

Nanotechnology: Synthesis, Characterization, Fabrication and Applications

Overview

Nanotechnology is the latest frontier of all developments in scientific sector. It is a discipline that responds to the demand for a technology which transfer into superior products. Generally nanotechnology deals with structures sized between 1-100 nanometer in at least on dimension and involves developing materials or devices within that size range. Nanotechnology integrates Physic, Chemistry and Biology and tops this with applications in engineering , science and technology to ensure know-how of practical implementation at various levels.

The nanotechnology training programme aims to give the participants a broad view of nanotechnology and its prospective so that teachers can give a comprehensive view of this technology to their students, scientists and engineers working in the area. The programme will help understand the subject with ease by presenting the content in a simplified and logical sequence at a level appropriate for students/teachers/researchers.

The programme will expose the participants with the methods of synthesis of nano particles and nanomaterials, their structure property relation, characterization and their applications. The aim of the programme is also to make the participants ready to take up independent research in the advanced areas of nanotechnology, nanofabrication and applications.

Modules	<ol style="list-style-type: none"> 1) Introduction to Nanotechnology, (June 6 -11 ,2016) 2) Methods of synthesis of Nano particles and Nano materials, 3) Nano characterization techniques and structural characterization 4) Thermal stability and proprieties of Nanomaterials 5) Fabrication of devices materials and their Applications in various field of Science & Engineering <p>Number of participants for the course will be limited to fifty (50).</p>								
You Should Attend If...	<ul style="list-style-type: none"> • Material Scientists • Scientist with Physics, Chemistry and Biology background • Faculty members and students from academic institutions(Technical institute or universities) • Industry/Research organization involved in production of new innovative products/materials 								
Fees	<p>The participation fee for taking the course would be:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Students:</td> <td style="text-align: right;">Rs. 1000/-</td> </tr> <tr> <td>Academic Institutions:</td> <td style="text-align: right;">Rs. 2,000/-</td> </tr> <tr> <td>Industry/Research:</td> <td style="text-align: right;">Rs. 2,500/-</td> </tr> <tr> <td>Participants from abroad:</td> <td style="text-align: right;">US\$ 100/-</td> </tr> </table> <p>The above fee includes the instructional materials, internet facility and snacks between the sessions. The accommodation will be provided on payment basis subject to availability on request otherwise participants will have to make their own arrangements of stay in hotels.</p>	Students:	Rs. 1000/-	Academic Institutions:	Rs. 2,000/-	Industry/Research:	Rs. 2,500/-	Participants from abroad:	US\$ 100/-
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The Faculty



Prof Suprakas Sinha Ray (rsuprakas@csir.co.za)

joined the CSIR in 2006. He worked as a research scientist for the Department of Chemical Engineering, University of Laval, Canada from 2004 to 2006. Currently Dr Ray is working as Chief Research Scientist and Director, (DST/CSIR Nanotechnology Innovation Centre), National Centre for Nanostructured Materials (NONSM), Council for Scientific and Industrial Research, Pretoria, South Africa. The research focus of his group is on design, modelling and synthesis of Nanomaterials with specific properties and various possible applications.



Prof. A. K. Ganguli (ashokganguliitd@gmail.com) is

Director Institute of Nanoscience & Technology (INST) at Mohali, Punjab. He is also adjunct Professor at IISER, Mohali, Punjab (India). Research area of Prof. Ganguli includes designing of nanostructures using microemulsions with desired size, shape, shell thickness and aspect ratio for applications in photocatalysis, photovoltaics, efficient electrocatalysis for hydrogen and oxygen evolution reactions and porous functionalised nanostructures. Dr. Ganguli is the fellow of Indian Academy of Sciences, National Academy of Sciences (India) and Royal Society of Chemistry. Associate Editor of Bulletin of Material Science. Member, Editorial Board, Ind. J. Chem. A and J. Chem. Sci.



Prof. N C Kothiyal (kothiyalnc@nitj.ac.in) is at

present Professor of Chemistry and Dean, Faculty Welfare at Dr B.R.A National Institute of Technology, Jalandhar, India. He did Ph D from ISM Dhanbad in the year 1990. The research area of Prof. Kothiyal includes Environmental Chemistry & Nano Surface Chemistry, Carbon based nano composites etc.



Professor B. S. Kaith (kaithbs@nitj.ac.in) is at

present Professor of Chemistry, BRA National Institute of Technology, Jalandhar, India. He did Ph D in 1990 from University Institute of Pharmaceutical Sciences, Punjab University Chandigarh. He was Post Doctoral Fellow at University of Horticulture and Forestry, Nauni. Research areas of Dr Kaith includes super-adsorbents/hydrogels, biodegradable green composites and nano science and technology.



Prof Sangeeta Garg (gargs@nitj.ac.in) is an Associate

Professor in Department of Chemical Engineering, Dr B R Ambedkar NIT Jalandhar. Her research interests are in the areas of Development of Biodegradable Plastics, Environmental Engineering, Biofuels and wastewater treatment.

Course Co-ordinators

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