NANOTECHNOLOGY ENABLES PERSONALISED MEDICINE

BioNanoMed 2012

3rd International Congress Nanotechnology in Medicine & Biology

01 - 02 March 2012, Krems/Austria
BioNanoMed 2012
1 - 2 March, Krems/Austria

Invitation

The conference addresses clinical physicians as well as nanoscientists with a background of pharmacology, biology, physics, chemistry and engineering involved in the development and clinical application of nanomedicine.

The conference is also of interest for policymakers, experts from industry in the field of life sciences as well as all those investigating the potential of future emerging technologies.

Exciting lectures and invited talks given by leading international scientists as well as poster presentations will offer delegates a good opportunity to discuss pioneering developments and to initiate cooperation projects.

Topics

Nanotechnology Enables Personalised Medicine
New Frontiers in Medicine & Biology
- Cancer
  - Magnetic Nanotherapy, Receptor based Targeting
- Nanostructured Materials for Regenerative Medicine
  - Dentistry, Cardiovascular Science, Neurology, Orthopedics
- Diagnostics & Therapy
  - Molecular Imaging, Nano-MRI, Nano-Sensing, Drug Delivery
- Multidisciplinary Nano-Technologies
  - NanoBio-Photonics, NanoBio- Electronics, Nano-Toxicology

Panel Discussion
How to bridge the Gap between Engineers, Clinical Scientists and Doctors

Special Session II
Commercialisation of NanoMedicine Products / Processes

Important Deadlines

Poster contributions: Submission deadline 17 February 2012
Early bird registration: 16 December 2011
Registration closing: 27 February 2012
Poster Awards 2012

Abstract submission is now open for Posters only

We accept a limited amount of poster submissions for the high-quality poster session! Poster presentations will offer delegates a good opportunity to discuss their research outcomes and to initiate cooperation projects.

- Erwin Schrödinger Society Poster Awards 2012 are intended to recognize outstanding research and are granted to the three best poster contributions (€ 300 for the first, € 200 for the second and € 100 for the third place).

- Special „Nanotoxicology“ Poster Award by BioNanoNet - the best poster in the field of nanotoxicology will be awarded with € 250,- and published in the EURO-NanoTox-Letters.

Authors wishing to contribute for a presentation must submit an abstract electronically to office@bionanomed.at.
Program - 1 March 2012

8.00 Registration
8.40 Opening and Welcome

CANCER

9.00 Nanomedical Landscapes – Plenary Talk
Mauro Ferrari, President of the Alliance for NanoHealth Houston, University of Texas, Houston (USA) - invited

9.35 Converging Physical and Biological Strategies for Radiation Sensitization of Tumors using Nanoparticles
Sunil Krishnan, Department of Radiation Oncology, Division of Radiation Oncology, The University of Texas MD Anderson Cancer Center, Houston (USA) - invited

10.00 Poly(alkyl cyanoacrylate) Nanoparticles as a versatile Platform against Cancer and Alzheimer’s disease
Julien Nicolas, University of Paris Sud France, Paris (France) - invited

10.25 A nanovaccine formulation based on dextran crystals entrapping antigen and adjuvans targets and actives dendritic cells and induces a potent cellular and humoral immune response in vivo
Limei Shen, Medical Center of Johannes Gutenberg University, Mainz, Department of Dermatology (Germany)

10.40 Coffee Break, Poster Session

11.10 Optimum nanoparticles for magnetic hyperthermia: theoretical and experimental results
Julian Carrey, Université de Toulouse, Laboratoire de Physique et Chimie des Nano-Objets, Toulouse (France)

11.25 Post-Exit Functionalisation of Virus-Like-Particles for Targeted Cancer Gene Therapy
Christoph Metzner, University of Veterinary Medicine, Institute of Virology, Vienna (Austria)

11.40 Electrochemotherapy improved, safety and personal approach for treatment of human skin tumors
Iana Ch. Tsoneva, Specialized Hospital for Active Treatment of Oncolog, Sofia (Bulgaria)

11.55 Polymer-TiO2 nanocomposites for anticancer drug delivery
Zhen She, National University of Singapore, Centre for Life Sciences, NUS Graduate School for Integrative Sciences & Engineering (Singapore)

12.10 European Funding for Nanosciences, Nanotechnologies, Materials and new Production Technologies (NMP) in FP7,
Gerald Kern, European and International Programmes, FFG – Austrian Research Promotion Agency, Vienna (Austria)

12.15 Lunch Break, Poster Session, Exhibition
13.15 Receptor targeted nanosystems for drug and gene delivery
Uday B. Kompella, University of Colorado Anschutz Medical Campus, Aurora (USA) - invited

13.40 Leukocyte mimetic microparticles for molecular imaging of inflammation
Robin P. Choudhury, Clinical Director Oxford Acute Vascular Imaging Centre, John Radcliffe Hospital, Department of Cardiovascular Medicine, Oxford (United Kingdom) – invited

14.05 Targeted liposomes for imaging of atherosclerotic plaques
Gunter Almer, Austrian Academy of Sciences, Institute of Biophysics and Nanosystems Research, Graz (Austria)

14.20 Applications of Atomic Force Microscopy for Nanotoxicity, Pathology and Medical Diagnostics
Gerald Kada, Agilent Technologies Österreich GmbH, Vienna (Austria)

14.35 Robust In-vivo Detection of SPIO Labeled Cells with MRI
Clemens Diwoky, Graz University of Technology, Institute of Medical Engineering, Graz (Austria)

14.50 Your Genome on Prescription: Nanotechnology in Next Generation Sequencing
Heinz Zoller, Gastroenterology and Hepatology, Medical University of Innsbruck (Austria) - invited

15.15 Correlative Light and Electron Microscopy - Bridging the Micro and Nano Worlds
Peter Gnauck, Carl Zeiss Nano Technology Systems GmbH, Oberkochen (Germany)

15.30 Optical detection of nanoparticle rotational dynamics as a new approach to homogeneous biosensing
Stefan Schrittwieser, AIT Austrian Institute of Technology GmbH, Health & Environment, Vienna (Austria)

15.45 Coffee Break, Poster Session

16.15 Detection of Dopamine on Multi-Walled Carbon Nanotubes
Nikos Tsierkezos, Technische Universität Ilmenau, Ilmenau (Germany)

16.30 Melanoma Diagnostics with Nanomechanical Biosensors
Francois Huber, Swiss Nanoscience Institute, University of Basel (Switzerland)

16.45 Magnetic lab-on-a-chip devices for biomolecular detection and real-time cell analysis
Astrit I. Shoshi, AIT Austrian Institute of Technology, Health & Environment, Vienna (Austria)
Program - 1 March 2012

17.00 Panel Discussion
How to bridge the gap between engineers, clinical scientists and doctors

18.00 Lab Tour (optional)

18.45 Departure to the “Wachauer Heurigen”
Program - 2 March 2012

DIAGNOSTICS & THERAPY

9.00 Functionalized OFETs for Biosensing
Wolfgang Knoll, AIT - Austrian Institute of Technology, Scientific Managing Director, Vienna (Austria) – invited

Dimitri Aubert, Oxford University Begbroke Science Park, Izon Science Ltd. Begbroke Centre for Innovation & Enterprise, Yarnton (United Kingdom)

9.40 Systematic Miniaturization of Microarrays
Levi A. Gheber, Ben-Gurion University of the Negev, Department of Biotechnology Engineering, The Ilse Katz Institute for Meso and Nanoscale Science and Technology, Beer-Sheva (Israel)

9.55 Special Session
Commercialisation of NanoMedicine Products / Processes
Chair: Kai Pinkernelli, Miltenyi Biotec GmbH, Head of Clinical Development, Bergisch Gladbach (Germany)

Sabine Jung, BRIMATECH Services GmbH, Vienna (Austria)
Jan Niehaus, Centrum for Applied Nanotechnology (CAN) GmbH, Hamburg (Germany)
Hristos Glavinas, NanGenex Inc., Budapest (Hungary)
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11.00 Coffee Break, Poster Session

MULTIDISCIPLINARY NANOTECHNOLOGIES

11.30 Penetration Studies of Polystyrene Nanoparticles into the Buccal Mucosa: Influence of Size, Surface Charge and Hydrophilicity/Hydrophobicity
Birgit Teubl, Karl-Franzens University Graz, Institute of Pharmaceutical Sciences/ Pharmaceutical Technology, Graz (Austria)

11.45 Biocompatibility of nanoporous silicon materials for controlled drug release, diagnostics and therapy
Hélder A. Santos, University of Helsinki, Division of Pharmaceutical Technology, Faculty of Pharmacy (Finland)

12.00 Distribution and clearance of 40-60nm polystyrene particles in the mouse body
Kata Kenesai, Laboratory of Cellular and Developmental Neurobiology, Institute of Experimental Medicine of the Hungarian Academy of Sciences, Budapest (Hungary)
Program - 2 March 2012

MULTIDISCIPLINARY NANOTECHNOLOGIES

12.15 Plasmon-enhanced fluorescence biosensors exploiting metallic nanostructures
Jakub Dostalek, AIT - Austrian Institute of Technology, Health & Environment, Vienna (Austria)

12.30 A New Platform for the Detection of Proteins inspired from the Olfactory Sensorial Chain
Juliette Fitremann, IMRCP, CNRS, Université de Toulouse, Toulouse (France)

12.45 Self-consistent simulation of nanowire field-effect biosensors
Stefan Baumgartner, University of Vienna, Wolfgang Pauli Institute c/o Department of Mathematics, Vienna (Austria)

13.00 Lunch Break, Poster Session

NANOSTRUCTURED MATERIALS FOR REGENERATIVE MEDICINE

14.00 Medicinal Feasibility in “Bench to Bedside Projects”
Hans-Jörg Meisel, Director of Klinik für Neurochirurgie, Head of Neurozentrum BG-Kliniken Bergmannstrost, Halle (Germany) - invited

14.25 Nanomaterials, Stem Cell Differentiation and Clinical Transplantation
Paolo Macchiarini, Advanced Center of Translational Regenerative Medicine, Karolinska Institutet, Stockholm (Sweden) - invited

14.50 Free Form Fabrication of Elastic Polymeric Biomaterials
Günter E. M. Tovar, Fraunhofer Institute for Interfacial Engineering and Biotechnology IGB, Stuttgart and University of Stuttgart, Institute for Interfacial Engineering IGVT, Stuttgart (Germany)

15.05 The Influence of nanostructures on adhesion and survival of adult neural stem cells
Ute Schäfer, Medical University Graz, Research Unit Experimental Neurotraumatology, Department of Neurosurgery, Graz (Austria)

15.20 Plasma-deposited nanolayer on electrospun fiber mesh enhances occupancy by epithelial cells
J. Barbara Nebe, University of Rostock, Biomedical Research Centre, Rostock (Germany)

15.35 Lunch Break, Poster Session
16.00 Chitosan and derivatives modified with HAp/β–TCP microparticles and Nanoparticles
Luciano Pighinelli, Institute of Biopolymers and Chemical Fibers– IBWCh, Lodz (Poland)

16.15 Electrospinning oriented fibers with focused deposition area by introduction of auxiliary electrodes
Günter Grasl, Medical University Vienna, Center for Medical Physics and Biomedical Engineering, Vienna (Austria)

16.30 Surface Roughness and Hydrophilicity of Bio-Based Bone Fixation Materials: Plasma Techniques, Chemical and Mechanical Treatment
Clemens Ebner, Graz University of Technology, Institute for Chemistry and Technology of Materials (ICTM), Graz (Austria)

16.45 Poster Awards Ceremony
- Erwin Schrödinger Society Poster Awards 2012
- Special „Nanotoxicology“ Poster Award by BioNanoNet GmbH

Closing Words

17.00 End of the Congress
BioNanoMed 2012
1 - 2 March, Krems/Austria

Venue
Danube University Krems
Section A, Audimax

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