

## STUDENT CHAPTER OF SIAM MAGDEBURG

### chapters

Heidelberg, Trier and Magdeburg) met for a joint two-day scientific conference at the University of Heidelberg. The scientific presentations covered a wide range of topics: presentations on nonlinear programming, parameter estimation in control, design of optimal experiments and application examples at



### Generation of adaptive grids

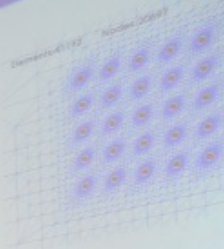


Table: Grid information

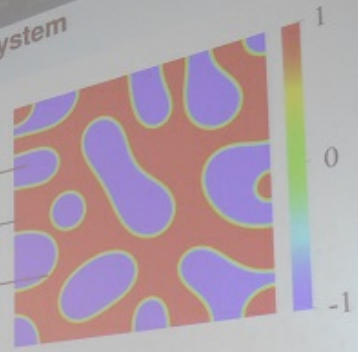
Level	No. of Elements	No. of Nodes	Smallest edge ( $\mu\text{m}$ )
7	7,760	3,981	5.625E-03
8	8,052	4,127	2.8125E-03
9	8,832	4,517	1.40625E-03
10	10,988	5,595	7.03125E-04
11	17,888	9,045	3.51562E-04
12	42,612	21,407	1.75781E-04



# Binary Cahn-Hilliard System

Two-Phase Structure

pure phase A  
pure phase B  
interface



- $\Omega \subset \mathbb{R}^d$ ,  $d \in \{2, 3\}$
- $u = u(x, t)$ : concentration



















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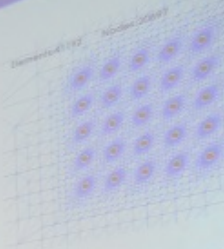


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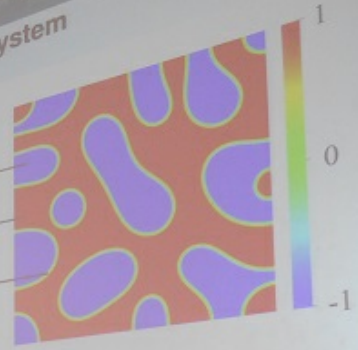
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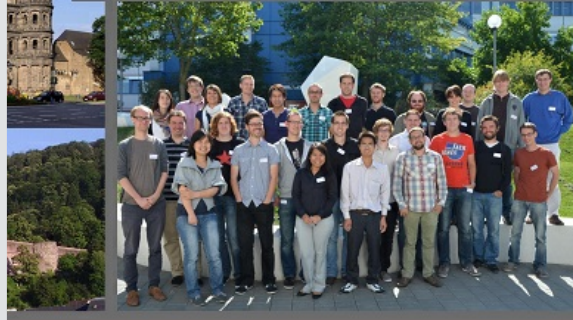
the world's most famous ruin, the Heidelberg Castle, followed by an  
day ended after a further round of lectures with imaginative  
Student Chapters.

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: p.m.

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Heidelberg · Magdeburg · Trier



# Meeting of the SIAM Student Chapters

## Simulation & Optimization

**Friday, August 16**

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

Magdeburg, Trier

# 2013

· Heidelberg University



Universität Trier



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ns: Error Estimates and Multigrid

Dynamics Using Discontinuous

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Problems

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Problem for Differential-Algebraic

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Reinforced Composites

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News

15.02.2024

**Seminar Prof. Dr.-Ing. Daniel Juhre**

06.11.2023

**Nerd Nite 2023**

22.09.2023

**Naturkundemuseum**

> more...

Nerd Nite Magdeburg



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FOR DYNAMICS OF COMPLEX  
TECHNICAL SYSTEMS  
MAGDEBURG



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