



Foto: Ralf Roletschek



# 2<sup>nd</sup> Symposium of the German SIAM Student Chapters

## Numerical Methods for Simulation & Optimization

### Thursday, August 15

- 14:00 **Welcome**
- 14:15 **Heiko Weichelt:**  
Numerical Methods for Multi-Field Flow Problems
- 14:45 **Natasha Sharma:**  
A Cochain Complex for Interior Penalty Methods:  
Error Estimates and Multigrid Through Differential Relations
- 15:15 **Coffee Break**
- 15:45 **Jared Okiro:**  
Higher Order Numerical Simulation of Calcium Dynamics  
Using Discontinuous Galerkin Methods
- 16:15 **Marina Schneider:**  
Reduced Order Models For The Implied Variance  
Under Local Volatility
- 16:45 **Jessica Bosch:**  
Cahn-Hilliard Image Inpainting
- 17:15 **Closing Remarks**
- 18:00 **Sightseeing Heidelberg Castle**
- 19:00 **Joint Dinner**

### Friday, August 16

- 09:00 **Christine Edman :**  
Solution Methods for Expensive Optimization Problems
- 09:30 **Benjamin Unger:**  
Nonlinear Model Reduction in an Optimal Control Setting
- 10:00 **Matthias Voigt:**  
The Singular Linear-Quadratic Optimal Control Problem  
for Differential-Algebraic Systems
- 10:30 **Coffee Break**
- 11:00 **Michael Jung:**  
On Integer Relaxations for Mixed-Integer Optimal Control
- 11:30 **Heinz Zorn:**  
Optimization of the Fiber Orientation in  
Fiber-Reinforced Composites
- 12:00 **Leonard Wirsching:**  
Efficient Numerics for Nonlinear Model Predictive Control
- 12:30 **Lunch**
- 13:30 **Outlook: SIAM Student Chapters in Germany**
- 14:00 **Closing Remarks**

Attending Chapters: Heidelberg, Magdeburg, Trier

# August 15 -16, 2013

## IWR · Room 432 · INF 368 · Heidelberg University