

AMaSiS 2018

October 8 – 10, 2018

WIAS Berlin, Germany



Applied Mathematics and Simulation for Semiconductors

AMaSiS 2018 is devoted to modeling, mathematical analysis, and numerical schemes for the simulation of semiconductor devices and charge transport in electrolytes and other physical or biological systems. The focus is on the treatment of multiple scales, and multiphysics modeling, namely the interplay of electronic, optical, thermal, fluidic and other effects in advanced device concepts and novel materials. The emphasis is on the *mathematics* involved in all this. Topics are

- **Mathematical modeling of materials, interfaces and devices:** semiconductor nanostructures, embedding of fine scale models into semi-classical ones, kinetic models e.g. for semiconductor-electrolyte composites, bulk-interface coupling and transport processes across interfaces, generalized Nernst-Planck-Poisson systems
- **Contour integrals for matrix problems in quantum mechanics:** FEAST software tutorial, applications in electronic structure calculations and density functional theory
- **Mathematical treatment of model systems:** thermodynamic consistency, existence, uniqueness, regularity, asymptotics, model reduction and, treatment of non-Boltzmann statistics, ion volume effects, degenerate diffusion and disordered materials

Invited Speakers

Marc Van Barel	Leuven
Marianne Bessemoulin-Chatard	Nantes
Robert Eisenberg	Chicago
Carlo De Falco	Milano
Christian Jirauschek	München
Mathieu Luisier	Zürich
Claudia Negulescu	Toulouse
Paola Pietra	Pavia
Eric Polizzi	Amherst
Viktor Sverdlov	Wien
Mira Todorova	Düsseldorf
Bernd Witzigmann	Kassel
Marie-Therese Wolfram	Warwick
Boris Zaltzman	Beer-Sheva
Anissa Zeghuzi	Berlin
WIAS Highlights	Berlin

Organizers

Jürgen Fuhrmann (WIAS Berlin)
Annegret Glitzky (WIAS Berlin)
Hans-Christoph Kaiser (WIAS Berlin)
Thomas Koprucki (WIAS Berlin)
Matthias Liero (WIAS Berlin)
Eric Polizzi (U Massachusetts, Amherst)

Deadlines

Abstract submission: **June 29, 2018**
Early bird registration: **August 31, 2018**
Standard registration: **September 30, 2018**

Conference fee

The conference fee of 100 € (80€ for early bird registration) covers break refreshments, conference dinner, and booklet of abstracts.

Venue

Weierstrass Institute
Mohrenstraße 39
10117 Berlin, Germany
amasis18@wias-berlin.de
www.wias-berlin.de/workshops/amasis18

Call for papers

Participants are welcome to submit abstracts until June 29, 2018 for contributed talks or posters for reviewing.

Support

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Applied Analysis and Stochastics**