

# CLINAM

European Foundation for Clinical Nanomedicine  
BASEL, SWITZERLAND

# 10/2017

Basel, May 7–10

European & Global Summit for Cutting-Edge Medicine

## 10<sup>th</sup> European and Global Conference and Exhibition for Clinical Nanomedicine & Targeted Medicine: Enabling Technologies for Personalized Medicine

### Ten Years Jubilee - 1<sup>st</sup> FINAL PROGRAMME (Status March 2017)

Ongoing poster submission (see page 27)

### Summit under the Auspices of the Swiss Confederation



Congress Center } **Basel**

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#### BASEL, SWITZERLAND

<https://en.wikipedia.org/wiki/Basel>

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- Prof. Dr. med. Patrick Hunziker, University Hospital Basel (CH) (chairman)
- Prof. Dr. med. Christoph Alexiou, University Hospital Erlangen (D)
- Prof. Dr. Lajos Balogh, Chinese Academy of Sciences, North Andover, MA (USA)
- Prof. Dr. Gerd Binnig, Nobel Laureate, Munich (D)
- Prof. Dr. Yechezkel Barenholz, Hebrew University, Hadassah Medical School, Jerusalem (IL)
- Prof. Dr. med. Omid Farokhzad, Director, Center for Nanomedicine, Harvard Medical School and Brigham and Women's Hospital, Boston (USA)
- Prof. Dr. med. Dong Soo Lee, PhD. Chairman, Department of Nuclear Medicine Seoul National University (KOR)
- Dr. med. h.c. Beat Löffler, MA, CEO, CLINAM-Foundation, Basel (CH) (programme)
- Prof. Dr. med. Marisa Papaluca Amati, European Medicines Agency, London (UK)
- Prof. Dr. Gert Storm, Institute for Pharmaceutical Sciences, Utrecht University (NL)
- Prof. Dr. Viola Vogel, Lab. for Biologically Oriented Materials, ETH Zürich (CH)

Welcome to the European Global Summit for Nanomedicine and Targeted Medicine. The goal of the CLINAM Foundation is to contribute to the benefit of patients and society by exploring and translating leading edge technologies towards clinical application, with an emphasis on Nanomedicine, Targeted Medicine and Precision Medicine. The summit keeps its tradition to build bridges from the enabling technologies to clinical application for major and neglected diseases. There is broad support for this summit by over 35 collaborating non-profit institutions.

## Overview of the 10<sup>th</sup> European and Global Summit for Clinical Nanomedicine and Targeted Medicine

Sunday, May 7, 2017					
HALL	All events on 2 <sup>nd</sup> Floor, Hall Osaka/Samarkand. The Sunday of this Summit: Reserved for Official and Unofficial Gatherings.				
15.30	General Assembly of the European Society for Nanomedicine				
16.45	General Assembly of the International Society for Nanomedicine				
18.00	Editorial Board Meeting, European Journal of Nanomedicine				
19.45	Welcome Dinner for Speakers and Invited Guests at Swissôtel Le Plaza, Dining Room Helvetia, 1 <sup>st</sup> Floor				
Monday, May 8, 2017					
HALL	Hall Montreal	Hall Singapore	Hall Sydney	Hall Rio	Hall Osaka
08.00	Welcome Coffee in the Foyer				
08.30	1. Opening Address of the European Foundation for Clinical Nanomedicine				
09.00	2. Scientific Introduction: Witnessing the Solutions and Tackling the Hurdles of Nanomedicine, Prof Dr. med Patrick Hunziker				
09.20	3. Developments in Bioorganic Chemistry, Drug Discovery and Biomaterials: From Supramolecular Chemistry Towards Adaptive Chemistry, Bioorganic and Biomedical Aspects, Prof. Dr. Jean-Marie Lehn				
10.15	Break				
10.45	4. Linking the Global Threat of Resistance to Parasitic and Infectious Diseases and Ribosomes: Next Generation of Antibiotics and Ant parasites, Prof. Dr. Ada Yonath				
11.40	5. Novel Nano-Antibiotics: Nano-mupirocin, a Novel Parenteral Antibiotic: From In Silico Modeling to Therapeutic Efficacy in Animal Models Representing Disease of Major Threat, Prof. Dr. Yechezkel (Chezy) Barenholz				
12.10	Nanomedicines for Overcoming Microbial Barriers – Host Cell Membranes, Biofilms and the Gram Negative Bacterial Envelope, Prof. Dr. Claus-Michael Lehr				
12.35	Lunch				
13.45	6. Theranostics: Combining Diagnosis and Therapy	7. Patient Safety and Entrepreneurial Risks	8. Pharmaceutical Development of Nanomedicine Medications	9. Small Speeches on Submitted Posters and University Village	
15.45	Break				
16.15	10. Future of Nanomedicines and Targeted Delivery – Status 2017				
18.10	11. Ethical Matters – Outcome-driven Treatment Development in Collaboration with Patients				
19.15	End of Day 1				
19.45	Tram leaving for Dinner – 20.10 Find your Aperitif and Chair at Landgasthof Riehen –				
20.00	Evening Brokerage Event with Cultural Moments and CLINAM Dwarf-Award				
Tuesday, May 9, 2017					
HALL	Hall Montreal	Hall Singapore	Hall Sydney	Hall Rio	Hall Osaka
08.20	12. Non-Biological Complex Drugs; Recent Developments and the Impact on Clinical Practice	13. Exosomes and Other Naturally Occurring Vesicles	14. Drug Delivery in Vitro and in Vivo Correlations, Toxicity and Safety	15. Arthritis Nanomedicine	16. EU-NCL European Nano- medicine Characteri- zation Laboratory – Lessons learned
10.00	Break				
10.30	17. General Challenges in Nanomedicine				
12.30	Lunch				
13.30	18. Personalized Medicine	19. Nuclear Acid Nanomedicine	20. Technologies, Procedures and Tools for Developing Nano- medicines	21. Nano-Targeting to Cells and Tissues: Quantifying Deposition and Elimination	22. Global Regulatory Authorities and Related Parties IPRF (On Invitation Only)
14.45	23. Material Sciences in Nanomedicine	24. Medical Applications for Nanomedicine in Oncology	25. Nanomedical Imaging	26. Cardiology, Atherosclerosis, Regenerative Repair	
16.15	Break				
16.45	27. The Regulatory Authorities' Voice 2017				
18.15	28. The World of Materials – Testing at the Top Level: Predictive Nano/Bio Modeling and High Throughput Approaches to Safer Nanomaterials and Nano EHS Implementation, Prof. Dr. André Nel				
18.55	29. Translation of the Elephants' Defense Mechanisms: The Role of the Elephant to Fight Cancer, Prof. Dr. Avi Schroeder				
19.25	Aperitif and Poster Prizes Handout				
20.00	End of Day 2				
20.15	Leaving from Swissôtel Le Plaza Lobby				
20.30	Speakers Dinner at Café Spitz/ Hall Merian				
Wednesday, May 10, 2017					
HALL	Hall Montreal	Hall Singapore	Hall Sidney	Hall Rio	Hall Osaka
08.15	30. Immunogenicity Toxicity and Safety of Nanoparticles	31. Can Nanoparticles Overcome Drug Resistance in Parasites?	32. Computational Modelling, Physics for Nanomedicines	33. Challenges in EU- Projects, Public & Private Initiatives	34. Advancing the Development: Education and Training
09.45	Break				
10.15	35. Late Breaking and Ongoing Trials 1	36. Understanding and Conquering Barriers in Cancer	37. New Nanotechnologies for Medical Applications	38. Nanomedicine in Neurodegenerative Disease	Continuation: Education and Training
11.30	39. Late Breaking and Ongoing Trials 2				
13.00	Lunch				
14.00	40. Nanomedicine between Now and Tomorrow				
16.35	41. Presidential Address: The Context between Nanomedicine, Disease and Precision Medicine				
17.20	Closing of CLINAM 10 /2017				
17.25	END OF CLINAM SUMMIT 10 /2017				
18.00	Meeting in front the Swissôtel Le Plaza Lobby: Leaving for Light Farewell Dinner for Speakers and invited Guests staying until Thursday				

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## Introduction

This is the 10<sup>th</sup> Summit of its kind. The CLINAM Foundation uses the opportunity of this Jubilee to present a programme with a strong focus on the route of nanomedicine from basic and enabling sciences to successful clinical applications in targeted and precision medicine and related fields, to discuss critically common bottlenecks based on the experience of the past decade by our broad international expert community. Over the past decade, the CLINAM Summit evolved to an exquisite and globally unique event that brings together all stakeholders in Nanomedicine and Targeted Medicine. It builds on the principle that fundamental scientists, developers and professionals in clinical application and in all to Nanomedicine related persons can mutually learn from each other to find better solutions for the medicine of the future. Based on recent groundbreaking achievements, the meeting will be a highlight.

- The scientific basis of nanomedicine
- New developments in analytic and diagnostic technologies
- Targeting and personalization
- Improved understanding of the mechanisms of nano interacting with life
- Pitfalls of nano in medicine
- The impact of digital technologies and modeling on nanomedicine
- Experimental and clinical application digital technologies and modeling on nanomedicine
- Nanomedical Immunotherapies
- The pathway to safe nanomedicines, to enable breakthroughs in successful clinical applications
- The entrepreneurial pathways for nanomedicine
- Plenary sessions highlighting the most recent and provocative developments
- Four Satellite Meetings:
  - Session 15. Arthritis Nanomedicine
  - Session 16. EU-NCL European Nanomedicine Characterization Laboratory - Lessons learned
  - Session 22. Global Regulatory Authorities and Related Parties Meeting
  - Session 34. Advancing the Development of New Medicines: Education and Workforce Training Partnerships

CLINAM will welcome again the community of Nanomedicine and Targeted Medicine from more than 35 countries and aims at bringing together the pioneers and worldwide opinion leaders, not only to learn and discuss but also to develop new ideas, create new collaborative projects and shape the future. Last year's participating experts from 39 countries appreciated CLINAM Foundation's role as the service provider for Nanomedicine and we will do everything necessary to surpass the expectation of the participants and to build a fruitful event that contributes to the important tasks in human healthcare that still await solutions.

## Sunday, May 7, 2017

Sunday, May 7, 2017 ([all events on 2<sup>nd</sup> Floor Hall Osaka/Samarkand](#)). The Sunday of this Summit is reserved for official and unofficial gatherings.

- |       |   |
|-------|---|
| 15.30 | General Assembly of the European Society for Nanomedicine   |
| 16.45 | General Assembly of the International Society for Nanomedicine  |
| 18.00 | Editorial Board Meeting, European Journal of Nanomedicine   |
| 19.45 | <b>First Meeting for all Speakers is the Dinner at the Swissôtel Le Plaza***** at the first Floor</b> |

# 10 Years CLINAM SUMMIT

## Monday, May 8, 2017

### Section 1: Plenary Session

- Monday, Hall Montreal
- Plenary** **1. Opening**  
Chair Dr. med. h.c. Beat Löffler, CEO, European Foundation for Clinical Nanomedicine, Basel (CH)
- 08.30 **Opening Address from the European Foundation for Clinical Nanomedicine**  
**Dr. med. h.c. Beat Löffler**, CEO, European Foundation for Clinical Nanomedicine, Basel (CH)
- 08.37 **Opening Address from the European Commission**  
**Dr. Elke Anklam**, Director of the Health, Consumers and Reference Materials Directorate, Geel (B)  
European Commission, DG Joint Research Centre and Measurement ISPRA (I)
- 08.44 **Opening Address from the Canton of Basel-Stadt**  
**Christoph Brutschin**, Member of the Executive Council of the Canton of Basel-Stadt, Head of the Department of Economic, Social and Environmental Affairs Basel (CH)
- 08.51 **Opening Address from Switzerland**  
**Dr. Gregor Haefliger**, Vice Director, Head of National Research and Innovation Division,  
State Secretariat for Education, Research and Innovation SERI, Bern (CH)
- 2. Scientific Introduction to CLINAM 10 /2017**  
Chair Prof. Dr. Andrew Owen, PhD, FRSB, FBPhS, Professor of Pharmacology, Molecular and Clinical Pharmacology University of Liverpool (UK)
- 09.00 **Witnessing the Solutions and Tackling the Hurdles of Nanomedicine**  
**Prof. Dr. med. Patrick Hunziker**, President of the International Society for Nanomedicine, Basel (CH)
- Plenary** **3. Developments in Bioorganic Chemistry, Drug Discovery and Biomaterials**  
Chair Prof. Dr. Yechezkel (Chezy) Barenholz, Head of Membrane and Liposome Research Lab, Hebrew University Hadassah Medical School, Jerusalem (IL)
- Opening keynote lecture 1
- 09.20 **From Supramolecular Chemistry towards Adaptive Chemistry, Bioorganic and Biomedical Aspects**  
**Prof. Dr. Jean-Marie Lehn**, Nobel Laureate, Laboratory of Supramolecular Chemistry ISIS, University of Strasbourg (F)
- 10.00 **Questions and Debate**
- 10.15 **Break**
- 4. Linking the Global Threat of Resistance to Parasitic and Infectious Diseases and Ribosomes**  
Chair Prof. Dr. Avi Schroeder, PhD, Assistant Professor of Chemical Engineering Laboratory for Targeted Drug Delivery and Personalized Medicine Technologies Technion - Israel Institute of Technology, Haifa (IL)
- Opening keynote lecture 2
- 10.45 **Next Generation of Antibiotics and Antiparasites**  
**Prof. Dr. Ada Yonath**, Nobel Laureate, Weizmann Institute of Science - Structural Biology Department Rehovot, (IL)
- 11.25 **Questions and Debate**

Monday, Hall Montreal  
**Plenary** **5. Novel Nano-Antibiotics**  
Chair Prof. Dr. Wolfgang J. Parak, Department of Physics, Philipps University of Marburg, Marburg (D) and CIC Biomagune, San Sebastian (E)

11.40 **Nano-mupirocin, a Novel Parenteral Antibiotic: from In Silico Modeling to Therapeutic Efficacy in Animal Models Representing Disease of Major Threat**  
**Prof. Dr. Yechezkel (Chezy) Barenholz**, Head of Membrane and Liposome Research Lab, Hebrew University Hadassah Medical School, Jerusalem (IL)

12.00 **Questions and Debate**

12.10 **Nanomedicines for Overcoming Microbial Barriers – Host Cell Membranes, Biofilms and the Gram Negative Bacterial Envelope**  
**Prof. Dr Claus-Michael Lehr**, Head, Dept. of Drug Delivery (DDEL), Helmholtz-Institute for Pharmaceutical Research Saarland (HIPS), Helmholtz Center for Infection Research (HZI) Saarland University, Saarbrücken (D)

12.25 **Questions and Debate**

12.35 **Lunch**

## Section 2: Three Sessions and one Panel

Monday, Hall Montreal  
**Parallel 1** **6. Theranostics: Combining Diagnosis and Therapy** (15 minutes incl. 5 minutes for questions)  
Chair Prof. Dr. Twan Lammers, Experimental Molecular Imaging, RWTH Aachen, Aachen (D) and Department of Targeted Therapeutics, University of Twente, Enschede (NL)

**About** The goal of this session is to intensively discuss with an interdisciplinary panel of experts the integration of diagnostic tools in targeted nanomedicine treatments, in order to individualize and improve therapeutic interventions, and to facilitate clinical translation

### **Where to go with Nano?**

13.45 **Prof. Dr. Daan J. A. Crommelin**, Emeritus Professor at the Department of Pharmaceutics, Utrecht. University (NL), Adjunct Professor at the Department of Pharmaceutics and Pharmaceutical Chemistry at the University of Utah (USA) Co-founder of Octoplus, Leiden (NL)

14.00 **Strategies to Develop Nanoparticles for Clinical Imaging and Therapy**  
**Prof. Dr. med. Fabian Kiessling**, University Hospital Aachen, Director of the Department for Experimental Molecular Imaging (ExMI) RWTH Aachen University, Director of the Helmholtz Institute for Biomedical Engineering, Aachen (D)

14.15 **Translation of Targeted and Theranostic Nanomedicines**  
**Dr. Daryl Drummond**, Vice President, Discovery, Merrimack Pharmaceuticals, Cambridge, MA (USA)

14.45 **Nanobodies as Theranostic Tools**  
**Dr. med. Tony Lahoutte, PhD.**, Head of the Nuclear Medicine Department, University Hospital Brussels and principal investigator at In Vivo Cellular and Molecular Imaging, Vrije Universiteit Brussel, (B)

15.00 **Theranostics in the Surgical Theatre**  
**Prof. Dr. Gooitzen M. van Dam, MD, PhD**, Professor of Surgical Oncology, Founding Member European Society of Molecular Imaging, WMIS Image-Guided Surgery Working Group, ESMI Fluorescence-Guided Surgery Group, University Medical Center Groningen (NL)

15:15 **Hyaluronan Nanoparticles Selectively Target Plaque-associated Macrophages and Improve Plaque Stability in Atherosclerosis**  
**Dr. Ewelina Kluza**, Experimental Vascular Biology, Academic Medical Center, Amsterdam, AMC, Amsterdam (NL)



- 15.30 **Barcoded Nanoparticles for Personalized Medicine**  
**Prof. Dr. Avi Schroeder, PhD**, Assistant Professor of Chemical Engineering Laboratory for Targeted Drug Delivery and Personalized Medicine Technologies Technion, Israel Institute of Technology, Haifa (IL)
- 15.45 **Break**
- PANEL 1** Monday, Hall Singapore  
**Parallel 2** **7. Patient Safety and Entrepreneurial Risks**  
**Chair** Robert E. Geertsma, M.Sc., Senior Scientist, Centre for Health Protection RIVM - National Institute for Public Health and the Environment, Bilthoven (NL) and Dr. Werner Cautreels, CEO, Selecta Biosciences Watertown / Boston, MA (USA)
- About** Innovation is the driving force of technology, economics and society. The application of nanotechnologies in healthcare holds groundbreaking potential for innovations but simultaneously bears certain challenges with respect to assessing efficacy, quality and safety. Within the concept of a “safe innovation approach”, several questions are to be addressed: Can products be developed with a safe design that will also be optimally suited to address the needs of users and patients? How do clinicians and entrepreneurs cope with “risk”? How must regulators get prepared for new drugs and devices when they get closer to the market? This session brings the relevant Stakeholders together to discuss potential solutions addressing these pertinent questions.
- 13.45 **Safety Requirements in Nanomedicine**  
**Robert E. Geertsma, M.Sc.**, Senior Scientist, Centre for Health Protection RIVM - National Institute for Public Health and the Environment, Bilthoven (NL)
- 14.00 **True Innovations Requires also Risk Taking**  
**Dr. Werner Cautreels**, CEO, Selecta Biosciences Watertown / Boston, MA (USA)
- Translating Regulatory Requirements into Clinical Products – a CMO Perspective.**  
14.15 **Dr. Andreas Wagner**, Head Liposome Technology, Polymun Scientific, Immunbiologische Forschung GmbH, Klosterneuburg (A)
- 14.30 **Driving Biomedical Innovation by Advancing Regulatory Science at FDA**  
**Dr. med. Frank F. Weichold, Ph.D.**, Director of Critical Path and Regulatory Science Initiatives, Office of Regulatory Science & Innovation (ORSI) and Office of the Chief Scientist / Office of the Commissioner Food and Drug Administration (FDA), Silver Spring, MD (USA)
- 14.45 **Panel – Questions and Debate**
- 15.45 **Break**
- Monday, Hall Sidney  
**Parallel 3** **8. Pharmaceutical Development of Nanomedicine Medications 2017** (15 minutes incl. questions)  
*Session in collaboration with the International Association for Pharmaceutical Technology (APV), Mainz (D)*  
**Chair** Dr. Bernd Riebesehl, Principal Fellow, Novartis Pharma AG, Basel (CH)
- About** This Session aims at featuring drug product development concepts, analytical characterization needs, formulation strategies and solutions that enable GMP manufacturing towards clinical testing.
- 13.45 **Polymeric Nanoparticles: Tumor Microenvironment Variability and Implications for New Nanoparticle Design and Development**  
**Prof. Dr. med. Omid Farokhzad**, Associate Professor and Director, Center for Nanomedicine, Harvard Medical School and Brigham and Women's Hospital, Boston, MA (USA)
- 14.00 **Manufacturing of Nanomedicines – a GMP Perspective**  
**Dr. Steliyan Tinkov, MBA, PMP**, Senior Pilot Plant Manager, Novartis Technical Operations – BTDM Novartis Pharma Stein AG, Stein (CH)
- 14.15 **Mixed Micelles a Underestimated Nano-formulation for Parenteral Delivery of Poorly Water Soluble Drugs**  
**PD Dr. Peter van Hoogevest**, Lipoid GmbH, Scientific Department, Ludwigshafen (D)

- 14.30 **ZentriMix - A Novel Screening Tool for Liposomal Formulations in Early Development**  
**Dr. Andreas Fisch**, Novartis Pharma AG, Basel (CH)
- 14.45 **Meeting the Challenge with Microfluidics: Enabling Nanomedicine Development from Basic Research to the Clinic**  
**Dr. James Taylor**, CEO and co-founder of Precision NanoSystems, Inc. (PNI), Vancouver, WA (USA)
- 15.00 **Drug Delivery in the 21<sup>st</sup> Century**  
**Dr. Sessa Neervannan**, Senior Vice President, Pharmaceutical Development Allergan Inc. Orange County (USA)
- 15.15 **An Injectable Nanoparticle Formulation of Valrubicin: Influence of Lipid and Protein Composition, Drug Concentration, Storage Temperature and Lyophilization**  
**Dr. Tapas K De**, Co-Founder and CEO, LipoMedics Inc., Fort Worth, TX (USA)
- 15.30 **Microfluidic Assembly of Nucleic Acid Loaded Nanoparticles**  
**Prof. Dr. Olivia Merkel**, Professor of Drug Delivery, Ludwig-Maximilians-University (LMU) Munich (D)
- 15.45 **Break**
- Monday, Hall Rio
- Parallel 4** **9. Small Speeches on Submitted Posters and on University Village Posters 2017**  
**Chair** Dr. Sc. Nat. Ruth Schmid, Vice President Marketing, SINTEF Materials and Chemistry, Biotechnology and Nanomedicine, Polymer Particles and Surface Chemistry, Trondheim (N)
- About** Poster Submitters Results and Scientists at Universities, participating in the University Village 2017 can apply for a small speech of 4 minutes, serving to highlight the research activities in nanotechnology / health. The speeches comprise a maximum of three slides. • Slide 1: general introduction to the topic future and outlook on translation of the work presented in a way that is accessible to the highly inter-disciplinary audience. • Slide 2: some of the highlights of submitters work and institutions work. • Slide 3: The prove, how the work at the university / institute fits into the area of Nanomedicine and Targeted Medicine including showing the future and outlook on translation of the work.
- 13.45 **Start of Presentations** (Separate Programme in Conference Wallets)
- 15.45 **Break**

### Section 3: Plenary Session

- Monday, Hall Montreal
- Plenary** **10. Future of Nanomedicines and Targeted Delivery – Status 2017**  
**Chair** Prof. Dr. Dan Peer, Head, Laboratory of Nanomedicine, Department of Cell Research & Immunology, and Department of Materials Science & Engineering, Director, FTA: Nanomedicines for Personalized Theranostics, Director, Leona M. and Harry B. Helmsley Nanotechnology Research Fund, Tel Aviv University, Tel-Aviv (IL)
- 16.15 **Scepticism in the Field of Targeted Nanomedicine: Justified or Unfair?**  
**Prof. Dr. Gert Storm**, Department Pharmaceutics, Utrecht Institute for Pharmaceutical Sciences (UIPS), Utrecht and Division Imaging, University Medical Center Utrecht and Targeted Therapeutics, MIRA Institute for Biomedical Technology and Technical Medicine, University of Twente (NL)
- 16.30 **Questions**
- 16.35 **Current Status and Future Directions in Nanotechnologies for Cancer**  
**Dr. Piotr Grodzinski, Ph.D.**, Director, NCI Alliance for Nanotechnology in Cancer, Center for Strategic Scientific Initiatives, National Cancer Institute, Bethesda, MD (USA)
- 17.00 **Questions**



- 17.05 **Nanomedicine Development: The Journey from Publication to Preclinical**  
**Dr. Scott E. McNeil**, Director, Nanotechnology Characterization Laboratory, National Cancer Institute, Vice President, Leidos Biomedical Research Inc., Frederick (USA)
- 17.30 **Questions**
- 17.35 **Understanding the Nano-Bio Interactions: Improving Systems for Targeted Drug Delivery and Enabling New Applications in Medicine**  
**Prof. Dr. med. Omid Farokhzad**, Associate Professor and Director, Center for Nanomedicine, Harvard Medical School and Brigham and Women's Hospital, Boston (USA)
- 18.00 **Questions**
- Monday Hall Montreal
- Plenary** **11. Ethical Matters – Outcome-driven Treatment Development in Collaboration with Patients**  
 Session co-established by the European Forum for Good Clinical Practice (EFGCP), Brussels (B)  
 Dr. med. Ingrid Klingmann, PhD, Chairman, European Forum for Good Clinical Practice (EFGCP), Wezembeek-Oppem (B)
- About** The development, process for new treatments is expensive due to a number of inefficient steps and its commercial success not sure. Better selection of drugs or products based on an upfront defined, optimal outcome are a recommended strategy. Involving patients into this strategic decision and the development planning and performance is widely debated – but in reality, it only works to a very limited degree. There is uncertainty on industry and patient organisation side on how to make this collaboration work. What are the problems and how can these be overcome? This session will present suggestions, experiences and solutions.
- 18.10 **Kill 'Patient Centricity' – the Ethical Requirement to Involve Patients as Partners**  
**Dr. med. Ingrid Klingmann, PhD**, Chairman, European Forum for Good Clinical Practice (EFGCP), Wezembeek-Oppem (B)
- 18.20 **Patients as Advisors and Drivers in Medicine Development Planning**  
**David Hans-Ulrich Haerry**, European AIDS Treatment Group & Positive Council Switzerland; Co-Chair Patient and Consumer Working Group Swissmedic; Co-Chair Futures Group EUPATI; Member ELSI Advisory Group Swiss Personalized Health Network, Bern (CH)
- 18.30 **Creating the Framework for Efficient Industry – Patient Collaboration**  
**Kay Warner**, Director, Patient Engagement Lead at GlaxoSmithKline, Brentford, Middlesex (UK)
- 18.45 **Questions and Debate**
- 19.15 **End of First Day**
- CLINAM Brokerage Dinner with Cultural Event and CLINAM-Dwarf Award 2017 at Landgasthof, Riehen**
- 19.45 **Reserved Tramway Leaving for Evening Event**
- 20.00 **Find your Aperitifs and Chair at Landgasthof in Riehen**
- 21.00 Welcome Presentation N2
- 22.00 CLINAM 10 /2017 Dwarf-Award
- 22.10 The Promise of the Nano-Dance, Episode 2
- 23.30 Tramway back to Congress Center / Hotels

## Tuesday, May 9, 2017

### Section 4: One Panel Two Sessions, Two Satellites

- PANEL 2** Tuesday, Hall Montreal
- Parallel 1** **12. Non-Biological Complex Drugs (NBCDs) Recent Developments and the Impact on Clinical Practice**
- Chair** Prof. Dr. Daan J.A. Crommelin, Emeritus Professor at the Department of Pharmaceutics, Utrecht University (NL), Adjunct Professor at the Department of Pharmaceutics and Pharmaceutical Chemistry at the University of Utah (USA), Co-founder of Octopus, Leiden (NL)

- About** The complexity of drug products increases with the advance of technology. Biologics and non-biological complex drugs, including many nanomedicines, make up a significant portion of the products currently in different phases of development, under regulatory review or already prescribed to patients. The first generic and similar versions of these complex drug products are now available for patients. Nevertheless, ongoing lively discussions between all parties involved illustrate the challenges associated with determining pharmaceutical equivalence and bioequivalence of non-biological complex drug products. This session provides an update on recent developments and discusses the impact on clinical practice.
- 08.20 **Recent Developments with Non-Biological Complex Drug (NBCD) Products: Complex Drugs in a Complex Environment**  
**Prof. Dr. Stefan Mühlebach**, Chief Scientific Officer, Vifor Pharma Ltd, Villars-sur-Glâne, and Professor of Pharmaceutical Sciences, University of Basel, Basel (CH)
- Update on Nanotechnology Developments and International Cooperation from the EMA**  
**Dr. med. Falk Ehmann**, Scientific Support and Projects Manager, European Medicines Agency (EMA), London (UK)
- Complex generics: the FDA perspective**  
**Dr. Wenlei Jiang, Ph.D**, Senior Science Advisor, Office of Research and Standards Office of Generic Drugs, Silver Spring, MD, USA
- European and American Pharmacopoeia to Define Quality and Facts of NBCD's**  
**Prof. Dr. Gerrit Borchard**, Professor Biopharmaceutical Sciences, President of the Swiss Society of Pharmaceutical Sciences, Vice President of the European Federation of Pharmaceutical Sciences, School of Pharmaceutical Sciences, Universities of Geneva and Lausanne (CH)
- Clinical Understanding and Practical Considerations for the Use of Nanomedicines**  
**Dr. Beat Flühmann, PhD**, Global Lead Non-Biological Complex Drugs, Vifor Fresenius Medical Care Renal Pharma Ltd., Glattbrugg (CH)
- 10.00 **Break**
- Tuesday, Hall Singapore
- Parallel 2** **13. Exosomes and Other Naturally Occurring Vesicles** (15 minutes incl. questions)  
**Chair** Prof. Dr. med. Raymond Schiffelers, Professor of Nanomedicine, Clinical Chemistry and Haematology, University Medical Center Utrecht UMCU, Utrecht (NL)
- About** Cell-derived exosomes are equipped with various biological macromolecules to allow for short- and long-distance signaling via nanovesicles. Recent exciting work suggests that exosomes can be unloaded and reloaded on demand, envisioning groundbreaking potential for nanomedicine. This session will provide the state of the art and cutting-edge knowledge in research into exosomes and other naturally occurring nanovesicles with respect to their application in nanomedicine.
- 08.20 **Engineering Extracellular Vesicles for Drug Delivery**  
**Prof. Dr. med. Raymond Schiffelers**, Professor of Nanomedicine, Clinical Chemistry and Haematology, University Medical Center Utrecht UMCU, Utrecht (NL)
- 08.35 **Pathogens in Exosomes**  
**Dr. Oksana Sergeeva**, Ecole Polytechnique Fédérale de Lausanne (EPFL), School of Life Sciences, Global Health Institute, Prof. van der Goot Group, Lausanne, Lausanne (CH)
- 08.50 **Transport of Radiation Damage with Vesicles**  
**Dr. Dave Carter**, Senior Lecturer in Biomedical Science, Department of Biological and Medical Sciences - Faculty of Health and Life Sciences, Department of Biological and Medical Sciences, Oxford Brookes University, Oxford (UK)
- 09.05 **Delivery of RNA with Extracellular Vesicles**  
**Dr. Imre Mäger**, Postdoctoral research scientist and Exosome team leader, University of Oxford, M. Wood lab Department of Physiology, Anatomy and Genetics, Oxford (UK)

- 09.20 **Extracellular Vesicles as Smart Carriers for Small Molecule Drugs**  
**Dr. Gregor Fuhrmann**, Junior Research Group Leader, Helmholtz-Centre for Infection Research, Saarbrücken (D)
- 09.35 **Vesicles as Mediator of Microchimerism and Split Tolerance**  
**Prof. Dr. William J. Burlingham, Ph.D.**, Professor of Surgery, University of Wisconsin, Madison, Wisconsin (USA)
- 09.50 **Questions and Debate**
- 10.00 **Break**
- Tuesday, Hall Sydney
- Parallel 3** **14. Drug Delivery, In Vitro - in Vivo Correlations, Toxicity and Safety** (10 minutes & questions)  
Chair **Dr. Marieluise Wippermann**, CEO, TecoMedical Ltd, Sissach (CH)
- About** Targeted drug delivery by nano-objects has a number of advantages, including the ease of combining drug cargos, stealth layers and targeting ligands, the possibility to deliver highly hydrophobic, hydrophilic and amphiphilic drugs, and achieving triggerable functionality through intelligent nanomaterials, evolving towards nanosystems with complex functionality. However, the complexity of the resulting systems is a challenge for full structural and functional understanding, for industrial development. For this reason, in-depth studies of quantitative structure-function relationships and novel, systematic approaches in toxicity assessment and safety prediction are of paramount importance.
- 08.20 **Impacts of the Biomolecule Corona on Drug Delivery and Safety**  
**Prof. Dr. rer. nat. Roland Hans Stauber**, Molecular and Cellular Oncology, Head of the Mainz Screening Center (MSC), Medical University Mainz, Mainz (D)
- 08.30 **Imaging Integrity of Lipid Nanocarriers in Bloodstream and Tumor of Living Mice**  
**Dr. Andrey S. Klymchenko**, Director of Research, Laboratory of Biophotonics and Pharmacology, UMR 7213 CNRS, Faculty of Pharmacy, University of Strasbourg, Illkirch (F)
- 08.40 **In Vivo Imaging with UCNPs (UpConverting NanoParticles) as an Ideal Bio-safe Imaging Probe**  
**Prof. Dr. Yung Doug Suh**, Director, Korea Research Institute of Chemical Technology (KRICT); Associate Professor, SungKyunKwan University (SKKU), Suwon (ROK)
- 08.50 **In Vitro and in Vivo Evaluation of Polymer Particles and Liposomes for Myocardium Targeted Delivery**  
**Dr. Fabio Rocha Formiga**, Fundação Oswaldo Cruz – FIOCRUZ, Instituto Gonçalo Moniz – IGM, Salvador-Bahia (BRA)
- 09.00 **Delivering Nanoparticle/Allergen Complexes to Human Immune Cells: Implications for Allergen Immunotherapy and Safety**  
**Prof. Dr. Albert Duschl**, University of Salzburg, Department of Molecular Biology, Salzburg (A)
- 09.10 **Effects of Extensive Glomerular Filtration of Graphene Oxide on Kidney: In Vivo and in Vitro Effects**  
**Dr. Dhifaf Jasim**, Imaging Scientist, Nanomedicine Lab, Faculty of Biology, Medicine and Health, University of Manchester, Manchester (UK)
- 09.20 **Biomimetic Liposome-like Nanovesicles able to Target and Modulate Inflammation**  
**Dr. Ennio Tasciotti, PhD**, Associate Professor of Nanomedicine, Institute for Academic Medicine, Director Center for Biomimetic Medicine, Dept. of Regenerative Medicine & Director Surgical Advanced Technology Laboratory, Dept. of Orthopedics and Sports Medicine, Houston Methodist Research Institute Houston TX (USA)
- 09.30 **Questions and Debate after each presentation**
- 10.00 **Break**
- SATELLITE 1** Tuesday, Hall Rio
- Parallel 4** **15. Arthritis Nanomedicine** (15 minutes incl. questions)  
Chair **Prof. Dr. Massimo Bottini**, Associate Professor, Department of Experimental Medicine and Surgery, University of Rome Tor Vergata, Rome, (IT), and Affiliate Associate Professor, Infectious and Inflammatory Diseases Research Center, Sanford Burnham Prebys Medical Discovery Institute, La Jolla, CA (USA)

**About** Arthritis, which literally means inflammation of one or more joints, is a broad term that covers over 100 diseases. Although arthritis is a disorder of the joints, it can also affect other connective tissues and organs. The most common forms of arthritis are osteoarthritis (OA) and rheumatoid arthritis (RA), which globally affect approximately 20% of the adult population, mostly of working ages. Current diagnostic and therapeutic approaches for OA and RA are not effective, thus these diseases have a significant socio-economic impact. In the last decade, we have witnessed the development of a new science, named arthritis nanomedicine, aimed at improving the ability to diagnose and cure arthritis and repair affected articulation by using innovative systems based on the tools and knowledge of nanotechnology. The aim of this Satellite Session is to stimulate the discussion about the state-of-the-art and challenges in arthritis nanomedicine. Topics are recent discoveries in the pathophysiology of arthritic diseases, multifunctional nanoparticles as scaffold for innovative therapeutic approaches for arthritis, nanotechnology-based approaches for early detection of arthritis, regenerative nanomedicine for articular tissues, and biocompatibility of nanomedicine-derived approaches for arthritis.

08.20 **Rheumatoid Arthritis: Unmet Medical Needs and How Nanomedicine can Help**  
**Prof. Dr. Stephanie Stanford**, Assistant Professor, Division of Rheumatology, Allergy and Immunology, University of California San Diego, La Jolla, CA (USA)

08.35 **Folate-targeted Nanoparticles for Rheumatoid Arthritis Therapy**  
**Dr. Eugénia Nogueira**, Researcher, Center of Biological Engineering, University of Minho, Braga (PT)

08.50 **Hyaluronic Acid-protein Conjugates for the Local Treatment of Osteoarthritis**  
**Prof. Dr. Gianfranco Pasut**, Associate Professor, Department of Pharmaceutical and Pharmacological Sciences, University of Padua, Padua (I)

09.05 **Multifunctional Nanoparticles for Osteoarthritis Therapy and Diagnosis**  
**Prof. Dr. Massimo Bottini**, Associate Professor, Department of Experimental Medicine and Surgery, University of Rome Tor Vergata, Rome, (IT), and Affiliate Associate Professor, Infectious and Inflammatory Diseases Research Center, Sanford Burnham Prebys Medical Discovery Institute, La Jolla, CA (USA)

09.20 **Biocompatibility of Nanomedicine Approaches for Arthritis: Focus on Carbon Nanotubes**  
**Prof. Dr. Kunal Bhattacharya**, Assistant Professor, Division of Molecular Toxicology, Institute of Environmental Medicine, Karolinska Institutet, Stockholm (S)

09.35 **Albumin Nanomedicines for Cancer and Arthritis Disease Therapy**  
**Prof. Dr. Weisheng Guo**, CAS Key Laboratory for Biological Effects of Nanomaterials & Nanosafety, National Center for Nanoscience and Technology, Zhongguancun, Beijing (CHN)

10.00 **Break**

**SATELLITE 2** Tuesday, Hall Osaka / Samarkand

**Parallel 5** **16. EU-NCL European Nanomedicine Characterization Laboratory – Lessons learned**

**Chair** Patrick Boisseau, CEA-Léti, EUNCL infrastructure coordinator, Chairman of the ETPN, Grenoble (F)

**About** EU-NCL aims at fostering innovation in Nanomedicine by providing access to state of the art full characterization of nanomaterials intended for medical applications, developed by public labs, spin-offs and innovative SMEs. EU-NCL serves as a European knowledge base for researchers and industry ensuring that European knowledge is documented in Europe for the benefit of the European economy, healthcare systems and patients. EU-NCL provides a comprehensive set of characterization tests (physical, chemical, in vitro and in vivo biological properties) allowing researchers and SMEs to better understand or predict the clinical in vivo effects of their medical nanomaterials. On top of that, a full characterization is required by regulation agencies before approval of any tests on human beings. The knowledge base being developed by EU-NCL will help the European Medicines access to nanocharacterization and further to prepare their submission for product approval.

08.20 **Why does Europe Need EU-NCL?**  
**Patrick Boisseau**, CEA-Léti, EU-NCL infrastructure coordinator, Chairman of the ETPN, Grenoble (F)

- 08.35 **The Needs of Regulators about Nanomedicine Characterization**  
**Dr. Susanne Bremer-Hoffmann**, European Commission; Joint Research Centre; Institute for Health and Consumer Protection; NanoBioSciences Unit ISPRA, Varese (I)
- 08.50 **The Big Picture of Nanomedicine Characterization, from PCC to in Vivo**  
**Prof. Dr. Adrielle Prina-Mello, PhD**, Ussher Assistant Professor, Trinity Translational Medicine Institute (TTMI), Department of Clinical Medicine, School of Medicine and AMBER / CRANN, Trinity College Dublin, University of Dublin (IRL)
- 09.05 **New Analytical Technologies under Investigation**  
**Dr. Sven Even Borgos**, Research Scientist at SINTEF Materials and Chemistry, Department . of Biotechnology and Nanomedicine, Trondheim (N)
- 09.20 **How to Access and Use Trans National Access?**  
**Dr. Simon Baconnier**, Innovation Project Manager, CEA-Clinatec, Grenoble (F)
- 09.35 **Questions and Debate**
- 10.00 **Break**

### Section 5: Plenary Session

- Tuesday, Hall Montreal
- Plenary Chair** **17. General Challenges in Nanomedicine** (16 plus 4 minutes for questions)  
**Prof. Dr. Gerrit Borchard**, Professor Biopharmaceutical Sciences, President of the Swiss Society of Pharmaceutical Sciences, Vice President of the European Federation of Pharmaceutical Sciences, School of Pharmaceutical Sciences, Universities of Geneva and Lausanne (CH)
- About** Experts in Nanomedicine explain their view in different issues to further Nanomedicines and Targeting
- 10.30 **Science from the Discovery-level, Through Scale-up, into Clinical Trials**  
**Dr. Anil Patri**, Chair, Nanotechnology Task Force, Director, NCTR-ORA Nanotechnology Core Facility, U.S. Food and Drug Administration, National Center for Toxicological Research (NCTR), Jefferson, AR, (USA)
- 10.50 **The Need to Understand the Difference Between Research (k€) and Development (m€).**  
**Prof. Dr. Mike Eaton**, Translation Advisory Board ENATRANS, Oxford (UK)
- 11.10 **New Life Sciences Research Models: USA and China**  
**Dr. Michael Hehenberger, Ph.D.**, HM NanoMed, Westport, CT (USA)
- 11.30 **Mechanobiology Matters: Reassessing our Promises in Nanomedicine**  
**Prof. Dr. Viola Vogel**, Head of the Laboratory of Applied Mechanobiology, ETH, Zürich (CH)
- 11.50 **Nanoparticles as a Universal Communication Tool with the Immune System - Antigen Specific Tolerance and Immune Stimulation**  
**Dr. Werner Cautreels**, CEO, Selecta Biosciences Watertown /Boston, MA (USA)
- 12.10 **Regulatory Considerations for Drug Products Containing Nanomaterials**  
**Dr. Katherine Tyner**, Associate Director for Science (acting), Office of Pharmaceutical Quality CDER/FDA, Springfield IL (USA)
- 12.30 **Lunch**

### Section 6: Four Sessions and one Satellite (and from 15.00 – 16.15 Foyer Debate on Exosomes. See page 27, Session 42)

- Tuesday, Hall Montreal
- Parallel 1 Chair** **18. Personalized Medicine** (15 minutes incl. questions)  
**Prof. Dr. med. Angela Brand**, MD PhD MPH, Full Professor and Director, European Centre for Public Health Genomics, Department of International Health, Faculty of Health, Medicine and Life Sciences (FHML), and Professorial Fellow, Maastricht Economic and Social Research Institute on Innovation and Technology (UNU-MERIT), Maastricht University, Maastricht (NL)

- About** The patients' disease, courses and drug responses are as individual as their genomes are. Accordingly, genome information is on the road to find entry into daily clinical diagnostics and attempts to predict the best-personalized treatment. Personalized medicine is the pathway promising an optimized prevention, prediction, diagnosis and therapy of the patient. Yet, it is also associated with particular challenges for health-care systems. This session will provide cutting-edge insights into present personalized medicine, including big data and the role that nanomedicine can take in this endeavor.
- 13.30 **Pharmacogenetics: Towards Stratified Nanomedicine Deployment**  
**Prof. Dr. Andrew Owen, PhD**, FRBS, FBPhS, Professor of Pharmacology, Molecular and Clinical Pharmacology University of Liverpool (UK)
- 13.45 **The Policies and Politics of Implementing Personalized Medicine**  
**Prof. Dr. med. Angela Brand, MD PhD MPH**, Full Professor and Director, European Centre for Public Health Genomics, Department of International Health, Faculty of Health, Medicine and Life Sciences (FHML), and Professorial Fellow, Maastricht Economic and Social Research Institute on Innovation and Technology (UNU-MERIT), Maastricht University, Maastricht (NL)
- 14.00 **Precision Medicine: the Virtual Self as the Basis of Truly Personalized Therapy and Prevention**  
**Prof. Dr. Hans Lehrach**, Director, Head Department of Vertebrate Genomics, Max Planck Institute for Molecular Genetics, Berlin (D)
- 14.15 **Personalized Healthcare - Implementation Challenges and Solutions**  
**Dr. Ansgar Hebborn**, Head, Global HTA & Payment Policy, F. Hoffmann-La Roche AG, Basel (CH)
- 14.30 **Personalized Medicine & Cancer: the Enabling Role of Nanotechnology**  
**Dr. Inge K. Herrmann**, Group Leader Particles 3D, Department Materials Meet Life, Swiss Federal Laboratories for Materials Science & Technology (EMPA), St. Gallen (CH)
- 14.45 **Next Session**  
 Tuesday, Hall Singapore
- Parallel 2** **19. Nucleic Acid Nanomedicine** (11 plus 4 minutes for questions)
- Chair** Prof. Dr. med. Simo Schwartz, Jr., PhD, Director Molecular Biology and Biochemistry, Research Center for Nanomedicine (CIBBIM-Nanomedicine) Univ. Hospital Vall d'Hebron and Vall d'Hebron Institut de Recerca (VHIR), Barcelona and President of the European Society for Nanomedicine, Basel / Barcelona (E)
- About** Nucleic acids bear stunning properties for the design of novel nanomedicines. Enormous combinatorial space for generation of a high degree of variation, computer-aided design on purpose, ease of synthesis and systematic screening for a function from a huge amount of molecules are only few to mention. This session aims at giving an overview of the field, highlighting recent advances and discussing the pros and cons of nucleic acid nanomedicine in comparison to other nanomedicines. Topics are: Molecularly Self-Assembled Nucleic Acid Nanoparticles for Targeted In Vivo siRNA Delivery; Nucleic acid nanostructures for biomedical applications; Designer DNA Architectures: Novel Applications in Nanomedicine; Oligonucleotide Aptamers: New Tools for Targeted Cancer Therapy; Potential advantages and disadvantages of nucleic acids in comparison with therapeutic proteins.
- 13.30 **Gene Editing with CRISPR/CAS9 using Novel Peptide Delivery**  
**Dr. Gilles Divita, PhD**, Aadigen, LLC, Pacific Palisades, CA (USA)
- 13.45 **To Target or Not to Target: Lessons from RNAi-based Targeted Lipid Nanoparticles**  
**Prof. Dr. Dan Peer**, Head, Laboratory of Nanomedicine, Department of Cell Research & Immunology, and Department of Materials Science & Engineering, Director, FTA: Nanomedicines for Personalized Theranostics, Director, Leona M. and Harry B. Helmsley Nanotechnology Research Fund, Tel Aviv University, Tel-Aviv (IL)
- 14.00 **siRNA and Gene Delivery with Novel Peptide Nanoparticles**  
**Dr. Neil Desai, PhD**, Aadigen, LLC, Pacific Palisades, California (USA)
- 14.15 **RNA Nanomedicines for Intravenous Injection: Control of Targeting Selectivity to the Organs**  
**Dr. Heinrich Haas**, Vice President Drug Delivery, BioNTech RNA Pharmaceuticals GmbH, Mainz (D)



- 14.30 **Graphene Oxide as a 2-D Platform for the Intracellular Delivery of siRNA**  
**Dr. Sandra Vranic**, Graphene Flagship Research Fellow, Nanomedicine Lab, Faculty of Biology, Medicine and Health, University of Manchester, Manchester (UK)
- 14.45 **Next Session**
- Tuesday, Hall Sidney
- Parallel 3** **20. Technologies, Procedures and Tools for Developing and Produce Nanomedicine**  
**Chair** Dr. Stefan Halbherr, Manager Research and Development, InnoMedica Holding AG, Bern (CH)
- About** The development of Nanomedicine has influenced the investigators developing the valuable tools to tackle the producing of Nanomedicines and bringing them eventually from bench to bed. This session gives insight to some actual used tools and procedures for and in production of Nanoparticles.
- 13.30 **Developing Nanoparticles-in-Microsphere Polymer (NiMP) Particles Using Scalable High Shear Fluid Processing Technology**  
**Dr. Su Yang, Ph.D**, New Technology Manager, Microfluidics International Corporation, Westwood, MA (USA)
- 13.40 **Measurement Requirements for Nano-Bio Particles for Biomedical Adoption**  
**Hans van der Voorn, BE (Hons)**, CEO, IZON SCIENCE Ltd, Christchurch (NZL)
- 13.50 **Surface Charge and Fluorescence: Biochemical Analysis of Liposomes and Extracellular Vesicles by Nanoparticle Tracking Analysis (NTA)**  
**Dr. Clemens Helmbrecht**, Head of R&D, Particle Metrix GmbH, Meerbusch (D)
- 14.00
- 14.10 **Characterising Lentiviral Vector Particles by Size and Composition**  
**Dr. Anna Leczkowska**, Product Technical Specialist Biophysical Research, Malvern Instruments Ltd., Worcs, (UK)
- 14.20 **Questions and Debate**
- 14.45 **Next Session**
- Tuesday, Hall Rio
- Parallel 4** **21. Nano-Targeting to Cells and Tissues: Mechanisms, Quantifying Deposition and Elimination**  
(15 minutes incl. questions and debate)
- Chair** Dr. Tore Skotland, Centre for Cancer Biomedicine, Institute for Cancer Research, Oslo University, Oslo (N)
- About** Drug delivery is a difficult exercise due to the required fine-tuning of drug release and Drug Delivery Systems (DDS) degradation that may lead to drug accumulation in non-target tissues and/or cells. The fundamental paradigm of targeted therapies and targeted delivery is to guide drugs to target tissues/cells and to the respective target pathways while minimizing effects on healthy tissues and non- involved pathways. Understanding mechanistically and quantitatively and predicting the resulting benefit of a targeted therapy in an individual is therefore important for rational development and successful clinical application. This session focuses on mechanisms of nanocarrier and drug deposition, release and elimination and methods suited for quantification of drug concentrations and effects in tissues and cells.
- 13.30 **Entry of Nanoparticles into Cells: Mechanisms, Consequences and Challenges in Reaching the Target**  
**Prof. Dr. Kirsten Sandvig**, Centre for Cancer Biomedicine, Institute for Cancer Research, the Norwegian Radium Hospital, Oslo, University Hospital and University of Oslo, Oslo (N)
- 13.45 **Development of Nanoparticles for Clinical use: Importance of Degradation and Excretion.**  
**Dr. Tore Skotland**, Centre for Cancer Biomedicine, Institute for Cancer Research, Oslo University (N)
- 14.00 **What is the Amount of Drug Uptake and Release by Nanocarriers at the Tumor Site - Optimism vs Despair?**  
**Prof. Dr. André Nel, M.B. Ch.B., Ph.D.**, Distinguished Professor of Medicine, Associate Director California NanoSystems Institute, Chief of Nanomedicine and Director of the Center for Environmental Implications of Nanotechnology, UCLA, Los Angeles, CA (USA)

- 14.15 **Integrating Physiochemical Descriptors with Tissue and Cellular Data to Make Quantitative Predictions through Physiologically-based Pharmacokinetic Modelling**  
**Dr. Marco Siccardi, PhD**, Lecturer Molecular and Clinical Pharmacology, University of Liverpool (UK)
- 14.30 **The US-NCL View**  
**Dr. Scott E. McNeil**, Director, Nanotechnology Characterization Laboratory, National Cancer Institute, Vice President, Leidos Biomedical Research, Inc., Frederick, MD (USA)
- 14.45 **Next Session**
- SATELLITE 3** Tuesday, Halls Mexico, Osaka, Samarkand
- Internal** **22. Global Regulatory Authorities and Related Parties Meeting and the “Second Declaration of Basel”**  
**Chair** Michael Johnston, Research Scientist, Principal Investigator, Health Canada, Ottawa (CND)
- About** The International Pharmaceutical Regulators Forum (IPRF) holds its Nanomedicines Working Group meeting in Basel at the Neutral CLINAM-Platform to discuss nanotechnology and specifically nanomedicine related issues relevant to regulated products. (The Agenda of this Meeting will be handed out to all concerned participants)
- 12.30 **Hall Mexico**  
**Regulators Lunch**
- 14.15 **Hall Osaka**  
**Global Regulatory Authorities and Related Parties’ Meeting**
14. 45 **Active Video Live Streaming Based on 36 Possible Interactive Connections**
- 15.40 **Writing down the “Second Declaration of Basel” on Global Status towards Harmonization in the Definition of Nanomedicine, Standards, Biocompatibility, Risk/Safety Assessments and Labeling**
- 16.15 **Break**
- (16.45) **Plenary Session: 27. Regulatory Authorities’ Voice 2017 (see session 27) for all participants of the Summit**  
**This session will start with the Second Declaration of Basel and gives ample time for questions, statements and debate**

## Section 7: Four Sessions

- Tuesday, Hall Montreal
- Parallel 1** **23. Material Sciences in Nanomedicine** (10 minutes & 2 min. questions)  
**Session established in collaboration with the European Materials Research Society (E-MRS), Strasbourg, (F)**
- Chair** Prof. Dr. Paolo Decuzzi, Senior Researcher and Professor, Director of the Laboratory of Nanotechnology for Precision Medicine, Italian Institute of Technology, Genova (I)
- About** This session will deal with the rational design of materials addressing four major challenges in the clinical integration of nanomedicines: improve drug encapsulation efficiency and release; enhance tissue accumulation within diseased tissues; mitigate recognition by the mononuclear phagocytic system; and provide precise material characterization over multiple length scales.
- 14.45 **Combinatorial Nanoconstructs for Imaging and Treating Cancer**  
**Prof. Dr. Paolo Decuzzi**, Senior Researcher and Professor, Director of the Laboratory of Nanotechnology for Precision Medicine, Italian Institute of Technology, Genova (I)
- 14.55 **Cell-in-shell Structures for Protection of Living Cells against External Stresses**  
**Prof. Dr. Insung S. Choi**, Professor for Organic Chemistry, Harvard University and Department of Chemistry Korea Advanced Institute of Science and Technology (KAIST,) Yuseong-gu (ROK)
- 15.05 **Nanoscience and Nanotechnology for Human Health: Mechanosensitive Liposomes for Targeted Drug Delivery**  
**Prof. Dr. Bert Müller**, Thomas Straumann-Chair for Materials Science in Medicine, University Basel (CH)

- 15.15 **Materials Science in Nanomedicine: A Material's Perspective**  
**Prof. Dr. Alke Fink**, Chair BioNanomaterials, Adolphe Merkle Institute, University of Fribourg, Fribourg (CH)
- 15.25 **Near Infra-Red (NIR) Nanoprobes for Tracking of Human Mesenchymal Stromal Cells after Implantation**  
**Dr. Mariarosa Mazza**, Research Fellow in Nanomedicine, Nanomedicine Lab, Division of Cell Matrix Biology & Regenerative Medicine, Faculty of Biology, Medicine and Health, University of Manchester, Manchester (UK)
- 15.35 **Analytical Ultracentrifugation in the Characterization of Nanomedicine Products**  
**Dr. Dora MEHN**, Project Assistant – Scientific Research, European Commission, Directorate General Joint Research Centre, Directorate F – Health, Consumers and Reference Materials, Consumer Products Safety Ispra, VA (I)
- 15.45 **Design and Biological Characterization of Mesoporous Materials for Drug Delivery**  
**Prof. Dr. Luisa De Cola**, Institut de Science et d'Ingénierie Supramoléculaires, Université de Strasbourg, Strasbourg (F)
- 16.00 **Questions and Debate**
- 16.15 **Break**
- Tuesday, Hall Singapore
- Parallel 2** **24. Medical Applications for Nanomedicine in Oncology** (10 minutes plus 5 minutes questions)  
Chair **Prof. Dr. med. Volker Mailänder**, Center for Translational Nanomedicine, University Medicine of the Johannes-Gutenberg University Mainz, Mainz (D)
- About** This session will specifically deal with the existing and potential future applications of nano-medicine in oncology, such as in integration of the immune system to combat cancer, differential diagnosis for cancer versus infection and inflammation, function and dysfunction of the immune system in cancer, nanomedical approaches for cancer immunotherapy.
- 14.45 **Getting from Cells to Mice to Men with Nanomedicines in Cancer Therapy: How to choose what Nanomedicines can do for Cancer Therapy**  
**Prof. Dr. med. Volker Mailänder**, Center for Translational Nanomedicine, University Medicine of the Johannes-Gutenberg University Mainz, Mainz (D)
- 15.00 **From the Enhanced Permeability and Retention (EPR) Effect to Cancer Stromal Targeting Therapy (CAST) with Respect of Characteristics of Clinical Cancer Tissues**  
**Prof. Dr. med. Yasuhiro Matsumura, PhD**, Chief, Investigative Treatment Division, Research Center for Innovative Oncology, National Cancer Center Hospital East, Kashiwa City (J)
- 15.15 **Application of SWNT for Biomarker Discovery and Therapeutic Evaluation**  
**Prof. Dr. Debabrata Mukhopadhyay**, Professor of Biochemistry and Molecular Biology, Associate Director of the Mayo Clinic Comprehensive Cancer Center, Mayo Clinic College of Medicine, Associate Director of the Tumor Microenvironment and Nanomedicine programs and Associate Director of Mayo Clinic Comprehensive Cancer Center for Global Alliances, Mayo Clinic, College of Medicine, Rochester, MN (USA)
- 15.30 **Nanodiamonds for Drug Delivery in Preclinical Models of Pancreatic Cancer**  
**Prof. Dr. med. Bengt Fadeel**, Nanosafety & Nanomedicine Laboratory, Institute of Environmental Medicine, Karolinska Institutet, Stockholm (S)
- 15.45 **Piperine Loaded PEG-PLGA Nanoparticles: Preparation, Characterization and Targeted Delivery for Adjuvant Breast Cancer Chemotherapy**  
**Prof. Dr. Prahlad C. Ghosh**, Head, Department of Biochemistry, University of Delhi South Campus, New Delhi (IND)

- 16.00 **Endovascular and Molecular Targeting of Mesenchymal Tumors: Examples of Novel Therapies for Enigmatic Diseases.**  
**Dr. med. Eldad Elnekave**, Director, Clinic Interventional Oncology, Davidoff Cancer Institute, Rabin Medical Center, Tel Aviv (IL)
- 16.15 **Break**
- Tuesday, Hall Sidney
- Parallel 3** **25. Nanomedical Imaging** (11 plus 4 minutes for Questions and Debate)
- Chair Prof. Dr. med. Christoph Alexiou, Department of Otorhinolaryngology, Head and Neck Surgery, Head Section of Experimental Oncology and Nanomedicine (SEON), Else Kröner-Fresenius-Stiftungsrats-Professorship, University Hospital Erlangen, Erlangen (D)
- About** Real-time visualization of nanodrug carrier biodistribution, drug release processes and therapeutic responses can provide critical information needed for dynamically optimizing treatment operations in a personalized manner in real time. Advanced Image Analysis, Magnetic Particle Imaging – an Innovative Imaging Technique Using Superparamagnetic Iron Oxide Nanoparticles, and further late developments.
- 14.45 **SPIONS - Theranostic Tools in Biomedical Research**  
**Prof. Dr. med. Christoph Alexiou**, Department of Otorhinolaryngology, Head and Neck Surgery, Head Section of Experimental Oncology and Nanomedicine (SEON), Else Kröner-Fresenius-Stiftungs-Professorship, University Hospital Erlangen, Erlangen (D)
- 15.00 **Iron Oxide Nanoparticles for Imaging**  
**Prof. Dr.-Ing. Heinrich Hofmann**, Director Powder Technology Laboratory, Institute of Material EPFL, Lausanne (CH)
- 15.15 **Developing Functional Nanomaterials for Sensitive Bioimaging Applications**  
**Prof. Dr. Dong-Kwon Lim. PhD**, Assistant Professor, KU-KIST Graduate School of Converging Science and Technology, Korea University, Seoul (ROK)
- 15.30 **Nano/micro Sized Contrast Agents for Imaging Applications: the Critical Factors for their Clinical Translation**  
**Dr. Alessandro Maiocchi, PhD**, Discovery Department Director, Global Research & Development Division, Bracco Imaging SpA , Torino (I)
- 15.45 **PET Imaging Allows Accurate Whole Body Detection and Quantification of Liposomal Nanomedicines in Tumors and Metastatic Organs**  
**Dr. Rafael T. M. de Rosales**, Lecturer in Imaging Chemistry, Division of Imaging Sciences & Biomedical Engineering, King's College London, Lambeth Wing, St. Thomas Hospital, London (UK)
- 16.00 **Fluorescent Polymer Nanoparticles for Long-term RGB Color Coding of Cells for in Vitro and in Vivo Imaging**  
**Dr. Andreas Reisch**, Assistant Professor (Maître de conférences), Laboratory of Biophotonics and Pharmacology, UMR 7213 CNRS, Faculty of Pharmacy, University of Strasbourg, Illkirch (F)
- Questions and Debate after each Talk**
- 16.15 **Break**
- Tuesday, Hall Rio
- Parallel 4** **26. Cardiology, Atherosclerosis, Regenerative Repair** (10 plus 5 Minutes for Questions)
- Chair Dr. med. Panagiotis (Panos) N. Trohopoulos, Distinction of Excellence Medical Doctor – Cardiologist, Founder / Owner / Managing Director of the CosmoPHOS Ltd., Founder and Scientific - Exploitation - Strategic Coordinator of the Large-Scale EU FP7 NMP CosmoPHOS-nano Project, Thessaloniki (GRC)
- About** Nanomedicine and targeted therapeutics are generic approaches that have the potential to move medicine forward in particular when they are applied to highly prevalent diseases with a large disease burden and a high cost for society. Thus, their application to cardiovascular disease and particularly to atherosclerosis and heart failure is of major importance to shape the medicine of the future. To explore the state of progress in 2017 in

this application area, this session will highlight European Funded Projects in Cardiology and Atherosclerosis; Major European projects, such as “NanoAthero” will provide, half a year before finalization, substantial results.

- 15.00 **Personalized Medicine for Atherosclerosis - Relevance, Prospects**  
**Prof. Dr. Harald Mangge**, Interim Head, Clinical Institute for Medical and Chemical Laboratory Diagnosis (CIMCL) Medical University of Graz, Graz (A)
- 15.15 **Nanomedicine for Target-Specific Imaging and Treatment of Atherothrombosis – First Outcomes of the EU-funded Project “NanoAthero”**  
**Prof. Dr. Didier Letourneur**, Director of Cardiovascular Bioengineering, Laboratory for Translational Vascular Science, INSERM, Paris (F)
- 15.30 **Eradication of Atherosclerosis**  
**Prof. Dr. med. Patrick Hunziker**, Deputy Chief of the Intensive Care Clinic, University Hospital Basel, Basel (CH)
- 15.45 **Targeting MicroRNAs for Cardiac Regeneration**  
**Prof. Dr. Jan AAM Kamps, PhD.**, Assistant Professor Endothelial Biomedicine and Vascular Drug Targeting Department of Pathology and Medical Biology, University Medical Center Groningen, University of Groningen, Groningen (NL)
- 16.00 **Further Questions and Debate**
- 16.15 **Break**

## Section 8: Plenary Session

- Tuesday, Hall Montreal
- Plenary Chair** **27. The Regulatory Authorities’ Voice 2017**  
Dr. Elke Anklam, Director of the Health, Consumers and Reference Materials Directorate, Geel (B)  
European Commission, DG Joint Research Centre and Measurement, Ispra (I)
- 16.45 **Start**
- Europe** **Prof. Dr. med. Marisa Papaluca**, Senior Scientific Advisor, Human Medicines Research Development Support Division, London (UK)
- Japan** **Dr. Kumiko Sakai-Kato**, Section Head, Division of Drugs, National Institute of Health Sciences (NIHS), Ministry of Health, Labour and Welfare (MHLW), Tokyo (J)
- Canada** **Hripsime Shahbazian, MSc**, Senior Science Advisor, Office of Science, Therapeutic Products Directorate, Health Canada, Ottawa (CND)
- China** **Prof. Dr. Weisheng Guo**, CAS Key Laboratory for Biological Effects of Nanomaterials & Nanosafety, National Center for Nanoscience and Technology, Zhongguancun, Beijing (CHN)
- USA** **Dr. med. Frank F. Weichold, Ph.D.**, Director of Critical Path and Regulatory Science Initiatives, Office of Regulatory Science & Innovation (ORSI) and Office of the Chief Scientist / Office of the Commissioner Food and Drug Administration (FDA), Silver Spring, MD (USA)
- India** **Prof. Dr. Suresh Bhojraj**, Vice Chancellor at JSS University, Mysore, Mysuru, Karnataka and President, Pharmacy Council of India, New Delhi (IND)
- Switzerland** **Lada Leyens, MSc**, Clinical Study Reviewer, Division Clinical Trials, Swiss Agency for Therapeutic Products (Swissmedic), Bern (CH)
- Africa** **Speaker to be confirmed**

Tuesday, Hall Montreal

**Plenary** **28. The World of Materials – Testing at the Top Level**

Chair Prof. Dr. Gert Storm, Division Imaging, University Medical Center Utrecht and Targeted Therapeutics, MIRA Institute for Biomedical technology and Technical Medicine, University of Twente (NL)

18.15 **Predictive Nano/Bio Modeling and High Throughput Approaches to Safer Nanomaterials and Nano EHS Implementation**

**Prof. Dr. André Nel, M.B. Ch.B., Ph.D.**, Distinguished Professor of Medicine, Associate Director California NanoSystems Institute, Chief of Nanomedicine and Director of the Center for Environmental Implications of Nanotechnology, UCLA, Los Angeles, CA (USA)

18.45 **Questions and Debate**

Tuesday, Hall Montreal

**Plenary** **29. Translation of the Elephants' Defense Mechanisms**

Chair Prof. Dr. med. Keon W. Kang, MD, PhD, Department of Nuclear Medicine, Seoul National University College of Medicine, Seoul (KR)

18.55 **The Role of the Elephant to Fight Cancer**

**Prof. Dr. Avi Schroeder**, Assistant Professor of Chemical Engineering Laboratory for Targeted Drug Delivery and Personalized Medicine Technologies, Technion - Israel Institute of Technology, Haifa (IL)

19.15 **Questions and Debate**

19.25 **Aperitif on behalf of the Canton of Basel-Stadt and Poster Prizes Handout**

20.00 **End of Day 2**

20.15 **Walking to Café Spitz / Merian Hall**

20.30 **Speakers' Dinner**

## Wednesday, May 10, 2017

### Section 9: Four Sessions and one Satellite

Wednesday, Hall Montreal

**Parallel 1** **30. Immunogenicity Toxicity and Safety of Nanoparticles** (10 plus 5 minutes for Questions and Debate)

Chair Prof. Dr. med. Janos Szebeni, Head of the Nanomedicine Research and Education Center, Semmelweis University, Budapest (H)

**About** Therapeutic Nanoparticles are developed for human use. Therefore, there is an absolute need for these particles to withstand critical toxicological analysis. Only after this thorough investigation, it is possible to establish the clinical value of a drug delivery concept. Nanotoxicology is a maturing discipline that still is in need of amelioration. This session will serve to show the state of the art and to stress to even better and best practice.

08.15 **The Risky Side of PEGylation of Nanomedicines and Biologicals: Immunogenicity and Immune Reactivity**

**Prof. Dr. med. Janos Szebeni**, Head of the Nanomedicine Research and Education Center, Semmelweis University, Budapest (H)

08.30 **Overcoming Adverse Injection Reactions to Nanomedicine**

**Professor Dr. Moein Moghimi**, Professor and Chair of Pharmaceutics at the School of Medicine, Pharmacy and Health, Durham University, Stockton on Tees (UK) and Professor at the Department of Translational Imaging, Houston Methodist Research Institute, Houston, TX (USA)



- 08.45 **Hypersensitivity to Iron-containing Nanoparticles: Clinical Information and Modeling in Pigs**  
**Dr. habil. Laszlo Dezsi**, Senior Researcher, Nanomedicine Research and Education Center, Semmelweis University, Budapest (H)
- 09.00 **Immunoreactivity of Functionalized Gold and Albumin Nanoparticles**  
**Dr. Silke Krol**, Principal Investigator and Head of Nanomedicine lab, IRCCS, Istituto Oncologico "Giovanni Paolo II", Bari (I) and Fondazione IRCCS Istituto Neurologico "Carlo Besta", Milano (I)
- 09.15 **Mechanisms of Complement Corona Assembly on Nanoparticles**  
**Prof. Dr. Dmitri Simberg**, Assistant Professor, Skaggs School of Pharmacy and Pharmaceutical Sciences, Colorado Center for Nanomedicine and Nanosafety (CCNN), University of Colorado, Denver, CO (USA)
- 09.30 **New Approaches to Prevent Adverse Complement Activation: Implications for Nanomedicine**  
**Prof. Dr. Daniel Ricklin**, Associate Professor of Molecular Pharmacy, Department of Pharmaceutical Sciences, University of Basel, Switzerland (CH)
- 09.45 **Nanoparticle Delivery to Immune Cells in the Lung – from Complex 3D Lung Models to in Vivo Experiments**  
**Prof. Barbara Rothen-Rutishauser**, Co-Chair BioNanomaterials, Adolphe Merkle Institute, University of Fribourg, Fribourg (CH)
- 10.00 **Break (for this session only 15 minutes)**

Wednesday, Hall Singapore

- Parallel 2** **31. Can Nanoparticles Overcome Drug Resistance in Parasites?** (10 minutes and 5 minutes for Questions)  
**Chair** Prof. Dr. Pascal Mäser, Head, Parasite Chemotherapy, Swiss Tropical & Public Health Institute, Basel (CH)

**About** Parasites are the causative agents of a plethora of human diseases. In the absence of effective vaccines, their sustainable control largely depends on chemotherapy but is jeopardized by the evolution of drug resistance. While this threat is particularly acute for malaria, it also affects other parasitoses and the vectors. Nanoparticles offer hope to circumvent drug resistance, for instance by improving drug delivery to the target. In this session, internationally renowned experts are discussing nanoparticles for parasite chemotherapy and their potential to overcome drug resistance.

- Impact of Drug Resistant Parasites on Disease Control**  
08.15 **Prof. Dr. Reto Brun**, Swiss Tropical & Public Health Institute, Basel (CH)
- New Models of Drug Development for Neglected Tropical Diseases**  
08.30 **Prof. Dr. Pascal Mäser**, Head, Parasite Chemotherapy, Swiss Tropical & Public Health Institute, Basel (CH)
- May Nanoparticles offer Chances to Avoid the Development of Insecticide Resistances of Mosquitoes?**  
08.45 **Prof. Dr. Heinz Mehlhorn**, Heinrich-Heine-Universität Düsseldorf, Düsseldorf (D)
- Nanoparticle-based Combination Therapies against Malaria**  
09.00 **Prof. Dr. Xavier Fernández Busquets**, Nanomalaria Joint Unit, Associate, Institute for Bioengineering of Catalonia, Barcelona, Member of the Barcelona Centre for International Health Research, Barcelona (ES)
- Strange and powerful: How the Cell Reacts to Intracellular (Archaeolipid Nanoparticles- Mediated) Parasitocidal Drug Delivery**  
09.15 **Prof. Dr. Eder Lilia Romero**, Programa de Nanomedicinas, Universidad Nacional de Quilmes, Buenos Aires (AR)
- Prophylactic Efficacy of Orally Administered Bovine Lactoferrin Nanocarriers with Targeted Delivery in Murine Malaria**  
09.30 **Dr. Namrata Anand**, Postdoctoral Fellow, Department of Zoology, Panjab University, Chandigarh (IND)

**Questions and Debate after each Talk**

- 09.45 **Break**

Wednesday Hall Sydney

**Parallel 3 32. Computational Modelling, Physics** (15 minutes incl. 5 min Questions)

**Chair** Prof. Dr. Giacinto Scoles, Department of Medical and Biological Sciences, University Hospital, University of Udine, Udine (I) and Biology Department, Temple University, Philadelphia, PA (USA)

**About** The combinatorial freedom that can be achieved by combining small molecular drugs, targeting vehicles and potential macromolecular components into nano systems renders comprehensive and systematic experimental evaluation and comparison a daunting task. Here, the recent advances in computational modeling of nanomaterials, in nano-bio interaction modeling, in pharmacokinetic modeling are evolving into an indispensable tool for progress in the field, in particular in view of the increasingly personalized approach to targeting. This session aims at exploring strategies for computational modeling in nanomedicine and understanding the lessons learnt by recent research in this complementary enabling technology for nanomedicine.

08.15 **Optimizing Theoretically Peptide-protein Interactions followed by an Experimental Proof that it Works**  
**Prof. Dr. Giacinto Scoles**, Department of Medical and Biological Sciences, University Hospital, University of Udine, Udine (I) and Biology Department, Temple University, Philadelphia, PA (USA)

08.30 **Computational Nanotoxicology - Lessons Learned from the Nanocomput Project**  
**Dr. Andrew Worth**, Leader of Computational Toxicology, Directorate F – Health, Consumers and Reference Materials at the European Commission's Joint Research Centre (JRC), Ispra (I)

08.45 **Design Criteria for Engineering Peptide Sequence with High Affinity for Inorganic Surfaces**  
**Dr. rer. nat. Priya Anand**, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen (D)

09.00 **Some physicochemical aspects that may complicate active targeting**  
**Prof. Dr. Wolfgang J. Parak**, Department of Physics, Philipps University of Marburg, Marburg (D) and CIC Biomagune, San Sebastian (E)

09.15 **Novel Nanomedicine Approaches to Fight Viral Infections**  
**Prof. Dr. Francesco Stellacci**, Supramolecular Nanomaterials and Interfaces Laboratory - Constellium Chair, EPFL, Lausanne (CH)

09.30 **Precision Design of Nanomedicines to Target Tumor Microenvironment and Overcome low Chemosensitivity for Pancreatic Cancer Treatment**  
**Prof. Dr. Guangjun Nie, Ph.D**, Professor, CAS Key Laboratory for Biomedical Effects of Nanomaterials & Nanosafety, National Center for Nanoscience and Technology of China, Beijing (CHN)

09.45 **Break**

**33. Challenges in EU-Projects, Public and Private Initiatives in Nanomedicine**  
(15 minutes incl. 5 minutes for questions)

**Chair** Prof. Dr. Lajos Balogh, Visiting Professor, Chinese Academy of Sciences, Beijing (CHN); Visiting Professor, Seoul National University, Seoul, (ROK), KOFST Fellow US Technical Advisory Group to ISO TC 229 Nanotechnology, Executive Board, American Society for Nanomedicine, North Andover MA (USA)

**About** How to inform lay people about Nanomedicine? What are the ways for integrating attempts to shape the Future of Nanomedicine and Precision Medicine and what is the role of Public Networks in Context to EU-Programmes? How can we fund EU-projects that often perish after EU-support ends?

08.15 **Dissemination for Lay Public in Nanomedicine – a Game for Nanomedicine in Atherosclerosis**  
**Dr. Donald Bruce**, Managing Director, Edinethics Ltd., Edinburgh (UK)

08.30 **Public Initiatives; the Challenge of Regional Networking in Northern Europe**  
**Ulf G. Andersson**, CEO Medeon AB, Medeon Science Park & Incubator, Chairman NanoMed North, Senior Advisor: Life Science Foresight Institute, INSP, Malmö (S)

08.45 **Continuing Projects after End of EU Programme Funding**  
**Siegward Frischmann**, Head of R&D and Production, MAST Diagnostica GmbH, Reinfeld (D)

- 09.00 **The CLINAM Network for Advancing Nanomedicine**  
**Dr. med. h.c. Beat Löffler**, CEO of the European Foundation for Clinical Nanomedicine, Basel (CH)
- 09.15 **ESTHER – a Holistic Concept for Inclusion of all Stakeholders in Smart Medtech for the Benefit of Patients**  
**Dr. Klaus-Michael Weltring**, Managing Director. Gesellschaft für Bioanalytik Münster e. V., Münster (D)
- 09.30 **Questions and Debate**
- 09.45 **Break**
- SATELLITE 4** Wednesday. Hall Osaka
- Parallel 5** **34. Advancing the Development of New Medicines: Education and Workforce Training Partnerships**  
**Chair** **Dr. Scott Steele, Ph.D.**, Director, Regulatory Science Programs, Associate Professor, Public Health Sciences University of Rochester (USA)
- About** Rapid technology, advancements, including in the field nanotechnology, are demonstrating the promise of providing targeted treatments to patients in a safe and effective manner. While training programmes need to ensure these emerging technologies and fields are integrated into curriculum, this alone is not sufficient to support translation of new technologies and approaches into approved therapeutics. There is increasing recognition of the critical need to provide trainees and current researchers with educational opportunities in regulatory science, often defined as “the science of developing new tools, standards, and approaches to assess the safety, efficacy, quality and performance of regulated products.” This requires a multidisciplinary team science approach bringing together diverse topics in drug discovery, clinical trial design, medical device innovation, ethics, data analytics, and other core competencies. Integrated and harmonized training should link international partners from academia, industry, regulatory agencies/authorities and other organizations. A coordinated training approach including didactic and experiential training opportunities can ultimately help speed the process of translational research and enhance the ability to assess the safety and efficacy of new products.
- 08.45 **Collaborative Approaches to Enhance Training in Regulatory Science and Translational Research**  
**Dr. Scott Steele, Ph.D.**, Director, Regulatory Science Programs, Associate Professor, Public Health Sciences University of Rochester NY (USA)
- 09.00 **Education and Training from the European and IMI perspectives**  
**Dr. Per Spindler, DVM, MBA**, Fellow of the Drug Information Association (DIA), Director Biopeople, University of Copenhagen, Copenhagen (DK)
- 09.15 **Implementing Digital Media tools in Higher Education and Life Long Learning**  
**Jack Barokas**, EduNano Tempus Project Local Coordinator at Tel Aviv University, Tel Aviv (IL)
- 09.30 **Education in Pharmaceutical Development**  
**Dr. Sessa Neervannan**, Senior Vice President, Pharmaceutical Development Allergan, Inc., Orange County, CA (USA)
- 09.45 **Break**
- 10.15 **The Impact of Regulatory Science on the Review of Drug Products Containing Nanomaterials**  
**Dr. Katherine Tyner**, Associate Director for Science (acting), Office of Pharmaceutical Quality CDER/FDA, Springfield, IL (USA)
- 10.30 **Questions and Debate**
- 11.15 **Change to Plenary Hall Montreal**

## Section 10: Four Sessions

Wednesday, Hall Montreal

**Parallel 1** **35. Late breaking and ongoing Trials 1** (11 minutes plus 4 minutes for questions)

**Chair** Prof. Dr. Med. Bengt Fadeel, Nanosafety & Nanomedicine Laboratory, Institute of Environmental Medicine, Karolinska Institutet, Stockholm (S)

10.15 **NoCanTher project: clinical translation roadmap for iron oxide nanoparticles**

**Prof. Dr. Adriele Prina-Mello, PhD**, Ussher Assistant Professor, Trinity Translational Medicine Institute (TTMI), Department of Clinical Medicine, School of Medicine and AMBER / CRANN, Trinity College Dublin, the University of Dublin (IRL)

10.30 **First in Human Pharmacokinetic Evaluation of Antiretroviral Solid Drug Nanoparticles for Dose Reduction**

**Prof. Dr. Andrew Owen, PhD, FRSB, FBPhS**, Professor of Pharmacology, Molecular and Clinical Pharmacology University of Liverpool (UK)

10.45 **Relaxin-coated Superparamagnetic Iron-oxide Nanoparticles as a Novel Theranostics for the Diagnosis and Treatment of Liver Fibrosis in Vivo**

**Dr. Jai Prakash**, Associate Professor for Targeted Therapeutics, Department of Biomaterials, Science and Technology, MIRA Institute for Biomedical Technology and Technical Medicine, University of Twente, Twente (NL)

11.00 **Evidence-Based: Securing Constant Medication Locally & Prolonged for Various Drug Types**

**Dr. Noam Emanuel**, CTO, PolyPid Ltd. Petach Tikva (IL)

11.15 **Change to Plenary Hall Montreal**

Wednesday Hall Singapore

**Parallel 2** **36. Understanding and Conquering Barriers in Cancer Nanomedicine** (11 plus 4 minutes for questions and debate)

**Chair** Dr. Silke Krol, Principal Investigator and Head of Nanomedicine lab, IRCCS, Istituto Oncologico "Giovanni Paolo II", Bari (I) and Fondazione IRCCS Istituto Neurologico "Carlo Besta", Milano (I)

**About** Overcoming biological barriers to nanomedicines is a main issue for successful drug delivery. This session will add to the understanding of the relevance of complement sensing: of nanoparticles and nanomedicines, clearance by leukocytes and the mononuclear phagocyte system, breakdown of the endothelial barrier - functions in tumors, stroma modifications to enhance nanomedical delivery and efficacy and many more.

10.15 **Homing of Fusobacterium Nucleatum to Colon Cancer**

**Prof. Gilad Bachrach**, Institute of Dental Sciences, The Hebrew University-Hadassah, School of Dental Medicine, Jerusalem (IL)

10.30 **The Macrophage Switch: Improving Nanoparticle Biodistribution**

**Dr. Joy Wolfram**, Faculty, Mayo Clinic, Jacksonville, Florida (USA); Affiliate Faculty, Houston Methodist Research Institute, Houston, Texas (USA)

10.45 **Albumin Based Radionuclide Theragnosis Targeting for SPARC Expressing Glioblastoma**

**Prof. Dr. med. Keon W. Kang, MD, PhD**, Department of Nuclear Medicine, Seoul National University College of Medicine, Seoul (KR)

11.00 **Nano-onco: Biopraxis ROADMAP to Nanomedicine Translation for Cancer Treatment**

**Oihane Ibarrola**, Scientific Responsible for Process Technologies, Biopraxis Research AIE, Miñano, PT Alava (E) & **Angel Del Pozo**, European Projects and IP Manager, Biopraxis Research AIE, Miñano, PT Alava (E)

11.15 **Change to Plenary Hall Montreal**

Wednesday, Hall Sydney

**Parallel** **37. New Nanotechnologies for Medical Applications** (10 minutes incl. questions)

**Chair** Prof. Dr. Dmitri Simberg, Assistant Professor, Skaggs School of Pharmacy and Pharmaceutical Sciences, Colorado Center for Nanomedicine and Nanosafety (CCNN), University of Colorado, Denver (USA)

- 10.15 **Characterising the Endocytosis of Nanomedicines**  
**Prof. Dr. Anna Salvati**, Assistant professor, Groningen Research Institute of Pharmacy, University of Groningen Groningen (NL)
- 10.25 **Tailor-made Nano lipid Gel Encapsulating Miconazole Nitrate-loaded Nanoparticles Improved its Antimycotic Activity**  
**Prof. Dr. Anthony A. Attama**, Drug Delivery and Nanomedicines Research Group, Department of Pharmaceutics and Pharm. Microbiology, Faculty of Pharmaceutical Sciences, University of Nigeria, Nsukka (NGA)
- 10.35 **Nanoparticle Behavior in Stem Cells – Implications for Regenerative Medicine**  
**Dr. Inge Nelissen, MSc Eng, PhD**, Project Manager – Applied Bio&molecular Systems, VITO NV, Mol (B)
- 10.45 **Bio-invasive Nanocarriers for Oral Delivery of Colistin**  
**Dipl.-Pharm. Sara Menina**, Department of Drug Delivery (DDEL), Helmholtz Institute for Pharmaceutical Research Saarland (HIPS), Helmholtz Center for Infection Research (HZI), Saarland University, Saarbrücken (D)
- 10.55 **Further Questions and Debate**
- 11.15 **Change to Plenary Hall Montreal**
- Wednesday. Hall Rio  
**38. Nanomedicine in Neurodegenerative Disease** (10 plus 5 minutes for questions)  
 Chair **Prof. Dr. Mike Eaton**, Translation Advisory Board ENATrans, Oxford (UK)
- About** The session gives insight into nanomedical approaches in neurodegenerative disease
- 10.15 **Targeting “Brain Disease Signature” towards precision healthcare**  
**Dr. Mira Marcus-Kalish**, Senior Research Fellow, International Research Affairs, Tel Aviv University (IL)
- 10.30 **A Nano-theranostic Approach for Neurodegenerative Diseases: from Innovative Brain "Nano-biopsy" to Nano Prevention.**  
**Prof. Dr. med. François Berger**, Director of BrainTech Lab-INSERM U 1205- Grenoble Alpes, University Grenoble (F)
- 10.45 **New Results in Multifunctional Liposomes for Prevention of Alzheimer Disease**  
**Dr. Francesca Re**, Nanomedicine Center, School of Medicine and Surgery, University of Milano-Bicocca Chief Operating Officer (COO)/Head of R&D of AmypoPharma SRL, Monza (I)
- 11.00 **Questions and Debate**
- 11.15 **Change to Plenary Hall Montreal**
- Section 11: Plenary Session**
- Wednesday, Hall Montreal (15 minutes incl. questions)  
**Plenary 39. Late breaking and Ongoing Trials 2 (10 minutes plus 5 minutes for Questions)**  
 Chair **Dr. Neil Desai, PhD**, Aadi Bioscience Inc, Pacific Palisades, CA (USA)
- 11.30 **RNAi Based Therapies for Solid Tumors – Clinical Evidence from Pancreatic Cancer**  
**Dr. Amotz Shemi**, Co-founder and CEO, Silenseed LTD, Modi'in (IL)
- 11.45 **Novel Clinical Applications of ABI-009, an Albumin-bound mTOR Inhibitor**  
**Dr. Neil Desai, PhD**, Aadi Bioscience Inc., Pacific Palisades, CA (USA)
- 12.00 **Update on the Development of AZD2811, an Aurora Kinase B Inhibitor, Incorporated into Nanoparticles for Use in Haematological and Solid Cancers**  
**Dr. Marianne Ashford, PhD**, Principal Scientist Drug Targeting, Pharmaceutical Development AstraZeneca, Macclesfield, Cheshire (UK)

- 12.15 **RNA Lipoplex Nanoparticle Products for Tumor Immunotherapy: Clinical Update Phase 1**  
Dr. Heinrich Haas, Vice President Drug Delivery, BioNTech RNA Pharmaceuticals GmbH, Mainz (D)
- 12.30 **From Lab to Bedside: Clinical Translation of Targeted Liposomal Doxorubicin Talidox/TLD-1**  
Dr. Stefan Halbherr, Manager Research and Development, InnoMedica Holding AG, Bern (CH)
- 12.45 **Evaluation of Iron Species in Healthy Subjects Treated with Generic and Reference Sodium Ferric Gluconate**  
Prof. Dr. Sarah L. J. Michel, Professor, Graduate Program Director (PhD Pharmaceutical Sciences Program), Dept. of Pharmaceutical Sciences, University of Maryland, Baltimore, MD (USA)

13.00 **Lunch**

## Section 12: Plenary Session

### Wednesday, Hall Montreal

- Plenary Chair** **40. Nanomedicine between Now and Tomorrow** (16 plus 4 minutes for Questions)  
Dr. med. h.c. Beat Löffler, MA, CEO of the CLINAM-Foundation, Basel (CH)
- 14.00 **Swarms of Magnetic Bacteria Could be Used to Deliver Drugs to Tumors**  
Prof. Dr. Sylvain Martel, Tier 1 Canada Research Chair in Medical Nanorobotics, Professor and Director of the NanoRobotics Laboratory, Department of Computer and Software Engineering, Institute of Biomedical Engineering, Polytechnique Montréal, McGill University, Montreal (CND)
- 14.20 **New Targets to combat Cancer stem Cells with Nanomedicines**  
Prof. Dr. med. Simo Schwartz, Jr., PhD, Director Molecular Biology and Biochemistry, Research Center for Nanomedicine (CIBBIM-Nanomedicine) Univ. Hospital Vall d'Hebron and Vall d'Hebron Institut de Recerca (VHIR), Barcelona and President of the European Society for Nanomedicine, Basel / Barcelona (E)
- 14.40 **Microbiome and Nanomedicine: State of the science and knowledge gaps**  
Dr. Carl E. Cerniglia, Ph.D., Director, Division of Microbiology, National Center for Toxicological Research Food and Drug Administration, Jefferson, AR (USA)
- 15.00 **Squalene-based Nanoassemblies and NanoMOFs: two Examples of New Concepts in the Nanomedicine Field**  
Prof. Dr. Patrick Couvreur, Membre de l'Institut Universitaire de France, UMR CNRS 8612, Université Paris-Sud-UFR de Pharmacie, Chatenay-Malabry (F)
- 15.25 **Future Robot-Nanobased Surgery for Today Unreachable Targets**  
Prof. Dr. Alon Wolf, Professor of Mechanical Engineering, Founder and Director, Biorobotics and Biomechanics Lab (BRML Associate Editor, Clinical Biomechanics, Technion Israel Institute of Technology, Faculty of Mechanical Engineering, Haifa (IL)
- 15.45 **Graphene for RNA Detection**  
Prof. Dr. med. Dong Soo Lee, PhD, Chairman, Department of Nuclear Medicine Seoul National University Seoul, (ROK)
- 16.05 **Publish or Perish in Nanomedicine: The Journey from Experiments to Publication**  
Prof. Dr. Lajos Balogh, Visiting Professor, Chinese Academy of Sciences, Beijing (CHN); Visiting Professor, Seoul National University, Seoul, (ROK); KOFST Fellow US Technical Advisory Group to ISO TC 229 Nanotechnology, Executive Board, American Society for Nanomedicine North Andover MA (USA)
- 16.25 **Further Questions and Debate**
- Plenary Chair** **41 Presidential Address: The context between Nanomedicine, Disease and Precision Medicine**  
Prof. Dr. med. Patrick Hunziker, President of the International Society for Nanomedicine, Basel (CH)
- Closing Keynote Session
- 16.45 **The Bridge between Systems and Local Complexity – Switzerland as Pace Setter towards Nanomedicine and Personalized Medicine?**  
Prof. Dr. Gerd Folkers, President of the Swiss Science and Innovation Council (SSIC) and Professor of Pharmaceutical Chemistry, ETH Zürich, Zürich (CH)



- 17.10 **Questions and Debate**
- 17.20 **Closing words**  
Patrick Hunziker and Beat Löffler
- 17.25 **End of Summit 10 / 2017**
- 18.30 **Light Farewell Dinner for those staying in Basel**

**Tuesday: Foyer/University Village Area 15.00 – 16.15**

**42. IN DEPTH WORKSHOP: In Depth Workshop on Exosomes - Discussion Statements of Interested**

**Prof. Dr. med. Raymond Schiffelers**, Professor of Nanomedicine, Clinical Chemistry and Haematology, University Medical Center Utrecht UMCU, Utrecht (NL)

Exosomes and other extracellular vesicles (EVs) are recently emerging as potent nanomedicine alternative as they possess certain characteristics that could enhance drug delivery and diagnostics. This session will continue where the Exosome session 13 has sketched an image of a vibrant field of research with much promise for spectacular biomedical applications of EVs in diagnostics and therapy. At the same time, when turning the promise into performance, reality strikes. Building upon interesting preclinical results, EV-approaches have resulted in first successful clinical trials, for example in oncology or as vaccines. Diagnostic applications appear even closer to clinical use with the first exosome-based diagnostic test marketed recently. Nevertheless, a few technological challenges have to be overcome to exploit the pharmaceutical potential of EVs. These include reproducible large-scale production under good manufacturing practice (GMP) standards, industrially applicable loading techniques and suitable analytics for their validation, and stability of pharmaceutical formulations. Moreover, the approval for clinical evaluations will depend on potential off-target effects and the pharmacokinetic profile of EV-carriers. This session will identify where the major hurdles are and will discuss state-of-the-art efforts from academia and industry to address them.

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## General Information

### 1. Ongoing Submission of Poster-Abstracts

The call for oral presentations is since March 10 closed. Posters can be further submitted until March 25.

Later submitted Posters can be submitted until April 21 but will not be included in the Summit-Proceedings. Accepted submitters must bring 20 handouts of the abstract with them.

#### A. Topics for Abstracts

**Clinical Topics:** Nanomedicine and targeted medicine for cardiovascular disease, rheumatic disease, oncology, gastrointestinal/hepatic disease, bacterial infection, viral infection, parasitic infection, implantology, inflammation, hematology, diabetes, neurology, neurosurgery, orphan diseases, eye and ear disease, tuberculosis, HIV, Ebola, tissue repair, orthopedics, etc.

**Technology Topics:** Nanosystems, nanoparticles, nanoanalytics and diagnostics, toxicology, nano-imaging, targeted drug delivery, using nanoparticles, GMP and quality assurance, propositions for solving a medical problem in a novel way by the use of nanotechnology, novel concepts and ideas if they can be supported by thorough reasoning and could lead to novel research and solutions. Materials for use in nanotechnology and targeted medicine, concepts, diagnosis and therapy in the field of personalized medicine: clinical diagnosis and management on the individual patient's clinical signs and symptoms, medical and family history, and data from laboratory and imaging evaluation to diagnose and treat illnesses, genetic testing leading to more personalized treatments. In addition, relevant novel tools for translational research and diagnostics are of high interest, etc.

**Implications Topics:** Implications of Nanomedicine for society, developing countries, environment, risks and benefits, public health finance, health economics, and other subjects, etc.

**Strategy, Government and Political Topics:** Strategy building and policy processes in nanomedicine. Strategic approaches towards establishing a unified funding area for nanotechnologies for medical research. Policy processes to foster leadership in Nanomedicine, regulatory authority topics as well as financial and marketing matter.

**Industry Topics:** Industry projects and solutions in nanomedicine and targeted medicine, tools related to Nanomedicine and targeted medicine. Industry models for the Future large-scale production, Good Manufacturing Practice, etc.

**Exhibitors Topics:** Integrated interventions of exhibitors that are of scientific or technical high relevance and do not have the solely the purpose of promoting the trademark.

## **B. Canon**

All abstracts must cover original research aimed at future or current applications of nanoscience and targeted medicine including clinical trial designs, reports of ongoing and completed clinical trials, preclinical work, and technology papers with clinical long-term vision. All fields leading to the development of personalized medicine (precision-medicine) are also issues of great interest.

## **C. Submission procedure (Sending Paper Abstract / Poster Abstract)**

All correspondence regarding Submission has to be sent to [submit2017@clinam.org](mailto:submit2017@clinam.org)

## **D. Poster-Abstract**

Send us your poster-abstract, (Microsoft Word, RTF, or Open document file format, using Times New Roman, font size 11, single spacing **NO PDF**). The submission must **not be longer than three pages**, including metadata and figures (one figure is obligatory). All illustrations, figures, and tables must be placed within the text at the appropriate points. Index your file as follows: [Last name.First name.abstract17.docx \(or RTF etc.\)](#)

## **E. Biography**

Please add in your mail as separate document with your NARRATIVE CV, max one page. No more than 5 titles of recent publications can be included [Last name. First name.CV17.docx \(or RTF etc.\)](#)

## **F. Portrait Photo**

Send us a head [picture in gif or jpg, minimum 300 dpi. DO NOT COPY PASTE THE PICTURE](#). Index your file as follows: [Last name.First.Name.Picture17.jpg \(or gif\)](#)

## **G. Presentation Times, Size of Posters, Installation of Posters**

Posters will be located in the Foyer visible for all conference attendees. The meeting breaks and lunches will be the preferred time to study the posters. During lunch and breaks, the authors are asked to be present close to their poster. Posters are to be presented in the size of 1.40 meter high and 1.00 meter wide. There will be the CLINAM-Poster Prize. Poster installation is on [May 8 as from 06.30 until 8.00 am latest](#) and the posters can be removed on [May 10, after 4.45 pm and latest until 18.15 pm](#).

## **H. University Village 2017 and Small Speeches**

The University Village is an exquisite forum for universities and research institutes, giving them opportunity to present themselves as well as novel approaches, new research projects and initial outcomes of research, and patents. Researchers and engineers can use the foyer to install exhibition stands booths as one-stop-shops for the large spectrum of conference participants. Poster presenters and University Village members are eligible for presentations in a special session of Small Speeches, 3 minutes in length and serving to highlight the research activities in Nanotechnology and Targeted Medicine. They must comprise three slides, • Slide 1: general introduction to the topic • Slide 2: some of the highlights of submitters' work and institutions' work • Slide 3: the proof as to how the work fits into the area of Nanomedicine, including a glimpse into the future. Application for Small Talk Sessions is possible any time after acceptance of your poster in writing. For Contacts regarding Small Speeches please contact Dr. Sc. Nat. Ruth Schmid, SINTEF [ruth.b.schmid@sintef.no](mailto:ruth.b.schmid@sintef.no) , CLINAM-University Village and Small Speech-Director.

## **2. Format of Summit 2017; Criteria for Posters**

**Track 1: Clinical Nanomedicine and Targeted Medicine – Basic Research** • Disease Mechanisms and Personalized Medicine • Regenerative Medicine • Novel Therapeutic and Diagnostic Approaches • Active and Passive Targeting • Targeted Delivery • Nano-Toxicology

**Track 2: Clinical Nanomedicine and Targeted Medicine – Translation** • Unsolved Medical Problems • Precision Medicine and Theranostic Approaches • Regenerative Medicine • Late Breaking and Ongoing Clinical Trials • Applied Nanomedical Diagnostics and Therapeutics

**Track 3: Enabling Technologies** • Nanomaterial Analytics and Testing • Molecular Profiling for Research and Efficacy/Toxicology Testing (Genomics, Proteomics, Glycomics, Lipidomics, Metabolomics) • Functional Testing Assays and Platforms • Single Cell Analyses • Cell Tracking • Stem Cell Biology and Engineering Technologies • Microfluidics • Tissue Engineering – Tissues-on-a-Chip – Bio-printing • In vivo Testing • Novel Imaging Approaches • Medical Devices

**Track 4: Regulatory and Societal Affairs, Networking and Financing** • Regulatory Issues in Nanomedicine • Strategy and Policy • The Patient's Perspective • Ethical Issues in Nanomedicine • University Village Presentations • Cutting-Edge EU-Project Presentations • Networking for International Consortium Formation • Venture Funding, Fund Investment and Business-Angel-Investment

### 3. Registration Fees

Currency is Euro					
REGISTRATION IS MANDATORY for all members incl. Speakers					
Category	Early Until 10.3.2017	Regular as from 10.3. 2017	Fellowship1 Registration until 18.4.2017	Fellowship 2 Registration until 18.4.2017	Per one Day
Academy Academy Submitters on level Early Registration	680.00	800.00	400.00	Fully or partial waived Accommodation and or travel	300.00
Government	1'020.00	1'200.00	600.00	according to letter of the foundation	460.00
Industry	1'360.00	1'600.00	800.00		615.00
Students	425.00	500.00	250.00		190.00
<b>Your contribution to the Brokerage Dinner on Monday, May 8, 2017, 8.15 pm, is 50.00 € extra and not included in the Registration</b>					
<b>Members of the European Society for Nanomedicine benefit from a 5% reduction in all categories except for Fellowship receivers (<a href="http://www.esnam.org">www.esnam.org</a>)</b>					

### 4. Exhibition Fees

(booking online <https://www.clinam.org/exhibition.html>)

Floor Space (300 €/m<sup>2</sup>)

4 m <sup>2</sup>	_____	1'200 €
8 m <sup>2</sup>	_____	2'400 €
12 m <sup>2</sup>	_____	3'500 €
16m <sup>2</sup>	_____	4'500 € (the maximum is 24 m <sup>2</sup> )

- Desired segmentation of space: (x by y meter) [ \_\_\_\_\_ ]
- Company name A3 on pillar \_\_\_\_\_ 80 €
- 1 table, 2 chairs, 1 pin board for poster & power connection \_\_\_\_\_ 100 €
- Exhibitors Ticket for Conference \_\_\_\_\_ mandatory
- Booth Construction \_\_\_\_\_ on demand
- Special Start-up Booth 4 m<sup>2</sup> / 1 table, 2 chairs, pillar ticket 1'650.00 € (upon application)**

### 5. Fellowship

Fellowship does not include the welcome dinner, the farewell dinner and the evening brokerage dinner (latter can be registered at rate of 50 €). There are two categories of Fellowship. See the list above, where you find the reduced registration prices.

**Eligibility:** Before applying for a Fellowship, the submission of a poster is mandatory. Posters submitted until March 25 will be included in the proceedings. After that, poster submissions are accepted until April 21 but will not be published in the proceedings. The presenters have to bring 20 handouts with them.

Address a letter (attachment to email) to the Board of the CLINAM Foundation, stating why the CLINAM Foundation should support you. Choosing Fellowship 2 is eligible for eastern and developing countries. Fellowships are given away on a "first come first served" model since the funds are limited. Add a reference letter by a superior of your organization stating the motivation of your Fellowship application. You shall receive a decision by email. Registration then has to be done within 7 days after receiving the fellowship link. Send your application to [Fellow@clinam.org](mailto:Fellow@clinam.org). Fellowships can be applied for until April 18, 2017. Decisions of the Committee cannot be disputed.

### 6. Exhibition as Mirror of the Conference

For the previous CLINAM Summits the number of exhibitors permanently increased. Exhibitors can profit of the possibility to meet a large community of target visitors on one single spot in Basel during the Summit. The CLINAM Summit is becoming one of the leading places for the pulse of research results and the developing market and early sales in the field of cutting-edge nanomedicine.

### 7. Target Audience

The faculty includes the pioneers and opinion leaders in the fields of medicine, nanoscience and targeted medicine, who share experience in an interdisciplinary and interactive manner that widens mutual understanding for both sides. The Summit and the exhibition are aimed at physicians, as well as nonscientists with a background in pharmacology, biology,

physics, chemistry, biophysics, medicine materials science and engineering. The meeting is a particularly useful source of knowledge for the targeted medicine and delivery community. The Conference is also of interest for members of the regulatory authorities as well as policymakers, experts from industry in the field of life sciences, developers of new tools and materials for Nanomedicine, and all those investigating the potential of emerging technologies in the field of healthcare. Experts from venture companies can acquire knowledge on existing and upcoming developments and novel products in the emerging field of Nanomedicine and Knowledge Based Medicine. Government authorities can profit from of the regulators' international sessions. CLINAM is the worldwide melting pot for experts and a high-level communication platform where you meet those striving for equal goals.

## **8. Information regarding the European & Global Summit for Clinical Nanomedicine and Targeted Medicine 2017**

**Conference Venue:**

**For Exhibition Shipping and Information**

**Congress Center**, Messeplatz 21, 4058 Basel, Switzerland Phone + 41 58 206 28 28, [info@congress.ch](mailto:info@congress.ch)

**Organizers Office:**

**For Information about Fellowships, Visa, Submission, Exhibition Plan and General Information about the Summit**

**European Foundation for Clinical Nanomedicine (CLINAM)** Alemannengasse 12, P.B. 4016 Basel, Switzerland

Phone +41 61 695 93 95 [clinam@clinam.org](mailto:clinam@clinam.org)

**Registration Office:**

**For all questions regarding registration matters**

**Organizers Schweiz GmbH**, CLINAM SUMMIT 10 /2017, Obere Egg 2, CH 4312 Magden, Switzerland

Phone +41 61 836 98 78 [registration@organizers.ch](mailto:registration@organizers.ch)

Historical Backgrounds of Basel / History:

<https://en.wikipedia.org/wiki/Basel>

History of Switzerland

[https://en.wikipedia.org/wiki/History\\_of\\_Switzerland](https://en.wikipedia.org/wiki/History_of_Switzerland)

## **Appreciation by the CLINAM Foundation**

The non-profit CLINAM Foundation can realize this annual summit due to their sponsors giving us the opportunity to gather so many excellent international experts in Basel. We are grateful to be able to advance the field of nanomedicine and targeted medicine in this summit.

The 10<sup>th</sup> CLINAM-Summit is under the auspices of the Swiss Confederation. It is our goal to broaden the frontiers of knowledge of nanomedicine in diagnosis, therapy and treatment and make innovation happen by novel drugs and devices and new ways of development and cooperation. We are happy and obliged, doing this Summit on an international level in Switzerland, in the heart of Europe. We look forward, to welcome all stakeholders in Clinical Nanomedicine and Targeted Medicine in Basel to

- come together
- debate together
- investigate together
- learn from each other
- come to novel findings and
- in congruence advance the discipline to the benefit of the patient and humankind.

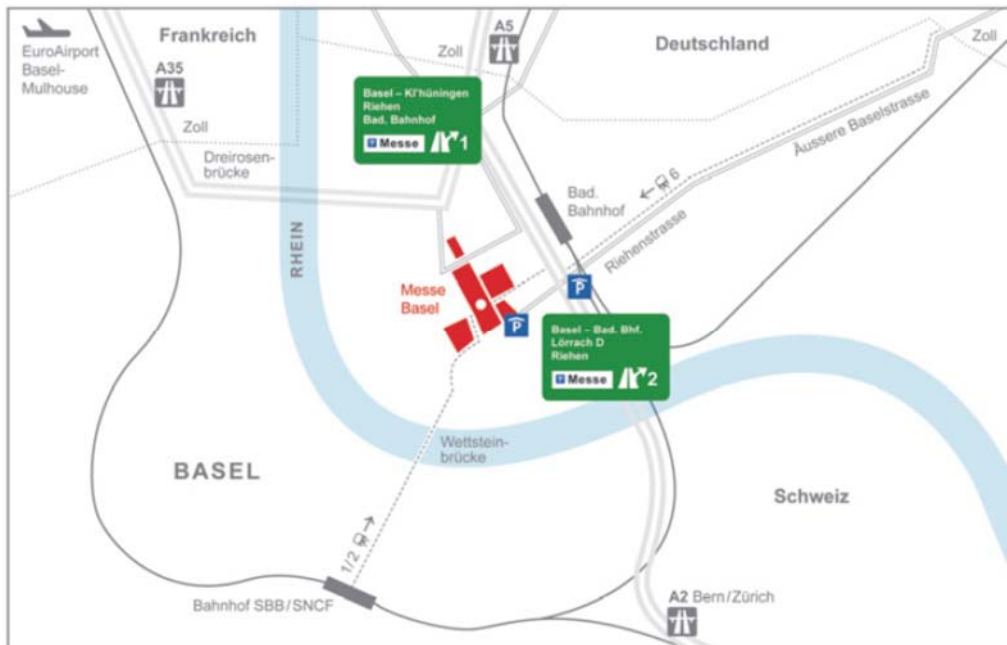
## 9. How to get to Basel Congress Center, Switzerland

### Coming by train:

You will arrive at the Swiss Train Station (SBB). From there you take tram number 2. You will after five stations within 10 minutes be at the conference center. The station is called "Messeplatz" and is announced. Coming from the German Station it is only 2 stops, also with tram number 2 (or also 6) in opposite direction. The costs for a cab from SBB are about 20.-- CHF.

**Coming by flight to Basel-Mulhouse-Freiburg Airport:** This is a 15 minutes' drive to the Congress Center Basel. There is an easy connection from Euro-Airport to the exhibition center downtown Basel by public transport (Bus Nr. 50), via the central Swiss railway station (Bahnhof SBB). From Bahnhof SBB the tram line no. 2 (see above) serves Basel Exhibition square directly. The costs for a cab are about 43.-- CHF

**Coming from Zürich Airport:** There are frequent trains between Basel SBB station and Zurich Airport taking less than an hour. You arrive in Basel at the Swiss Train Station and proceed as described above.





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# The Sponsors 2017

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