

Thursday, May 3rd 2007

Session: Introduction

Chairman: **Prof. Eberhard Burkel**
Institute of Physics, Rostock University
Funktionale Materialien Rostock e.V.

- 8:30 Opening / Grußworte**
Prof. Dr. Thomas Strothotte, Rector of the Rostock University
Henry Tesch, Minister of Education, Science and Culture of Mecklenburg-Vorpommern (invited)
Dr. Jürgen Seidel, Minister of Economics Affairs of Mecklenburg-Vorpommern
- 9:15 The ScanBalt Initiative**
Prof. Gustav Steinhoff,
Clinic for Cardiac Surgery, University Rostock
- 9:30 Benefits and Risks from Nanotechnology or European Perspectives**
NN.,
European Commission, Brussels, Belgium (invited)
- 10:00 Biotribology of Artificial Hip Joints**
Prof. Zhongmin Jin,
School of Mechanical Engineering, University Leeds
- 10:45 Coffee Break**
- 11:15 Hierarchical Structure and Mechanical Properties of Biological Materials**
Prof. Peter Fratzl,
Max-Planck-Institut für Grenzflächenforschung, Potsdam

12:00 Lunch Break

Session: Nanostructured Materials

Chairman: **Prof. Alfred Leder**
Dept. of Fluid Mechanics
Faculty for Mechanical and Marine Engineering,
Rostock University

- 13:00 Ceramic Matrix Composites (CMC) for Aerospace and Terrestrial Applications**
Dr. Karin E. Handrick
MT Aerospace AG, Augsburg
- 13:30 The Heat is on - New Materials and Concepts for Thermal Management.**
Dr. Ludger Weber,
Ecole Polytechnique Federale de Lausanne
- 14:15 Laser-Direct-Write Techniques for Printing Complex Materials**
Dr. Pere Serra,
University of Barcelona
- 15:00 Non-Pneumatic Tire Design - A Nano Perspective**
Kundan Kumar (M.Sc.),
Rostock University

15:30 Coffee Break

Session: Interface Functionality

Chairman: **Prof. Christoph Schick**
Institute of Physics,
Rostock University

- 15:50 Plasma-Sintering**
Prof. Umberto Anselmi-Tamburini,
University of Pavia, Italy
- 16:35 Sensing the Cell-Material Interaction**
P.D. Dr. Joachim Wegener,
University of Münster
- 17:20 Nanostructured Implant Surfaces**
Prof. Hans-Georg Neumann,
DOT GmbH, Rostock
- 17:50 Nacre - a Model for New Materials**
Prof. Monika Fritz,
University of Bremen

19:00 Buffet Harbor Cruise

Schedule

Friday, May 4th 2007

Session: Nanoparticles

Chairman: **Prof. Dr. Dieter G. Weiss**,
Inst. of Biological Science, Rostock University

- 8:30 Patterning and Functionalization for Biological Interfaces**
Dr. Hubert Rauscher,
European Commission-DG Joint Research Center,
Institute for Health and Consumer Protection Ispra, Italy
- 9:15 ... (title to be defined)**
Dipl.Phys. Stefan Miltenyi,
Managing Director, Miltenyi Biotec GmbH,
Bergisch-Gladbach (invited)
- 9:45 Magnetic Nanoparticles**
Karina Porath (MSc),
Rostock University

10:15 Coffee Break

Session: Nanotechnology through Biology

Chairman: **Prof. Joachim Rychly**
Clinical Research, Dept. of Internal Medicine,
Rostock University

- 10:35 Genetically Designed Molecular Materials for Technology and Medicine**
Prof. Mehmet Sarikaya,
University of Washington
- 11:20 Tissue Scaffolding: Design and Optimization**
Prof. Peter Ma,
University of Michigan

12:05 Lunch Break

Session: New Frontiers in Material Science

- Chairman: **Prof. Arndt Rolfs**,
Dept. of Neurology, Faculty of Medicine,
Rostock University
Prof. Hermann Seitz,
Fluid Technique and Microfluid Technique,
Faculty for Mechanical and Marine Engineering,
Rostock University
- 13:00 Multi-Scale Modelling of Pharmaceutical Tablet Compaction**
Dr. James Elliott, Pfizer Institute, University of Cambridge
- 13:45 In-vivo Electronmicroscopy of Nanoparticles**
Prof. Heinrich Hohenberg,
Heinrich Pette Institute for Experimental Virology and Immunology, Hamburg (invited)

14:30 Closing Remarks

Afternoon Offer: Possible Site Visits:

- Visit to the Research Center on Biosystems Technology and Biomaterials, Rostock-Warnemünde
- Visit to the Live Cell Imaging Center, University of Rostock, Inst. of Biological Sciences
- Visit to the Biomedical Research Center, Rostock

Location:

Aula, Main Building of the Rostock University, Universitätsplatz 1

Organizing Committee:

Prof. Eberhard Burkel, Prof. Joachim Rychly,
Prof. Klaus-Peter Schmitz, Prof. Dieter G. Weiss,
Prof. Gerhard Scharr, Prof. Hermann Seitz,
Prof. Christoph Schick, Prof. Wolfram Mittelmeier