



## 1<sup>st</sup> Bilateral Meeting

On

## Smart Materials for Energy and Environmental Technology (Smart MEET-2022)

Jointly Organized by

Institute of Nano Science and Technology (INST), Mohali  
&  
Central Scientific Instruments Organisation (CSIR-CSIO), Chandigarh

**Date: 25<sup>th</sup> March, 2022**

**Venue: INST Auditorium, Mohali**

## Scope of the Event

Materials & Technologies for Energy and Environmental remediation

- Energy Harvesting Materials and Devices
- Thin Films and Smart Coatings
- Polymer based Sensors & Actuators
- Waste to Wealth Creation
- Organic Frameworks/Functional Porous Materials
- Technology for Sensing Environmental Pollutants

## About INST, Mohali

Institute of Nano Science and Technology (INST), an autonomous institution of the Department of Science and Technology (DST), Government of India, is dedicated towards addressing the challenges related to Nanoscience and Nanotechnology. INST is at the forefront of interdisciplinary research accompanied by the development of technologies to address problems in the field of environment, energy, quantum materials, nanoelectronics, nanobiotechnology, soft nanostructures and chemical biology. It has made tremendous contributions towards the progress and promotion of nanoscience and nanotechnology in the country.

## About CSIR-CSIO

CSIR-CSIO is a multi-disciplinary organisation having well equipped laboratories and expertise in the area of Micro-nano optics, Advanced materials & manufacturing, Intelligent machines and communication, Intelligent sensors & Systems, Imaging for Avionics & Biomedical applications. The organisation is contributing substantially towards the growth of the scientific instruments for various industries in the country with high degree of credibility.



**Web: [inst.ac.in](http://inst.ac.in), [csio.res.in](http://csio.res.in)**

## Important Dates:

- ✚ **Deadline of Registration & Abstract Submission: 8<sup>th</sup> March 2022.**
- ✚ **Acceptance of Abstracts and participation: 11<sup>th</sup> March 2022.**

**Email:** [smartmeet2022@inst.ac.in](mailto:smartmeet2022@inst.ac.in)

**Register:** <https://forms.gle/z2A3KfDJrWRYRtQe8>

## Chief Patrons

Prof. Amitava Patra  
Director, INST, Mohali  
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## Organizing Team

### INST, Mohali

**Dr. Asish Pal**

Dr. Vivek Bagchi

Dr. Aviru Basu

Dr. Kaushik Parida

Dr. S. Naidu Boddu

Dr. Menaka Jha

Mr. Mukesh Raja

### CSIR-CSIO, Chandigarh

**Dr. Suman Singh**

Dr. Akash Deep

Dr. Amit L. Sharma

Dr. Kamlesh Kumar

Dr. Avishek Saha

Dr. Girish C. Mohanta

Dr. Navneet S. Aulakh

### Inaugural session

9:30-9:35 hr	Welcome and Opening Remarks
9:35-9:45 hr	Prof. Amitava Patra (Director, INST)
9:45-9:55 hr	Prof. S. Anantha Ramakrishna (Director, CSIR-CSIO)

### Session Theme: Thin film and Applied 2D Materials (Session Chair: Dr. Suvankar Chakraborty, INST)

10:00-10:25 hr	Dr. Sunita Mishra (CSIR-CSIO) <i>Lead free perovskite materials for photovoltaic application</i>
10:25-10:50 hr	Dr. Abir De Sarkar (INST) <i>Insights into applied 2d materials for energy conversion and next generation electronics</i>
10:50-11:15 hr	Dr. Neelam Kumari (CSIR-CSIO) <i>Thin film coatings for thermal management</i>

### Tea break & Technology display: 11:15 to 11:45 hr

### Session Theme: Sensors and Diagnostics (Session Chair: Dr. Inderpreet Kaur, CSIR-CSIO)

11:45-12:10 hr	Dr. Aviru Basu (INST) <i>Design and development of MEMS based sensors for rapid clinical diagnostics of trace analytes</i>
12:10-12:35 hr	Dr. Umesh Tiwari (CSIR-CSIO) <i>Recent Developments in Immobilized Optical Fiber Biosensors</i>
12:35-13:00 hr	Dr. Sanyasinaidu Boddu (INST) <i>Lanthanide ions doped luminescent nanomaterials for forensic and security applications</i>

### Lunch break: 13:00 to 14:00 hr

### Session Theme: Waste to wealth and Catalysis (Session Chair: Dr. Kamalakannan Kailasam, INST)

14:00-14:25 hr	Dr. Akash Deep (CSIR-CSIO) <i>Conversion of e-waste into nanoproducts</i>
14:25-14:50 hr	Dr. Kaushik Ghosh (INST) <i>Strategy to adopt various approaches for the development of sustainable society</i>
14:50-15:15 hr	Dr. Pooja Devi (CSIR-CSIO) <i>Materials engineering for energy recovery from wastewater</i>
15:15-15:40 hr	Dr. Ramendra S Dey (INST) <i>Design and chemistry of emerging materials for nanoscale electrocatalytic application</i>

### Tea break, Poster session & Technology display : 15:40 to 16:50 hr (Session Chair: Dr. Abhay Sachdeva, CSIR-CSIO)

16:50-17:05 hr	Dr. Sunita Mehta (CSIR-CSIO) <i>Fabrication of novel bioinspired membranes and their potential applications</i>
17:05-17:20 hr	Ms. Mamta (INST) <i>Tracking electronic band alignment across 2D bridge-channel MoS<sub>2</sub> during charge transport</i>
17:20-17:35 hr	Mr. Subham Patial (CSIR-CSIO) <i>Conversion of plastic waste into functional material for energy application</i>
17:35-17:50 hr	Ms. Zinnia Mallick (INST) <i>Implementation of piezoelectric charges for strain modulated optical response</i>

### Concluding session

17:50-17:55 hr	Poster awards
17:45-17:55 hr	Concluding Remarks
17:55-18:00 hr	Vote of thanks