



# Preface

The research training group 1554 is located at the Otto von Guericke University Magdeburg (OvGU) and financed by the German Research Foundation (DFG). The members are PhD students, postdocs, and professors from the faculties of mechanical engineering, process and systems engineering, mathematics and natural sciences. Their working areas cover topics from different engineering branches, applied mathematics as well as theoretical and computational physics.

In order to promote scientific exchange and discussions, workshops take place twice a year. These semi-annual workshops are traditionally organized by the PhD students themselves.

This document contains all necessary information for the Summer Workshop 2016 of the DFG research training group *Micro-Macro-Interactions in Structured Media and Particle Systems*, which will take place at the *ComCenter Brühl* in *Erfurt* from June 9<sup>th</sup> to 10<sup>th</sup>, 2016.

I'd like to thank everybody who has made suggestions concerning the programme, thus contributing to a successful workshop and scientific exchange among the members of the research training group. Special thanks goes to my colleague Marcus Aßmus for typesetting this programme and constant support throughout the organization of the workshop.

Magdeburg, March 31<sup>th</sup>, 2016

Johanna Eisenträger  
(student representative)

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# 1 Location and Travel Guide

## 1.1 Hotel

The hotel for our workshop is:

**Hotel Am Kaisersaal**

**Futterstrasse 8**

**99084 Erfurt**

+49 (0) 361 65 85 60

[www.bachmann-hotels.de/hotel-am-kaisersaal](http://www.bachmann-hotels.de/hotel-am-kaisersaal)

## 1.2 Workshop venue

The workshop will take place at:

**ComCenter Brühl**

**Mainzerhofstr. 10**

**99084 Erfurt**

+49 (0) 361/ 65 888 2108

[www.bachmann-hotels.de/comcenter-bruehl](http://www.bachmann-hotels.de/comcenter-bruehl)

Please take the distance between the ComCenter and the hotel into account.  
(15 minutes, 1.1 km, <https://goo.gl/maps/WH5YXhc9kUN2>)

## 1.3 Journey to Erfurt on June 09<sup>th</sup>, 2016

- Bus starts at 07:00 at the campus, in front of Building 5
- Bus goes directly to the ComCenter
- check-in at the hotel will take place after the coffee break at 14:15

## 1.4 Journey to Magdeburg on June 10<sup>th</sup>, 2016

- Bus starts at 14:00 at ComCenter
- Bus arrives in *Magdeburg* (campus, in front of Building 5) at 17:00

With regard to passenger transport within *Erfurt*, please see timetables at [www.evag-erfurt-netzplan.de](http://www.evag-erfurt-netzplan.de).  
For more information about the city, please visit [www.erfurt.de](http://www.erfurt.de).

## 2 Timetable

### 2.1 Thursday

10:25	<b>Opening</b>		
<b>S1</b>			<b>Chair: Robin Gröpler</b>
10:30	Jörg-Christian	Reiher	Finite element analysis of polyhedra under point and line forces in second-strain-gradient elasticity
10:50	Zinaida	Todorova	Coating of cohesive glass particles to alter the interparticle interactions
11:10	Katja	Mader-Arndt	Contact behavior of glass particles under single and cyclic compression tests
11:30	Nicole	Vorhauer	Technical applications challenging pore network modelling
<b>11:50</b>	<b>Group photo</b>		
<b>12:00</b>	<b>Lunch</b> at ComCenter		
<b>S2</b>			<b>Chair: Gaurav Abhaay Kulkarni</b>
13:00	Martin	Weber	Evolution of the stiffness tetrads of fibre reinforced materials under large deformations
13:20	Robin	Gröpler	Numerical simulation of limestone calcination with aggregation and breakage
13:40	Marcus	Aßmus	On the determination of the modal behaviour of photovoltaic modules
14:00	Ahu	Öncü	<b>Guest:</b> Investigating grain boundaries in thin films in three dimensions
<b>14:15</b>	<b>Coffee break</b> at ComCenter		
<b>14:30</b>	<b>Board meeting</b> at ComCenter		
<b>16:15</b>	<b>City tour</b> (starting point: <i>Hotel Am Kaisersaal</i> , foyer)		
<b>18:30</b>	<b>Dinner</b> at <i>Restaurant Feuerkugel</i>		

### 2.2 Friday

<b>S3</b>			<b>Chair: Katja Mader-Arndt</b>
<b>Presentation of Posters</b> (max. 3 min. each)			
09:00	Sara	Bucci	Analytical expression for the yield surface of honeycomb structures

	Johanna	Eisenträger	Distinguishing softening and necking in high temperature tensile tests
	Evgeniya Stratieva	Roydeva	Influence of process parameters during fluidized bed coating of Al <sub>2</sub> O <sub>3</sub> beads with zeolite 13X
	Gaurav Abhaay	Kulkarni	Distortion Induced during Quenching of Seamless Tubes
	Yuan	Fang	Heat transfer analysis during the metal cooling process
	Philipp	Thiem	Investigation of strains in a brittle HVOF FeAl coating on a ductile substrate <small>(represented by Julia Becker)</small>
	Alireza	Attari Moghaddam	Bridging the gap between discrete and continuous drying models
<b>09:25</b>	<b>Poster session with coffee and canapés</b>		
<b>S4</b>	<b>Chair: Nicole Vorhauer</b>		
10:10	Amir	Eshghinejadfard	Turbulent channel flow simulation in the presence of spherical particles
10:30	Abbas	Kamranian Marnani	Classification of ultra-fine adhesive particles at fine cohesive powder
10:50	Kristin	Simon	Local Projection Stabilization for Surface Transport Problems
11:10	Zhengkun	Liu	Implementation of a phase field model for brittle fracture into FEAP
<b>11:30</b>	<b>Lunch at ComCenter</b>		
<b>S5</b>	<b>Chair: Jörg Christian Reiher</b>		
12:40	Jan	Kalisch	Crystallographic texture – performance of the quadratic approximation
13:00	Julia	Becker	Microstructures and mechanical properties of Mo-XC-Alloys
13:20	Sebastian	Dieck	<b>New student:</b> Influence of heat treatment and strain rate on mechanical behaviour of austenitic-martensitic Q+P-steel
<b>13:30</b>	<b>Election of new speaker and vice speaker</b>		
<b>13:45</b>	<b>Closing remarks</b>		

Please adhere to your specified presentation time, i.e. 15 minutes of speaking time for presentations and maximum 3 minutes of speaking time for posters. Talks exceeding this limit will be canceled by the chairman or chairwoman, respectively.

### 3 Social Programme

On Thursday, a city tour is going to start in the foyer of our hotel at 16:15. Two guided tours are offered, in English and German. We will take part in an interesting walk through Erfurt's beautiful ancient city center with lots of attractions, e. g. the Merchants' bridge (*Krämerbrücke*), the town hall, the university district, the St. Mary's Cathedral (*Dom St. Marien*), and the St. Severus' Church (*Severikirche*). The city tour ends at 18:30 in front of the restaurant *Feuerkugel*.

### 4 Workshop Dinner

The city tour will end in front of the restaurant *Feuerkugel*. We start our dinner there at 18:30. Please remember what dish you've chosen!

The address of the restaurant is:

#### **Restaurant Feuerkugel**

Michaelisstraße 3-4

99084 Erfurt

+49 (0) 361 – 78 91 256

[www.feuerkugel-erfurt.de](http://www.feuerkugel-erfurt.de)

The way back to the hotel, is very short, only 300m:

<https://goo.gl/maps/8mZ5aEaXZz92>

Please check the website of the research training group for updated versions of the programme:  
[www.grk1554.ovgu.de](http://www.grk1554.ovgu.de)

## 5 List of Participants

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