

Online Faculty Development Programme on

Advanced Semiconductor and Packaging Technology

June 30 - July 09, 2025



Jointly organized by Electronics and ICT Academies
Established by the Ministry of Electronics and Information Technology, Govt. of India

IIITDM Jabalpur



IIT Guwahati



IIT Kanpur



IIT Roorkee



MNIT Jaipur



NIT Patna



NIT Warangal



Objective (Electronics & ICT Academy-Phase II)

1. To conduct specialized FDPs for faculty/mentor training in line with the vision of MeitY by promoting emerging areas of technology and other high-priority areas that are pillars of both the "Make in India" and the "Digital India" programs.
2. To promote synergy and collaboration with industry, academia, universities and other institutions of learning, especially in emerging technology areas.
3. To support the National Policy on Electronics 2019 (NPE 2019) which envisions positioning India as a global hub for ESDM sector, including MeitY Schemes/policies such as Programme for Semiconductors and Display Fab Ecosystem; India AI; National Programme on AI, Production Linked Incentive Scheme for IT Hardware & Large-Scale Electronics Manufacturing; EMC; SPECS; Chips to System (C2S); etc.
4. To promote standardization of FDPs through Joint Faculty Development Programmes.
5. To support the vision of the National Education Policy (NEP 2020), which mandates that Indian educators go through at least 50 hours in professional development programmes per year.
6. To design, develop & deliver specialized FDPs on emerging technologies/ niche areas/ specialized modules for specific research areas for Faculty in Higher Education Institutions (HEI), besides FDPs on multi-disciplinary areas connected with ICT tools and technologies and other digital hybrid domains, covering a wide spectrum of Engineering, and non-engineering colleges, polytechnics, ITIs, and PGT educators.

Joint-Principal Coordinator

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Principal Coordinator

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An intensive 40 hours Faculty Development Programme in online mode is being organized for faculty and research students of engineering and technological institutions. It is also open to working professionals from industry/organizations. The main theme of the training program will be oriented around Advanced Semiconductor and Packaging Technology. **The programme will run between 4-8 PM every day.**

Course Outcomes

- Ability to analyze and simulate packaging related thermal and electrical issues
- Skill to apply FEM tools for evaluating thermal dissipation
- Understand interconnection technologies and manufacturing steps
- Develop expertise in reliability testing and identifying failure modes
- Solving complex packaging problems using software and lab techniques
- Gain insights into cutting-edge packaging advancements
- Translate theoretical knowledge into practical engineering solutions

Focus Areas

- Semiconductor packaging materials and technologies
- Electrical and thermal design considerations
- TCAD and ANSYS-based simulation methods
- High-density substrates and interconnections
- Reliability analysis and failure mechanisms
- Advanced packaging techniques (3D, copackaged optics)
- Hands-on experiments and real-time problem solving

Objectives of the Course

- Provide in-depth knowledge of semiconductor packaging technologies.
- Familiarize participants with electrical, thermal, and reliability design of IC packages.
- Demonstrate TCAD, FEM, and ANSYS tools for simulation and modeling.
- Explore challenges in underfill flow, heat dissipation, and fatigue failures.
- Develop practical skills through hands-on lab problems and simulations.
- Understand advanced topics like 3D, fanout, and co-packaged optics.
- Bridge the gap between academic understanding and industry-level applications

Resource Persons

- Prof. Sanjeev Manhas, IIT Roorkee
- Dr. Pradeep Dixit, IIT Bombay

Registration Link: <https://forms.gle/jPV7s6f7a1At5r6e6>

Last Date of Registration: June 27, 2025

Beneficiary Name -PDPM IIITDM Jabalpur
Bank Name - INDIAN BANK
A/C No. -50018692852
IFSC Code - IDIB000M694

Certification Fee: Academic (Faculty/Students): ₹ 500/-
Industry Professionals/Others: ₹ 1500/-
The fee covers course material and certification charges.



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