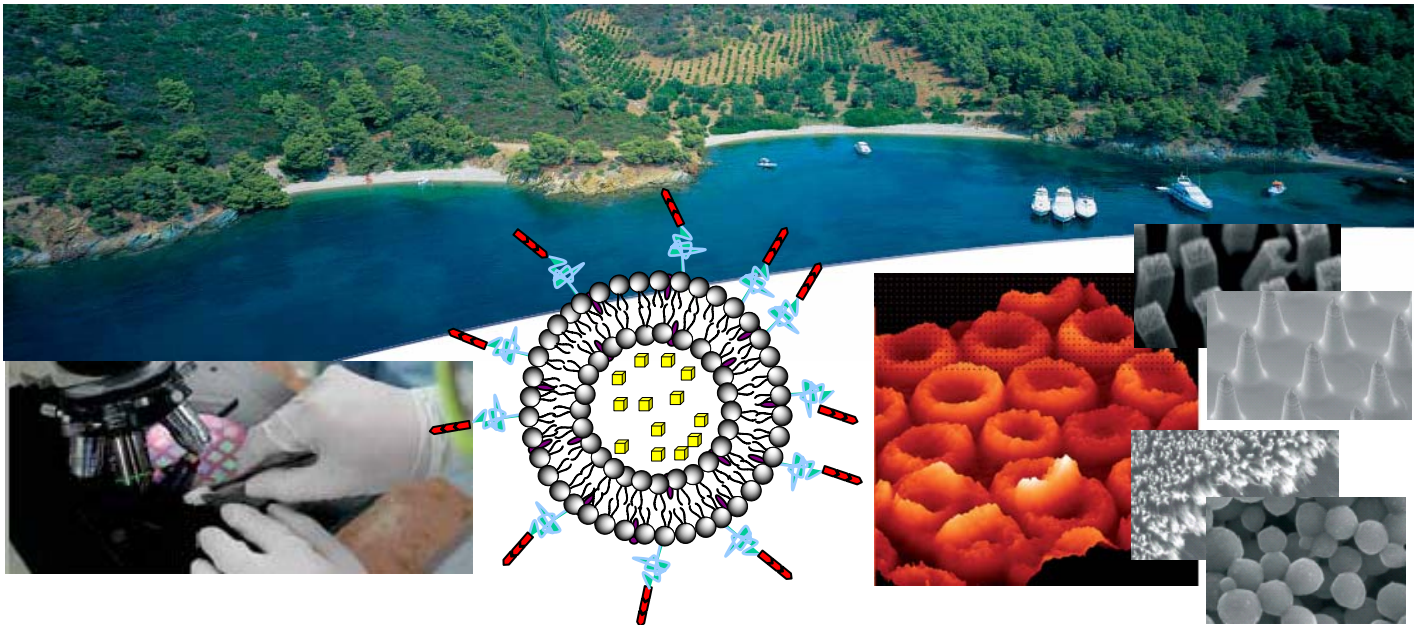




# NANOMEDICINE

## PROGRAMME



**INTERNATIONAL CONFERENCE ON NANOMEDICINE**

**September 9 –11, 2007**

**Porto Carras Grand Resort, Chalkidiki, Greece**

# **NANOMEDICINE**

**International Conference on NANOMEDICINE**

**Technical Theme:**

***"Nanotechnology for Health"***

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## CONTENTS

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**Organizing Committee**

**International Programme Committee**

**Sponsors**

**Scientific Program**

**Social Program**

**Time Schedule NANOMEDICINE**

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## Organizing Committee

---

Prof. Costas Kiparissides (*AUTH & CERTH, Greece*)

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Prof. Chrysanthos Zamboulis (*AUTH & CERTH, Greece*)

Prof. Nicos Maglaveras (*AUTH & CERTH, Greece*)

Prof. Asterios Tsiftoglou (*AUTH, Greece*)

Dr. Silke Megelski (*DECHEMA, Germany*)

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## International Program Committee

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## Sponsors

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The Scientific Committee is grateful to the following organizations for their contributions to NANOMEDICINE.



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Sixth EU Framework Programme for  
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Ministry of National Education and Religious Affairs



ARISTOTLE UNIVERSITY OF THESSALONIKI  
Chemical Engineering Department

# NANOMEDICINE

## SUNDAY, SEPTEMBER 9, 2007

20<sup>00</sup>      **Registration**

21<sup>00</sup>      *Reception*

## MONDAY, SEPTEMBER 10, 2007

08<sup>30</sup> – 08<sup>45</sup>    **Opening Session - ROOM ...**

08<sup>45</sup> – 09<sup>45</sup>    **Plenary Lecture - ROOM ...**

**“Multifunctional Nanoparticles for Medical Applications”**

**O. Farokhzad**

*Harvard Medical School, USA*

### **INVITED SESSION I (I-1) – ROOM ...**

**Chairman: P. Debbage**

*Medical University of Innsbruck, Austria*

**Co-Chairman: G. Molema**

*University of Groningen, The Netherlands*

09<sup>45</sup> – 10<sup>20</sup>    Quantitative Visualization of Nanometer Scale Protein Aggregates Relevant to Neurodegenerative Disease

**V. Subramaniam**

*Biophysical Engineering Group, University of Twente, The Netherlands*

10<sup>20</sup> – 10<sup>55</sup>    Delivery of Drugs with Nanocarriers over the Blood-Brain Barrier: An Overview

**Chr. Schmitz**

*University of Maastricht, The Netherlands*

10<sup>55</sup> – 11<sup>30</sup>    *Coffee Break – Poster Viewing*

11<sup>30</sup> – 12<sup>05</sup>    Changes and Challenges in Clinical Diagnostics: Convergence of Technologies, Convergence of Players

**P. Boisseau**

*CEA-Leti, France*

12<sup>05</sup> – 12<sup>40</sup>    Embryonic, Fetal and Adult Stem Cells: Current Trends and Future Applications

**N. Anagnou**

*School of Medicine, University of Athens, Greece*

12<sup>40</sup> – 14<sup>15</sup> *Lunch*

14<sup>15</sup> – 15<sup>35</sup> **TWO PARALLEL AFTERNOON SESSIONS (DD-1, D-1)**

**DELIVERY OF P/P DRUGS (DD-1) – ROOM ...**

**Chairman: E. Mastrobattista**

*University of Utrecht, The Netherlands*

**Co-Chairman: K. Tokatlidis**

*IMBB-FORTH and University of Crete, Greece*

14<sup>15</sup> – 14<sup>35</sup> Protein Nanoparticles Based on Coordinative Binding

**G. Hribar**<sup>1</sup>, A. Žnidaršič<sup>2</sup>, M. Bele<sup>2</sup>, P. Venturini<sup>2</sup>, V. Gaberc-Porekar<sup>1</sup>, V. Menart<sup>1,3</sup>

<sup>1</sup>*Department of Biosynthesis and Biotransformation, National Institute of Chemistry, Ljubljana, Slovenia*

<sup>2</sup>*Department of Materials Electrochemistry, National Institute of Chemistry, Ljubljana, Slovenia*

<sup>3</sup>*Lek Pharmaceuticals d.d., a Sandoz Company, Ljubljana, Slovenia*

14<sup>35</sup> – 14<sup>55</sup> Development of Thermosensitive Nanoparticles for Drug Delivery

B. Albaigés-Gubert, N. Agulló, C.E. Semino, **S.Borrós**

*Barcelona Bioengineering Center (BBC), Institut Químic de Sarrià (IQS), Universitat Ramon Llull, Spain*

14<sup>55</sup> – 15<sup>15</sup> Liposome-Based DNA/Protein Vaccines: Immunization Studies

G. Gregoriadis, **A. Bacon** and P. Laing

*Lipoxen Plc, London Bioscience Innovation Centre, London, United Kingdom*

15<sup>15</sup> – 15<sup>35</sup> The Emerging Field of Carbon Nanotube Pharmacology

**K. Kostarelos**

*The School of Pharmacy, University of London, London, United Kingdom*

15<sup>35</sup> – 15<sup>55</sup> Supported Lipid Bilayers and Vesicles; A Platform for Screening of Nanoparticle and Molecular Interactions with Membranes

**B. Kasemo**

*Chalmers University of Technology, Gothenburg, Sweden*

**CONVERGING PERSONALISED HEALTH PLATFORM WITH NANOMEDICINE APPLICATIONS**

**(D-1) – ROOM ...**

**Chairman: N. Maglaveras**

*Aristotle University of Thessaloniki, Greece*

**Co-Chairman: M. Casella**

*Fondazione Don Carlo Gnocchi Onlus - Polo Tecnologico, Italy*

14<sup>15</sup> – 14<sup>35</sup> New Generation of Smart Sensors for Biochemical and Bioelectrical Applications

**G. Kotrotsios**

*CSEM, Switzerland*

14<sup>35</sup> – 14<sup>55</sup> Convergent Technologies (NBIC) in Personalised Health and Nanomedicine: Major Challenges and Opportunities

**F. Martin-Sanchez**

*Istituto de Salud Carlos III, Spain*

14<sup>55</sup> – 15<sup>15</sup> The Digital Platform for Health and the Virtual Physiological Human. Can the Synergy Give Added Value to Medical Diagnosis and Treatment?

**N. Maglaveras**

*AUTH / CERTH-IBBR, Greece*

15<sup>15</sup> – 15<sup>35</sup> Some Design Considerations for Theranostics in Nanomedicine

**P. Debbage**

*Medical University of Innsbruck, Austria*

15<sup>35</sup> – 15<sup>50</sup> Towards Label-Free High Sensitivity (Up to Single Cell) DNA Analysis

**G. Scoles**

*Center for Biomolecular Medicine and Sincrotrone Trieste, Trieste, Italy*

*International School for Advanced Studies, Trieste, Italy*

*Princeton University, Princeton, USA*

15<sup>55</sup> – 16<sup>20</sup> **Coffee Break – Poster Viewing**

16<sup>20</sup> – 17<sup>50</sup> **POSTER SESSION – ROOM ...**

**Chairman: C. Kiparissides**

*Aristotle University of Thessaloniki & Centre for Research and Technology Hellas, Greece*

**Co-Chairman: E. Markvicheva**

*Russian Academy of Sciences, Russia*

16<sup>20</sup> – 16<sup>25</sup> “Poster 1”

Polylactide-Polyglycidol Block Copolymer as a New Material for Nanoparticles Formation

**M. Gadzinowski**, B. Miksa, S. Slomkowski

*Center of Molecular and Macromolecular Studies, Polish Academy of Sciences, Poland*

16<sup>25</sup> – 16<sup>30</sup> “Poster 2”

Development of a Nanostructured Surface Coating to Study Cellular Responses

**N. Marí-Buyé**<sup>1</sup>, W. S. O’Shaughnessy<sup>2</sup>, K. K. Gleason<sup>2</sup>, C. Colominas<sup>1</sup>, C. E. Semino<sup>1,2</sup>, S. Borrós<sup>1</sup>

<sup>1</sup>*Barcelona Bioengineering Center (BBC), Institut Químic de Sarrià (IQS), Universitat Ramon Llull, Barcelona, Spain*

<sup>2</sup>*Massachusetts Institute of Technology, Cambridge, MA, USA*

16<sup>30</sup> – 16<sup>35</sup> “Poster 3”

Structure Determination and Investigation of Structure Activity Relationships for Chitosaccharide based Nanomaterials

**Ö.V. Rúnarsson**<sup>1</sup>, J. Holappa<sup>2</sup>, T. Nevalainen<sup>2</sup>, M. Hjálmarsdóttir<sup>3</sup>, T. Järvinen<sup>2</sup>, Th. Loftsson<sup>1</sup>, J.M. Einarsson<sup>4</sup>, H. Steinsson<sup>1</sup> and M. Másson<sup>1</sup>

<sup>1</sup>*Faculty of Pharm., Univ. of Iceland*

<sup>2</sup>*Dep. of Pharmac. Chem., Univ. of Kuopio*

<sup>3</sup>*Prog. Biomed. Sci., Reykjavik University*

<sup>4</sup>*Genis EHF, Iceland*

16<sup>35</sup> – 16<sup>40</sup> “Poster 4”

Poly(isoprene-b-ethylene oxide) Block Copolymer Micelles as Nanocarriers for Poorly Water Soluble Drugs

T. S. Levchenko<sup>1</sup>, G. Mountrichas<sup>2</sup>, V. P. Torchilin<sup>1</sup>, **St. Pispas**<sup>2</sup>

<sup>1</sup>*Department of Pharmaceutical Sciences and Center for Pharmaceutical Biotechnology and Nanomedicine, Northeastern University, Boston, USA*

<sup>2</sup>*Theoretical and Physical Chemistry Institute, National Hellenic Research Foundation, Athens, Greece*

16<sup>40</sup> – 16<sup>45</sup> “Poster 5”

Polymeric Micro- and Nanocarriers for Drug Delivery Applications

**K. Kotti**, O. Kammona, O. Kotrotsiou, S. Chaitidou and C. Kiparissides

*Department of Chemical Engineering, Aristotle University of Thessaloniki and Chemical Process Engineering Research Institute, Thessaloniki, Greece*

16<sup>45</sup> – 16<sup>50</sup> “Poster 6”

Nanoparticles from Biodegradable Poly(Glycidol)-*co*-Poly(Lactide) (PGL-*co*-PLA)

**B. Miksa**, M. Gadzinowski, S. Slomkowski

*Center Molecular and Macromolecular Studies, Polish Academy of Science, Poland*

16<sup>50</sup> – 16<sup>55</sup> “Poster 7”

Silicone Reservoir System for Non Steroidal Anti-Inflammatory Drugs

**B.S. Snorrddóttir**<sup>1</sup>, R. Scheving<sup>1</sup>, F. Thorsteinsson<sup>2</sup>, P.I. Guðnason<sup>2</sup> and M. Másson<sup>1</sup>

<sup>1</sup>*Department of Pharmacy University of Iceland, <sup>2</sup>Össur hf.*

16<sup>55</sup> – 17<sup>00</sup> “Poster 8”

Fluorescent Nanoparticles for Neuroimaging

**A. O. Choi**, M. Behrendt, M. P. Jain, D. Maysinger

*Department of Pharmacology and Therapeutics, McGill University, Montreal, Quebec, Canada*

17<sup>00</sup> – 17<sup>05</sup> “Poster 9”

Self-Assembly Core-Shell PCL-Co-Ppsu Nanoparticles for Efficient Controlled Drug Release

**S. Papadimitriou**, D.N. Bikiaris

*Laboratory of Organic Chemical Technology, Department of Chemistry, Aristotle University of Thessaloniki, Greece*

17<sup>05</sup> – 17<sup>10</sup> “Poster 10”

Bacterial Production of Recombinant Human B-Globin-Tat-Ha Peptide Intended for Targeted Delivery in Thalassemic Cells

**Ch. G. Zaverda**, K.A. Nentoudi, P.F. Foltopoulou, A.S. Tsiftoglou and L.C. Papadopoulou

*Laboratory of Pharmacology, Dept. of Pharmaceutical Sciences, Aristotle University of Thessaloniki, Macedonia, Greece*

17<sup>10</sup> – 17<sup>15</sup> “Poster 11”

Natural Fiber-Coated Polyurethane Used for Medical Device Fabrication

**O. Craciunescu**<sup>1</sup>, L. Moldovan<sup>1</sup>, M. Lungu<sup>2</sup>, C. Vasile<sup>3</sup>, D. Bojin<sup>4</sup>, O. Zarnescu<sup>5</sup>

<sup>1</sup>*National Institute R-D for Biological Sciences, Bucharest, Romania*

<sup>2</sup>*S.C. INCERPLAST S.A., Bucharest, Romania*

<sup>3</sup>*“P. Poni” Institute of Macromolecular Chemistry, Iassy, Romania*

<sup>4</sup>*University “Politehnica” of Bucharest, Romania*

<sup>5</sup>*Faculty of Biology, University of Bucharest, Romania.*

17<sup>15</sup> – 17<sup>20</sup> “Poster 12”

Synthesis of Functionalized Nanocarriers for Oral and Pulmonary Delivery of P/P Drugs  
**S. Patronidou**, P. Karakosta, O. Kammona, V. Karageorgiou and C. Kiparissides  
*Department of Chemical Engineering, Aristotle University of Thessaloniki and Chemical Process Engineering Research Institute, Thessaloniki, Greece*

17<sup>20</sup> – 17<sup>25</sup>

“Poster 13”

New Perception and Applications of Lipid Aggregates

T. Borowik<sup>1,2</sup>, M. Przybyło<sup>1,2</sup>, **M. Langner**<sup>1,2</sup>

<sup>1</sup>*Department of Biomedical Engineering, Wrocław Technical University, Wrocław, Poland*

<sup>2</sup>*CBR Novasome Sp. z o.o., Wrocław, Poland*

17<sup>25</sup> – 17<sup>30</sup>

“Poster 14”

Ptd-Technology Complemented by Combinatorial Tag-Cloning for Bacterial Production of Recombinant Human Proteins Intended for Intracellular Delivery

**L.C. Papadopoulou**, A.S. Tsiftoglou and P.F. Foltopoulou

*Laboratory of Pharmacology, Dept. of Pharmaceutical Sciences, Aristotle University of Thessaloniki, Greece*

17<sup>30</sup> – 17<sup>35</sup>

“Poster 15”

Real-time Fibrinogen Adsorption Study by Spectroscopic Ellipsometry

**S. Lousinian**, S. Logothetidis

*Physics Department, Lab for Thin Films-Nanosystems & Nanometrology (LTFN), Aristotle University of Thessaloniki, Thessaloniki, Greece*

17<sup>35</sup> – 17<sup>40</sup>

“Poster 16”

Activatable Quantum Dots for in Vivo Imaging

J. Marchand<sup>1</sup>, A. Da Silva<sup>1</sup>, V. Jossierand<sup>2</sup>, I. Texier<sup>1</sup>

<sup>1</sup>*LETI-MINATEC/DTBS, CEA Grenoble, France*

<sup>2</sup>*ANIMAGE, CERMEP, Lyon, France and INSERM, Institut Albert Bonniot, La Tronche, France*

17<sup>40</sup> – 17<sup>45</sup>

“Poster 17”

Dendrimeric Nanocontainers as Anti-angiogenic Therapeutics

**K.T. Al-Jamal**<sup>1</sup>, N. Vargesson<sup>2</sup> and K. Kostarelos<sup>1</sup>

<sup>1</sup>*Nanomedicine Lab, Centre for Drug Delivery Research, The School of Pharmacy, University of London, London, United Kingdom*

<sup>2</sup>*Cell and Molecular Biology, Imperial College London, London, United Kingdom*

17<sup>45</sup> – 17<sup>50</sup>

“Poster 18”

Design and Synthesis of New Hydroxy-Terminated Dendrimers. Initial Studies of the Encapsulation Mechanism Using Molecular Modeling Techniques

K. Gardikis<sup>1,2</sup>, T. Felekis<sup>1</sup>, B. R. Steele<sup>1</sup>, P. Zoumboulakis<sup>1</sup>, C. G. Screttas<sup>1</sup>, C.

Demetzos<sup>2</sup> and **M. Micha-Screttas**<sup>1</sup>

<sup>1</sup>*Institute of Organic and Pharmaceutical Chemistry, National Hellenic Research Foundation, Athens, Greece*

<sup>2</sup>*Department of Pharmaceutical Technology, School of Pharmacy, University of Athens, Athens, Greece*

17<sup>50</sup> – 17<sup>55</sup>

“Poster 19”

The Control of the Energetic Parameters: Important Step in Understanding the Stability and Reactivity of the Micro and Nanostructured Materials

**S. Tanasescu**, C. Marinescu and F. Teodorescu

*Institute of Physical Chemistry of the Romanian Academy, Bucharest, Romania*

17<sup>55</sup> – 18<sup>00</sup> “Poster 20”  
Orientating Studies of a Novel Thiolated Chitosan Designed for Nanoparticulate Drug Delivery Systems  
**G. Millotti**, H. Hoyer, C. Vigl, and A. Bernkop-Schnürch  
*University of Innsbruck, Innsbruck, Austria*

18<sup>00</sup> – 18<sup>05</sup> “Poster 21”  
Thin Films Based on Hybrid Nanostructured Materials for Biosensors  
**R. M. Piticescu**<sup>1</sup>, M. Popescu<sup>1</sup>, R. R. Piticescu<sup>1</sup>, L. Zdrentu<sup>2</sup>, A. Dinescu<sup>3</sup> and G. Maistros<sup>4</sup>  
<sup>1</sup>*National R&D Institute for Non-ferrous and Rare Metals, Pantelimon, Romania*  
<sup>2</sup>*Biochemistry Institute of Romanian Academy, Bucharest, Romania*  
<sup>3</sup>*National R&D Institute for Microtechnology, Voluntari, Romania*  
<sup>4</sup>*INASCO, Athens, Greece*

21<sup>00</sup> – 24<sup>00</sup> **Gala Dinner**

## **TUESDAY, SEPTEMBER 11, 2007**

### **INVITED SESSION (I-2) – ROOM ...**

**Chairman: M. Eaton**  
*UCB Celltech, United Kingdom*

**Co-Chairman: A. Jordan**  
*MagForce Nanotechnologies AG and Charité Universitätsmedizin Berlin, Germany*

09<sup>00</sup> – 09<sup>35</sup> Using ICT in Personal Management Health Applications in Cardiovascular Diseases  
**J. Habetha**  
*PHILIPS, The Netherlands*

09<sup>35</sup> – 10<sup>10</sup> Nonviral Gene Delivery: From Simple Transfection Agents to Artificial Viruses  
**E. Mastrobattista**  
*Department of Pharmaceutical Sciences, University of Utrecht, The Netherlands*

09<sup>10</sup> – 10<sup>45</sup> Tumour Targeting: Current Status and Future Opportunities  
**R. Gaspar**  
*Universidade de Lisboa, Portugal*

10<sup>45</sup> – 11<sup>20</sup> Recent Trends in Regenerative Medicine: An Overview  
**E. Tognana**  
*Fidia Advanced Biopolymers, Italy*

11<sup>20</sup> – 11<sup>50</sup> **Coffee Break – Poster Viewing**

11<sup>50</sup> – 13<sup>30</sup> **TWO PARALLEL MORNING SESSIONS (G-1, G-2)**

### **GENERAL SESSION I (G-I) – ROOM ...**

**Chairman: Ch. Grandfils**  
*University of Liege, Belgium*

**Co-Chairman: G. Gregoriadis**

*Lipoxen Plc, United Kingdom*

- 11<sup>50</sup> – 12<sup>10</sup> Selected Applications of Nano-Particles for Health, Safety and Convenience  
**H. Schmid**  
*Fraunhofer-Institut Chemische Technologie (ICT), Pfinztal, Germany*
- 12<sup>10</sup> – 12<sup>30</sup> Photosensitiser-Nanoparticle Conjugates for the Photodynamic Therapy of Cancer  
M. Moreno<sup>1</sup>, D. A. Russell<sup>1</sup>, M. Camerin<sup>2</sup> and **G. Jori**<sup>2</sup>  
<sup>1</sup>*School of Chemical Sciences and Pharmacy, University of East Anglia, Norwich, U.K.*  
<sup>2</sup>*Department of Biology, University of Padova, Padova, Italy*
- 12<sup>30</sup> – 12<sup>50</sup> Bacterial Production of Recombinant Biologically Active Human Interleukine 1 $\beta$  (hrIL-1 $\beta$ ) and Assessment of its Stability in Vitro  
**A. S. Tsiftoglou**<sup>1</sup>, S. A. Lazos<sup>1</sup>, T. A. Brussali<sup>2</sup> and T. Chronis<sup>2</sup>  
<sup>1</sup>*Laboratory of Pharmacology and* <sup>2</sup>*Laboratory of Pharmaceutical Technology, Dept. of Pharmaceutical Sciences, Aristotle University of Thessaloniki, Macedonia, GREECE*
- 12<sup>50</sup> – 13<sup>10</sup> Site-Specific Intracellular Protein Targeting to Mitochondria  
**K. Tokatlidis**  
*IMBB-FORTH and University of Crete, Greece*
- 13<sup>10</sup> – 13<sup>30</sup> Rapid Pre-Assessment and Analysis of Nanoparticle Toxicity on the Human Microvasculature Using Non-Conventional Tests  
**R. E. Unger**<sup>1</sup>, K. Peters<sup>2</sup>, A. Sartoris<sup>1</sup>, C. J. Kirkpatrick<sup>1</sup>  
<sup>1</sup>*Institute for Pathology, REPAIR Lab, Johannes-Gutenberg University, Mainz*  
<sup>2</sup>*Center for Medical Research, Biomedical Research Center, University of Rostock, Germany*

**GENERAL SESSION II (G-2) – ROOM...**

**Chairman: N. Anagnou**

*University of Athens, Greece*

**Co-Chairman: E. Tognana**

*Fidia Advanced Biopolymers, Italy*

- 11<sup>50</sup> – 12<sup>10</sup> 3-D Bone and Cartilage Constructs in Alginate Hydrogels from Murine Embryonic Stem Cells  
**Y.-S. Hwang**<sup>1</sup>, M.R. Placzek, J. M. Cha, A. Chan<sup>1</sup>, S.G. Kazarian<sup>1</sup>, J. M. Polak and A. Mantalaris<sup>1</sup>  
<sup>1</sup>*Department of Chemical Engineering, South Kensington Campus, Imperial College London, United Kingdom*
- 12<sup>10</sup> – 12<sup>30</sup> Peptides Entrapped in Biodegradable PLGA Microparticles Accelerate Tissue Repair at Gastric Ulcer Treatment in Rats  
**E. Markvicheva**<sup>1</sup>, K. Stashevskaya<sup>1</sup>, I. Prudchenko<sup>1</sup>, S. Strukova<sup>2</sup> and Ch. Grandfils<sup>3</sup>  
<sup>1</sup>*Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry, Russian Academy of Sciences, Miklukho-Maklaya Str., 16/10, 117997 Moscow, Russia*  
<sup>2</sup>*Lomonosov Moscow State University, Faculty of Biology, Vorob'evy Gory, 119992 Moscow, Russia*

<sup>3</sup>*Interfacultary Biomaterial Centre (CEIB), University of Liege, Belgium*

12<sup>30</sup> – 12<sup>50</sup> Hemocompatibility Study of New Polycations Tailored to Mask the Antigens of the Red Blood Cells

**Ch. Grandfils**<sup>1</sup>, Ch. Sevrin<sup>1</sup>, P. Foresto<sup>2,3</sup>, F. Relancio<sup>3</sup>, V. Danieli<sup>2,3</sup>, A. Korol<sup>2</sup>, L. Di Tullio<sup>2</sup>, N. Valverde<sup>2,3</sup>, D. Sondag<sup>4</sup>, B. Riquelme<sup>2,3</sup>

<sup>1</sup>*Centre Interfacultaire des Biomatériaux (CEIB), Université de Liège, Institut de chimie, Liège (Sart-Tilman), Belgium*

<sup>2</sup>*Facultad de Ciencias Bioquímicas y Farmacéuticas, UNR, Rosario, Argentina.*

<sup>3</sup>*Applied Optics to Biology, Instituto de Física Rosario (CONICET-UNR) – Rosario, Argentina.*

<sup>4</sup>*Service du Sang, Centre de Transfusion Sanguine, Liège, Belgium.*

12<sup>50</sup> – 13<sup>10</sup> AFM Study of Platelets Interactions with Carbon-based Nanocoatings for Cardiovascular Stents

**V.Karagkiozaki**<sup>1,2</sup>, S.Logotheidis<sup>1</sup>, G.Giannoglou<sup>2</sup>

<sup>1</sup>*Aristotle University of Thessaloniki, Department of Physics, Thessaloniki, Greece*

<sup>2</sup>*AHEPA Hospital, 1st Cardiology Department, AUTH, Thessaloniki, Greece*

13<sup>10</sup> – 13<sup>30</sup> Quantitative Analysis of Drugs in Corporal Fluids Using Surface-Enhanced Raman Spectroscopy.

A.C. Manikas<sup>1</sup>, A. Soto Beobide<sup>1</sup>, J. Collazos-Castro<sup>2</sup> and **G. A. Voyiatzis**<sup>1</sup>

<sup>1</sup>*Foundation for Research and Technology, Institute of Chemical Engineering and High Temperature Chemical Processes (FORTH/ICE-HT), Rio-Patras, Hellas*

<sup>2</sup>*Neural Repair Laboratory, Hospital Nacional de Paraplégicos, Toledo, Spain*

13<sup>30</sup> – 15<sup>30</sup> **Lunch**

15<sup>30</sup> – 16<sup>50</sup> **TWO PARALLEL AFTERNOON SESSIONS (DD-2, D-2)**

**NANOCARRIER SYSTEMS FOR DRUG DELIVERY (DD-2) – ROOM ...**

**Chairman: R. Gaspar**

*Universidade de Lisboa, Portugal*

**Co-Chairman: G. Jori**

*University of Padova, Italy*

15<sup>30</sup> – 15<sup>50</sup> Local Pharmacological Effects and Site-Specific Inhibition of Glomerulonephritis Progression by Targeted Delivery of Dexamethasone to Glomerular Endothelium.

**J. A.A.M. Kamps**, S. A. Ásgeirsdóttir, H. I. Bakker, P. J. Zwiers, P. Heeringa, H. Morselt, H. E. Moorlag, G. Molema

*Department of Pathology & Laboratory Medicine, Medical Biology section, University Medical Center Groningen (UMCG), University of Groningen, The Netherlands*

15<sup>50</sup> – 16<sup>10</sup> Physicochemical and Drug Delivery Aspects of Liposome Encapsulated Anti-Inflammatory Biological Agents

**M. Trif**<sup>1</sup>, L. Moldovan<sup>2</sup>, M. Moisei<sup>1</sup>, O. Craciunescu<sup>2</sup>, F. Chelu<sup>1</sup>, A. Roseanu<sup>1</sup>, J. M. Brewer<sup>3</sup>

<sup>1</sup>*Institute of Biochemistry, Romanian Academy, Bucharest, Romania*

<sup>2</sup>*National Institute for C-D in Biological Sciences, Romanian Ministry of Research, Bucharest, Romania*

<sup>3</sup>*University of Strathclyde, Centre for Biophotonics, Glasgow, Scotland, UK*

16<sup>10</sup> – 16<sup>30</sup> Biopolymeric Hydrogels for Nanomedicine  
**M. Borgogna**, E. Marsich, I. Donati, P. Mozetic, A. Cesàro and S. Paoletti  
*Department of Biochemistry, Biophysics and Macromolecular Chemistry, University of Trieste, Italy*

16<sup>30</sup> – 16<sup>50</sup> Functional Dendritic Polymers as Drug and Gene Delivery Systems  
**C. M. Paleos**, D. Tsiourvas, Z. Sideratou and A.-L. Tziveleka  
*Institute of Physical Chemistry, NCSR “Demokritos”, Greece*

#### **NANOPARTICLES FOR DIAGNOSTICS (D-2) – ROOM ...**

**Chairman: P. Boisseau**  
*CEA-Leti, France*

**Co-Chairman: H. Schmid**  
*Fraunhofer-Institut Chemische Technologie (ICT), Germany*

15<sup>30</sup> – 15<sup>50</sup> Recombinant Antibody Targeted Magnetic Nanoparticles for Cancer Imaging and Therapy  
**K. Vigor**<sup>1</sup>, P. Kyrtatos<sup>2</sup>, S. Minogue<sup>3</sup>, M. Kallumadil<sup>4</sup>, K. Al-Jamal<sup>5</sup>, H. Kogelberg<sup>1</sup>, B. Tolner<sup>1</sup>, K. Kostarelos<sup>5</sup>, M. Lythgoe<sup>2</sup>, Q. Pankhurst<sup>4</sup>, K. Chester<sup>1</sup>  
*<sup>1</sup>Department of Oncology, <sup>3</sup>Department of Molecular Medicine, Royal Free and University College Medical School UCL, London, UK. <sup>2</sup>RCS Unit of Biophysics, UCL Institute of Child Health, London, UK. <sup>4</sup>London Centre for Nanotechnology UCL, London, UK. <sup>5</sup>London School of Pharmacy, London, UK*

15<sup>50</sup> – 16<sup>10</sup> Nanoparticle-based Cancer Biomarker Sensor  
**G. Y. Kim**, K. D. Daniel, Chr. C. Vassiliou, L. Josephson, M. J. Cima  
*Department of Materials Science & Engineering, Massachusetts Institute of Technology, Cambridge, USA*  
*Center for Molecular Imaging Research, Massachusetts General Hospital and Harvard Medical School, Charlestown, USA*

16<sup>10</sup> – 16<sup>30</sup> Synthesis and Optical Properties of Gold Nanorods with Applications in Nanomedicine  
C. Ungureanu, **R. G. Rayavarapu**, W. Petersen, T. G. van Leeuwen and S. Manohar  
*Institute for Biomedical Technology (BMTI), Biophysical Engineering group, Faculty of Science and Technology, University of Twente, The Netherlands*

16<sup>30</sup> – 16<sup>50</sup> Endocytosis of Nanoparticles  
C. Tekle<sup>1,2</sup>, K. Sandvig<sup>1,2</sup> and **T.-G. Iversen**<sup>1</sup>  
*<sup>1</sup>Department of Biochemistry, Centre for Cancer Biomedicine, Rikshospitalet-Radiumhospitalet HF, Montebello, Oslo, Norway*  
*<sup>2</sup>Department of Molecular Biosciences, University of Oslo, Norway*

16<sup>50</sup> – 17<sup>20</sup> **Coffee Break – Poster Viewing**

17<sup>20</sup> – 18<sup>40</sup> **TWO PARALLEL AFTERNOON SESSIONS (DD-3, D-3)**

#### **TARGETED DELIVERY (DD-3) – ROOM ...**

**Chairman: Chr. Schmitz**  
*University of Maastricht, The Netherlands*

**Co-Chairman: F. Sinner**

*Joanneum Research, Austria*

- 17<sup>20</sup> – 17<sup>40</sup> ThermoTherapy Using Magnetic Nanoparticles  
K. Maier-Hauff<sup>1</sup>, P. Wust<sup>2</sup>, M. Johannsen<sup>3</sup>, B. Rau<sup>4</sup>, R. Scholz<sup>5</sup>, B. Thiesen<sup>6</sup>, J.-T. Ollek<sup>2</sup>, L. Eckelt<sup>5</sup>, C.H. Cho<sup>2</sup>, K. Taymoorian<sup>3</sup>, D. Böhmer<sup>2</sup>, F. Kahmann<sup>7</sup>, T. Henkel<sup>7</sup>, A. Brickenkamp<sup>7</sup>, P. Drozdzyński<sup>7</sup>, **A. Jordan**<sup>5,2</sup>  
<sup>1</sup>Bundeswehrkrankenhaus Berlin, ZE Neurochirurgie, Berlin, Germany  
<sup>2</sup>Charité Universitätsmedizin Berlin, Klinik für Strahlentherapie, CVK, Berlin, Germany  
<sup>3</sup>Charité Universitätsmedizin Berlin, Klinik für Urologie, CCM, Berlin, Germany  
<sup>4</sup>Charité Universitätsmedizin Berlin, CCB/RRK, Klinik f. Chirurgie Chirur. Onkologie, Berlin, Germany  
<sup>5</sup>MagForce Nanotechnologies AG, Berlin, Germany  
<sup>6</sup>Charité Universitätsmedizin Berlin, Center of Biomedical Nanotechnology (CBN), Berlin, Germany  
<sup>7</sup>Private Clinical Practices for Urology, Berlin, Krefeld and Düsseldorf, Germany
- 17<sup>40</sup> – 18<sup>00</sup> An Innovative Strategy to Study in Vivo Pharmacology of Targeted Drug Delivery Therapeutics  
**G. Molema**, S. A. Ásgeirsdóttir, P. J Zwiers, P. Heeringa, and J. A.A. M.Kamps  
*Dept. Pathology & Laboratory Medicine, Medical Biology section, Division of Endothelial Biomedicine & Vascular Drug Targeting, University Medical Center Groningen, University of Groningen, Groningen, the Netherlands*
- 18<sup>00</sup> – 18<sup>20</sup> Lipid Based Smart Nanostructures as Drug Delivery Formulations  
**M. Monduzzi**<sup>1</sup>, R. Angius<sup>1</sup>, S. Murgia<sup>1</sup>, A. Falchi<sup>2</sup>, G. Diaz<sup>2</sup>  
<sup>1</sup>Dept. Scienze Chimiche, Cagliari University and CSGI, Italy  
<sup>2</sup>Dept. Citomorfologia, Cagliari University, Italy
- 18<sup>20</sup> – 18<sup>40</sup> Photoinduced Cancer Treatment Using Nanostructured Titanium Dioxide Solution and Corresponding Molecular Mechanisms  
N. Lagopati<sup>a,b</sup>, A.I. Kontos<sup>b</sup>, P. Venieratos<sup>a</sup>, P. Kitsiou<sup>a</sup>, E.F. Tsilibari<sup>a</sup>,  
**P. Falaras**<sup>b</sup>  
<sup>a</sup>Institute of Biology, <sup>b</sup>Institute of Physical Chemistry, NCSR “Demokritos”, Athens, Greece

**IMAGING (D-3) – ROOM ...**

**Chairman: K. Kostarelos**

*University of London, United Kingdom*

**Co-Chairman: T.-G. Iversen**

*University of Oslo and Institute for Cancer Research, Norway*

- 17<sup>20</sup> – 17<sup>40</sup> Tracking and Preventing Quantum Dot-Induced Cytotoxicity  
**M. P. Jain**, A. O. Choi, E. Przybytkowski, M. Behrendt, A. Khatchadourian, D. Maysinger  
*Department of Pharmacology and Therapeutics, McGill University, Montreal, Quebec, Canada*
- 17<sup>40</sup> – 18<sup>00</sup> Skin Piercing with Microneedles for Innovative Biosensors and User-friendly Microfluidic Transdermal Drug Delivery  
**M. Casella**<sup>a,e</sup>, F. Gramatica<sup>a</sup>, M. Bedoni<sup>b</sup>, E. Di Fabrizio<sup>d,e</sup>, E. Donetti<sup>b</sup>, M. Matteucci<sup>c</sup>

<sup>a</sup>*Lab. Biofisica e Nanomedicina, Polo Tecnologico, Fondazione Don Gnocchi IRCCS-ONLUS, Milan, Italy*

<sup>b</sup>*Dipartimento di Morfologia Umana, Università degli Studi di Milano, Milan, Italy*

<sup>c</sup>*Sincrotrone Trieste "ELETTRA", Basovizza-Trieste, Italy*

<sup>d</sup>*INFN-TASC- S.S., Basovizza-Trieste, Italy*

<sup>e</sup>*BIONEM Lab, Dipartimento di Medicina Sperimentale e Clinica, Università Magna Graecia, Catanzaro, Italy*

18<sup>00</sup> – 18<sup>20</sup> New Highly Efficient, Multifunctional Nanoparticle for Diagnostics

**F. Sinner**, R. Prassl

<sup>1</sup>*Joanneum Research, Institute of Medical Technologies and Health Management, Graz, Austria*

<sup>2</sup>*Institute of Biophysics and Nanosystem Research, Austrian Academy of Science, Graz, Austria*

<sup>3</sup>*Medical University of Innsbruck, Department of Histology and Molecular Cell Biology, Innsbruck, Austria*

18<sup>20</sup> – 18<sup>40</sup> Targeted Stealth Liposomal Nanoparticles for Diagnostic Imaging

**M. Saba-Lepek**<sup>1</sup>, E. von Guggenberg<sup>2</sup>, P. Debbage<sup>3</sup>, B. Stark<sup>1</sup>, R. Prassl<sup>1</sup>,

<sup>1</sup>*Institute of Biophysics and Nanosystems Research, Austrian Academy of Sciences, Graz, Austria*

<sup>2</sup>*Clinical Department of Nuclear Medicine, University of Medicine, Innsbruck, Austria*

<sup>3</sup>*Department of Histology and Molecular Cell Biology, University of Medicine, Innsbruck, Austria*

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## Social Programme

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The social program planned, centered around the theme of *spouse appreciation*, aims to motivate the participation of all spouses. Swimming, sunbathing, short excursions and other social activities will be available. The Symposium banquet will take place on the evening of September 11.

### Sunday September 9, 2007

**21:00** A welcome reception hosted by the National Organizing Committee in honor of the participants will take place at ..... bar of MELITON Hotel. Wine and finger Buffet will be offered. The event is open to all participants and accompanying persons.

### Monday September 10, 2007

**21:00** Symposium Banquet (Gala Dinner, Greek Music). The Symposium Banquet will take place at ..... Enjoy an informal Greek evening with local dishes and Greek wine. Besides the traditional Greek dinner, the Banquet will also include a cultural program with live music. These festivities, expected to last until the early hours of the morning, aim to honor the very important contributions of all spouses and companions to our technical community.

### Symposium Tour Program for Accompanying Persons

The Symposium Program is designed to satisfy a variety of interests, with cruises, coach tours to famous archaeological sites and areas of historic interest, places worth seeing during your stay in Chalkidiki.

### Monday September 10, 2007

**10:00 - 16:00** Sightseeing trips and excursions to the major sites of Chalkidiki starting from the hotel.

### Tuesday September 11, 2007

**10:00 - 16:00** Swimming and sunbathing is strongly recommended. The Porto Carras Grand Resort boasts some of the bluest, cleanest and warmest waters in all of Greece. Enjoy this turquoise swimming paradise combined with the golden pristine sands.

Explore Porto Carras Grand Resort: A great variety of bars, restaurants and shops each with its own unique atmosphere, provide plenty of choices for things to see and do.

Relax and Rejuvenate: The new Thalassotherapy and Spa center of Porto Carras - the biggest in Southeastern Europe (4.700m<sup>2</sup>) - applies in a modern way, the most ancient methods to health and beauty. By offering a wide range of treatments and therapies, our target is to relax totally, both your body and soul. All you have to do is visit our center, lay comfortably back, enjoy the view to the sea and let the experienced therapist hands guide you to a unique journey "in the land of senses...".

## Time Schedule NANOMEDICINE

Sunday, September 9		Monday, September 10		Tuesday, September 11	
		08:30-08:45	Welcome	09:00-11:20	INVITED SESSION II
		08:45-09:45	Plenary	09:00-11:20	Invited lectures
		09:45-13:10	INVITED SESSION I	11:20-11:50	<i>Coffee Break - Poster Viewing</i>
		09:45-10:55	Invited lectures	11:50-13:30	ORAL SESSIONS
		10:55-11:30	<i>Coffee Break - Poster Viewing</i>		<b>G-1</b> <b>G-2</b>
		11:30-12:40	Invited lectures	11:50-13:30	Oral presentations
		12:40-14:15	<i>Lunch</i>	13:30-15:30	<i>Lunch</i>
		14:15-15:55	ORAL SESSIONS	15:30-16:50	ORAL SESSIONS
			<b>DD-1</b> <b>D-1</b>		<b>DD-2</b> <b>D-2</b>
		14:15-15:55	Oral presentations	15:30-16:50	Oral presentations
		15:55-16:20	<i>Coffee Break - Poster Viewing</i>	16:50-17:20	<i>Coffee Break - Poster Viewing</i>
		16:20-17:55	POSTER SESSION	17:20-18:40	ORAL SESSIONS
20:00	Registration	16:20-18:05	Poster presentations		<b>DD-3</b> <b>D-3</b>
21:00	<i>Reception</i>	21:00-24:00	<i>Gala Dinner</i>	17:20-18:40	Oral presentations

**DD-1:** Delivery of P/P Drugs

**D-1:** Converging Personalised Health Platform with Nanomedicine Applications

**G-1:** General Session I

**DD-2:** Nanocarrier Systems for Drug Delivery

**D-2:** Nanoparticles for Diagnostics

**G-2:** General Session II

**DD-3:** Targeted Delivery

**D-3:** Imaging