

Division of  
Biochemical  
Sciences



# Seminar

## BioPune Series

NCL  
Innovations



CII - Biotechnology Resource Center,  
NCL Innovation Park, Pune

BioPune Seminar Series Talk # 4  
on

## Nanotechnology in Health, Environmental, Industrial and Forensic Sciences

by

**Dr. Tapas Sen**

(Lead, Surface Patterning Group, Institute  
of Nanotechnology and Bioengineering  
Centre for Materials Science, School of  
Forensic and Investigative Sciences  
University of Central Lancashire, United  
Kingdom)

on

**Thursday, 20<sup>th</sup> December 2012**

At 1030 -1130 hrs in the  
Board Room, Venture Center  
100 NCL Innovation Park  
Dr. Homi Bhabha (Pashan) Road,  
Pune – 411008

Tea shall be served at 10:15 am at the venue

This is a free event but registration is required:  
<http://biopune-4.eventbrite.com>

**Dr. Tapas Sen**

**Lead, Surface Patterning Group, Institute of Nanotechnology and  
Bioengineering  
Centre for Materials Science, School of Forensic and Investigative  
Sciences  
University of Central Lancashire, United Kingdom**

**Abstract:**

An overview of group's research on nanomaterials and their applications in four important areas will be discussed. The importance of nanotechnology in the separation of nucleic acids (DNA and RNA) from the biological cells will be presented in connection with an industrial collaboration with Q-Bioanalytic, Germany. The possibility of affinity interaction of biomolecules i.e. nucleic acid, protein, antibody, microorganisms etc. through hybrid capture will also be discussed in the context of food quality and hygiene which has recently been published in Nature publishing group journal. Separation of toxic and microbial contaminants from water and soil using nanotechnology tool will be discussed with respect to an on-going multinational project (<http://uclannanobio.com/projects.php?s=212&id=22>) with the top researchers from China and an industry from UK Applications of nanotechnology in Forensic analysis to identify the criminals will also be discussed under the Forensic Sciences.

**About the speaker:**

Dr Sen has got more than 15 years' experience in developing nanoparticles and nanocomposites with controlled morphology, particle sizes, pore sizes and surface properties for the applications at the interface of chemistry and biology such as industrial catalysis, bio-sensors, bio-separations, nanomedicine, environmental and food technology. Currently he is managing a multinational project (<http://uclannanobio.com/projects.php?s=212&id=22>) related to nanoparticles based water purification technology in collaboration with Fudan University, China and an industry (<http://www.feedwater.co.uk/>) in UK. A new project is due to start in January 2013 related to the similar problem in collaboration with the top Indian organisations (Indian Association for the Cultivation of Science, Department of Science and Technology, Kolkata and Tata Chemicals Ltd.; biggest Indian Industry) with an industry from UK under the UK-India Education and Research Initiative Programme. His research group has recently developed a commercial product in collaboration with a German company in a collaborative venture. He is also the principal inventor of one Great Britain Patent. In addition to industrial research, Dr Sen's group is very active in publishing high quality research papers (i.e. Nature Publishing Group, American Chemical Society and Royal Society of Chemistry, UK). He is also the member of the Editorial board "ISRN Nanotechnology" (<http://www.isrn.com/59589487/>) and "Journal of Nanoparticles" (<http://www.hindawi.com/59589487/>). He is also the Fellow of the Higher Education Academy (FHEA) in UK. He is also a member of the peer review panel of EPSRC grant review, Royal Society of Chemistry book review, an expert of EU nanomaterials and <http://integru.org/reviews/andronesco-2003>.