

on

# Novel Materials

## (i) Fundamentals of Novel Materials

24 – 28 August, 2021

## (ii) Progress in Novel Two-Dimensional Materials

04 – 08 October, 2021

Organized by



### Department of Physics

Tripura University (A Central University)

<https://www.tripurauniv.ac.in/>

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### Organizing Committee:

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## Content of the first FDP:

### (i) Fundamentals of Novel Materials

We have planned to organize two FDP on novel materials- **one elementary level** (24- 28 Aug., 2021) and another is **advance level** (04-08 Oct., 2021).

This first FDP is planned to give an overview of the fundamentals of various novel materials. Following topics will be discussed. Introduction about novel materials, different types of novel materials and their properties highlighting the application potential. Basic idea about synthesis of various novel materials especially nanomaterials. Advantages and disadvantages of different synthesis routes. Introduction about various thin film preparation techniques such as Langmuir-Blodgett (LB), spin coating, layer-by-layer (LbL) self assembly, vacuum deposition, sputtering technique etc. A special session will be arranged on Mental Health.

## Content of the second FDP:

### (ii) Progress in Novel Two-Dimensional Materials

We have planned to organize two FDP on novel materials- **one elementary level** (24- 28 Aug., 2021) and another is **advance level** (04-08 Oct., 2021).

This proposed FDP (advance) on progress in Novel Two-Dimensional Materials has been planned to give an overview of the state-of-the-art of 2D materials to the participants. Outline of different chemical classes of 2D materials and various strategies to prepare single-layer, few-layer, and multilayer assembly materials in solution, on substrates, and on the wafer scale will be highlighted with identifying and characterizing single layer-thick materials. Comparison of the differences that occur in the electronic structure between the bulk and the single layer along with various methods of tuning their electronic properties by manipulating the surface will be highlighted. Properties and advantages of single-, few-, and many-layer 2D materials in optoelectronics device applications will also be highlighted. A special session will be arranged on Mental Health / yoga.

## Target participants:

Research Scholars, Postdoctoral researchers and Young faculty members of colleges and universities from Tripura and other North Eastern states as well as other parts of India.

## Registration guideline:

1. Visit the website <https://www.aicte-india.org/atal>
2. Then under “**Notifications**” click on “**Participants Registration for new FDP 2021-22 New!**”
3. Register / sign up as instructed and log in.
4. After login click on “**workshop**” at the top left side of the page. There will be large no of courses. To find our program you can filter by select State = “**Tripura**”, Month = “**August or October**”, Thrust area = “**Engineering**” and Mode = “**Online**” then you can easily locate the FDP on **Novel Materials** to be organized by Tripura University.

## Resource persons:

### Dr. Mrinal Pal

CSIR-Central Glass & Ceramic Research Institute,  
Kolkata, India

### Prof. Dilip Kumar Maiti, FRSC

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