Biomaterials and nanomedicine: Two emerging topics in public healthcare in the 21st century

.....

Overview

Biomaterials and nanomedicine are hot topics in modern biomedical research with a direct impact on our society's needs, like public healthcare, treatment of injured persons (e.g. after accidents), treatment of cancer or of infectious diseases. Typical examples are endoprostheses, tooth implants, bone substitution materials, nanoparticles for vaccination, and imaging technologies for cancer detection. In the view of ageing societies worldwide, such problems are gaining an increasing importance in medicine. Research is also necessary to manage the costs of a public health care system under control, i.e. not every biomaterial that is developed in academia will have a chance to be affordable in health care for insurers and patients.

The course aims to give an overview on the current developments, ranging from fundamentals to a practical application in the hospital ("from bench to bedside"). By nature, this kind of research is highly interdisciplinary, involving aspects of chemistry, (bio) physics, cell biology, trauma surgery, virology and others. We will give an overview of the field for young scientists (graduate students, postdoctoral students, and faculty) from all these subjects, with a special emphasis on practical problems that can be solved with modern biomedical approaches. We will also offer advice for young and advanced scientists on scientific publishing and the application for research grants.

The primary objectives

- Provide an introduction to the participants from different research areas (chemistry, physics, life sciences and engineering sciences) on biomaterials and nanomedicine.

- Highlighting current concepts with their fundamentals and clinical solutions.

- Presenting the modern research in biomedicine that is focused onits practical applications in healthcare.

- Enabling the participants to judge current concepts, to assess their practical applicability for biomedical research, and to give them directions how they can work in this area, e.g. during a PhD thesis and after graduation in industry.

Course details	**Date: 12 September 2017 - 16 September 2017(includes 16 hrs. of lectures and tutorials)**
Venue	**Crystal Growth Centre, Anna University, Chennai, 600025, India**
Modules	**A: Fundamentals, applications and characterization of biomaterials.** **B: Chemical, biological aspects of biomaterials including in vitro and in vivo testing, including animal and clinical studies.** **C: Industrial production and regulatory aspects regarding biomaterials.** **D: Synthesis, characterization and Applications of nanomaterials in medicine.** **E: Biomaterials for dental applications.** **F: Tutorials, including consultation on scientific presentation and application for research grants and scholarships**
No of Credits	**One**
You Should Attend If…	You are either a student (B.Tech/M.Sc/M.Tech/PhD/Medicine/MBBS/BDS), a post-doctoral fellow from any of these subjects or Faculty from reputed academic institutions and technical institutions. The participation of executives, engineers, and researchers from manufacturing, service and government organizations including R&D laboratoriesis also strongly encouraged.
Fees	**Foreign Participants : US $500** **Faculty from academic institutions/Govt. research organizations: Rs. 3,000/** **Students: B.Tech./M.Tech./M.Sc./M.Phil/M.S/Medicine: Rs. 1000/** **Research scholars and Post-Doctoral Fellows.: Rs. 2000/** **Industry/ Research Organizations: Rs.10000** The above fee include all instructional materials, computer use for tutorials and assignments, laboratory equipment usage charges, 24 hr free internet facility. The participants will be provided with accommodation on payment basis.

The Faculty

Prof. Dr. Matthias Epple holds a chair on Inorganic Chemistry and the University of Duisburg-Essen, Germany. He is past President of the German Society for Biomaterials. His research interests comprise biomaterials, nanomedicine, and biomineralisation. He has published more than 400 articles in international journals. He is also a regular reviewer for national and international research grants and scholarships, also from India.

CV of Prof. Dr. Matthias Epple

Prof.Dr.S.Narayana Kalkura is the Director ofthe Crystal Growth Centre, Anna University and his research interestsarein the field of biomaterials and biomineralisation. He has developed low-temperature techniques to synthesize bioceramics. He has more than 30 years of experience in the above fields and haspublished nearly 100 articles in refereed journals. He has handled many sponsored research projects and currently has INDO-GERMAN (DST-DAAD) and INDO-FRENCH (CEFIPRA) collaborative projectson biomaterials and tissue engineering.

CV of Prof.Kalkura

Course Co-ordinator

Prof. S.Narayana Kalkura
Phone: 044-22358322/8316
E-mail: kalkurasn@annauniv.edu/kalkura@gmail.com

.....

http://www.gian.iitkgp.ac.in/GREGN/index

https://www.annauniv.edu/gian/