Program

Nanotechnology in Medicine: From Molecules to Humans

July 3-7, 2016
Hernstein, Austria

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Funding for this conference was made possible (in part) by a grant from the National Institutes of Health. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the NIH; nor does mention by trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

The University of Michigan
Sunday, July 3, 2016

4:00 pm – 5:00 pm  Conference check-in

5:00 pm – 5:15 pm  Welcome and conference logistics
  Prof. Lola Eniola-Adefeso, Conference co-chair
  Dr. Paolo Decuzzi, Conference co-chair
  Dr. Joye Bramble, ECI technical liaison

5:15 pm – 6:15 pm  Plenary Talk #1
  Dr. Patrick Couvreur (Paris-Sud University, France)

6:15 pm – 8:00 pm  Wine tasting reception

8:00 pm – 9:30 pm  Dinner

9:30 pm – 10:30 pm  Social hour

Notes

- Technical sessions will be in the Studio.
- Poster Sessions will be in the Hofsuite 1-2.
- Meals will be held in the Panorama Restaurant.
- Audiotaping, videotaping and photography of presentations are prohibited.
- Speakers – Please have your presentation loaded onto the conference computer prior to the session start (preferably the day before).
- Speakers – Please leave at least 3-5 minutes for questions and discussion.
- Please do not smoke at any conference functions.
- Turn your mobile telephones to vibrate or off during technical sessions.
- Please write your name on your program so that it can be returned to you if lost or misplaced.
- After the conference, ECI will send an updated participant list to all participants. Please check your listing now and if it needs updating, you may correct it at any time by logging into your ECI account.
Monday, July 4, 2016

7:00 am – 8:30 am Breakfast buffet

8:30 am – 12:00 pm **Session 1: Nano/microparticles for diagnostics and therapeutics**
Session Chairs: Dan Peer and Shawn Chen

8:30 am – 9:00 am **Prof. Thomas Webster** (Northeastern University, Chemical Engineering, USA)
15 years of commercializing nanomedicine into real medical products

9:00 am – 9:30 am **Prof. Dan Peer** (Material Science and Engineering – Tel Aviv University, Israel)
Theranostic nanoparticles for treatment of inflammatory disease and cancer

9:30 am – 10:00 am **Prof. Eun Ji Chung** (University of Southern California, USA)
Targeting atherosclerosis using supramolecular micellar assemblies

10:30 am – 11:00 am Coffee break

11:00 am – 11:30 am **Dr. Paolo Decuzzi** (Italian Institute of Technology, Italy)
Rational design of theranostic polymeric nanoconstructs for biomedical applications

11:30 am – 12:00 pm **Millicent Sullivan** (University of Delaware, Department of Chemical Engineering, USA)
Unlocking Intracellular Therapeutic Targets through Novel Nanostructured Biomaterials

12:00 pm – 1:30 pm Buffet lunch

1:30 pm – 3:00 pm Networking/free time / ad hoc sessions

2:00 pm – 3:00 pm Optional tour of historic Schloss Hernstein castle – meet at hotel front reception
Peter Glaser, Schloss Hernstein

3:00 pm – 6:00 pm **Session 2: Nano/microparticles for diagnostics, therapeutics and tissue engineering**
Session Chair: Anirban Sen Gupta

3:00 pm – 3:30 pm **Dr. Xiaoyuan (Shawn) Chen** (NIBIB, National Institutes of Health, USA)
Construction of nanoparticle platforms for effective drug and gene delivery

3:30 pm – 4:00 pm **Dr. Gary Zabow** (NIST, USA)
Shape-changing nanomagnets: A new approach to in vivo biosensing

4:00 pm – 4:30 pm **Prof. Mansoor Amiji** (Northeastern University, Department of Pharmaceutical Sciences, USA)
Nanotechnology applications in medical diagnosis, imaging, and therapy

4:30 pm – 5:00 pm Coffee break

5:00 pm – 5:30 pm **Prof. Ashutosh Chilkoti** (Duke University, Biomedical Engineering, USA)
ELP-Doxorubicin nanoparticles for inhibiting cancer metastasis

5:30 pm – 6:00 pm **Prof. Joerg Lahann** (University of Michigan, Chemical Engineering, USA)
Nanoparticles for targeting cancer cells
Monday, July 4, 2016 (continued)

6:00 pm – 7:00 pm  Plenary Talk #2
               Dr. Viola Vogel (ETH Zurich, Switzerland)

7:00 pm – 8:00 pm  Networking / Free time

8:00 pm – 9:30 pm  Buffet dinner

9:30 pm – 11:00 pm Poster Session 1 / Social hour
**Tuesday, July 5, 2016**

7:00 am – 8:30 am  Breakfast buffet

8:30 am – 12:00 pm  **Session 3: Nano/microtechnology for study of cellular and molecular dynamics**  
Session chair: Lola Eniola-Adefeso

8:30 am – 9:00 am  **Prof. Lola Eniola-Adefeso** (University of Michigan, Chemical Engineering, USA)  
*Harnessing cell-particle interaction in drug delivery*

9:00 am – 9:30 am  **Prof. Angela Violi** (University of Michigan, Mechanical Engineering, USA)  
*Nanoparticles and biological cells: From atomistic simulations to membrane diagnostics*

9:30 am – 10:30 am  **Prof. Yen Nee Tan** (National University of Singapore & Institute of Material Research and Engineering, Singapore)  
*Marrying biomolecules and nanoparticles for diagnostics and nanomedicine*

10:30 am – 11:00 am  Coffee break

11:00 am – 11:30 am  **Dr. Diana Boraschi** (National Research Council of Italy, Italy)  
*Impact of engineered nanoparticles in initiating or modulating pathology-related Inflammation*

11:30 am – 12:00 pm  TBA (Student Talk Invited from Poster Session)

12:15 pm – 6:00 pm  Excursion / Sightseeing trip to Vienna

7:00 pm – 8:00 pm  Networking / free time

8:00 pm – 9:30 pm  Buffet dinner

9:30 pm – 11:00 pm  Poster Session 2 / Social hour
**Wednesday, July 6, 2016**

| Time           | Session                                                                 |
|----------------|-------------------------------------------------------------------------|
| 7:00 am – 8:30 am | Breakfast buffet                                                       |
| 8:30 am – 12:00 pm | **Session 4: Nanotechnology and translational medicine**  
|                 | Session Chair: S. M. Moghimi                                           |
| 8:30 am – 9:00 am | **Prof. Seyed Moein Moghimi** (Durham University, United Kingdom)  
|                 | *A mechanistic insight to nanomedicine-mediated adverse cardiopulmonary reactions* |
| 9:00 am – 9:30 am | **Prof. Victor Shahin** (Westfälische Wilhelms-Universität, Münster, Germany)  
|                 | *Novel strategy to disrupt the nuclear pore barrier reversibly: Implications for nanomedicine* |
| 9:30 am – 10:00 am | **Prof. Alexander Majouga** (Lomonosov Moscow State University)  
|                 | *Magnetic materials for smart therapy and diagnostics* |
| 10:30 am – 11:00 am | Discussion / Coffee break                                               |
| 11:00 am – 11:30 am | **Prof. Anirban Sen Gupta** (Case Western Reserve University, USA)  
|                 | *SynthoPlate: A platelet-inspired hemostatic nanotechnology for treatment of bleeding complications* |
| 11:30 am – 12:00 pm | **Prof. Doug Vogus** (University of California Santa Barbara, USA)  
|                 | *Polymer drug conjugates for the delivery of synergistic chemotherapeutics* |
| 12:00 pm – 1:30 pm | Buffet lunch                                                           |
| 1:30 pm – 3:00 pm | Networking / free time / *ad hoc* sessions                             |
| 3:00 pm – 6:00 pm | **Session 5: Nanotechnology and biopolymer for regenerative medicine**  
|                 | Session Chair: Athanassia Athanassiou                                  |
| 3:00 pm – 3:30 pm | **Dr. Athanassia Athanassiou** (Italian Institute of Technology, Italy)  
|                 | *Biopolymers for medical application*                                   |
| 3:30 pm – 4:00 pm | **Prof. Gianni Ciofani** (Italian Institute of Technology, Italy)  
|                 | *Active nanomaterials for biomedical applications*                    |
| 4:00 pm – 4:30 pm | **Prof. Kaushal Rege** (Arizona State University, USA)  
|                 | *Laser welding and repair of ruptured tissues using photothermal nanocomposites* |
| 4:30 pm – 5:00 pm | Coffee break                                                           |
| 5:00 pm – 5:30 pm | **Dr. Ilker Bayer** (Italian Institute of Technology, Italy)  
|                 | *Biopolymer/Nanocomposite materials in medicine*                       |
| 5:30 pm – 6:00 pm | **Dr. Christine Horejs** (Karolinska Institutet, Sweden)  
|                 | *Mimicking the extracellular matrix – a biomaterials approach to inhibit tissue fibrosis* |
| 6:00 pm – 7:00 pm | Plenary Talk #3                                                        |
|                 | **Dr. Dennis Discher** (University of Pennsylvania, USA)  
|                 | *Nano/Meso-scale principles and applications with flexibility: From delivery and self-recognition to differentiation* |
Wednesday, July 6, 2016 (continued)

7:00 pm – 8:00 pm    Networking/free time
8:00 pm – 10:00 pm   Banquet, Poster Awards, Closing Remarks
10:00 pm – 11:00 pm  Social hour
Thursday, July 7, 2016

7:00 am – 8:30 am  Breakfast buffet

8:30 am – 12:00 pm  **Session 6: Nanostructures and Nanoscale interaction for cell adhesion, growth, motility, and differentiation**  
                      Session Chair: Viola Vogel

8:30 am – 9:00 am  **Prof. Srivatsan Kidambi** (University of Nebraska-Lincoln, USA)  
                    *Developing nanostructured thin films as biomimetic tissue-engineered platform for cancer research*

9:00 am – 9:30 am  **Prof. Michelle Dawson** (Brown University, USA)  
                    *Modeling the tumor microenvironment with nanostructured material*

9:30 am – 10:00 am  **Prof. Joyce Wong** (Boston University, USA)  
                    *Nano and microparticles as theranostic agents*

10:00 am – 10:30 am  **Prof. Chuanliang Feng** (Shanghai Jiao Tong University, China)  
                      *Bioinspired chiral supramolecular hydrogels*

10:30 am – 11:00 am  Coffee break

11:00 am – 11:30 am  **Prof. Claudia Fischbach** (Cornell University, USA)  
                      *Cell-ECM interactions and their relevance to cancer*

11:30 am – 12:00 pm  **Dr. Ellen Van-Obberghen** (Institut Valrose Biologie, France)  
                      *Assembly and function of fibroblast-derived extracellular matrices*

12:30 pm  Lunch and departures
Nanotechnology in Medicine: From Molecules to Humans

Poster Presentations List

1. Membrane interaction of pegylated superparamagnetic nanoparticles
   Noga Gal, Boku, Austria

2. Iron oxide nanoparticles with a variable size and an iron oxidation state for imaging applications
   Vladimir L. Kolesnichenko, Xavier University, USA

3. Experimental evaluation of receptor-ligand interactions of dual-targeted particles to inflamed endothelium
   Margaret B. Fish, University of Michigan, USA

4. Immunodiagnostics based on optically detected rotational dynamics of anisotropic nanoparticles
   Astrit Shoshi, Danube University Krems, Austria

5. New hybrid materials on the basis of magnetite and magnetite-gold nanoparticles for biomedical application
   Maria Efremova, Moscow State University, Russia

6. Magnetic materials for smart therapy and diagnostics
   Alexander Majouga, Lomonosov Moscow State University, Russia

7. Identification and smart design of peptide binders recognizing target biomarkers
   Jong Pil Park, Daegu Haany University, South Korea

8. Development of biocompatible small-molecule spacers as metal oxide nanoparticles' stabilizing agents
   Galina Z. Goloverda, Xavier University, USA

9. Multifunctional nanoparticles for specific neuroblastoma targeting
   Daniel Quevedo, Karlsruhe Institute of Technology, Germany

10. Theranostic materials for MRI and targeted delivery based on functionalized magnetite nanoparticles
    Aleksey Nikitin, National University of Science and Technology "MISiS", Russia

11. Poster withdrawn

12. Surface modification of magnetite-gold dumbbell nanoparticles with fluorescent dyes for new opportunities in visualization
    Alexandra Prelovskaya, MISiS, Russia

13. Penetration of PLGA nanoparticles into the intracranial rat C6 Glioma: Influence of surfactant coating
    Yulia Malinovskaya, Drugs Technology Ltd, Russia

14. Ultrasmall hexagonal NaGdF4:Yb nanoparticles: A theranostic approach to radiotherapy
    Jossana Damasco, State University of New York at Buffalo, USA
15. **Nanoparticles-based biosensors for cancer diagnostics and drug screening: A study on tumor suppressor protein-DNA INteractions**  
   Yen Nee Tan, Institute of Materials Research and Engineering, Singapore

16. **Organic-inorganic magnetic hybrids as multifunctional imaging and therapeutic agents**  
   Manuel Bañobre-López, International Iberian Nanotechnology Laboratory, Portugal

17. **Particle surface properties direct cellular immune responses in the lung**  
   Catherine A. Fromen, University of Michigan, USA

18. **Molecularly imprinted biofunctional device: Using polymer surfaces on surgical instruments to catalyze blood coagulation**  
   Natalie Sullivan, Utah Valley University, USA