



CENTRE FOR ADVANCED STUDIES

DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY

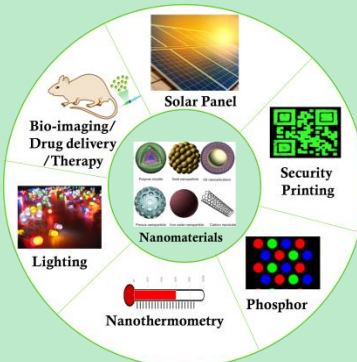


2-Days Offline Workshop

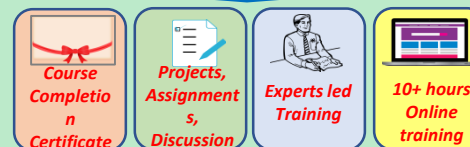
on

Synthesis and Characterization of Nanomaterials: Theory and Experiments

**Free
Registration**
**Last Date of
Registration:
25th March,
2022**



Highlights



Registration Link:

<https://cas.res.in/workshopreg.html>



Duration : 2-days

Date: 1st- 2nd April, 2022

Timing: 10:30 am - 4 pm

**Eligibility: B. Tech (4th Year
ME/CHE/MME/ECE/CE) and
M.Sc. Chemistry/Physics/Polymer
Science**

Mode: Offline

Number of Seats: 30

Coordinators

Dr. Chandresh K. Rastogi
Assistant Professor, CAS

Dr. A. V. Ullas
Assistant Professor, CAS



- ✓ Introduction to Nanoscience and nanotechnology
- ✓ Nanomaterials preparation methods: Chemical synthesis methods (sol-gel, hydrothermal, electrospinning and microwave assisted synthesis, etc)
- ✓ Thin film deposition
- ✓ Characterization of nanomaterials (e.g., X-ray diffraction (XRD), scanning electron microscopy (SEM), surface area analysis (BET), thermogravimetric analysis (TGA))



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2-Days Online Workshop

on



Synthesis and Characterization of Nanomaterials: Theory and Experiments

Day	Session			
	Forenoon			Afternoon
	10:30-11:30	11:30-11:45	11:45-13:00	14:00 – 16:00
Day 1	<p>Introduction to Nanoscience and Technology</p> <ul style="list-style-type: none"> Fundamentals of Nanomaterials Physico-chemical properties Applications <p>Dr. C. K. Rastogi CAS, Lucknow</p>	T E A B R E A K	<p>Nanomaterials preparation methods</p> <ul style="list-style-type: none"> Sol-gel Electrospinning Micro-emulsion Hydrothermal Microwave assisted Co-Precipitation <p>Dr. A. V. Ullas CAS, Lucknow</p>	<p>Hands-on Session 1-</p> <ul style="list-style-type: none"> Clean room protocols Protocols for working materials chemistry lab, materials synthesis
Day 2	<p>Materials characterization I</p> <ul style="list-style-type: none"> X-ray diffraction (XRD), Electron microscopy Spectroscopic techniques 	T E A B R E A K	<p>Materials characterization II</p> <ul style="list-style-type: none"> Thermogravimetric analysis Differential scanning calorimetry (DSC) Scanning electron microscopy 	<p>Hands-on Session 2-</p> <ul style="list-style-type: none"> X-ray Diffraction Analysis (Phase identification, Crystallite size estimation) Scanning Electron Microscopy Operation