

**CLINAM**  
European Foundation for  
Clinical Nanomedicine

 EUROPEAN MEDICINES AGENCY  
SCIENCE MEDICINES HEALTH

 EUROPEAN  
SCIENCE  
FOUNDATION  
SETTING SCIENTIFIC AGENDAS FOR EUROPE

 nanomedicine  
EUROPEAN TECHNOLOGY PLATFORM

European Society for  
NanoMedicine

## 4th European-Conference for Clinical Nanomedicine (CLINAM 2011)

The Great Strides towards the Medicine of the Future

### Programme Excerpts

Monday, May 23, 09.00 am – Wednesday, May 25, 2011, 4.30 pm in Basel, Switzerland

This is the **largest Nanomedicine Platform in Europe in 2011** It is on an Interdisciplinary level and will show the state of the art as well as further the development of Nanomedicine to the benefit of the Patient and Mankind. We want to make you familiar with the fact that this Platform exists and could be an opportunity for you. **The European Foundation for Clinical Nanomedicine (CLINAM)** organises the 4<sup>th</sup> European Conference for Clinical Nanomedicine in collaboration with the **European Technology Platform on Nanomedicine (ETPN)**, the **European Science Foundation (ESF)**, the **European Society for Nanomedicine (ESNAM)** and the **European Medicines Agency (EMA)**. The cooperation between these non-profit organizations allows to present a state of the art in Nanomedicine comprising • the Clinical View • First-hand Information on Policy Issues • Strategic Outlook from the Industrial Point of View • the Research Roadmap for Europe in Nanomedicine • Regulatory Aspects in Nanomedicine and • Ethical implications of Nanomedicine. • Societal and environmental impact • Policy activities to foster the advancement of Nanomedicine • Industrial opportunities and expectations • Regulatory aspects of Nanomedicine (EMA Sessions) • Strategic actions by health authorities • Translation from Bench to Clinic

### Opening

• With Nanomedicine towards Personalised Medicine - Now and Future **Prof. Dr. med. Patrick Hunziker**, President of the **European Society for Nanomedicine**, Basel (CH) • The Engineering of Nanostructures with Applications from Civil Engineering to Medical Science **Prof. Dr. Sir Harold Kroto**, Nobel Laureate, Department of Chemistry and Biochemistry, Florida State University, Tallahassee, Florida (USA)

### Unsolved Medical Problems Waiting for Nanomedical Solutions

• Personalised Medicine **Dr. med. Vincenzo Costigliola**, President of the **European Association for Predictive and Preventive & Personalised Medicine**, (EPMA), Brussels (B) • Unsolved Problems in Diabetes **Prof. Dr. med. John Pickup**, Kings College, London (UK) • From Less Effective to Unsolved Problems in Implantation **Prof. Dr. med. Enrique Gómez Barrena**, Hospital "La Paz", Universidad Autónoma de Madrid (SP) • Unsolved problems in Neurology – Alzheimer and Parkinson **Prof. Dr. med. Jörg B. Schulz**, Head of Department of Neurology, University Hospital Aachen (D) • Inflammation: A Process at the Heart of Disease-Development and Body Defences **Prof. Dr. Jürg Tschopp**, Department of Biochemistry, University of Lausanne (CH) • Cancer Stem Cells and Inflammation – Friend or Foe? **Dr. Christoph Ginestier**, Research Investigator, Marseille Research Cancer Center, Marseille (F) • Inflammation in the Gastrointestinal Tract: Basics and Potential Therapeutic Interventions **Prof. Dr. med. Bernhard Sauter**, The Hirslanden Private Clinic Group Zurich, (CH) • SIRS – The Inflammatory Killer Disease in Intensive Care Medicine: Challenges Ahead **Prof. Dr. Didier Payen de la Garanderie**, Head Département d'Anesthésie-Réanimation-SMUR, Hospital Lariboisière, Paris (F) • The Mysteries of Autoimmune Diseases in Rheumatology **Prof. Dr. med. Alan Tyndall**, Head of Department Rheumatology, Felix Platter Hospital, Basel (CH) • The Discovery of Plasmodium by Alphonse Laveran (1880) and Today's Global Fight Against Malaria **Prof. Dr. med. Blaise Genton**, Polyclinics of the University of Lausanne Hospital, Lausanne, (CH) • Arteriosclerosis – A Life Threatening Inflammatory Disease **Prof. Dr. med. Patrick Hunziker**, President of the **European Society for Nanomedicine**; Deputy Head of the Intensive Care Clinic of the University of Basel, (CH)

### Nanoscience Technology for Solving Medical Problems

• Nanotechnologies for Overcoming Cancer Resistance **Prof. Dr. Patrick Couvreur**, University of Paris Sud (F) • Targeted Photo Dynamic Therapy Using Nanocarriers **Patrick Boisseau**, CEA-Leti, Grenoble (F) • Reducing Inflammation by Nanopyramids on Bone Implants **Prof. Dr. Bert Müller**, Director of Biomaterials Science Center, University of Basel • Gene Activated Matrices for Bone and Cartilage Regeneration in Arthritis (GAMBA) **Prof. Dr. Christian Plank**, Institute for experimental oncology and therapy research of the Technical University of Munich, (D) • Nanotechnology Based Nano-Medical Device for the Treatment of Osteoarthritis **Prof. Dr. Yechezkel Barenholz**, Hebrew University - Hadassah Medical School, Jerusalem (IL) • The Use of Nanotechnology in Neurodegenerative Diseases, Emphasis on Parkinson **Prof. Dr. Kostas Kostarelos**, School of Pharmacy, University of London, (UK) • Thermosensitive Magnetoliposomes for MRI-guided Drug Delivery **Dr. Laurent Lévy**, CEO of Nanobiotix, Paris (F) • Nano-immune Toxicology: Unmet Needs in Safety Prediction **Prof. Dr. med. Janos Szebeni**, Bay Zoltán Institute of Nanotechnology, Budapest (H) • Perspectives of Nanotechnology Based in Vitro Diagnostics in Inflammation **Dr. med. Laszlo Takacs, PhD, D.Sc.**, CSO and Director General of BioSystems, Evry (F) • Diagnostics of Infection by Array-Technology **Prof. Dr. Martin Hegner**, Nanobiotec group CRANN; The Naughton Institute; School of Physics, Trinity College Dublin, Dublin (IRL) • Ultrasound Molecular Imaging in Precision medicine after Lessons from Preclinical Imaging **Dr. med. François Tranquart, PhD**, Director, Bracco Suisse SA, Geneva (CH) • Therapeutic Targeting of Inflammation in Chronic Inflammatory Disorders **Prof. Dr. Gert Storm**, Institute for Pharmaceutical Sciences, Utrecht University, Utrecht (NL) • Therapeutic Targeting of Infection: Design of Nanovectors for the Targeted Delivery of Antimalarials **Dr. Xavier Fernández-Busquets**, Institute for Bioengineering of Catalonia, Barcelona (E) • Prophylactic and Therapeutic Modes of Topical Photodynamic Ultradeformable Archaeosomes against Leishmania Brasiliensis in Mice and Guinea pig **Prof. Dr. Eder Lilia Romero**, Director of the Nanomedicine Research Program (NRP), Universidad Nacional de Quilmes, Buenos Aires (RA) • Simulation of Tailored Physical Chemical Properties of Bio Molecules **PD. Dr. Wolfgang Wenzel**, The Institute of Nanotechnology, Karlsruhe Institute of Technology, Karlsruhe (D) • CriPec: Translation of a Micellar Drug Delivery Platform into Pharmaceutical Products **Dr. Cristianne JF Rijcken, Pham**, CEO, Cristal Delivery BV., Utrecht, (NL) • Challenges in Manufacturing and Application of Nanoparticles as Diagnostic Tool. **Prof. Heinrich Hofmann**, EPFL, Institute of Materials, Powder Technology Laboratory, Lausanne (CH) • The Powerful Link between Photodynamic- and Nanomedicine **Prof. Dr. Heinrich Walt**, Vice-President of the European Platform for Photodynamic Medicine (EPPM) University Hospital Zürich, (CH) • Nano-Tonometry: a New Measure for Structural Re-organization of the Eye Caused by Glaucoma **Prof. Dr. Rutledge Ellis-Behnke**, Department of Ophthalmology, Medical Faculty Mannheim, Ruprecht-Karls-University, Heidelberg (D) • Smart Nanostructured Active Implants for Tissue Engineering Applications **Prof. Dr. Nadia Jessel**, HDR, Research Director Inserm (National Institute for Health and Medical Research) UMR 977, Active Biomaterials & Tissue Engineering and University of Strasbourg (F) • Nanofluidic Technologies for Medical Diagnostics **Prof. Dr. Giacinto Scoles**, ELETTRA Synchrotron, SISSA and CBM, Area Science Park, Basovizza, Trieste (I) and Biology Department, Temple University, Philadelphia (USA) • Silver Nanoparticles - the Real "Silver Bullet" in Clinical Medicine? **Prof. Dr. Kenneth Kak Yuen Wong**, Department of Surgery, LKS Faculty of Medicine, University of Hong Kong and Queen Mary Hospital, Hong Kong (HK/RC) • Imaging Controlled Tumor Therapy with Magnetic Nanoparticles **Prof. Dr. med. Christoph Alexiou**, Head Division for Experimental Oncology and Nanomedicine at the Department of Oto-Rhino-Laryngology, Head and Neck Surgery, University Hospital Erlangen (D) • Shear Responsive Nanosystem for Cardiovascular Disease **Dr. Andreas Zumbuehl**, Assistant Professor, Department of Organic Chemistry, University of Geneva (CH)

**Late Breaking and Ongoing Trials in Nanomedicine** • Abraxane® in Pancreatic Cancer Treatment **Dr. Neil P. Desai**, Senior Vice President, Global Research & Development, Abraxis BioScience LLC, Los Angeles (USA) • Anticancer Agents Incorporating Polymer Micelles under Clinical Evaluation. Phase II: Lessons Learned from Early Clinical Trials **Prof. Dr. med. Yasuhiro Matsumura**, Chief, Investigative Treatment Division, Research

Center for Innovative Oncology, National Cancer Center Hospital East, Kashiwa City (J) • The Development of Lipid Nanoparticle Formulations for siRNA-Based Drugs **Dr. Ian MacLachlan**, Executive Vice President and CSO, *Tekmira Pharmaceuticals Corporation* Burnaby, British Columbia (CDN) • Thermal Treatment with Magnetic Nanoparticles **Dr. rer. nat. Andreas Jordan**, CSO, magForce Nanotechnology AG, Berlin (D) • New Development of Doxorubicin Transdrug in Hepatocellular Carcinoma **Dr. med. Pierre Attali**, COO, Bioalliance Pharma, Paris (F) • Nanomedicine for Development of Therapeutic Vaccines against Infectious Diseases, Immunological Disorders and Cancer **Prof. Dr. Julianna Lisziewicz**, President, Genetic Immunity, Budapest (H) • Clinical Impact of Albumin on Drug Delivery **Dr. Felix Kratz**, Head of the Division of Macromolecular Prodrugs, Tumor Biology Center, Freiburg (D) • Pre- and Clinical Development of Transbuccal Insulin-GNP **PD Dr. Jan Mous**, CEO PharMida AG and COO Midatech Ltd, Muttentz (CH) • Nanoparticles for the Treatment of Allergic Asthma: Results of a Placebo-controlled Phase II Study **Dr. Wolfgang A. Renner**, CEO, Cytos Biotechnology Ltd, Schlieren (CH) • Recent Trends in Dendrimer Based Nanomedicine and Drug Delivery **Prof. Dr. Donald Tomalia**, National Dendrimer & Nanotechnology Center, Central Michigan University, Mt. Pleasant (USA)

### Three ETPN-Sessions

1) **Nanomedicine: Strategic Vision, Future Research, Needs for Funding and Policy Initiatives, Roadmaps to the Advancement to the Benefit of the Patient** • Guiding the Strategy for Nanomedicine in Europe - The need for Consolidated Action **Patrick Boisseau**, Chairman Working Group Nanodiagnosics ETP Nanomedicine, CEA Leti, Grenoble (F) • How Industry Adapts and What Politics Should Do **Dr. med. Isabelle Thizon-de Gaulle**, Vice President "Scouting and Partnering R&D" France, Sanofi-Aventis, Paris (F) (tbc) • The Challenge of Nanomedicine for Targeted Delivery – Translating from the Lab to Patients **Dr. med. Richard Peck**, Global Head Clinical Pharmacology, F. Hoffmann-la Roche Ltd., Welwyn Garden City, (UK) 2) **The Industrial Perspective of Nanomedicine 2011 - 2020** (PANEL) **Dr. Laurent Lévy**, CEO, Nanobiotix, Paris (F) **Dr. rer. nat. Andreas Jordan**, CSO, magForce Nanotechnology AG, Berlin (D) **Dr. Heinrich Rohrer**, Nobel Laureate Physics 1986, Wollerau (CH) **Dr. Neil P. Desai**, Senior Vice President, Abraxis BioScience, Los Angeles (USA) **Prof. Dr. med. Christoph Alexiou**, University Hospital Erlangen (D) **Dr. med. Richard Peck**, Global Head Clinical Pharmacology, F. Hoffman-la Roche, Welwyn Garden City, (UK) 3) **The ETPN Flash Proposal Session – Present your Ideas for Collaborative Research Projects - Find partners to join your efforts!** Session for participants in the meeting to seek for common goals and cooperation

### The Politicians Statements to Nanomedicine

• Statements on Nanomedicine from the Swiss Parliament **Dr. Mauro Dell'Ambrogio**, Secretary of State for Education and Research of Switzerland, Berne, (CH) • Statements on Nanomedicine from the European Union **Dr. Rudolf Strohmeier**, Deputy Director General of the DG for Research, Brussels (B) • ETPN's Statement: Vision Towards the Take Off of Nanomedicine in Europe **Bertrand Loubaton**, MBA, Chairman of the ETPN and Director Pharmaceutical & Academic Research, Director Strategy, Head of Innovation and Cooperation, GE Healthcare Europe, Velizy (F)

### Where Size Matters

**Nanodrugs: Definition, Action, Self Assembly (Panel)** • Where Size Matters? - the Problems of Nanodrug Definitions **Prof. Dr. Jan Mollenhauer**, University of Southern Denmark Head Molecular Oncology Director of Lundbeckfonde Center of Excellence in Nanomedicine NanoCAN, Odense (DK) • What Characterizes a Nanodrug? **Prof. Dr. Costas Kiparissides**, Professor of Chemical Engineering, Aristotele University of Thessaloniki (GR) • Nanotechnology for Reducing Drug Toxicity **Prof. Dr. med. Bengt Fadeel**, PhD, Institute of Environmental Medicine (IMM) Karolinska Institutet, Stockholm (S) • Today's Performance of Nanodrugs **Prof. Dr. Rogério Gaspar**, Nanomedicine & DDS group, iMed.UL and Faculty of Pharmacy, University of Lisbon, Lisbon (P) • Manipulating Molecular Self-Assembly for Drug Development and other Technological Challenges for

Nanodrug Development **Prof. Dr. med. Ehud Gazit**, PhD, Vice President for Research and Development Incumbent, Endowed Chair for Nano-Biology, Chairman of the Board, Ramot Ltd. Tel Aviv University, Tel Aviv (IL)

### Two EMA- Sessions

1) Challenge: The Existing Regulation Environment in Relation to Nanomedicine • Panel and Debate **Experts from US-FDA, Health Canada, MHLW / NIH Japan, EU: DG SANCO** 2) Anticipation of the Future Needs regarding Nanomedicine • What Clinicians Need from the Regulators! 4 Short Propositions from the Clinicians • Exploring Nano-Biological Systems Encountering a Nanomedicine • Nanomedicines and First in Man Studies: Role of Non-clinical Studies and Key Regulatory Challenges • Scientific Advice and Nanotechnology: the EMA Pre-Competitive Qualification Pathway • Converging Regulatory Requirements **Presentations by Experts related to Regulation Agencies**

### Nanorobotics

**Nanobots, Nanoids, Nanites, Nanomachines - under research or development?** • Nanorobotics – Medical Reality tomorrow? **Prof. Dr. Antoine Ferreira**, Head of Nanorobotics Group Control and Nanoscale Physics Modeling, Bourges, University of Orleans (F) • Top Down Approach to Intelligent Nanosystems **Prof. Dr. Bradley Nelson**, Founder and Professor of Robotics and Intelligent Systems, Leader of the Multi-Scale Robotics Lab, ETH Zürich, Zürich (CH) • Bottom Up Approach to Intelligent Nanosystems **Prof. Dr. med. Patrick Hunziker**, Dep. Chief of the Intensive Care Clinic of the University of Basel (CH)

### Cancer Session

**Looking back to the CLINAM 2010 Focus Sessions - Continuation on Cancer** • From Vision to Reality: Nanomedicine in the Oncology Practice **Prof. Dr. med. Alberto Gabizon**, Hebrew University, Jerusalem (IL) • Nanomedicine - a Big Step towards Curing Cancer **Prof. Dr. med. Simo Schwartz, Jr., PhD**, Nanomedicine Coordinator Molecular Biology and Biochemistry Research Center for Nanomedicine (CIBBIM-Nanomedicine) Vall d'Hebron University Hospital Research Institute, Barcelona (SP) • The Short Statements from the Experts **Prof. Dr. med. Patrick Hunziker**, Dep. Chief of the Intensive Care Clinic of the University of Basel, President of the European Society for Nanomedicine, Basel (CH) **Dr. Neil P. Desai**, Senior Vice President, Global research & Development, Abraxis BioScience, Los Angeles (USA) **Prof. Dr. med. François Berger**, Université Joseph Fourier, Director of Unit "Nanomédecine et Cerveau" of INSERM, Grenoble (F) **Prof. Dr. med. Yasuhiro Matsumura**, Chief, Investigative Treatment Division, Research Center for Innovative Oncology, National Cancer Center Hospital East, Kashiwa City (J) **Prof. Dr. Jan Mollenhauer**, University of Southern Denmark Head Molecular Oncology Director of Lundbeckfonden Center of Excellence in Nanomedicine NanoCAN, Odense (DK) **Prof. Dr. Yechezkel Barenholz**, Head, Lab of Membrane and Liposome Research Department of Biochemistry, Hebrew University - Hadassah Medical School, Jerusalem (IL)

### Boost the Moral

**Ethics, Sustainability in Nanomedicine** • **Prof. Dr. Hans-Peter Schreiber**, Professor em. for Bioethics, ETH Zürich (CH) • Growth and Ethics in Nanomedicine - Long Return on Investment and Sustainable Development **Beat Löffler**, MA, CEO of the European Foundation for Clinical Nanomedicine, Basel (CH) • How to keep Ethics in Nanomedicine Within Daily Life and Work Routine **Dr. Klaus-Michael Weltring**, Director, Network Bioanalytik, Münster (D) • What's the Good of Nanomedicine – and Should it Lead the Enhancement? **Dr. Donald Bruce**, Edinethics Ltd., Edinburgh, Scotland (UK) • Why We Are Not the Slaves of Our Genes: a Novel Aspect of Nanobiology **Prof. Dr. Gottfried Schatz**, Professor emeritus for Biochemistry, Biozentrum, University of Basel (CH)

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Paper- and Poster Submissions possible until March 10, 2011