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4th Annual conference and Expo on

Biomaterials

February 25-26, 2019

London, UK



SCIENTIFIC PROGRAM

DAY 1
Monday, 25th February

08:30-09:00 **Registrations**

09:00-09:30 **Introduction**

09:30-09:50 COFFEE BREAK

09:50-11:50 Meeting Hall 01 **KEYNOTE LECTURES**

MEETING HALL 01

11:50-13:10 **Talks On:**

- Surface properties of Biomaterials
- Biomaterials: Nanotopography
- Molecular imprinting on surfaces

13:10-13:15 GROUP PHOTO

13:15-14:00 LUNCH BREAK

MEETING HALL 01

14:00-16:00 **Talks On:**

- Advanced Biomaterials
- Ceramic Biomaterials
- Smart Biomaterials: Metallic Biomaterials

16:00-16:20 COFFEE BREAK

MEETING HALL 01 (16:20-17:00)

Renewable Biomaterials

DAY 2
Tuesday, 26th February

09:00-10:30 Meeting Hall 01 — **KEYNOTE LECTURES**

10:30-10:50 COFFEE BREAK

10:50-12:50 — **MEETING HALL 01**

Talks On:

- Polymer Biomaterials
- Biodegradable polymers as Biomaterials
- Biopolymers for food packaging

12:50-13:35 LUNCH BREAK

13:35-15:55 — **MEETING HALL 01**

Talks On:

- Implants and Prosthetics
- Restorative implants
- Implant surgery

15:55-16:15 COFFEE BREAK

MEETING HALL 01 (16:15-17:00)

Poster Presentations

Organizing Commite Members - 2018



Anand Ramamurthi

Cleveland Clinic

USA



Abbas Amini

Western Sydney University

Australia



Ajay Kumar Mishra

University of South Africa

South Africa



Lars Montelius

International Iberian Nanotechnology Laboratory Portugal



José Manuel Baena

BRECA Health Care and REGEMAT 3D

Spain



Boris Chichkov

Leibniz University Hannover

Germany



Hicham Fenniri

Northeastern University

USA



Yongmei Zheng

Beihang University

China



Chintakindi Sanjay

GITAM University

India



Bharath Bhushan

The Ohio State university

United states



Joaquin Rams Ramos

Juan Carlos University

Spain



Lorenzo Pastrana

INL - International Iberian Nanotechnology Laboratory

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4th Annual Conference and Expo on Biomaterials

FEBRUARY 25-26, 2019
LONDON, UK

Exploring advancements of Biomateirals in Engineering and Health Sciences

Title: Cell/biomaterials interaction

Gianfranco Peluso
IRET-CNR,Italy

Prof. Gianfranco Peluso graduated magna cum laude and special mention in Medicine at the University of Naples, Italy. He has been Director of the Department of Experimental Oncology at the National Cancer Institute. Currently, he is Research Director at Italian National Research Council.

Title: Chitosan-based hydrogels as biomaterials for controlled release

Jacques Desbrieres
University of Pau and Pays Adour, France

Jacques DESBRIÈRES is Professor at University of Pau and Pays Adour (UPPA), Engineer from ENSC Paris and Doctor-Engineer from Grenoble University. After a position as research engineer with Dowell Schlumberger related to the application of polymers in oil well operations, he joined Grenoble University in 1990 and then UPPA in 2004. His research domain is concentrated on chemical modification of natural polymers and relations between their chemical structure, functional properties and their applications.

Title: 3D-Printing of Bioceramics for Bone Regeneration Applications

Dr. Rainer Gadow
University of Stuttgart, Germany

Rainer Gadow graduated in 1981 from the Institute of Technical Chemistry, University of Karlsruhe (T.H.) having specialized in the fields of protective coatings for high temperature applications and carbon fiber composites. Gadow was group leader ceramics at the University of Karlsruhe as research scientist and assistant professor with the institute's director Prof. Dr. Erich Fitzer until his Ph.D. graduation in 1986. He was mainly involved in the development of the very first generation of ceramic fiber composites for automotive and aircraft applications.

SPEAKER SLOTS AVAILABLE

Title: Tribocorrosion behavior of Ti-10Nb alloy for biomaterial applications

Aline R. Luz
Universidade Federal do Paran, Brazil.

Aline R. Luz is an experimental physics professor. In February 2019, she will finish her PhD in engineering and materials sciences from the University Federal of Paraná. In 2016, she won Trainee Award of 10th World Biomaterials Congress, once her work was one of the best of congress. The focus of her PhD thesis was the tribocorrosion and mechanical properties of nanotube arrays grown on titanium and on new titanium alloys.

Title: Biodegradable Microparticles with Hierarchical Topographical Features Influence

Chara Simitzi
University College London, UK

Dr. Chara Simitzi graduated as a chemical engineer from the National Technical University of Athens and then continued her studies in biomedical and tissue engineering (MSc in Biomedical Engineering- RWTH, Aachen; PhD in Biology- University of Crete). After her PhD she worked at the FORTH Institute in Crete and the QMUL in London

Title: Hybrid smart nanocrystals and the shielding effect of phospholipic bilayer for biomedical application

Valentina Cauda
Politecnico di Torino, Italy

Valentina Cauda is Associate Professor at the Politecnico di Torino, Italy. She received her Ph.D. in Material Science and Technology in 2008 from the same university and graduated in Chemical Engineering in 2004. In 2006 she worked as visiting PhD student at the Universidad Complutense (Madrid, Spain). From 2008 to 2010, she worked as Post-Doc at the University of Munich, Germany. From 2010 to 2015 she was Senior Post-Doc at the Istituto Italiano di Tecnologia (Italy)

SPEAKER SLOTS AVAILABLE

Title: In situ tissue engineering using an induced adipose tissue to regenerate bone

AL-Fotawi Randa
King Saud University, KSA

Dr RANDA ALFOTAWI is an Oral and maxillofacial Surgery at King Saud University Riyadh, KSA. I have got my MScs and PhD degree in the field of tissue bioengineering using stem cells and biomaterials , and I was awarded in Jun 2015 from the University of Glasgow. Conducting a research in this field provided access to various Lab Techniques, cell culture, assessment for cell biology, molecular, and cell characterization on any biomaterial and resulted in three novelties and five published articles in scientific peer reviewed journals including PLOS. One and the Journal of Biomaterials and Tissue Engineering.

Title: Development of Biomimetic Scaffolds for Controlled Release of Bioactive Agent

Farah Alwani Azaman
Athlone Institute of Technology, Ireland

The research team has extensive experience and participates in a number of international collaborator research activities in the bone tissue regeneration field. In particular the team is focused on the development of variety of biomaterials which may be used to treat different ailments related to bone including, biomimetic bone graft substitutes and biodegradable polymers with tailored properties and degradation profiles.

Title: Collagen 3D matrix regulates osteoblastogenesis and osteoclastogenesis in bone: A novel model for bone homeostasis

Jeevithan Elango
Shanghai Ocean University, China

Collagen is the extracellular matrix protein in bone that regulates ossification and bone resorption through modulating the paracrine cues of bone cells, and has been used for the treatment of bone disorders due to its bio-mimic properties. However, the biological activity of collagen depends on the interactions with other biomolecules such as minerals and glycosaminoglycan in bone

SPEAKER SLOTS AVAILABLE

Title: New biobased building blocks for health sciences and biomaterials

Robert Lazeroms
Royal Cosun R&D,
The Netherlands

Robert Lazeroms (Royal Cosun) is a specialist in organic chemistry. During his industrial career, he worked within the medicinal chemistry department (2000 - 2008) of Organon in Oss, where innovative chemistry is key issue to develop new medicines. From 2008 – 2012, he worked within Organon/Merck MSD within the active pharmaceutical ingredient (API) department, in the field of troubleshooting related to the production activities of API's. In 2012, he started as a technical project leader within Royal Cosun to set up R&D activities for the valorization of Galacturonic acid from sugar beet pulp. Besides his work at Cosun, he is a part time researcher of the Avans Biopolymer group in Breda.

Title: Argatroban immobilization on Cu-modified PVC and PU

Liana Azizova
University of Brighton, UK

Dr Liana Azizova received master degree at Taurida National V.I. Vernadsky University in 2005. She got PhD in Surface Chemistry in 2013. Dr Azizova has her expertise in the area of surface chemistry, surface characterisation, catalytic reactions on the surface of inorganic oxides, their kinetics and mechanisms and synthesis of hybrid organic-inorganic nanocomposites. It includes the development of biocompatible coating materials and composites for biomedical application. In particular, modification of polymer and nanosized oxides surfaces by biologically active compounds and biopolymers (polysaccharides, glycopeptides, carboxylic acids), adsorption and determination of a structure of an adsorption layer of biomolecules on a surface of inorganic oxides.

Title: Plasma Electrolytic Oxidation of Titanium to Biofunctionalize Surfaces of Ventricular Assist Devices

Eduardo GP Bock
IFSP Brazil

Eduardo Bock holds a degree in Mechanical Engineering from Sao Judas Tadeu University (2003), and a Masters and PhD in Mechanical Engineering from the State University of Campinas - Unicamp (2007) and (2011). He is an associate professor (class D-IV) in Laboratory of Bioengineering and Biomaterials (BIOENG) in Department of Mechanics - Federal Institute of Technology in Sao Paulo IFSP. He has experience in the field of Biomedical Engineering, with emphasis on Bioengineering, working mainly in the following subjects: biomaterials, tribology, numerical simulation, artificial organs, artificial heart, circulatory assistance, left ventricular assistance and extracorporeal circulation.

SPEAKER SLOTS AVAILABLE

Title: 2D and 3D cell cultures systems in biomedical studies

Giovanna Brusatin
University of Padova, ITALY

Giovanna Brusatin is associate Professor of Science and Technology of Materials and Biopolymers at University of Padova (www.hymat.dii.unipd.it), Industrial Engineering Department. The aim of her research is to study how the microenvironment physical properties influence the behavior of cells through mechano trasduction signals. Thanks to her broad experience on nano/micro fabrication techniques and photosensitive materials engineering and to the collaboration with research groups in the biomedical area, she has developed 2D and 3D engineered hydrogels and microstructures for cellular mechanotrasduction studies, able to support primary cells expansion or differentiation.

Title: Antimicrobial Nano-fiber Structures Development to Rejuvenate injured Dura mater in Brain Surgery

Hanin Bashir
Nottingham Trent University, UK

Nosocomial pathogens such as Staphylococcus epidermidis, Staphylococcus aureus, Escherichia coli and Pseudomonas aeruginosa have been linked to Surgical Site Infections. Inefficiency of surgical technique of the brain or spinal cord could greatly damage the duramater layer of the meninges. Hence, with it being non-regenerative in nature and with continued unsuccessful attempts to produce a well-maintained substitute, biomaterials incorporated with antimicrobials are the novel focus now. Silver salts have shown no harm when inserted in vitro and are emerging in many medical antimicrobial applications. Despite few scaffolds being proposed, a biomaterial with smooth integration and optimal properties has not yet been confirmed.

Title: Investigating Dynamic Biological Processes with High-Speed, High-Resolution Correlative AFM-Light Microscopy

Heiko Haschke
JPK BioAFM Center, Germany

Dr Torsten Müller, a biologist, is responsible for cell mechanics as well as cell adhesion development and applications at the JPK BioAFM Center. He has extensive experience in AFM application measurements and over 20 years of experience in developing new methods, techniques and applications at single cell level. He a senior scientist in the R&D department and carries out international workshops and user training sessions on a regular basis.

SPEAKER SLOTS AVAILABLE

Title: Permacol ™ collagen paste injection in anal fistula treatment: retrospective study with eighteen months follow-up

Mehmet Bayrak
TURKEY

Mehmet Bayrak and Yasemin Altıntas have expertise in evaluation and passion in improving the health and wellbeing. Their open and contextual evaluation model based on responsive constructivists creates new pathways for improving healthcare. They have built this treatment model after years of experience in research, evaluation, teaching and administration both in hospital and education institutions. This approach is responsive to all stakeholders and has a different way of focusing.

Title: Microfluidics fabrication of ECM-based microstructures and their 3D printing

Shaohua Ma
Tsinghua University, China.

Shaohua Ma is a tenure-track assistant professor at Tsinghua-Berkeley Shenzhen Institute, Tsinghua University, China. He obtained BEng from Sun Yat-sen University (China) in 2009, and MPhil and PhD degrees from the University of Cambridge in 2010 and 2013, under the supervision of Prof. Wilhelm T. S. Huck. After that, he was a postdoctoral research associate at the University of Oxford (Supervisor: Prof. Hagan Bayley FRS) until August 2017. Prof. Ma works on microfluidics, organ-on-a-chip, 3D bioprinting and micro-fabrications, towards translational developments in precision and regenerative medicine.

Title: Use of 3D printing technology in orthopedic oncology: custom surgical guide and patient-matched prosthesis

Sutipat Pairojboriboon
Phramongkutklao College of Medicine, Thailand

Dr.Sutipat Pairojboriboon is an orthopaedic surgeon, specialised in bone and soft tissue tumours. His research interest is the 3d printing technology, focusing on the printed models as an assisted tool for surgery and patient-matched prosthesis. He has experienced working with engineers who focus on the 3D printing technology from the Chulalongkorn university, Bangkok, Thailand, 3DMAC in Walter Reed Military Medical Center, USA, and Materialise medical company for 3 years.

SPEAKER SLOTS AVAILABLE

Title: The convergence of technologies, generates convergence in the regulations

Guillermo Valdes Mesa
Havana University Center, Cuba

Born in Havana, Cuba in 1962, graduated in Physics in 1985, working for the Microelectronics Industry, as head of final control investigations degradation production of electronic components, working for the Electronics Industry, department of reliability, characterization work performed Luma-Chroma plate worker Research Institute of Metrology, work Challenges of Metrology in Cuba in the era of nanotechnology. Work published in the ISO TC 229, ISO TC229 / IEC 113, required for conformity assessment of research and nano-scale productions Tool page. Master of Science.

Title: Freeze-Dried Platelet as a natural source of essential growth factors for periodontium regeneration.

Mohamed M. Ammar
Future University Egypt

Mohamed Ammar graduated from faculty of dentistry, Alexandria University. Started as a researcher in tissue engineering since 2004. He was a visiting researcher at Lehigh University on 2006, and 2008 working on the development of a dual porous bioceramic scaffold for bone engineering. He got a master degree in Materials Science and engineering from Lehigh University (2011) and finished his PhD in 2018. He is currently a lecturer of biomaterials at faculty of oral and dental medicine at Future University in Egypt. His research work is focused on the development of new biomaterials for the treatment and regeneration of the different oral tissues.

Title: An approach towards improvement of machinability of metallic bio materials

Abhishek Singh
Indian Institute of Technology

With the invention of new technologies and development of the new materials, wide ranges of materials are made available for their usage in medical applications. These materials are referred as biomaterials, among which the metallic biomaterials have become an intensive source of interest for the researchers, doctors and surgeons owing to its costs and highly impressive properties. The metallic biomaterials are now a day plays a predominant role in dental and orthopedic fields as a structural biomaterial in surgeries

SPEAKER SLOTS AVAILABLE

Title: Experimental investigation of microtopography patterns on bacterial attachment

P.V. Rao
IIT

Statement of the Problem: The adhesion of bacterial cells on any surface is the first step of biofilm formation. Biomedical field is more concern about biofilm formation as medical devices get frequently contaminated with bacteria and leading to the formation of mature biofilm which can put patient lives at risk. Researchers have reported that the surface topography with micro patterns affects the initial adhesion of bacterial cells. However, the effect of the number of corners on the behavior of bacterial cells is yet to be investigated

Title: Development of a novel chitosan based biocompatible and self-healing hydrogel for controlled release of hydrophilic drug

Swati Sharma
Banaras Hindu University

Smart polymeric hydrogels of chitosan and acryloyl-phenylalanine having potential of fast intrinsic shape memory properties (self-healing), non-toxic, biocompatible with moderate mechanical strength have been developed. The hydrogel has been formed by linking its network with flexible pendant side chains of chitosan and acryloyl-phenylalanine (exhibiting optimal balance of hydrophilic and hydrophobic moieties).

Title: Subject

N.Varalaxmi
Kakatiya University

Dr.Varalaxmi.Narla presently working for Kakatiya University, Warangal, India. For the past two decades she is in teaching profession. She taught for Under graduate and Post graduate students, So far published the articles in reputed International and National journals. Area of research Interest is Composite materials, Ferrimagnetic materials and etc.,

SPEAKER SLOTS AVAILABLE

Title: Biodegradable copolyester based blends: Properties and Applications

Shanta Pokhrel

Dr. Shanta Pokhrel, is Asst. Professor at Tri-Chandra Multiple Campus, Institute of Science and Technology, Tribhuvan University, Nepal. She obtained her Ph.D. from Institute of Science and Technology, Tribhuvan University, 2017 and M.Sc. Degree from Central Department of Chemistry, Tribhuvan University, Nepal in 1999. Her area of specialization is Bioplymers. She has published fifteen research papers and one book.

Title: Effect of Self Affine Morphology of Natively oxidised Silicon(100) on Wetting, Scaling

Indrani Mishra
IIT

Dr.Indrani Mishra have worked on various techniques like ion irradiation, UV irradiation and plasma etching to modify surfaces of SiOx, TiO2 and PDMS in order to enhance its properties for application as biosurfaces and biosensors. The modified surfaces were interacted with plasmid and branched DNA, also interaction of fibroblast cells with plasma odified surfaces have been studied.

Title: Bioconjugation studies of GO/Fe3O4 nanocomposites Hollow/porous magnetite

Amodini Mishra
Jawaharlal Nehru University

In this paper, we have synthesized reduced graphene oxide/magnetite (rGO-Fe3O4) nanocomposites by chemical co-precipitation method for a comparative Raman spectroscopic study. The nanocomposites along with its pristine GO and Fe3O4 counterpart were modified covalently with a fluorescently labeled protein. The modification was confirmed using confocal fluorescence microscopy.

SPEAKER SLOTS AVAILABLE

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Biography

Title: Nanoparticles as new emerging antibacterial: Potential and Limitations

Faria Fatima
Integral University

Dr. Faria Fatima has completed his PhD at the age of 29years from Integral University, lucknow, India. She is the Assistant Professor in Deaprtment of Agriculture, IIAST, Integral University, Lucknw. She has published more than 10 papers in reputed journals and has been serving as an editorial board member.

SPEAKER SLOTS AVAILABLE

London Attractions



Glimpses of Biomaterials Conferences















