Technologies
- Reliability, Thermal & Signal Integrity
- RLC Modeling and Performance Metrics
- Machine Learning in VLSI and Packaging
- EDA Tools and Simulation Techniques
- Future Trends and Roadmaps

Hands-On Sessions

- Deep Learning for Transmission Line Fault Detection: Hands-on Implementation with Python and MATLAB Simulink
- Device Simulation on the TCAD tool.
- Interconnect Simulation on Ansys HFSS tool.
- Material Atomic Simulations on Quantum ATK tools.
- Circuit Simulation on Cadence

Programme Features

- Rigorous learning to gain theoretical knowledge on Nanoscale Devices and Packaging Technology.
- Opportunities to connect with experts in the field.
- Instructor-led rigorous hands-on sessions with Online (live streaming) sessions.

- Certificate on successful completion with full access to the course material.

Who can attend: Suitable for faculty from colleges, universities, and technical and professional institutes can attend. Students, fresh graduates, researchers, and industry personnel working in allied disciplines can also attend.

Registration Details

- Registration link – Please fill out registration using the following link:
<https://forms.gle/3UV2mKYEGsjdwgV76>
- **Registration fee:** INR 500/ for online participation
- **Last Date for Registration:** 03/09/2025

Online Payment Details

- **Internet banking**

Beneficiary Name	PDPM IIITDM Jabalpur
Bank Name	Indian Bank
A/C No.	50018692852
IFSC Code	IDIB000M694

- **UPI ID:** iiitdmj@indianbk

- **QR Code:**

