



UNIVERSITÄT
BAYREUTH

Elitenetzwerk
Bayern



Elite Study Program - Macromolecular Science

Advanced Module M039

Recent Advances in Polymer Science

In cooperation with:

**Department of Polymer Science and Engineering
Zhejiang University
Hangzhou, PRC**

Module Coordination:

Prof. Andreas Greiner
Prof. Hans-Werner Schmidt

Summer term 2015

This advanced module within the Elite Study Program "Macromolecular Science" is on "**Recent Advances in Polymer Science**" and covers special aspects of polymer materials and introduces the students particularly to polymer science in China. The module is carried out with faculty members of the Department of Polymer Science and Engineering from Zhejiang University in Hangzhou, China.

The module consists of four elements: (i) a workshop in cooperation with the Department of Polymer Science and Engineering, Zhejiang University, Hangzhou, (ii) a poster introduction and discussion by the ENB students, and (iii) participation of selected contributions by Chinese Speakers at the Bayreuth Polymer Symposium 2015 (iv) a discussion about the Zhejiang University and the research system in China.

I. Workshop

Friday, September 18th, 10:15 – 17:30, Polymer Nanostructures building (PNS)

- | | |
|-------|--|
| 10:15 | Welcome and Opening
<i>Prof. Andreas Greiner</i> |
| 10:20 | Presentation of the Department of Polymer Science and Engineering
Zhejiang University
<i>Prof. Dr. Zhi-Kang Xu, Director of Department of Polymer Science and Engineering</i> |
| 10:40 | Designed biomaterials for mediating cell migration and cellular uptake
<i>Prof. Dr. Changyou Gao</i> |
| 11:00 | Tailor-made materials for solar energy conversion and storage
<i>Prof. Dr. Mukundan Thelakkat</i> |
| 11:20 | Radical addition coupling polymerization for polymer synthesis.
<i>Prof. Dr. Qi Wang</i> |
| 11:40 | Responsive polymers bridging length scales
<i>Prof. Dr. Seema Agarwal</i> |
| 12:00 | Sustainable polymer materials
<i>Prof. Andreas Greiner</i> |
| 12:30 | Lunch at PNS |
| 13:30 | Supramolecular prodrug for intracellular drug delivery
<i>Prof. Dr. Jian Ji</i> |
| 13:50 | Computational polymer modeling with and without hydrodynamic flows
<i>Prof. Dr. Stephan Gekle</i> |
| 14:10 | Interaction forces in colloidal and polymer systems
<i>Prof. Dr. Georg Papastavrou</i> |

- 14:30 **Interaction between synthetic vesicles and proteins: clues to the structural basis of protein allergenicity**
Christian Seutter von Loetzen
- 14:50 **Enzyme-responsive gemcitabine prodrug for the treatment of pancreatic cancer**
Dr. Qiao Jin
- 15:10 **Introduction to posters** by ENB PhD students of different research groups at the University of Bayreuth
- Poster discussion** with coffee break
- 16:20 **Self-assembled Colloidal Particles with pH Sensing Property**
Dr. Wei-jun Tong
- 16:40 **Polymer membranes with mineral coatings**
Prof. Dr. Zhi-Kang Xu
- 17:00 **Nucleating Agents and Clarifiers of Semicrystalline Polymers**
Prof. Hans-Werner Schmidt
- 19:00 **Dinner** at “Oskar – das Wirtshaus am Markt“

II. Poster introduction and discussion

Friday, September 18th, 15:10 – 16:30, Polymer Nanostructures building (PNS)

The students have the opportunity to present their latest research results in form of a poster presentation. Prior to the poster discussion, each student will shortly introduce his poster in the frame of an oral short presentation (3 minutes each, maximum 3 slides).

Alternatively, the students can give a short introduction of one of the Chinese lecturers in the frame of a presentation (15 min + 5 min discussion) in the course of a students' seminar that will be arranged on request after the workshop.

III. Selected presentations at the Bayreuth Polymer Symposium

The ENB participants have to attend the following lectures presented by Chinese speakers at the Bayreuth Polymer Symposium.

Monday, September 21st, 2015

- 08:30 – 09:00 **Jianjun Wang**, Chinese Academy of Science
“Anti-icing coatings inspired by ice skating”
- 11:45 – 12:15 **Zhi-Kang Xu**, Zhejiang University
„Polymer Membranes via Thermally Induced Phase Separation”

Tuesday, September 22nd, 2015

- 12:15 – 12:45 **Bin Ding**, Donghua University
 “Electrospun Nanofibrous Aerogels: Progress in Materials, Structures and Applications”
- 14:15 – 14:45 **Changyou Gao**, Zhejiang University
 „Biological effects of polymeric carriers in response to cellular uptake”

IV. Research system and research institutions in China

Monday, September 21st, 12:45 – 14:00, Lunchmeeting, PNS seminar room

This part of the module includes an introduction into polymer science at Chinese Universities, particularly the Department of Polymer Science and Engineering, Zhejiang University.