

## Schedule of Talks

- 23/03/2021  
Session-1: 11.00 - 13.00  
Prof. Tarun Kanti Bhattacharyya  
Session-2: 14.30 - 16.00  
Prof. Arup Samanta  
Session-3: 16.15 - 18.00  
Prof. Chandra Shekhar Sharma
- 24/03/2021  
Session-1: 10.00 - 10.45  
Prof. Rinky Sha  
Session-2: 11.00 - 12.30  
Prof. Swati Ghosh Acharyya  
Session-3: 14.30 - 16.00  
Prof. Rajat Mahapatra
- 25/03/2021  
Session-1: 10.00 - 11.30  
Prof. Amit Acharyya  
Session-2: 12.00 - 13.30  
Prof. Saptarshi Majumdar  
Session-3: 14.30 - 16.00  
Prof. P. Sampath Kumar

## Registration Procedure

- Registration Link
- Confirmation to the candidates will be intimated through mail.
- The number of participants is restricted to 100.
- The participants will be selected in First-Come-First-Serve basis.
- The participants will be provided E-certificates on attending the workshop.

## Registration Fees

- IIIT Kalyani Students: INR 200
- Students/Faculty from Academic Institutes: INR 1000
- Industry persons: INR 3000

## Fees Transfer

- Account Name: CONTINUING EDUCATION PROGRAMME (CEP) IIIT KALYANI
- Account Number: 40031861091
- IFSC Code: SBIN0006701

## Contact

Workshop Coordinator: Dr. Rinky Sha  
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CEP In-charge: Dr. Sanjoy Pratihari  
Email: sanjoy@iiitkalyani.ac.in

## Important Dates

Last date of registration: 15/03/2021  
Intimation to the participants: 17/03/2021  
Workshop dates: 23/03/2021 – 25/03/2021

## How to Attend

The session links will be shared with the participants in time of registration confirmation over email on 17/03/2021.



# On-line Workshop on Nano-electronic Devices and their Applications

March 23-25, 2021



Organized by

**Indian Institute  
of  
Information Technology Kalyani**

WEBEL IT Park, B-14, Near Buddha Park  
P.O. Kalyani, Nadia, PIN - 741235, West Bengal  
India

[www.iiitkalyani.ac.in](http://www.iiitkalyani.ac.in)

## About IIIT Kalyani

The Indian Institute of Information Technology Kalyani has been setup with an objective to produce best-in-class human resources in IT and to harness the multidimensional facets of IT in various domains. IIIT Kalyani strives to evolve into a world-class academic institution with the highest quality of education and research facilities and produce industry ready IT graduates to meet the industry demands. The institute will act as a catalyst in fostering an innovative entrepreneur-focused ecosystem to ensure that new products, solutions and IP are created in the State taking advantage of the intellectual capital of the State.

IIIT Kalyani has been set up at Kalyani, West Bengal by Government of India (MHRD), Government of West Bengal and industry partners. The institute is run by the Board of Governors of IIIT Kalyani whose members include the representatives of Government of India (MHRD), Government of West Bengal, industry partners and eminent people from academia, industry and civil society. IIIT Kalyani has been attributed the status of Institute of National Importance (INI) by the parliament of India in August, 2017.

## Theme of the Workshop

Rapid advancement of living standards and ever-increasing environmental pollution compel us to pursue a healthy life. Therefore, a new trend towards development of novel, easy-to-use, economical sensors that can be directly used for on-site monitoring of analytes in environmental monitoring or point-of-care applications has gained extensive interest to both academics and industries. On the other side, fast depletion of fossil fuels necessitate the use of sustainable and clean energy storage devices like supercapacitors, batteries.

Presently demand for low power devices such as memories, exhibiting a high speed with brilliant flexibility has increased tremendously. However, a huge gap still exists between the amount of data created and existing data storage space available, which needs to be filled. Hence, there is an urgent requirement for a promising alternative, which can effectively replace the current traditional technology not only in terms of device performance, but also offer additional advantages like flexibility and versatility. Memristors, in this regard are promising devices which are well suitable for numerous applications like artificial intelligence, logic gates, neuromorphic systems, memories etc. due to their simple device structure, nano-scaled device dimensions, switching endurance, CMOS compatibility and high packaging density. In contrast to traditional memories like flash, DRAM etc. memristors based memories have been extensively studied for next-generation non-volatile memory applications. A diversity of nanomaterials of various structures, chemical compositions with desirable surface properties, crystallographic orientations etc. had led to their widespread use in flexible electronics, sensors, energy storage and memory devices applications.

## Objectives

- To highlight the current advancements in the fabrication of nanomaterials-based sensors, energy and memory devices.
- To build research capacity in the concerned field to serve the industry needs.

## Target Audiences

- Scientists, Researchers (M.Tech & PhD students), Industry Professionals, and Faculty members from various Institutes.

## Resource Persons

- **Prof. Tarun Kanti Bhattacharyya**, Electronics and Electrical Communication Engineering, IIT Kharagpur  
**Topic:** Nano-sensors and actuators
- **Prof. Arup Samanta**, Assistant Professor, Department of Physics, IIT, Roorkee  
**Topic:** Deep dopant technology for room temperature single atom transistor
- **Prof. Chandra Shekhar Sharma**, Associate Professor, Chemical Engineering, IIT Hyderabad  
**Topic:** Candle Soot Nanocarbon to Power Electric Vehicles
- **Prof. Swati Ghosh Acharyya**, Associate Professor, School of Engineering Sciences and Technology, University of Hyderabad  
**Topic:** Indigenous synthesis of graphene and its application for the protection of industrial components
- **Prof. Rajat Mahapatra**, Electronics and Communication Engineering, NIT Durgapur  
**Topic:** Flexible RRAM
- **Prof. Amit Acharyya**, Associate Professor, Electrical Engineering, IIT, Hyderabad  
**Topic:** IOT for smart healthcare
- **Prof. Saptarshi Majumdar**, Chemical Engineering, IIT, Hyderabad  
**Topic:** Hovering Around Polymers: A Journey in Multi-scale Engineering
- **Prof. P. Sampath Kumar**, Assistant Professor, Chemical Engineering, NIT Warangal  
**Topic:** Supercapacitors based on binary and ternary nanocomposites: Some approaches, challenges and opportunities