

Advanced Nanomaterials: Applications in Disease Diagnosis and Imaging

Overview

Field of nanomaterials has seen exponential growth over the past decade. Unique properties of such materials depend on their size, 3-D structure and chemical composition. Discovery of new materials with improved performance coupled with highly sensitive characterization techniques have made this as one of the most promising research areas. These nanomaterials are being extensively tested for biomedical applications such as quick disease diagnosis, sensing devices and targeted drug delivery. These materials have also shown to be of great usage in the water filtration systems, solar cell set-ups, electronics and catalyst industries.

Through this coursework and lecture series, we would like to share the emerging strategies and the fundamental mechanism behind working of these nanomaterials with students and faculties of our institute as well as other premier institutes of India. This vastly interdisciplinary topic will find audience among the fields of chemical sciences, material sciences and biology.

Academicians, researchers having high international reputation with well proven record of experiences in teaching, research and consultancy in the above field will deliver lectures. Audience will also have an opportunity to interact closely with the experts. This will also open up a new window of international collaboration in teaching and research.

Modules	Following topics will be covered from May 30 to June 3, 2016 A: Development of new generation of nanomaterials B:Advanced spectroscopic imaging techniques C: Disease diagnosis D: Biological sensors
You Should Attend If...	<ol style="list-style-type: none">1. Faculty members from reputed academic and technical institutions2. Students at different levels (B.Tech./M.Tech./M.Sc./Ph.D.)3. Executives, engineers and researchers from manufacturing, service and government organizations including R&D laboratories
Fees	The participation fees for taking the course is as follows: Foreign Participants: US\$ 500 Faculties from academic institutions/Govt. research organizations: Rs. 3,000/- Students B.Tech./M.Tech./M.Sc.: Rs. 500/- Ph.D.: Rs. 1000/- Persons from Industry: Rs. 10,000/- The above fee include all course related materials, food and refreshments. The participants will be provided with accommodation on payment basis.

The Faculty



Dr. Rohit Bhargava is a Professor and Bliss Faculty Scholar at the Department of Bioengineering, University of Illinois at Urbana-Champaign, Illinois, USA and a full-time faculty member in the Beckman Institute Bioimaging Science and Technology group. He had received his Ph.D. from Case Western Reserve University in 2000 and undergraduate degree from Indian Institute of Technology, Delhi in 1996. His research group is actively working on development of novel chemical structures and imaging technologies to detect,

diagnose and understand tissue structure and cancer pathology. His major research interests also include different biological sensors like optical (spectroscopic imaging), material (probes) and development of computational and physical models and novel instrumentation approaches for spectroscopic imaging. Presently he is the fellow of the American Institute for Medical and Biological Engineering (AIMBE). He was awarded with several notable awards like Xerox Award for Faculty Research (2011), DoD Young Investigator, Prostate Cancer Research program (2007) etc.

Course Coordinators

Dr. Kalyan Sundar Ghosh

email: kalyansg5@gmail.com, kalyan@nith.ac.in, telephone: +91-8894768802

Dr. Jaibir Kherb

email: jaibir.kherb@gmail.com telephone: +91-9654930616

**Department of Chemistry, National Institute of Technology Hamirpur
Himachal Pradesh 177005**