

Trilateral Symposium on NanoBio Integration



This Trilateral Symposium at the FU Berlin is a platform for researchers from three excellent universities who are contributing cutting-edge research in the field of nanobiomaterials and their integration into functional systems. This meeting offers a unique opportunity for comprehensive discussion among the fields of science, technology and regulations on research and promotion of the nanobiomaterials for establishing future analytical and medical systems.

At the same time this initiative combines the expertise of three well established centers and has the goal of establishing a new international graduate exchange between these three universities.



Program

September 30, 2010 (Thurs.)

Arrival and check in at Seminaris Campus Hotel

18.30 Welcome Dinner (Seminaris)

October 1, 2010 (Fri.)

8.30 Registration

8.40 Welcome Address and Objectives of the Symposium
Rainer Haag (FU Berlin)

8.50 Address of the Director of the Center for Cluster Development
Carsten Dreher (FU Berlin)

9.00 **Session 1: Center Presentations**

chairperson: Rainer Haag (FU Berlin)

- Kazunori Kataoka (CNBI, U Tokyo)
Nanobio Integration for Medical Innovation: Challenge to Smart Molecular Therapy
- Don Ingber (WYSS, Harvard U)
Wyss Institute for Biologically Inspired Engineering: A New Paradigm for Technology Innovation
- Stefanie Reich (Nanoscale, FU Berlin)
Nanoscale Functional Materials

Q&A panel and discussion (15 min)

10.15 Coffee break

10.40 **Session 2: Bioinspired Materials**

chairperson: Don Ingber (Harvard U, WYSS)

- Joanna Aizenberg (Harvard U, WYSS)
Adaptive Bioinspired Materials
- Peter Fratzl (MPI KG)
Unravelling the Materials Basis of Plant Actuation
- Rainer Haag (FU Berlin)
Multivalent Interactions with new Dimensions
- Takamasa Sakai (U Tokyo)
Evaluation of Network Structure and Physical Properties of Tetra-PEG Gel

Q&A panel and discussion with focus on joint activities and perspectives (30 min)

12.30 Lunch at Seminaris

14.00 **Session 3: Biomaterials and new Formulations in Biomedical Applications**

chairperson: Kazunori Kataoka (U Tokyo)

- David Weitz (Harvard U)
Formulation of New Soft Nanomaterials
- Andreas Lendlein (GKSS)
Designing (multi)functional Polymer Networks and Exploring their Application Potential for Regenerative Therapies
- Kazuhiko Ishihara (U Tokyo)
Nanostructured Phospholipid Polymer Brush as Biointerfaces

- Georg Duda (Charité)
Regenerative Therapies for Musculoskeletal Diseases

Q&A panel and discussion with focus on joint activities and perspectives
(30 min)

15.50 Young Investigator Presentations (7 x 10 min, incl. short Q&A)

17.00 Coffee break and FU Berlin lab visits (chemistry-/biochemistry-/physics-labs)

19:00 Dinner at Alter Krug

October 2, 2010 (Sat.)

8.40 **Session 4: Nanomachines and Single Proteins on Surfaces**

chairperson: Stefanie Reich (FU Berlin)

- Takuzo Aida (U Tokyo)
Programmed Molecular Assembly for Tailored Functional Materials
- Adam Cohen (Harvard U)
Single Molecules in Nanostructures
- Kenichi Ataka (FU Berlin, Group Heberle)
Effect of Membrane Potential on the Photo-Cycle of Sensory Rhodopsin
- Takashi Funatsu (U Tokyo)
Single-Molecule Analyses of Functions and Interactions of Biomolecules by Nano- and Microdevices

Q&A panel and discussion with focus on joint activities and perspectives
(35 min)

10.35 Coffee break

11.00 **Session 5: Nanobiomaterials for Delivery**

chairperson: Andreas Lendlein (GKSS Teltow / FU Berlin)

- Keiji Itaka (U Tokyo)
Biocompatible Polyplex Nanomicelle for Safe and Effective Gene Transfer
- Gerd Multhaup (FU Berlin) (3 x 20 min)
Carrier-mediated metal-ion transport and bioavailability
- Eduardo A. Silva (Harvard U)
Engineering Vascular Networks

Q&A panel and discussion with focus on joint activities and perspectives
(30 min)

12.30 Lunch at Seminaris

14.00 Young Investigator Presentations (11 x 10 min, incl. short Q&A)

16.00 Coffee and Round Table Discussion (room 12.12)

17.30 Return to hotel

18.00 Pick up at hotel for sightseeing in the city of Berlin

20.00 Dinner at Historische Weinstube

October 3, 2010 (Sun.)

09.00 Brainstorming brunch (Seminaris)

11.00 Visit to Potsdam Palace and Sanssoucis

15.00 Opening of the **POLYDAYS 2010** Symposium
(Henry Ford Building, Gary Str. 35, FU Campus)

Location

The Symposium will be held at the Institut für Chemie und Biochemie, FU Berlin, Takustr. 3, 14195 Berlin, in the main lecture hall and the seminar room 12.12. The Brainstorming Brunch on Sun. Oct. 3, 2010 will be at Seminaris, Takustr. 39, 14195.

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