

Advances in Molecular Electronics: from molecular materials to single-molecule devices

February 23 - 27, 2004

Scientific coordinators:

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Organization: **Katrin Lantsch** MPIPKS Dresden

This meeting aims at summarizing progress and enhancing exchange of ideas in the cross-disciplinary field of molecular electronics by bringing under the same roof experts from Physics, Chemical Physics, Chemistry, Biology, and Material Science. Future research directions in this field will profit from combined theoretical and experimental efforts towards molecule-based electronics, ranging from single (bio)molecules to carbon nanotubes and other classes of organic materials. The Dresden meeting will cover these systems and various aspects including methodological developments, computational approaches, and device applications.

The workshop topics are:

- carbon nanotube-based molecular conductors - physics and applications
- realization of single-molecule electronics
- DNA-based devices
- theory of electron transport and device modeling at the nanoscale
- organic molecular materials and organic optoelectronics

Preliminary list of invited speakers:

Theory

S. Datta* (USA)
A. Di Carlo (IT)
R. Di Felice (IT)
M. Di Ventra (USA)
R. Egger (DE)
J. C. Ellenbogen (USA)
M. Grifoni (DE)
R. Gutierrez (DE)
P. Hänggi (DE)
C. Joachim (FR)

J. Jortner (IL)
A. Nitzan (IL)
J. N. Onuchic (USA)
S. T. Pantelides (USA)
M. A. Ratner (USA)
A. Rubio (ES)
G. Seifert (DE)
K. Stokbro (DK)
T. N. Todorov (UK)
D. Tomanek* (USA)

P. Avouris (USA)
Z. Bao (USA)
E. Kapon (CH)
D. de Leeuw (NL)
K. Leo (DE)
S. Lindsay (USA)
M. Mertig (DE)
R. M. Metzger (USA)

Experiment

D. Neher (DE)
D. Porath (IL)
M. Reed (USA)
S. Roth (DE)
J.M. van Ruitenbeek (NL)
E. Scheer (DE)
C. Strunk (DE)
H. B. Weber (DE)

(* to be confirmed)

A workshop structure with key lectures, contributed talks, and a round-table discussion is planned. Core activities will be preceded by an introductory session. In parallel, a poster session will be organized.

Application forms can be filled online on the workshop webpage. The registration fee is 100 Euro. Costs for accommodation and meals will be covered by the Max Planck Institute for the Physics of Complex Systems for a limited number of participants. In exceptional cases, limited funding is available to partly cover travel expenses.

Applications before November 15, 2003 are considered preferentially.

For further information please contact:

Visitors Program

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