

# Workshop on Model Order Reduction in Optimization and Control with PDEs

Berlin, January 26 – 28, 2011

Erhard-Schmidt-Hörsaal des Weierstraß-Instituts für Angewandte Analysis und Stochastik

## Wednesday, January 26, 2011

13:30 – 14:00	Registration
14:00 – 14:30	Opening: Perspectives of MOR in simulation, control, and optimization
14:30 – 15:00	V. Mehrmann (TU Berlin) <b>Reduced order modelling vs model order reduction in acoustic field computation</b>
15:00 – 15:30	St. Volkwein (Uni. Konstanz, Germany) <b>Adaptive POD basis computation for nonlinear problems</b>
15:30 – 16:00	T. Reis (TU Hamburg-Harburg, Germany) <b>Model Reduction for Distributed Parameter Systems</b>
16:00 – 16:30	Coffee break
16:30 – 17:00	B. Haasdonk (Uni. Stuttgart, Germany) <b>Adaptive basis generation in reduced basis methods for parameterized evolution equations</b>
17:00 – 17:30	K. Veroy-Grepl (RWTH Aachen, Germany) <b>Reduced-basis methods for saddle point problems</b>
17:30 – 18:00	K. Urban (Uni. Ulm, Germany) <b>Reduced basis methods in fluid simulation and optimization</b>
18:00 – 18:30	M. Ohlberger (Uni. Münster, Germany) <b>Empirical interpolation of nonlinear operators in model reduction of parameterized evolution equations</b>

**Thursday, January 27, 2011**

09:00 – 09:30	T. Stykel (TU Berlin, Germany) <b>Balanced truncation model reduction for nonlinear optimal control problems</b>
09:30 – 10:00	M. Bollhöfer (TU Braunschweig, Germany) <b>Balanced truncation for Maxwell equations</b>
10:00 – 10:30	T. Damm (TU Kaiserslautern, Germany) <b>Model reduction using bilinear control systems</b>
10:30 – 11:00	Coffee break
11:00 – 11:30	K. Kunisch (Uni. Graz, Austria) <b>Model reduction and closed loop control</b>
11:30 – 12:00	A. Vendl (TU Braunschweig, Germany) <b>Model order reduction for steady aerodynamic applications</b>
12:00 – 12:30	R. Niekamp (TU Braunschweig, Germany) <b>Model reduction for parameter dependent PDE</b>
12:30 – 13:00	E. Sachs (Uni. Trier) <b>POD techniques in optimization</b>
13:00 – 14:00	Lunch
14:00 – 14:30	M. Braack (Uni. Kiel, Germany) <b>Towards a posteriori model- and discretization-error control in PDE optimization</b>
14:30 – 15:00	G. Vossen (RWTH Aachen, Germany) <b><math>H_{2,\alpha}</math>-norm optimal model reduction for parabolic and hyperbolic evolution equations</b>
15:00 – 15:30	R. Hoppe (Uni. Augsburg, Germany) <b>Projection based model reduction for shape optimization of SAW driven microfluidic biochips</b>
15:30 – 16:00	A.C. Antoulas (Rice University, USA) <b>Model reduction from measurements</b>
16:00 – 16:30	Coffee break
16.30 – 18:30	Diskussion
19:30	Conference Dinner

**Friday, January 28, 2011**

09:30 – 10:00	J. Lang (TU Darmstadt, Germany) <b>Model reduction in unsteady transport systems</b>
10:00 – 10:30	C. Hartmann (FU Berlin, Germany) <b>Singular perturbation methods in control of large-scale random systems</b>
10:30 – 11:00	Coffee break
11:00 – 11:30	F. Tröltzsch (TU Berlin, Germany) <b>A posteriori error estimation for nonlinear PDE constrained optimization with application to POD</b>
11:30 – 12:00	M. Grepl (RWTH Aachen, Germany) <b>Reduced-basis methods for nonaffine PDEs: Rigorous a posteriori error bounds</b>
12:00	End of the workshop