

**From NANOSCIENCE to
NANOTECHNOLOGY**

September 4 - 5, 2003

Registration

Further information and registration forms may be requested from:

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Organisation:

Herbert Gleiter (Forschungszentrum Karlsruhe)
Academy Member

Roland Wiesendanger (University of Hamburg)
Academy Member



Deadline for registration: June 30, 2003

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is gratefully acknowledged.



**Deutsche Akademie der Naturforscher
Leopoldina**

Thursday, September 4, 2003

- 9:00 a.m. **Welcome Address**
- 9:15 a.m. **P. Alivisatos** (University of California at Berkeley)
Nanocrystals as a New Class of Macromolecule
- 9:50 a.m. **C. Dekker** (TU Delft)
Carbon Nanotubes, Single-Molecule Science and Applications
- 10:25 a.m. **Coffee Break**
- 10:45 a.m. **M. Antonietti** (MPI Golm)
Nanochemistry: A New Field with Specific Questions and Promises
- 11:20 a.m. **H. Weller** (University of Hamburg)
Synthesis, Properties and Self Assembly of Nanoparticles
- 11:55 a.m. **U. Kreibig** (RWTH Aachen)
Nanooptics: Size- and Interface-Effects in Nanoparticle-Composites
- 12:30 a.m. **Lunch Break**
- 2:00 p.m. **F. Besenbacher** (University of Aarhus)
Nanostructures at Surfaces Explored by High Resolution, Fast Scanning STM
- 2:35 p.m. **K.-H. Rieder** (FU Berlin)
The Scanning Tunneling Microscope as Operative Tool: Doing Physics and Chemistry With Single Atoms and Molecules
- 3:10 p.m. **E. Scheer** (University of Konstanz)
Electronic Transport Through Single Atoms

- 3:45 p.m. **Coffee Break**
- 4:05 p.m. **W. Heckl** (LMU München)
Molecular Self-Assembly - A Key Technology in Nanoscience
- 4:40 p.m. **H. von Löhneysen** (FZ Karlsruhe)
Electrical Current Through Single Molecules
- 5:15 p.m. **P. Fromherz** (MPI Martinsried)
Brainchips - from Nano to Milli

Friday, September 5, 2003

- 9:00 a.m. **P. Grünberg** (FZ Jülich)
Exchange Coupling and Magnetoresistance in Magnetic Multilayers with Metallic and Semiconducting Interlayers
- 9:35 a.m. **H. Kronmüller** (MPI Stuttgart)
Magnetic Structures and Magnetisation Processes in Small Particles and Thin Films
- 10:10 a.m. **M. Bode** (University of Hamburg)
Exploring the Frontiers of Nanomagnetism by Spin-Polarized STM

10:45 a.m. **Coffee Break**

- 11:05 a.m. **M. Welland** (University of Cambridge)
Novel Methods for Fabrication of Nanostructures
- 11:40 a.m. **U. Gösele** (MPI Halle)
Nanosilicon
- 12:15 a.m. **H. Hahn** (TU Darmstadt)
Bioreceptors as Model Systems for Functional Nanostructures
- 12:40 a.m. **Lunch Break**
- 2:15 p.m. **P. Vettiger** (IBM Zurich)
The Millipede: More than 1000 Tips for Future AFM Data Storage
- 2:50 p.m. **E. Gornik** (TU Wien)
Current and THz Spectroscopy of Quantum Structures in Semiconductors
- 3:25 p.m. **D. Wolf** (Argonne Nat. Lab.)
Multiscale Modeling
- 4:00 p.m. **Concluding Remarks**
- 4:30 p.m. **End of Symposium**