

Graduiertenkolleg  
*Complex Processes: Modelling, Simulation and Optimization*  
Annual Colloquium 2. - 3. December 2005

**Friday 02.12.2005**

9:00 - 9:15	<b>Welcome by J. Smith</b>	
9:15 - 9:20	<b>Introduction by J. Smith</b>	
9:20 - 9:35	Dieter Krachtus	<i>QM/MM Simulation of the phosphoserine-phosphatase (PSP) phosphoryl-transfer reactions</i>
9:35 - 9:50	Petra Imhof	<i>Quantum mechanical/molecular mechanical modelling of the hydrolytic DNA cleavage</i>
9:50 - 9:55	<b>Introduction by J. Langowski</b>	
9:55 - 10:10	Karine Voltz	<i>Dynamical properties of a strong positioning nucleosome motif</i>
10:10 - 10:15	<b>Introduction by P. Schmelcher</b>	
10:15 - 10:30	Panagiotis Drouvelis	<i>Parallel implementation of the recursive Green's function algorithm</i>
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10:30 - 11:00	COFFEE BREAK	
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11:00 - 11:05	<b>Introduction by P. Bastian</b>	
11:05 - 11:20	Sreejith Pulloor Kuttanikkad	<i>On discontinuous Galerkin discretization of incompressible fluid flow equation</i>
11:20 - 11:25	<b>Introduction by E. Gutheil</b>	
11:25 - 11:40	Hai-Wen Ge	<i>Probability density function modeling turbulent non-reactive and reactive spray flows</i>
11:40 - 11:45	<b>Introduction by J. Malek</b>	
11:45 - 12:00	Jiri Hozman	<i>Discontinuous Galerkin method for compressible flow simulations</i>
12:00 - 12:15	Iveta Hnetynkova	<i>Adaptive preconditioning of GMRES method</i>
12:15 - 12:30	Lukas Poul	<i>Large-time behaviour of solutions to quasilinear parabolic equations on a half-line</i>
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12:30 - 14:00	LUNCH BREAK	
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14:00 - 14:15	Miroslav Bulíček	<i>On analysis of flows of fluids with pressure and shear-rate dependent viscosity</i>
14:15 - 14:30	Martin Madlik	<i>Numerical simulations of selected fluid-structure interaction problems</i>
14:30 - 14:35	<b>Introduction by H.G. Bock</b>	
14:35 - 14:50	Andreas Potschka	<i>Simulation and optimal control of bacterial chemotaxis</i>
14:50 - 15:05	Jan Albersmeyer	<i>Sensitivity generation in an adaptive BDF-method</i>
15:05 - 15:20	Helke Karen Hesse	<i>Adaptive multiple shooting for PDE constrained optimization</i>

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15:20 - 15:50	COFFEE BREAK	
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15:50 - 16:05	Sandra May	<i>Optimal control on the prevalence of AIDS</i>
16:05 - 16:20	Peter Kühn	<i>Towards robust nonlinear model predictive control under uncertainty</i>
16:20 - 16:25	<b>Introduction by J. Warnatz</b>	
16:25 - 16:40	Osman Shahi Shaik	<i>Control of PER protein oscillations in a drosophila model</i>
16:40 - 16:55	Monica Tutuianu	<i>Surface reactions modeling in storage catalytic converters</i>
16:55 - 17:00	<b>Introduction by R. Rannacher</b>	
17:00 - 17:15	Dominik Meidner	<i>Adaptive finite element methods for optimal control of nonstationary convection-diffusion-reaction problems</i>
17:15 - 17:30	Sebastian Böhnisch	<i>An adaptive fictitious-domain method for particulate flow problems</i>

**Saturday 03.12.2005**

10:00 - 10:05	<b>Introduction by H.-D. Meyer</b>	
10:05 - 10:20	Michael Brill	<i>Calculating adiabatic state populations: application to ethene</i>
10:20 - 10:25	<b>Introduction by W. Jäger</b>	
10:25 - 10:40	Carmen Ellsäßer	<i>Coarse analysis of neuronal network models</i>
10:40 - 10:55	Igor Doktorski	<i>Modelling growth phase of a biofilm system</i>
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10:55 - 11:15	COFFEE BREAK	
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11:15 - 11:30	Frederic Weller	<i>Modelling, analysis and simulation of thrombosis and haemostasis</i>
11:30 - 11:45	Severine Lacharme	<i>Multiple scale analysis applied to the modeling of a catalytic exhaust gas converter</i>
11:45 - 12:00	Dirk Hartmann	<i>Biophysics of cells: erythrocytes, keratocytes and lung cell cultures</i>
12:00 - 12:15	Pau Montes	<i>Noise reduction by temporal estimation in perfusion computed tomography</i>
12:15 - 12:30	Franziska Matthäus	<i>Clustering and consensus scopes for metabolic networks</i>
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12:30 - 14:00	LUNCH BREAK	
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14:00 - 14:05	<b>Introduction by M. Niezgódka</b>	
14:05 - 14:20	Maciej Cytowski	<i>Nonlinear diffusion processes over geometries changing in time</i>
14:20 - 14:35	Lukasz Bolikowski	<i>Modelling of diffusive phase separation processes over complex geometries and topologies</i>
14:35 - 14:50	Ania Fogtman	<i>Large scale perturbation analysis of cellular gene regulatory networks</i>
14:50 - 15:05	Michał Łopuszyński	<i>Multiscale simulations for GaAlInN quaternary alloys</i>
15:05 - 15:20	Zuzanna Szymańska	<i>Mathematical modelling of the impact of heat shock proteins (HSPs) on the neoplastic cells transformation</i>