

**One week
Faculty Development Program
on
Characterization of Nano-Materials and
Applications
(National Level)
(Physical Mode)
(22-26 May, 2023)**



**Organized by;
Department of Physics, SLIET Longowal
in collaboration with
NITTTR Chandigarh
at
Sant Longowal Institute of Engg. & Technology,
Longowal**

**"Proud to be a part of Team SLIET
Together we can make a difference"**

Objective of course

The aim of this course is to train faculty members, scientists, industrial personnel, research scholars, etc. on Characterization of Nano-Materials and Applications. The fundamental principles guiding the advances in these areas will be presented. The following are the main course objectives of the course,

- To provide an overview of the importance of nano-materials in various fields of science and technology
- To introduce different techniques and tools used for the characterization of nano-materials
- To enable participants to understand the structural, magnetic, electronic, and thermal properties of nano-materials
- To explore various applications of nano-materials in biotechnology, medicine, energy storage and conversion, and electronics
- To discuss the challenges and future perspectives in nano-materials research

Broad contents

The course is arranged in a series of informative expert lectures on Characterization of Nano-Materials and Applications;

Introduction to Nano-Materials

- Overview of nano-materials and their importance
- Classification of nano-materials
- Fabrication and synthesis of nano-materials
- Characterization techniques for nano-materials

Spectroscopy Techniques for Characterization

- UV-Vis spectroscopy and its applications
- Fluorescence spectroscopy
- Raman spectroscopy
- Infrared spectroscopy

Microscopic Techniques for Characterization

- Scanning Electron Microscopy (SEM)
- Transmission Electron Microscopy (TEM)
- Atomic Force Microscopy (AFM)
- Confocal Microscopy

Properties of Nano-Materials

- Magnetic properties and their applications in data storage and biomedical imaging
- Optical properties and their applications in sensors, imaging, and photonics
- Electronic properties and their applications in nanoelectronics and optoelectronics
- Thermal properties and their applications in thermal management and energy conversion

Resource persons

Faculty Members of the reputed institutions like IITs, IIMs, NITs, Central & State Universities/Institutions and the Professionals/Experts of Research Labs (CSIO/ISRO)/Industries etc. will share their expertise in the programme in addition to our own Faculty from SLIET.

Registration to course

you can register for this course by clicking the link given below:

<https://fdp.nitttrchd.ac.in/backingup/latestcourses.php>

Mode of conduct

The training program will be conducted in Physical mode at SLIET Longowal

General information

- No Registration Fee for SLIET faculty, however, Online Registration is Mandatory.
- Lunch and Refreshment are complementary during the programme.
- An assessment test and MCQ will be conducted for all participants

Important dates

Last date for registration: May 18, 2023

Notification of selection: May 20, 2023

Organizing Committee

Patron(s):

Prof. Shailendra Jain, Director, SLIET, Longowal
Prof. Bhola Ram Gurjar, Director, NITTTR, Chandigarh

Coordinator(s):

Prof. M M Sinha, SLIET, Longowal
Prof. S S Verma, SLIET Longowal
Dr. Ashok Kumar, NITTTR, Chandigarh
Prof. Pankaj Sharma, NITTTR, Chandigarh

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