

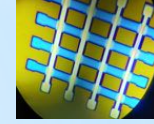
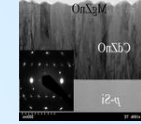
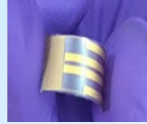
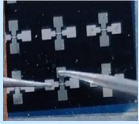


# VLSI and Nanotechnology in Energy, Environment, and Neuromorphic Computation

Organized by

**Centre for Advanced Electronics (CAE)**  
**Indian Institute of Technology Indore**

December 21-23, 2020



## Course Overview

This short term course (STC) will cover topics in nanotechnology for next-generation applications in electronics, photonics, memory technologies, biochemical sensors, solar cells, energy storage and converters for the advancement of knowledge. This brings together expertise from engineers/scientists in different premier institutes in the country and abroad. This STC is designed to give an exposure to design of experiments, material growth, characterizations and device/system fabrication and system packaging and integration. This course is aimed to bring together engineers, technologists, scientists and researchers through academic training and learning activities to augment and expand on acquired knowledge and encourage in-depth discussions through tutorials to prepare for research-led activities. This STC is in line with various GoI initiatives such as Make in India, NITI Aayog, Aatmanirbhar Bharat, Digital India so on and so forth.

## Course Details

- Module 1: Fundamentals and advances in nanotechnology
- Module 2: Design of experiments, growth, characterization, cleanroom processing and fabrication
- Module 3: Nanotechnology in advanced memory neuromorphic computation
- Module 4: MQWs and plasmonics in solar cells
- Module 5: Nano-scale materials for biochemical sensors
- Module 6: Advances in nanotechnology for energy storage and hybrid electric vehicles
- Module 7: Fundamentals and advances in basics of applications in beyond 5G communications
- Module 8: IoT applications of LEDs and photodiodes
- Module 9: On-chip devices for optical fibre communication and optical interconnects
- Module 10: Nanofabrication of advanced semiconductor devices and advanced packaging techniques



**Subramanian S. Iyer**  
University of California, Los Angeles, USA



**Samit Kumar Ray**  
Director, S. N. Bose National Center for Basic Sciences, Kolkata



**Manijeh Razeghi**  
Northwestern University, USA



**Sebastian Lourduoss**  
KTH-Royal Institute of Technology, Sweden

## Distinguished Speakers



**Myo Than Htay**  
Shinshu University, Japan



**Yogesh S. Chouhan**  
IIT Kanpur



**Mukesh Kumar**  
IIT Indore



**Shaibal Mukherjee**  
IIT Indore



**Vimal Bhatia**  
IIT Indore



**S. K. Vishvakarma**  
IIT Indore



**Manan Suri**  
IIT Delhi



**Apurba K. Das**  
IIT Indore



**Srimanta Pakhira**  
IIT Indore

## Course Fees

No registration fee for faculty members from TEQIP institutes

### Participants from non-TEQIP institutes

- Rs. 10,000\* (for industry personnel)
- Rs. 5,000\* (for faculty / scientist)
- Rs. 2,000\* (for student)

\*inclusive of service tax

## Mode of Payment

### For Online Payment

<http://www.iiti.ac.in/page/e-payments>

### Bank Transfer

Beneficiary Name: Registrar IIT Indore  
Bank Name: Canara bank  
Branch: IIT Indore, Khandwa Road, Simrol, Indore  
Account number: 1476101027440  
IFS Code: CNRB0006223  
SWIFT Code/BIC: CNRBINBBISG

## Important Information

The soft copy of completely filled registration form (along with Online payment receipt for the course fee) should be sent to the course coordinator on or before **December 19, 2020**.

## Course Registration

- ❖ Number of seats are limited. **There is no registration fee for faculty members from TEQIP affiliated institutes.**
- ❖ Online link will be provided for the registered participants prior to the STC.
- ❖ Certificates will be issued for the registered participants.
- ❖ All relevant queries should be directed through e-mail to: [shaibal@iiti.ac.in](mailto:shaibal@iiti.ac.in)

## Course Coordinator

Dr. Shaibal Mukherjee  
Associate Professor,  
Centre for Advanced Electronics (CAE),  
Indian Institute of Technology Indore,  
Madhya Pradesh 453552, India  
Website: <http://people.iiti.ac.in/~shaibal/index.php>  
Email: [shaibal@iiti.ac.in](mailto:shaibal@iiti.ac.in)



## REGISTRATION FORM (Please fill and send through e-mail)

Name :

Designation:

Institution/Organization:

Address:

Are you a faculty member from TEQIP Institute? (Yes or No)

E-mail id:

Phone/Mobile No.:

Payment details

(For participants other than a faculty member from TEQIP Institute)

Bank Name:

Transaction reference:

Amount transferred:

Date of transaction:

Any other relevant information:

Signature of the applicant with date