

CLINAM

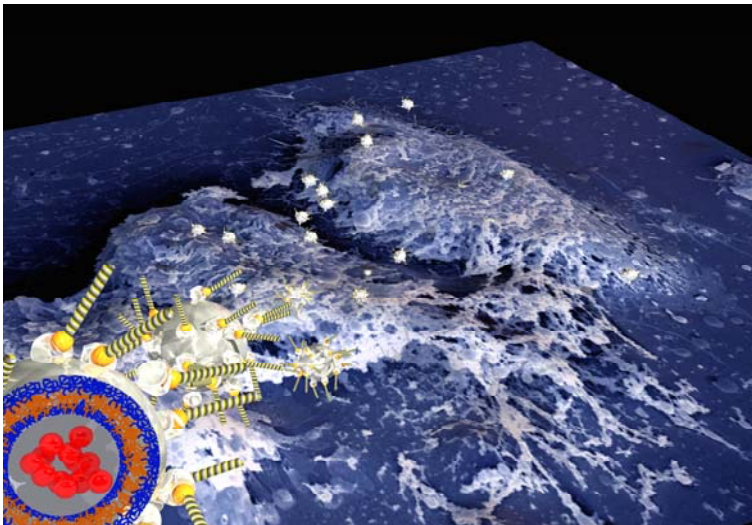
European Foundation for Clinical Nanomedicine

2nd European Conference for Clinical Nanomedicine

Nanotechnology for Novel Solutions in Medicine

Monday April 27 – Wednesday April 29, 2009
Messe Schweiz, Hall l'Entrée, Basel, Switzerland

FINAL PROGRAMME



► For Conference Registration
www.clinam.org

► Membership Registration for the European Society of Nanomedicine
www.esnam.org

Organisers

The European Foundation for Clinical Nanomedicine (CLINAM) (www.clinam.org) in cooperation with the **European Society for Nanomedicine** (www.esnam.org)

Responsible

Beat Löffler, MA, Chief Executive Officer of the CLINAM-Foundation

Prof. Dr. med. Patrick Hunziker, President, European Society for Nanomedicine and Chief Scientific Officer of the CLINAM-Foundation

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International Gathering of Clinicians and Technologists

The European Conference for Clinical Nanomedicine is *the* annual scientific conference uniting clinicians and nanoscientists with the common vision of applying nanoscience methods, tools and materials for the benefit of the patient. It is a conference with European emphasis and international participation. - The CLINAM-Conference combines a strong clinical focus with leading edge technology and science and has proven to be a very fruitful platform for problem- (and solution-) oriented discussions between physicians, scientists and engineers.

Topics and Key Issues

This conference will show the promise and limits of nanomedical tools, techniques, and materials in the context of unsolved medical problems. It will also address questions of sustainability, toxicity, ethics, societal and environmental impact. The debate will start with clinicians reporting the unsolved medical problems in the following fields: Cardiology, Oncology; Neurology / Neurosurgery; Dermatology; Orphan diseases; Orthopaedics and Implants; Haematology; Inflammatory and Infections Diseases. Based on the clinical reports, discussions on ways to solve the medical relevant problems will be discussed from the "Nanotechnological" point of view. What is the state of the art and what novel solutions are on the horizon?

The Faculty

The faculty of this conference includes pioneers and opinion leaders both from the medical and nanoscience fields, who wish to share their experience and interact in a strongly interdisciplinary manner, with the aim of widening mutual understanding.

Target Audience

The conference addresses clinical physicians as well as nanoscientists with a background in pharmacology, biology, physics, chemistry and engineering, involved in the development and clinical application of nanomedicine. The conference is also be of interest to policy makers, industrial experts in the field of life sciences and scientists involved in the development of new tools and materials for nanomedicine, as well as all those investigating the potential of future emerging technologies.

Debate Style

The CLINAM-Debate-Method® will be applied; the speakers will commit themselves to short presentations, making the outcome of their speech within 10 minutes. This way several hours will

be reserved for debates and short statements from all conference participants. This should lead to an excellent exchange of knowledge, ideas and know-how between the medical doctors, chemists, physicists, biologists and pharmacologists as well as with technicians and technology researchers.

Conference Layout

The layout of the conference rests upon the following principles:

- Step 1 Which unsolved clinical problems are waiting for nanomedical solutions?
- Step 2 What nanoscience technologies are available to solve these medical problems?
- Step 3 What is the state of the art in late breaking and ongoing trials in nanomedicine in 2009?
- Step 4 What are the grand challenges of nanomedicine *in the near future*?

The Pre-Conference Meeting

Sunday, April 26, 2009

15.00 First Meeting of the International Society for Nanomedicine (ISNM)

The **European Society for Nanomedicine** and the **American Society for Nanomedicine (ASNM)** have chosen the 2nd CLINAM Conference as the venue for the first meeting of the new International Society for Nanomedicine (ISNM). This international Society is created to be a global organization that represents co-operation and collaboration without borders in all fields of nanomedicine.

The European and the American Society for Nanomedicine have initiated this international society and a joint working group has established initial statutes, general guidelines and a strategy how to proceed. On April 26 there will be an open discussion among the representatives of all interested parties concerning an adaptation of the structure of the international society with the goal of an as fully as possible transparent policy which is open and acceptable to all interested parties. To this end, assigned speakers from all continents shall in very brief 5 minutes-presentations show their existing national programmes in the field of Nanomedicine.

The **European and the American Societies** will present the proposed guidelines and structure for the **ISNM** as the transparent international network to support the research and global cooperation in Nanomedicine. All attending representatives of the meeting will make suggestions for matters to be included in an amendment of the statutes. The active **ISNM Working Group** will be complemented and items for its first agenda shall be identified. The meeting is followed by an invitation for dinner by the **European Society for Nanomedicine**.

19.30 Dinner of the European Society for Clinical Nanomedicine for International Representatives and for on Sunday in Basel Arrived Speakers

The Conference Programme

Monday, April 27, 2009

7.30 – 8.45 **Registration**

08.45 **Opening of the Conference**

Welcome address of the CLINAM-Foundation

Dr. Alexander Gutmans, President, Board of Trustees of the European Foundation for Clinical Nanomedicine, Basel, (CH)

Greeting Address of the Federal Office of Public Health

Prof. Dr. med. Thomas Zeltner, Director General of the Federal Office of Public Health, Bern, (CH)

Greeting Address by the City of Basel

Dr. Carlo Conti, Chancellor of the Governing Council of the Canton Basel-Stadt, (CH)

Greeting Address by the European Union

Heico Frima, Programme Responsible for Nanomedicine, European Commission, Research Directorate General, Brussels, (B)

Greeting Address by the ETP Nanomedicine

Dr. Jürgen Simon, Co-Chairman, European Technical Platform of Nanomedicine, Erlangen (D)

The Steps to Clinical Nanomedicine

Chairman **Beat Löffler, MA**, CEO, European Foundation for Nanomedicine, Basel (CH)

09.20 **Introduction Lecture**

Nanomedicine: What it Is and How it Will Shape the Future of Medicine

Prof. Dr. med. Patrick Hunziker, CSO of the European Foundation for Clinical Nanomedicine and President of the European Society for Nanomedicine, University Hospital, Basel (CH)

Keynote Lecture

09.45 ***Nanoscience and Nanotechnology - Supramolecular Chemistry and Self Organisation***

Prof. Dr. Jean-Marie Lehn, ISIS, Université Louis Pasteur, Strasbourg and Collège de France, Paris, Nobel Prize Laureate, Strasbourg (F)

10.30 **Break**

11.00 **Table 1**

Unsolved Problems Waiting for Nanomedical Solutions (1)

Chairmen **Prof. Dr. med. Peter Meier-Abt**, Vice-principal and Head of Research, University Basel (CH)

Prof. Dr. med. John Pickup, Kings College, Guy's Hospital, London (UK)

- Statement 1 **Cardiology**
Myocarditis and dilated Cardiomyopathy
Prof. Dr. med. Gerhard Schuler, Chair for Cardiology at the medical faculty of the University of Leipzig (D)
- Statement 2 **Oncology / Haematology**
Biomedical Motivations for the Use of Nanotechnology in Oncology
Prof. Dr. med. François Berger, Université Joseph Fourier, directeur de l'unité „Nanomédecine et cerveau“ de l'INSERM, Grenoble (F)
- Statement 3 **Neurology / Neurosurgery**
The Blood Brain Barrier – a Hurdle for Neuropharmacology
Prof. Dr. med. Albert Ludolph, Chairman, Department of Neurology, University of Ulm (D)
- Statement 4 **Inflammatory and Infectious Diseases**
Innate Immune System – the Door between Infection and Auto-immunity
Prof. Dr. med. Alan Tyndall, Head of the Department of Rheumatology, Clinic of Rheumatology, University of Basel (CH)
- Statement 5 **Eye Disease**
Progress and Challenges with Common Causes of Blindness
Prof. Dr. med. Andrew Lotery, University and Southampton Eye Unit
 Southampton General Hospital, Southampton (UK)
- Statement 6 **Ear Disease**
Inner Ear Damage and Repair: Possible Mechanisms
Prof. Dr. med. Alessandro Martini, Head Department Audiology, ORL Clinic,
 Ferrara (I)
- 12.20 **Questions and Discussion**
- 13.00 **Lunch**
- 14.15 **Table 2**
Emerging Nanoscience Technologies for Solving Medical Problems (1)
- Chairmen **Prof. Dr. Gert Storm**, Pharmaceutical Sciences, Utrecht University (NL)
Prof. Dr. Joachim Seelig, Biozentrum, Basel (CH)
- Statement 1 **Restoring Vision by Nanomedicine**
Nano Neuro Knitting: Nanotechnology for Haemostasis, Brain and Organ Repair
Prof. Dr. Rutledge Ellis-Behnke, Massachusetts Institute of Technology,
 Cambridge (USA) and University of Hong Kong (China)

- Statement 2 **Compounds**
Bioinspired Polymer Nanostructures for Medical Therapy
Prof. Dr. Ernst Wagner, Director, Department of Pharmacy, Pharmaceutical Biology, Biotechnology at Ludwig-Maximilians-University, Munich (D)
- Statement 3 **Ear Disease**
Application of Nanotechnology in Inner Ear Drug Delivery
Prof. Dr. med Ilmari Pyykkö, Head of Otolaryngology, Tampere University Hospital, Tampere (FIN)
- Statement 4 **Applications with Nanotubes for Various Diseases**
Carbon Nanotubes – Applications in Oncology, Neurology and Immunology
Prof. Dr. Kostas Kostarelos, School of Pharmacy, University of London (UK)
- Statement 5 *Carbon Nanotubes for Dermatology and Transdermal Applications*
Prof. Dr. Marianna Foldvari, Canada Research Chair in Biotechnology and Nanomedicine, School of Pharmacy, University of Waterloo, Waterloo, Canada
- Statement 6 **Cardiology**
Nanomaterial Approaches to Atherosclerosis
Prof. Dr. med. Patrick Hunziker, CSO of the European Foundation for Clinical Nanomedicine and President of the European Society for Nanomedicine, University Hospital, Basel (CH)
- 15.35 **Questions and Discussion**
- 16.15 **Break**
- 16.45 **Panel-Debate 1**
How to apply Nanotechnologies in the Clinic to Solve Medical Problems?
- Chairman **Prof. Dr. med. Patrick Hunziker**, President of the European Society for Nanomedicine, Basel, CSO of the European Foundation for Clinical Nanomedicine (CH)
- Participants **Prof. Dr. Gert Storm**, Institute for Pharmaceutical Sciences, Dept. of Pharmaceutics, Utrecht University (NL); **Prof. Dr. Mike Eaton**, Head of Biological Chemistry, UCB, Slough (UK); **Dr. med. Varvara Karagkiozaki** AHEPA University Hospital, Thessaloniki, (GR), **Prof. Dr. med. Hans Myhre**, Professor of Surgery, Oslo (N); **Prof Dr. med. John Pickup**, Guy's Hospital / Kings College, London (UK), **Prof. Dr. med. Didier Payen de la Garanderie**, Hospital Lariboisière, Paris (F) **Patrick Boisseau**, Programme Manager and Coordinator of Nano2Life, CEA-Leti, Grenoble (F) **Prof. Dr. Matthias Pfisterer**, University Hospital Basel (CH)

- Questions
- How to advance diagnosis & management of rheumatic disease?
 - How could nanomedicine restore organ function?
 - How could nanomedicine replace or improve organ transplantations?
 - How can neurological diseases like Parkinson or Alzheimer be targeted?
 - How could nanomedicine eradicate AIDS or tuberculosis?
 - How can malaria and other tropical diseases profit from nanomedicine?
 - How can nanomedicine improve efficiency and reduce side effects of cancer therapies?
 - How can nanomedicine improve diabetes management?
 - Can atherosclerosis be eradicated through nanomedicine?
- 17.50 **Table 3**
Late Breaking and Ongoing Clinical Trials in Nanomedicine (1)
- Chairmen **Prof. Dr. Stephan Marsch**, University Hospital Basel (CH)
Prof. Dr. Didier Payen de la Garanderie, Hospital Lariboisière, Paris (F)
- Statement 1 *Demonstration of In Vivo Anti-inflammatory Activity for Simple Functionalized Poly (amidoamine) (PAMAM) Dendrimers*
Prof. Dr. Donald Tomalia, Director of the National Dendrimer & Nanotechnology Center, Central Michigan University, Michigan (USA)
- Statement 2 *A Tumor-targeting Nanodelivery Platform on Trial*
Prof. Dr. Esther Chang, Georgetown University Medical Center, Department of Oncology and Otolaryngology Lombardi Comprehensive Cancer Center, Washington (USA)
- Statement 3 *Long-circulating Liposomal Prednisolone versus Pulse Intramuscular Methylprednisolone in Patients with Active Rheumatoid Arthritis*
Dr. Josbert M. Metselaar, CEO, Enceladus Pharmaceuticals, Amsterdam (NL)
- Statement 4 *Virosomes: Nanomedicine in the vaccine development*
Dr. Rinaldo E. Zurbriggen, Chief Scientific Officer, Pevion Biotech Ltd. Ittigen (CH)
- 18.50 **Questions and Discussion**
- 19.20 **End of Day 1**
- 19.45 **Walking together from Lobby, Hotel le Plaza, to Evening Event-Place**
- 20.15 **Official CLINAM-Conference Evening Event:**
Dinner in the Basel Gothic St. Elisabeth Church; a short Ballet Intermezzo "HEALTH" by the Cathy Sharp Dance Ensemble, a speech; five times five minutes of fine music from the Barrel Organ, the Marimba, the Glass Harp, the Chalumeau and the world's first presentation of the "Pinakiophone".
(Participation must be registered at latest 1 week before the conference)

Tuesday, April 28, 2009

3 Parallel Sessions

08.15 – **Hall A: 3 Clinical Workshops,**
12.00 **Hall B: 3 Technical Workshops**
, Hall C: 3 Implication Workshops

08.15 **Clinical Workshop 1 - Neurology / Neurosurgery**
Chairman **Prof. Dr. Hans Myhre**, University Hospital, Oslo (N)

Statement 1 *From Mice to Men – Hurdles in Translational Research in Neurodegenerative Diseases – the Example ALS*
Prof. Dr. med. Albert Ludolph, Chairman of the Department of Neurology
University of Ulm, Ulm (D)

Statement 2 *Nano Neuro Knitting*
Prof. Dr. Rutledge Ellis-Behnke, Massachusetts Institute of Technology,
Cambridge (USA) and University of Hong Kong (China)

Statement 3 *Nanostructured Flexible Electrodes for Long Term Cortical Recording*
Dr. Raymond Campagnolo, PM, Microtechnologies for Biology and Healthcare
Department, CEA-Leti Minattec, Grenoble (F)

Statement 4 *Evaluation of Valproic Acid-loaded Nano-capsule Penetration across the Blood-Brain Barrier by Brain Microdialysis in Awake Rodents*
Prof. Dr. Teresa Dalla Costa, Universidade Federal do Rio Grande do Sul, Porto
Allegre, (Brazil)

09.30 **Clinical Workshop 2 - Oncology / Inflammation**
Chairman **Prof. Dr. med. Alan Tyndall**, Department of Rheumatology, University Basel (CH)
Prof. Dr. Ernst Wagner, Director, Department of Pharmacy, Pharmaceutical
Biology, Biotechnology, Ludwig-Maximilians-University, Munich (D)

Statement 1 *Nanoparticles Excitated by X-rays: A Promising Approach for Radiotherapy Benefit-risk Ratio Improvement?*
Dr. med. Elsa Borghi, Medical Director, Oncology Development, Nanobiotix, Paris (F)

Statement 2 *The Intestinal Enhanced Permeability and Retention Effect': a Passive Targeting Principle for PLGA Nanocarriers in the Treatment of Inflammatory Bowel Disease*
Dr. Eva-Maria Collnot, Work Package leader Meditrans, Saarland University,
Saarbrücken (D)

- Statement 3 *Antisense Nanoparticles to Treat an Orphan Disease: Ewing Sarcoma*
Prof. Dr. Claude Paul Malvy, CNRS, Institut Gustave Roussy, Villejuif, (F)
- Statement 4 *Dual Anti-cancer Treatment with Anti-insulin like Growth Factor 1 Receptor Targeted Doxorubicin Liposomes*
Dr. Felicitas Lewrick, Department of Pharmaceutical Technology and Biopharmacy, University of Freiburg (D)
- Statement 5 *Nanotechnology in Liver Metastases*
Dr. med. Manfred G. Krukemeyer, Department of Surgical Research, Medical School, University of Münster (D)
- 10.45 **Clinical Workshop 3 - Orthopaedics / Implants/ Tissue**
 Chairman **Prof. Dr. med. et phil. Gómez-Barrena**, Departamento de Cirugía Ortopédica y Traumatología, Universidad Autonoma de Madrid, Madrid (Spain)
- Statement 1 *Artificial Urinary Sphincter*
Prof. Dr. Bert Müller, Biomaterials Science Center, Basel (CH)
- Statement 2 *Improved Bone Integration of Dental Implants*
Prof. DDS, Dr. odont Jan Eirik Ellingsen, Head: Oral Research Laboratory, Institute of Clinical Dentistry, Dental Faculty, University of Oslo, Oslo (N)
- Statement 3 *Frontiers of the Endoluminal Micro/nano-surgery*
Prof. Dr. Paolo Dario, Scuola Superiore Sant'Anna, Pisa (I)
- Statement 4 *Tissue Engineering: Nanostructured and Multilayered Active Materials for Clinical Applications*
Dr. Nadia Jessel, Leader Active Biomaterials and Tissue Engineering, INSERM, Strasbourg (F)
- Statement 5 *Insights into the Engineering Principles of Extracellular Matrix*
Prof. Dr. Viola Vogel, Department of Materials Laboratory for Biologically Oriented Materials ETH Zürich (CH)
- 08.15 **Technical Workshop 1 - Liposomes and Polymer-Based Nanoparticles and Vesicles**
 Chairman **Prof. Dr. Patrick Couvreur**, Director UMR, CNRS 8612 , Physico-chimie Pharmacotechnie et Biopharmacie, University of Paris-Sud, Chatenay-Malabry (F)
- Statement 1 *Selective Drug Delivery and Novel Drug Approaches by Polyelectrolytes*
Prof. Dr. Silke Krol, CBM, Area Science Park, Basovizza, Trieste (I)

- Statement 2 *Peptide Nanocapsules Designed for Synthetic Vaccine Design, Targeted Drug Delivery and Bio-imaging*
Prof. Dr. Ueli Aebi, Maurice E. Müller Institute, Biozentrum, University of Basel (CH)
- Statement 3 *Nanovector-induced Complement Activation and Pseudo Allergic Responses*
Prof. Dr. med. Dr. Sc. Janos Szebeni, Head Department of Nanomedicine Bay Zoltán Institute of Nanotechnology, Budapest (H)
- Statement 4 *Structurally Flexible PAMAM Dendrimers for siRNA Delivery*
Dr. Ling Peng, Centre Interdisciplinaire de nanoscience de Marseille, CNRS, Marseille (F)
- Statement 5 *Nano-Manufacturing of a Bioartificial Pancreas for Diabetes Treatment*
Dr. Zheng-Liang Zhi, Kings College London, Guy's Hospital, Unit for Metabolic Medicine, London (UK)
- 09.30 **Technical Workshop 2 - Hard Nanoparticles**
 Chairman **Prof. Dr. med. Dr. h.c. Fritz Bühler**, Director, European Center for Pharmaceutical Medicine, Basel (CH)
- Statement 1 *Nano-gold Particles for Pharmacotherapeutic Treatment*
Prof. Dr. Thomas Rademacher, University College London, Centre for Nanotechnology (UK)
- Statement 2 *Bioresponse depending on Size of Gold Nanoparticles*
Prof. Dr. Günter Schmid, University Duisburg-Essen (D)
- Statement 3 *Nanoparticles for Diagnostic and Therapeutic Applications The Potential of SuperParamagnetic Iron Oxide Nanoparticles (SPION)*
Prof. Dr. Heinrich Hofmann, EPFL Laboratoire de Technologie des Poudres, Lausanne (CH)
- Statement 4 *Treatment of Cancers with Water filtered Infrared A (wIRA) and Targeted Gold Nanoparticles in a Mouse Model*
Prof. Dr. James F. Hainfeld, Department of Biomedical Engineering, Stony Brook University; President, Nanoprobes, Incorporated, Yaphank, New York (USA)
- Statement 5 *Sentinel Node Detection with PET/Fluorescent Dual Imaging Using ⁶⁸Ga NOTA Fluorescent Silica Nanoparticles*
Prof. Dr. med Keon Wook Kang, Seoul National University College of Medicine, Seoul (Korea)

- 10.45
Chairman **Technical Workshop 3 - Imaging**
Prof. Dr. Christian Schönenberger, Director of the Swiss Nanoscience Institute, Basel (CH)
- Statement 1 *Deep Fluorescence Imaging to Surpass Limitations in Optical Imaging*
Patrick Boisseau, Coordinator of Nano2Life, PM, CEA-Leti, Grenoble (F)
- Statement 2 *Nuclear Imaging Using Radiocolloids and Pixelised Cameras*
Prof. Dr. med. Christian Scheiber, Université Claude Bernard, Responsable biophysique et médecine nucléaire, Lyon
- Statement 3 *MRI - Imaging and Theragnostics*
Prof. Dr. Silvio Aime, Chemistry Department and Center for Molecular Imaging, University of Torino, (I)
- Statement 4 *Scanning Probe Microscopy Imaging of Biomolecules*
Prof. Dr. Igor Yaminsky, M.V. Lomonosov Moscow State University, Advanced Technologies Center, Moscow (RU)
- Statement 5 *Tracing Pluronic F127 Polymer Coated Superparamagnetic Iron Oxide Nanoparticles in the Rat inner ear with 4.7 T MRI*
Prof. Dr. med Dennis Poe, Tampere University Medical School, Tampere, Tampere (FIN)
- 08.15
Chairman **Implication Workshop 1 - Toxicology / Safety / Regulatory Processes**
Prof. Dr. Wendelin Stark, Institute for Chemical and Bioengineering, ETH Zurich (CH)
- Statement 1 *Nanotoxicology: Nanoparticles versus Molecules*
Prof. Dr. Wendelin Stark, Institute for Chemical and Bioengineering, ETH Zurich (CH)
- Statement 2 *Dynamics of Nanoparticles-cell interactions in the lungs - a model*
Prof. Dr. Peter Gehr, Head of the Division of Histology at the Institute of Anatomy, University (B)
- Statement 3 *Regulatory Path for Nanomedicines / Nanopharmaceuticals: Current Status and Trends*
Prof. Dr. Rogério Gaspar, Nanomedicine & DDS group, iMed.UL and Faculty of Pharmacy, University of Lisbon (P)
- Statement 4 *Principles for Nanoscale Hazard Identification in Nanomedicine*
Richard Moore, Head of Nanomedicine and Lifesciences at the Institute of Nanotechnology, Stirling (UK)

- Statement 5 *The Development of Biodegradable Nanoscale Drug Delivery Systems*
Dr. Giancarlo Francese, Project Leader Pharmaceutical Development,
 Novartis Pharma AG, Basel
- 09.30 **Implication Workshop 2 - Orphan Disease/ Dev. Countries/ Vaccines**
 Chairman **Prof. Dr. Patrick Hunziker, CSO of the CLINAM-Foundation, Basel (CH)**
- Statement 1 *The Medium and Long Term Research Agenda for Malaria Elimination*
Dr. med. Thomas Teuscher, Roll Back Malaria Partnership of the World Health
 Organisation, Geneva (CH)
- Statement 2 *Use of Virosomes as Particle-based Antigen Delivery System for a Multivalent
 Malaria Vaccine*
Prof. Dr. Gerd Pluschke, Head Med. Parasitology / Infection Biology, Swiss
 Tropical Institute, Basel, (CH)
- Statement 3 *How could Nanomedicine Resolve the Problems of HIV / Aids?*
Prof. Dr. Julianna Lisiewicz, CEO of Genetic Immunity, Budapest, (H)
- Statement 3 *Nanoparticles in Man against Inflammatory Bowel Diseases – Promising
 Approach for Therapy of Diarrhoea?*
Dr. Eva-Maria Collnot, Work Package leader MediTrans, Saarland University,
 Saarbrücken (D)
- Statement 4 *Ultra-Deformable Archaeosomes (UDa): a New Concept on Multifunctional
 Nano-Platforms against Cutaneous Leishmaniasis*
Prof. Dr. Eder Leila Romero, Director of the Nanomedicine Research Program
 (NRP), Universidad Nacional de Quilmes, Buenos Aires (Argentina)
- 10.45 **Implication Workshop 3 - Ethics and Philosophy**
 Chairman **Beat Löffler, MA, CEO of the European Foundation for Clinical Nanomedicine**
- Statement 1 *Nanomedicine – the Societal and the Economic Challenge*
Dr. Donald Bruce, Edenethics Ltd., Edinburgh, Scotland (UK)
- Statement 2 *The Influence of Systems Theory on Converging Technologies*
Prof. Dr. Martin Erdmann, Professor of Biblical Studies, Wil (CH)
- Statement 3 *The Challenge to Treat Ethical Matters in Industry – the Example of
 Nanomedicine*
Willy de Greef, Secretary General of EuropaBio, Brussels (B)
- Statement 4 *Nanovisions: Imagineering the Future of the Human*
Dr. Manuela Rossini, td-net for Transdisciplinary Research, Berne (CH)

12.00 **Short Break**

Plenum

12.10 Table 4

Roots of Nanomedicine

Chairman: **Beat Löffler, MA**, CEO, European Foundation for Clinical Nanomedicine, Basel (CH)

Introduction of the keynote speaker

Prof. Dr. Christian Schönenberger, Director of the Swiss Nanoscience Institute, Basel (CH)

Keynote Lecture

From Nanoscopes to Nanotools and -systems

Dr. Heinrich Rohrer, IBM Fellow, Retired; Nobel Prize Laureate, Wollerau (CH)

13.00 **Lunch**

14.15 Table 5

Unsolved Problems Waiting for Nanomedical Solutions (2)

Chairmen **Prof. Dr. med. Alessandro Martini**, Head Dept. Audiology, ORL Clinic, Ferrara (I)
 Prof. Dr. Matthias Pfisterer, University Hospital Basel (CH)

Statement 1 **Orthopaedics**

Orthopaedic Challenges in the 21st Century: Restoring Structure and Function

Prof. Dr. med. et phil. Gómez-Barrena, Departamento de Cirugía Ortopédica y Traumatología, Universidad Autonoma de Madrid, Madrid (Spain)

Statement 2 **Diabetes**

Diabetes and Metabolic Disease

Prof. Dr. med. John Pickup, Kings College, London (UK)

Statement 3 **Medical Disease Monitoring**

Nanotechnologies to Detect Severe Infection and predict Outcome

Prof. Dr. Payen de la Garanderie, Hospital Lariboisière, Paris (F)

Statement 4 **Aging and Degenerative Disease**

Aging and Related Diseases – an Unsolved Problem in Medicine

Prof. Dr. med. Peter Herrlich, Scientific Director of the of the Leibniz Institute for Age Research - the Fritz Lipmann Institute (FLI), Jena (D)

- Statement 5 *Hereditary Disease
Unsolved Problems in Single-gene Disorders*
Prof. Dr. med. Hansjakob Müller, Genetics Department, Children Hospital Basel, Basel (CH)
- 15.30 **Questions and Discussion**
- 16.00 **Break**
- 16.30 Table 6
Emerging Nanoscience Technologies for Solving Medical Problems (2)
- Chairmen **Prof. Dr. med. Jürg Schifferli**, University Hospital Basel (CH)
Patrick Boisseau, CEA-Leti, Grenoble (F)
- Statement 1 *Nanoanalytics based on Nanomechanics Applications towards Preventive Medicine*
Prof. Dr. Christoph Gerber, Swiss Nanoscience Institute, University of Basel (CH)
- Statement 2 *Squalenoylation: An Original Plate-form to Discover New Anticancer and Antiviral Nanomedicines*
Prof. Dr. Patrick Couvreur, Director UMR, CNRS 8612 , Physico-chimie Pharmacotechnie et Biopharmacie, University of Paris-Sud, Chatenay-Malabry (F)
- Statement 3 *Designing and Building Cellular Organelles by Nanomedicine*
Prof. Dr. med. Patrick Hunziker, CSO, CLINAM-Foundation, University Hospital Basel (CH)
- Statement 4 *Ectosomes – Nature’s Own Anti-Inflammatory Nanovesicles*
Prof. Dr. med. Jürg Schifferli, University Hospital Basel (CH)
- Statement 5 *DNA directed Assembly of Multi-protein Nanosensors*
Prof. Dr. Giacinto Scoles, ELETTRA Synchrotron, SISSA and CBM, Area Science Park, Basovizza, Trieste (I) and Biology Department, Temple University, Philadelphia, PA (USA)
- Statement 6 *Multifunctional Nano-photomedicine for Molecular Imaging Enabled Photodynamic Therapy of Cancer*
Prof. Dr. Manzoor Koyakutty, Amitra Centre of Nanoscience, Cochin and Department of Radiation Oncology, Centre for Optical Diagnostics and Photodynamic Therapy (CDOT), Erasmus University, Rotterdam (India and NL)

- Statement 7 *Circumventing Tumor Resistance to Chemotherapy by Nanoparticle-enhanced Intracellular Drug Accumulation*
Prof. Dr. Xing-Jie Liang, Chief of the National Center for Nanoscience and Technology of China, Beijing (China)
- Statement 8 *Multifunctional Nanoparticles for Nanomedicine*
Prof. Dr. Mamoun Muhammed Head, Functional Materials Division, and Nano Characterization Centre, Royal Institute of Technology (KTH), Kista [Stockholm] (S)
- 18.30 **Questions and Discussion**
- 19.15 **End of Day 2**
- 19.20 **Aperitif offered by the Canton of Basel-Stadt**
Greeting Address by
Dr. Franz Saladin, CEO BaselArea Economic Promotion, Basel (CH)
- 20.00 **For Speakers: Walking from Lobby, Hotel le Plaza to Restaurant Spitz**
- 20.15 **Speakers Dinner at Restaurant Spitz**

Wednesday, April 29, 2009

- Table 7
- 08.00 **Nanoscience Technologies at Hand**
 Chairmen **Dr. Frank Sinner**, Institute of Medical Technologies and Health Management, Graz (A)
Prof. Dr. Hans-Joachim Güntherodt, Honorary President of the Swiss Nanoscience Institute and Member of the Board of Trustees of the CLINAM-Foundation, Basel (CH)
- Statement 1 *Nano-Coating Materials for Cardiovascular Application and Protein Adhesion and Cells Attachment*
Prof. Dr. Stergios Logothetidis, Physics Department, Lab LTFN, Aristotle University of Thessaloniki (GR)
- Statement 2 *New Approach for Medical Diagnostics: Customizable All-Polymer Microdevices*
Prof. Dr. Noemi Rozlosnik, Senior Scientist Department of Micro- and Nanotechnology, Technical University of Denmark, Kongens Lyngby, (DK)

Statement 3	<p><i>Delivery to Nanoscale Perfection: Experimental/Computational Investigations of Dendrimer-Based siRNA Delivery Systems</i></p> <p>Prof. Dr. Sabrina Pricl, Dipartimento di Ingegneria Chimica, dell'Ambiente e delle Materie Prime' (DICAMP) of the Engineering Faculty of the University of Trieste (I)</p>
Statement 4	<p><i>SERS Quantitative Analysis of Active Agents in Corporal Fluids: a New Fast Non-invasive Diagnostic Tool</i></p> <p>Dr George Voyiatzis, Foundation for Research and Technology, Hellas (FORTH), Institute of Chemical Engineering and High Temperature Chemical Processes, Patras (GR)</p>
08.50	Questions and Discussion
09.15	<p>Panel-Debate 2</p> <p>Nanomedicine in Ethics, Sustainability and Developing Countries</p>
Chairman	Beat Löffler, MA , Member of the Board of Trustees and CEO of the CLINAM- Foundation, Basel (CH)
Participants	<p>Dr. med. Thomas Teuscher, Roll Back Malaria Partnership of the World Health Organisation, Geneva (CH), Dr. Martin Erdmann, Professor of Biblical Studies, Wil (CH), Dr. Donald Bruce, Edenethics, Edinborough (UK), Prof. Dr. Werner Arber, Nobel Prize Laureate, University, Basel (CH) Prof. Dr. med. Patrick Hunziker, CSO of the European Foundation for Clinical Nanomedicine, University Hospital, Basel (CH)</p>
Questions	<ul style="list-style-type: none"> ▪ What are the promises, potential problems, and wider implications of nanomedical approaches for the individual and for society? ▪ Is nanomedicine a sustainable and environment-friendly technology? ▪ Will nanomedicine lead to better patient treatment or beyond that to “better life”? ▪ Where are the ethical borderlines in defining human health? ▪ What are the priorities within human health and what is a sustainable health? ▪ Is nanomedicine of the future affordable in the developing countries? ▪ What are the laws and barriers relating to the privacy and confidentiality, the protection and maintenance of health information in the era of nanomedicine? ▪ Nanomedical and human enhancement – desirable or not?
10.10	Break
10.40	<p>Table 8</p> <p>Reality and Vision of Targeted Drug Delivery</p>
Chairman	Beat Löffler, MA , CEO, CLINAM-Foundation, Basel (CH)

Keynote Lecture 1

*Smart Nanocarrier Systems for Targeted Drug and Gene Delivery –
a Future for the Pharmaceutical Industry*

Prof. Dr. Kazunori Kataoka, Department of Materials Engineering Graduate
School of Engineering and Division of Clinical Biotechnology Center for Disease
Biology and Integrative Medicine Graduate School of Medicine, The University of
Tokyo (Japan)

Keynote Lecture 2

*Drug Development Tomorrow – Personalizing Health Care - from Dream to
Reality*

Dr. Andreas Wallnöfer, F. Hoffmann-La Roche, AG, Global Head Clinical
Research and Exploratory Development, Basel (CH)

11.40 **Questions and Discussion**

12.10 **Lunch**

13.30 **Table 9**

Late breaking and Ongoing Clinical Trials in Nanomedicine (2)

Chairmen **Prof. Dr. med. Hansjakob Müller**, Genetics Department, Children Hospital,
Basel (CH)

Prof. Dr. med. Dr. Sc. Janos Szebeni, Head Department of Nanomedicine Bay
Zoltán Institute of Nanotechnology, Budapest (H)

Statement 1 *From Nanotechnology and Nanobio to Nanomedicine – The Doxil Experience*

Prof. Dr. Yechezkel (Chezy) Barenholz, Head of Membrane and Liposome
Research Lab, Hebrew University Hadassah Medical School, Jerusalem
(Israel)

Statement 2 *HIV / AIDS: DermaVir Nanomedicine: the Next Generation of DNA Vaccine in
Clinical Phase 2*

Prof. Dr. Julianna Lisziewicz, CEO of Genetic Immunity, Budapest, (H)

Statement 3 *A Novel Therapy Based on Immunostimulatory DNA Sequences Packaged into
Nanoparticles Shown to Be Safe and Efficacious for Treating Allergic
Rhinoconjunctivitis in Placebo-Controlled Phase II Study*

Dr. Wolfgang A. Renner, Cytos Biotechnology AG, Schlieren (CH)

Statement 4 *Nano-packaging of siRNA: Rationale and First Clinical Experience*

N.N. (speaker to be confirmed)

14.20 **Questions and Discussion**

14.50

Table 10

Short Feedback Roundtable on the Workshops

Chairman

Prof. Dr. med. Dr. h.c. Fritz Bühler, Director, European Center for Pharmaceutical Medicine, Basel (CH)

9 very short summary statements by the reporters and conclusion by the Chairmen of Workshops and Prof. Fritz Bühler

Table 11

15.30

Nanomedicine: The CLINAM Grand Challenge Project

Chairmen

Prof. Dr. med. Patrick Hunziker, CSO of the European Foundation for Clinical Nanomedicine, Basel (CH)

Beat Löffler, MA, CEO of the CLINAM-Foundation, Basel (CH)

The project:

Nanomedicine will bring about enormous changes in medicine and the treatment of patients. In 20 years' time, the idea of curing diseases at the level of the cell will be considered just as normal as treating diseases with antibiotics and conventional tablets is today.

The introduction of nanomedicine into clinical practice has already produced its first successes. However, its use in humans is only possible in a few areas today, and numerous hurdles (such as potential toxicity, ethical issues and regulations etc.) still have to be overcome through the research and development of outstanding solutions.

The CLINAM-Foundation, the **European Society for Nanomedicine** and the new **International Society for Nanomedicine** with its transcontinental member organisations have set themselves the goal of promoting and accelerating research in nanomedicine, its clinical application and its use for the benefit of patients in interdisciplinary cooperation.

CLINAM GRAND CHALLENGE 2009 /10 is an initiative to encourage the global nanomedicine community to establish transparency and to assess the status of work on the challenges of nanomedicine once a year at the Conference. Starting in 2010, the annual **CLINAM GRAND CHALLENGE AWARD** will be offered for milestones in research in nanomedicine, in particular for work aiming at clinical application. At this closing meeting of the 2009 Conference *we want to join with all of you who have made the trip to Basel* in taking a first step for this project:

- 1. To identify the biggest challenges which nanomedicine holds for us in the Near Future*
- 2. To compile a catalogue of specific nanoscience solutions for specific clinical problems worth of being awarded*
- 3. To establish an international working committee for the CLINAM GRAND CHALLENGE 2010.*

General Information

Scientific Committee of the Conference

Prof. Dr. med. Patrick Hunziker, President of the European Society for Nanomedicine, Basel, Switzerland (**Medical Chair**), Prof. Dr. Gert Storm, member of the Board of Trustees of the European Foundation for Clinical Nanomedicine, Utrecht, Netherlands (**Scientific Chair**), Prof. Dr. Joachim Seelig, Chairman Biozentrum, University, Basel, Switzerland (**Bioscience**), Prof. Dr. med Matthias Pfisterer, University Hospital Basel, Switzerland (**Cardiology**), Prof. Dr. Giacinto Scoles, Department of Chemistry, Princeton University, USA (**Chemistry**), Prof. Dr. med. Peter Meier-Abt, University Basel, Switzerland (**University**), Dr. Frank Sinner, Institute of Medical Technologies and Health Management, Graz, Austria (**Analytics**), Beat Löffler, MA, CEO of the European Foundation for Clinical Nanomedicine, Basel, Switzerland (**Conference Management**) Prof. Dr. Hans-Joachim Güntherodt, Member of the Board of the European Foundation for Clinical Nanomedicine, and Honorary President of the Swiss Nanoscience Institute (**Nanoscience / Physics**)

Accommodation

The official conference hotel is the Swissôtel Le Plaza***** in 200 m distance from the conference hall. All participants have a special room rate of CHF 285.– (about 175.– Euro), if indicating their participation in the Nanomedicine-Conference. Booking through: Swissôtel Le Plaza, Messeplatz 25, CH-4005 Basel, phone +41 61 555 3333 E-Mail: reservations.basel@swissotel.com . Other hotels can be provided through Basel Tourism:

4-star hotels CHF 180.00-220.00, 3-star hotels: CHF 150.00-180.00, 2-star hotels: CHF 130.00-150.00 Booking through: Basel Tourism Tel. +41 61 268 68 58 online on www.basel.com under "accommodation".

Membership of the European Society for Nanomedicine (esnam)

As a **member of the European Society for Clinical Nanomedicine (esnam)** you will profit from a **registration reduction fee** to this conference. Registrations for membership to the Society can be made by logging onto www.esnam.org The membership Fee for the European Society for Nanomedicine (esnam) is 150.– Euros (regular) and 90 Euros (for students). After registering as a society member you will receive from the esnam-secretariat an invoice. Besides a reduction for participating to conferences of the CLINAM-foundation, esnam-membership includes to receiving regularly the European Journal of Nanomedicine.

Conference Fee

Conference Fees	until April 4	after April 5	one day ticket
Academy esnam member	510. -- €	560. -- €	185. -- €
Academy regular	665. -- €	725. -- €	245. -- €
Industry esnam member	750. -- €	825. -- €	275. -- €
Industry regular	895. -- €	995. -- €	335. -- €
Student esnam member	340. -- €	375. -- €	125. -- €
Student regular	435. -- €	485. -- €	165. -- €

Evening Event on April 27: your share to the expenses is 60. -- €

Upon receipt of your registration, the organiser will send you an invoice

The registration fee includes Lunch on April 27, 28 and 29, Coffee Breaks, Aperitifs and the Conference Proceedings

Cancellations / Substitutions

The following charges will apply upon cancellation: until February 10, 2009 20% and after that 50%. Refunding after March 29 is not possible. The dates refer to receipt of the cancellation notice. Substitutions can be made at any time.

Official Evening Event on April 27, 2009, 8.15 pm

The official evening event includes a dinner and intends to give for all participants the possibility to get to know each other better and having ample time for discussion. The evening event is at the same time the official CLINAM-event to which all members of the foundation are invited. **(Registration is requested. Your support to the expenses is 60. -- €.)**

CLINAM-Conference welcomes Live-blogging with Sciencesofa, Switzerland

The new Swiss weblog on Science and Technology "*Sciencesofa*" will be reporting in German language directly from the CLINAM-conference during all days of the conference (April 26-29). Read the live-reports and interviews, view pictures and comments. The entry to the live blogging is www.sciencesofa.info. All information collected shall also still after the conference be online available.

Poster Sessions

From Monday to Wednesday within the main conference hall of the conference there is a poster exhibition. Use the breaks and the lunchtime to view the posters and to speak to the authors!

Further Information

The organiser's office is glad to give you any further information you may need. Please contact Beat Löffler, MA or Prof. Dr. med. Patrick Hunziker

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Announcement of the 2010-CLINAM-Conference

The CLINAM-Conference 2010, which will be held **from May, 9-12, 2010** will include an exhibition, where techniques and the new tools for the medicine of the future will be on display. Together with those who are engaged in developing the nanomedicine market, a bridge should be established that will bring together all those involved in the process for the development of treatments with new and better methods in medicine for the benefit of patients. Detailed information on the Foyer-Exhibition shall be available as from June 2009

How to get to the Conference

Arrival by plane

Your closest arrival point is the airport **Basel-Mulhouse-Freiburg**

From there by • **Public transportation:** Airport-bus to the main railway station SBB. Change to the tram No. 2 direction City. Get off the tram at the Convention Centre “Messeplatz” (5 stations) Duration approx. 40 minutes, costs approx. CHF 3.– • **By taxi:** Duration approx. 15 minutes, costs approx. CHF 40.–

Arrival by train

Coming from **Germany** take the German Railway station called “**Badischer Bahnhof**”

• **Public transportation:** Tram No. 2 or 6 direction City. Get off the tram at the “Messeplatz” (2 stations) Duration approx. 5 minutes, costs approx. CHF 2.– • **By taxi:** Duration approx. 3 minutes, costs approx. CHF 10.–

Coming from **France and all Swiss Destinations** you arrive at main railway station “**Basel SBB**” • **Public transportation:** Tram No. 2 direction City. Get off the tram at the “Messeplatz” (5 stations) Duration approx. 12 minutes, costs approx. CHF 3.– • **By taxi:** Duration approx. 8 minutes, costs approx. CHF 20.–

Arrival by car from Germany

Highway A5 direction customs Weil am Rhein, Exit “**Basel Nord/Kleinhüningen**”, follow the sign –“**Messe**” to the Messeplatz.

Arrival by Car from France

Highway A35 direction Basel, Exit “**Badischer Bahnhof/Basel Ost**”, follow the sign “**Messe**” to the Messeplatz.



Registration for the conference

- ☐ Regular ESNAM-Member ☐ yes
☐ Academy ☐ no
☐ Industry
☐ Students

- ☐ I intend participating in the evening event on April 27, 2009
(For the event I shall pay 60 € as share to the costs)

- ☐ I register herewith for the **Second European Conference for Clinical Nanomedicine (April 27 - 29, 2009)**.

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