INTRODUCTION TO DEVICE AND SYSTEMS PACKAGING

September 23rd – December 16th 2023

Website: ***https://crest.bits-pilani.ac.in/pdc***

As India begins its long-awaited journey in semiconductors and packaging, India needs to acquire the state-of-the-art knowledge to bring itself to global level. Integrated systems packaging is becoming more valuable than either semiconductors or packaging as Moore's Law benefits slow down. This is the focus of the course. It covers 17 core semiconductor, packaging and system technologies and four applications of these to computing, 5G communications, automotive, and others. This course is based on integrated semiconductors and packaging R&D and a textbook by Prof. Rao Tummala and his Georgia Tech Team in the USA - Fundamentals of Device and Systems Packaging (McGraw-Hill, 2019). It will be offered online as a Professional development course to serve the emerging needs of Indian semiconductors and packaging community, consistent with ISM initiative by the Government of India.

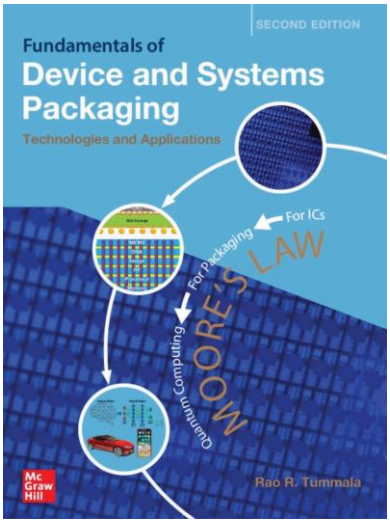
- **For Industry Engineers, Academic Faculty, and postgraduate students.**
- **Taught by Global Experts. Participation certificate will be issued to each student for the courses taken.**
- **Book and course content same.**
- **Each student receives a copy of the textbook provided one-time additional fee (Rs. 2000) is paid.**
- **40 Hours of teaching over three months.**
- **Faculty, Students and Engineers can choose selective topics by paying for each class.**

- Introduction to Device and Systems Packaging
  Prof. Rao R. Tummala, Georgia Tech
- Introduction to Devices
  Prof. Abhisek Dixit, IIT Delhi
- Fundamentals of Electrical Design
  Prof. Madhavan Swaminathan, Penn State
- Fundamentals of Thermal Technologies
  Prof. Anandaroop Bhattacharya, IIT Kharagpur
- Fundamentals of Thermo-mechanical Reliability
  Prof. Ganesh Subbarayan, Purdue University
- Fundamentals of Package Materials
  Dr. Ravi Bhatkal, MacDermid Alpha India
- Fundamentals of Package Substrates
  Dr. Venky Sundaram, 3D System Scaling LLC
- Fundamentals of Passive Components and Their Integration
  Prof. Raj Pulugurtha, Florida International University
- Fundamentals of Chip-to-Package Interconnect. & Assembly
  Prof. Vanessa Smet, Georgia Tech
- Fundamentals of Embedded & Fan Out Packaging
  Dr. Beth Keser, Intel
- Fundamentals of 3D Packaging With and without TSV
  Dr. Siddharth Ravichandran, Chipletz
- Fundamentals of RF and Millimeter-wave Packaging
  Prof. Emmanouil M Tentzeris, Georgia Tech
- Fundamentals of Opto-electronics packaging
  Dr. Ajey Jacobs, USC
- Fundamentals of MEMS and Sensors packaging
  Prof. Venkatesh KP Rao, BITS Pilani
- Fundamentals of Encapsulation, Molding, & Sealing
  Dr. Jack Moon, Georgia Tech
- Fundamentals of Printed Wiring Boards
  Dr. Sundar Kamath, Sanmina
- Fundamentals of Board Assembly
  Prof. Nilesh Badwe, IIT Kanpur
- Automotive electronics
  Prof. Kaushik Basu, IISc
- Computing Systems
  Dr. Ravi Mahajan, Intel
- Flexible Electronics
  Prof. S. Sundar Kumar Iyer, IIT Kanpur
- Memory Packaging & Manufacturing
  Dr. Gokul Kumar, Micron

- Class Duration: Each class is about 2 hours followed by 30 min. discussion
- Class Timing: Classes start at 7.30PM IST on Saturdays and Sundays
- A total of 21 classes over three months.

For details (course structure, schedule and fees) please visit:

https://crest.bits-pilani.ac.in/pdc



For more details, please contact

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