

1st European Conference for Clinical Nanomedicine

State of the Art 2008 in Clinical Nanomedicine

Preliminary Programme

Monday, May 19 – Wednesday, May 21, 2008

Venue:

Messe Schweiz, Conference Hall l'Entrée, Basel, Switzerland

**European Foundation for Clinical Nanomedicine, Basel,
Switzerland**

▶ **(www.clinam.org)**

in cooperation with

The European Society for Nanomedicine

▶ **(www.esnam.org)**

Organisers

The European Foundation for Clinical Nanomedicine, Basel, Switzerland

in cooperation with

The European Society for Nanomedicine

Responsible

Beat Löffler, M.A., Executive Director and
PD Patrick Hunziker, MD, Scientific Director

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Chairman of the Conference

PD Dr. med. Patrick Hunziker, President of the European Society of Nanomedicine

Scientific Committee of the Conference

PD 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 and Consorzio per la Biomedicina Molecolare, Trieste, I (**Nanoscience / 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, M.A. Executive Director 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**)

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Introduction

New nanotechnology-based methods, tools and materials with innovative nanoscale properties are being investigated to improve the prevention, early and reliable diagnosis and effective treatment of prevalent and of currently incurable diseases. Successful developments in major research areas such as targeted drug delivery, diagnostic imaging, laboratory diagnostics and monitoring, regenerative medicine and biomaterial implants have shown very promising results.

Until now the biomedical evaluation of nanomedical research has largely been limited to cell and animal experiments. However, an increasing number of products are being tested clinically and some are even reaching the market. Specific challenges are the facilitation of clinical nanomedical research, the assessment of the implications of nanomedicine for the individual and society, and the development of regulatory expertise to adequately assess nanomedicines.

The first European Conference for Clinical Nanomedicine lays a strong fundament for the successful collaboration between clinical physicians and academic nanomedicine researchers willing to bring their research to clinical application.

Topics and Key Issues of the Conference

This conference will show the promise of nanomedical tools, techniques, and materials in the context of prevalent and unsolved medical problems, e.g. diagnosis and therapy of cancer, cardiovascular disease, inflammation, infection, degenerative and neurological disease, as well as nanomedicine applications for molecular imaging, bedside biomarker testing and monitoring technologies, also addressing questions of toxicity, ethics, societal and environmental impact.

Target audience

The conference specifically addresses clinical physicians as well as nanoscientists with a background of pharmacology, biology, physics and engineering involved in development and clinical application of nanomedicine. The conference is also of interest for policymakers, experts from industry in the field of life sciences and involved in the development of new tools and materials for nanomedicine, as well as all those investigating the potential of future emerging technologies.

Preliminary Programme

Monday, May 19 – Wednesday, May 21, 2008

as from 07.30

Registration

08.45

Opening of the Conference

*Chairman **Beat Löffler, M.A.***

***Beat Löffler, M.A.**, Executive Director of the European Foundation for Clinical Nanomedicine, Basel*

Representative of the Basel Government

Representative of the Department for Education and Research of Switzerland

Representative of the European Union, Brussels

Milestones to Clinical Nanomedicine

PD Dr. med. Patrick Hunziker, President of the European Society for Nanomedicine, Basel, CH

Table 1

Unsolved Problems Waiting for Nanomedical Solutions (1)

| | |
|------------------------|---|
| Chairmen: | <i>Prof. Dr. Giacinto Scoles, Department of Chemistry, Princeton University, USA and Consorzio per la Biomedicina Molecolare, Trieste, I</i> <i>Prof. Patrick Couvreur, CNRS, University of Paris-Sud, F</i> |
| Statement 1 | Cardiology <i>Prof. Dr. med. Matthias Pfisterer, University Hospital Basel, CH</i> |
| Statement 2 | Oncology <i>Prof. Dr. med. Giorgio Stanta, University of Trieste (UNITS), Trieste, I</i> |
| Statement 3 | Metabolic Diseases - Unsolved Problems in Diabetes <i>Prof. Dr. med. John Pickup, Guy's Hospital / Kings College, London, UK</i> |
| Statement 4 | Haematology <i>Prof. Dr. med. Alois Gratwohl, University Hospital Basel, CH</i> |
| Questions & Discussion | |

12.15 -13.45

Lunch

Table 2

Nanoscience Technologies at Hand for Solving Medical Problems (1)

| | |
|-------------|---|
| Chairmen: | <i>Prof. Dr. Wolfgang Meier, University Hospital Basel, CH</i> <i>Prof. Dr. Gert Storm, Dept. for Pharmaceutical Sciences, Utrecht University, NL</i> |
| Statement 1 | Nanoparticles for Medicine <i>Prof. Dr. Patrick Couvreur, CNRS, University of Paris-Sud, F</i> |
| Statement 2 | Artherosclerosis Targeting <i>Dr. Pavel Broz, University Hospital Basel, CH</i> <i>Prof. Dr. Wolfgang Meier, University Basel, CH</i> <i>PD Dr. med. Patrick Hunziker, University Hospital Basel, CH</i> |

**Statement 3 Carbo-Nanotubes in Medicine:
Promises and Dangers**

*Prof. Dr. Kostas Kostarelos, School of
Pharmacy, University of London, UK*

Statement 4 Nano Approaches to Diabetes

*Dr. Silke Krol, Cluster in Biomedicine srl.,
Trieste, I*

Statement 5 Pathway from Robotics to Nanomachines

*Prof. Dr. Bradley Nelson, Dept. Robotics
and Intelligent Systems, ETH Zurich, CH*

Questions & Discussion

Panel 1

**Building Bridges Between Clinicians and Nanoscientists:
How to Apply the "Technologies" to Solve the "Problems"**

Chairman: *PD Dr. med. Patrick Hunziker,
University Hospital Basel, CH*

Participants: *Prof. Dr. med. Alois Gratwohl, University
Hospital Basel, CH*
*Prof. Dr. Patrick Couvreur, CNRS, University
of Paris-Sud, F*
*Prof. Dr. Mansoor Amiji, School of Pharmacy,
Northwestern University, Boston, USA*
Prof. Dr. Silvio Aime, University of Torino, I
Prof. Dr. Mike Eaton, UCB, Slough, UK
*Prof. Dr. med. John Pickup,
Kings College, UK*

**The challenges for nanomedicine being discussed
in the panel include the following questions:**

- How to prevent development of disease in healthy individuals by nanomedicine?
- How to improve rapid diagnosis of acute heart disease pre-hospital and in-hospital by nanotools?
- How to diagnose/quantify/localize atherosclerosis early in a preclinical stage?
- How to detect cancer in the future?
- How to cure currently incurable cancer and leukaemia in the future?
- How to improve outpatient management in diabetes and other diseases by nanodevices?
- How to prevent disease progression in diabetic patients?
- How to improve disease/life sign monitoring in hospitalized patients?

Table 3**Late Breaking and Ongoing Clinical Trials in Nanomedicine: Therapy**

| | |
|------------------------|---|
| Chairmen: | <i>Prof. Dr. med. Peter Meier-Abt, University Basel, Basel, CH</i> <i>Prof. Dr. Kostas Kostarelos, School of Pharmacy, University of London, UK</i> |
| Statement 1 | Targeted Anti-inflammatory Nanomedicine <i>Prof. Dr. Gert Storm, Pharmaceutical Sciences, Utrecht University, NL</i> |
| Statement 2 | New Opportunities for Polymeric Nano particles in Oncology and other diseases <i>Prof. Dr. Mansoor Amiji, School of Pharmacy, Northwestern University, Boston, USA</i> |
| Statement 3 | Cancer Therapy in Solid and Haemato-logical Tumors with Doxil, a Nano-agent <i>Prof. Dr. med. Alberto Gabizon, Hebrew University, Jerusalem, IL</i> |
| Statement 4 | Dendrimer-Based Nanomedicine <i>Prof. Dr. Donald Tomalia, Central Michigan University, Mt. Pleasant, USA</i> |
| Statement 5 | Transdrug: Clinical Trial Phase III for Hepatocellular Carcinoma <i>Dr. med. Pierre Attali, Liver Unit, Bicêtre Hospital and Bioalliance Pharma, Paris, F</i> <i>Dr. med. Dominique Costantini, Bioalliance Pharma, Paris, F</i> |
| Questions & Discussion | |

19.20**Apéro****20.45****Evening Event / Dinner at Safran Zunft Basel****Tuesday, May 20, 2008***Chairman Beat Löffler, M.A.***08.45**

Keynote lecture 1

Physics Roots of Nanomedicine*Prof. Dr. Hans-Joachim Güntherodt, Honorary President of the Swiss Nanoscience Institute, Basel, CH*

Keynote lecture 2

Medicine of the Future: Societal, Economic and Ethical Challenges*Dr. Donald Bruce, Edinethics Ltd., Edinburgh, Scotland, UK*

Table 4**Unsolved Problems Waiting for Nanomedical Solutions (2)**

| | |
|---------------------------------|---|
| Chairmen | <i>Prof. Dr. med. Jürg Schifferli, University Hospital, Basel, CH</i> <i>Prof. Dr. med. Giorgio Stanta, University of Trieste, I</i> |
| Statement 1 | Inflammatory and Infectious Diseases <i>No Name</i> |
| Statement 2 | Widespread Third World Killer Diseases: A target for Nanomedicine? <i>Dr. med. Thomas Teuscher, World Health Organisation, Geneva, CH</i> |
| Statement 3 | Lab Diagnostics <i>Prof. Dr. med. Karl J. Lackner, Johannes Gutenberg-University, Mainz, D</i> |
| Statement 4 | Monitoring / Critical Care Medicine <i>Prof. Dr. med. Didier Payen de la Garanderie, Hospital Lariboisière, Paris, F</i> |
| Statement 5 | Challenges in translational research of neurodegenerative diseases – the example Motoneurone Diseases <i>Prof. Dr. med. Albert C. Ludolph, University of Ulm, D</i> |
| <i>Questions and Discussion</i> | |

11.45 – 13.15**Lunch****Table 5****Nanoscience Technologies at Hand for Solving Medical Problems (2)**

| | |
|-------------|---|
| Chairmen | <i>Dr. Frank Sinner, Institute of Medical Technologies and Health Management, Graz, A</i> <i>Prof. Dr. Schönenberger, Swiss Nanoscience Institute, Basel, CH</i> |
| Statement 1 | Imaging & Theragnostics <i>Prof. Dr. Silvio Aime, Center of Molecular Imaging of the University of Torino, I</i> |
| Statement 2 | Nanotechnology for Tissue Engineering <i>Prof. Dr. Jeffrey A. Hubbell, Biomedical Engineering, EPFL, Lausanne, CH</i> |
| Statement 3 | Nanomechanical Approaches to Joints and Cells <i>Prof. Dr. Ueli Aebi, Biozentrum of the University Basel, CH</i> |
| Statement 4 | Micro- and Nanotech-based In Vitro Diagnostics <i>Patrick Boisseau, CEA-LETI, Grenoble, F</i> |

Statement 5 Organic-Inorganic Nanocomposite and Optical Biosensor for Implants

Prof. Dr. Frédéric Cuisinier, University of Montpellier, F

Statement 6 Nanomechanical Sensors

Dr. Thomas Braun, CRANN, The Naughton Institute, Dublin, IRL

Questions and Discussion

Panel 2

Building bridges between clinical application and Nanoscience: How to apply the “technologies” to solve the “problems”?

Chairmen: *Beat Löffler, M.A, European Foundation for Clinical Nanomedicine, Basel, CH*
Prof. Dr. Silvio Aime, University of Torino, I

Participants: *Dr. med. Thomas Teuscher, World Health Organisation, Geneva, CH*
Prof. Dr. med. Karl J. Lackner, Johannes Gutenberg-University, Mainz, D
Prof. Dr. med. Didier Payen de la Garanderie, Hospital Lariboisière, Paris, F
Prof. Dr. med. Stephan Marsch, University Hospital Basel, CH
Patrick Boisseau, CEA-LETI, Grenoble, F
Dr. Thomas Braun, CRANN, The Naughton Institute, Dublin, IRL

The challenges for nanomedicine being discussed in the panel include the following questions:

- How to avoid/overcome infections by antibiotic-resistant bacteria?
- How to advance diagnosis & management of rheumatic disease?
- How could nanomedicine replace organ transplantations?
- How can neurological diseases like Alzheimer be targeted?
- How could nanomedical vaccines eradicate AIDS or tuberculosis?
- How can Malaria and other tropical diseases profit from nanomedicine?
- Is the nanomedicine of the future affordable in Europe and the third world?

Table 6**Late Breaking and Ongoing Clinical Trials in Nanomedicine: Trials, Sensors, Immunization & Vaccine Development**

| | |
|--------------------------|---|
| Chairmen: | <i>Prof. Dr. Hans Myhre, Norwegian University of Science and Technology, Trondheim, N</i> <i>Prof. Dr. Joachim Seelig, Chairman Biozentrum, University, Basel, CH</i> |
| Statement 1 | Treating Hypertension and Other Diseases by Nanostructured Vaccines <i>Dr. Wolfgang Renner, Cytos Biotechnology AG, Zurich, CH</i> |
| Statement 2 | Clinical Trials in Magnetic Nanoparticle Cancer Therapy <i>Prof. Dr. med. Klaus Maier-Hauff, Bundeswehr-Krankenhaus / Charité, Berlin, D</i> <i>Dr. Andreas Jordan, CSO, Magforce Nanotechnologies AG, Berlin, D</i> |
| Statement 3 | Clinical Application of Nano-Sensors: Cantilever Nose <i>PD Dr. med. Patrick Hunziker, University Hospital Basel, CH</i> |
| Statement 4 | Synthesis and Characterization of Selected Nanoparticles under Consideration of Medical Applications <i>Dipl.-Chem. Helmut Schmid, Fraunhofer Institute of Chemical Technology, Pfinztal, D</i> |
| Questions and Discussion | |

Summary and Outlook

PD Dr. med. Patrick Hunziker, President of the European Society for Nanomedicine (ESNAM)

Beat Löffler, M.A, Executive Director of the European Foundation for Clinical Nanomedicine (CLINAM)

18.45 – 19.45

General Assembly of the European Society for Nanomedicine (ESNAM)

20.30

CLINAM / ESNAM Gala Dinner

Wednesday, May 21, 2008

09.30 – 11.00

Demonstration Morning at the University of Basel

The "Basel Cluster" of Nanotechnology – Visit to the Swiss Nanoscience Institute

Introduction

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

Guided Tour through the Swiss Nanoscience Institute

Prof. Dr. Hans-Joachim Güntherodt, Honorary President of the Swiss Nanoscience Institute, Basel, CH

11.00-13.00

Visit to Technology Campus and Farewell-Lunch

This Programme is subject to changes

General Information

Poster Sessions

The European Conference for Clinical Nanomedicine is an excellent forum for authors to present their work in the interactive setting of this meeting. Posters are ideal for presenting speculative, late-breaking results or for giving an introduction to interesting, innovative work. Posters are intended to provide authors and participants with the ability to connect with each other and to engage in discussions about the work during coffee breaks and lunch. For further information and to apply for submitting a poster please consult our webpage under www.clinam.org/posters

Fee Reduction for Members

As you notice below, as a member of the European Foundation for Clinical Nanomedicine (CLINAM) or of the European Society for Nanomedicine (ESNAM) you profit of a registration reduction in this conference. Registrations for membership are made under www.clinam.org and under www.esnam.org.

Conference Fee and Payment

| Category | Fee | Early registration before March 20, 08 | Registration after April 29, 08 |
|------------------|---------|---|------------------------------------|
| Academy Regular | 480.– € | 430.– € | 530.– € |
| Academy Members | 360.– € | 330.– € | 400.– € |
| Industry Regular | 680.– € | 620.– € | 760.– € |
| Industry Members | 540.– € | 490.– € | 610.– € |
| Student Regular | 290.– € | 260.– € | 320.– € |
| Student Members | 240.– € | 220.– € | 270.– € |

When receiving the registration the organisers shall send you an invoice.

• Fellowship applications

Applications can be made in written to the organisers office including a CV and a letter giving reasons for obtaining a waived fee for participation in the conference.

- **The registration fee includes** Lunch on May 19 and 20, the Evening Event on May 19, the Farewell-Lunch and the Conference Proceedings.

CLINAM / ESNAM-Dinner

This dinner gives all members of the European Society for Nanomedicine and of the European Foundation for Clinical Nanomedicine and all delegates the chance to get to know each other better and ample time for discussion. Registration for **Participation is to be paid at place at the conference desk in Basel.** (The fee is **75 Euro for regular participants and 60 Euro for members** of the European Foundation for clinical Nanomedicine (CLINAM) or members of the European Society for Nanomedicine (ESNAM).

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".

Cancellations / Substitutions

The following charges will apply upon cancellation: Until March 23, 2008 20% and thereafter 50%. Refunding after May 5 is not possible. Above deadlines refer to receipt of the cancellation notice. Substitutions can be made at any time.

Further Information

Please contact Beat Löffler, M.A. or PD Dr. med. Patrick Hunziker
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Basel, May 19-21, 2008**

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