



DFG Research Center MATHEON  
Mathematics for key technologies



Weierstraß-Institut für Angewandte Analysis und Stochastik

Research Tutorial  
RESONANT TRANSPORT  
IN SEMICONDUCTOR QUANTUM STRUCTURES  
WIAS Berlin, September 24, 2005

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The Matheon research group D4 *Quantum mechanical and macroscopic models for optoelectronic devices* organizes the research tutorial *Resonant Transport in Semiconductor Quantum Structures* at the Weierstrass Institute for Applied Analysis and Stochastics.

The focus of the workshop is on mathematical modeling and numerical simulation of resonant transport in semiconductor quantum structures.

The research tutorial's format will be on the presentation of a problem from recent research, followed by hands-on seminars on the subject. In the seminars a mixed group of scientists from Matheon, an industrial research lab, and the special guests will work on the problem.

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*Special Guests*

Anton Arnold, Irene Gamba, Francis Nier

*Contact*

Olga Kuphal, WIAS, Mohrenstr. 39, 10117 Berlin, Germany  
E-mail: resonant@wias-berlin.de

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<http://www.wias-berlin.de/workshops/resonant05>

# Program

We treat upon mathematical models for nano-transistors.

*Topics are:* Coulomb interaction, quantum modeling, ballistic transport, density matrices.

*Criteria are:* adequacy, consistency, and numerical feasibility.

10:30 Get together

10:45 Presentation of the problem (U. Wulf)

11:15 Seminar (task force M. Baro, M. Ehrhardt, P. Racec)

12:45 Lunch

14:15 Seminar (task force H. Neidhardt, R. Racec, U. Wulf)

15:45 Coffee

16:00 Open discussion

# List of Participants

Anton Arnold (TU Wien) ..... arnold@aurora.anum.tuwien.ac.at  
Michael Baro (WIAS Berlin) ..... baro@wias-berlin.de  
Matthias Ehrhardt (TU Berlin) ..... ehrhardt@math.tu-berlin.de  
Jerry Gagelman (TU Berlin) ..... gagelman@math.tu-berlin.de  
Irene Gamba (UT Austin TX) ..... gamba@math.utexas.edu  
Hans-Christoph Kaiser (WIAS Berlin) ..... kaiser@wias-berlin.de  
Hagen Neidhardt (WIAS Berlin) ..... neidhard@wias-berlin.de  
Francis Nier (U Rennes 1) ..... francis.nier@univ-rennes1.fr  
Sabine Pickenhain (BTU Cottbus) ..... sabine@math.tu-cottbus.de  
Paul Racec (IHP/BTU Joint Lab Cottbus) ..... racec@physik.tu-cottbus.de  
Roxana Racec (BTU Cottbus) ..... roxana@physik.tu-cottbus.de  
Dieter Robaschik (BTU Cottbus) ..... drobasch@physik.tu-cottbus.de  
Achim Schaedle (ZIB Berlin) ..... schaedle@zib.de  
Ernst Sigmund (BTU Cottbus) ..... sigmund@physik.tu-cottbus.de  
Caren Tischendorf (TU Berlin) ..... tischend@math.tu-berlin.de  
Ulrich Wulf (BTU Cottbus) ..... wulf@physik.tu-cottbus.de