



DFG–Priority Program 1095

*Analysis, Modeling and Simulation of
Multiscale Problems*

6th Colloquium

Andreas–Hermes–Akademie Bonn–Röttgen

June 27 - 29, 2005

Program

<i>Sunday, June 26th 2005</i>	
from 18:00	Arrival
19:00 – 21:00	Buffet

<i>Monday, June 27th 2005</i>	
8:00 – 9:00	Breakfast
9:00 – 9:30	K. Lorenz <i>Adiabatic integrators for highly oscillatory differential equations</i>
9:35 – 10:00	G. Panati <i>Dynamics in perturbed periodic structures and quantum butterflies</i>
10:05 – 10:30	S. Bauer <i>Radiative friction for charges interacting with the radiation field</i>
10:30 – 11:00	Coffee Break
11:00 – 11:30	A. Rätz <i>A viscous Cahn-Hilliard equation for nanoscale surface evolution in heteroepitaxial thinfilm growth</i>
11:35 – 12:05	R. Henseler <i>Bounds on coarsening rates</i>
12:30 – 14:00	Lunch Break
14:00 – 14:30	S. Petrova <i>Return mapping algorithmus in structural optimization of biomorphic ceramics</i>
14:35 – 15:05	A. Orlando <i>On adaptive FEM for the computation of microstructures</i>
15:10 – 15:40	H. Luo <i>Multiscale perturbation treatment of electron correlation</i>
15:45 – 16:15	Coffee Break
16:15 – 16:35	K. Kühn <i>Travelling waves in magnetic nanowires</i>
16:40 – 17:10	T. Swart <i>Crossings and non-crossings in molecular dynamics</i>
17:15 – 17:45	F. Maggi <i>Isometric embeddings and scaling laws in thin elastic sheets</i>
18:00 – 19:00	Dinner

<i>Tuesday, June 28th 2005</i>	
8:00 – 9:00	Breakfast
9:00 – 9:30	D. Kwaak <i>On a singular limit of Cahn-Hilliard systems with elastic misfit</i>
9:35 – 10:00	B. Stinner <i>Solidification in Alloy Systems</i> <i>Part I: Analytical Results on a Multi-Phase-Field Model</i>
10:05 – 10:30	F. Wendler <i>Solidification in Alloy Systems</i> <i>Part II: Simulations of Multiscale Phenomena</i>
10:30 – 11:00	Coffee Break
11:00 – 11:30	H. Emmerich <i>Analysis of a two-scale model for liquid phase</i>
11:35 – 12:05	M. Falcke <i>Intracellular Ca²⁺ dynamics: Gradients and fluctuations</i>
12:30 – 14:00	Lunch Break
14:00 – 14:30	Th. Blesgen <i>On Reconstitutive Phase Transitions, Vacancies and the Jump of the Chemical Potential</i>
14:35 – 15:05	J. Giannoulis <i>Pulse dynamics in discrete lattices</i>
15:10 – 15:40	M. Herrmann <i>Modulated traveling waves for the hard sphere model</i>
15:45 – 16:15	Coffee Break
16:15 – 16:40	P. Milisic <i>Quantum hydrodynamic models including collisional effects</i>
16:45 – 17:10	Chr. Sparber <i>Effective mass theorem for nonlinear Schrödinger equations</i>
17:15 – 17:45	Discussion about AMSMSP
18:00 – 19:30	Dinner

<i>Wednesday, June 29th 2005</i>	
8:00 – 9:00	Breakfast
9:00 – 9:25	S. Luckhaus <i>Multiscale of hydrodynamical limits</i>
9:30 – 10:00	A. Stevens <i>Transport equations for directed movement in biology and their parabolic limits</i>
10:05 – 10:30	M. Hessel-von Molo <i>Identification of macroscopic dynamics - some recent advances</i>
10:30 – 11:00	Coffee Break
11:00 – 11:25	K. Padberg <i>Set-oriented approximation of transport barriers in non-autonomous systems</i>
11:30 – 12:00	J. Härterich <i>Front motion in multi-dimensional viscous balance laws</i>
12:15 – 14:00	Lunch and departure