



OTTO VON GUERICKE UNIVERSITY MAGDEBURG

Graduate School for Micro-Macro-Interactions in
Structured Media and Particle Systems - GRK 1554

Speaker: Prof. Dr.-Ing. A.Bertram

GRK 1554 Summer School 2012

04.06.2012 - 08.06.2012

Venue: Gendarmenmarkt, Berlin

Wissenschaftsforum, Markgrafenstraße 37,
Gendarmenmarkt 1, 10117 Berlin

Hotel: Motel One, Spittelmarkt, Berlin



Micro-Macro-Interactions in structured Media and Particle Systems

- Prof. A.Bertram
- Prof. J.Tomas
- Prof. G.Warnecke
- Prof. H.Altenbach
- Jun. Prof. T.Metzger
- Dr-Ing. K.Naumenko
- Prof. J.Schmidt
- Prof. E.Specht
- Prof. L.Tobiska
- Prof. E.Tsotsas
- Jun. Prof. M.Peglow
- Prof. D.Regener
- Prof. F.Scheffler
- Prof. U.Gabbert
- Prof. N.Gaffke
- Prof. K.Kassner
- Prof. L.Mörl
- Prof. P.Streitenberger

Berlin Routemap Spittelmarkt, Berlin



Place A: U-Bahn Station, Spittelmarkt, Berlin

Place B: Hotel Motel-one, Spittelmarkt, Berlin

Leipziger Straße 50, 10117 Berlin, Tel.: +49-30-2014363-0

Email: berlin-spittelmarkt@motel-one.com

Place C: Workshop, Gendarmenmarkt, Berlin

Wissenschaftsforum, Markgrafenstraße 37,

Gendarmenmarkt 1, 10117 Berlin

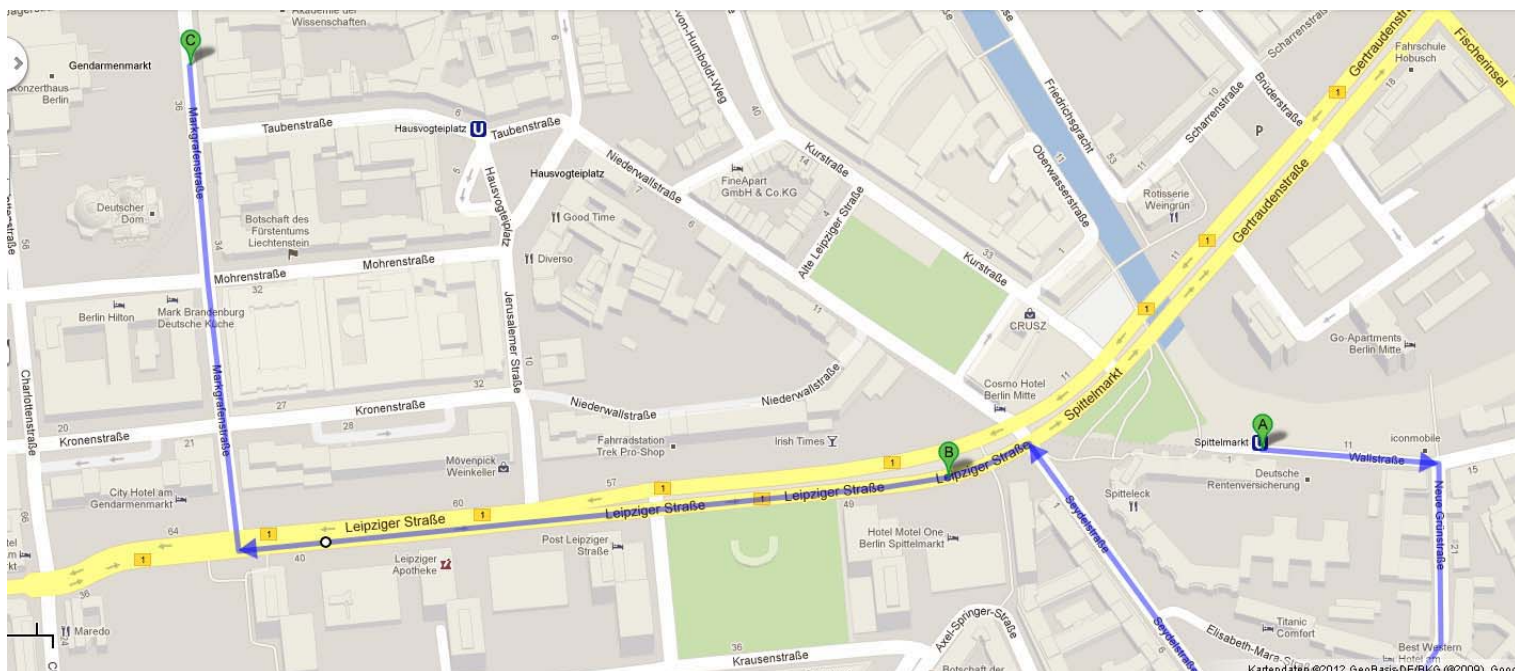


Table 1: Workshop Time Table

Day	Session 1	Session 2	Session 3	Session 4
Monday 1 04.06.2012	09:30–11:30 2 Guests Jan Kalisch	13:00–14:55 1 Guest & 3-Stu Srihari Dodla	15:30–16:25 3 Students Sebastian Borsch	—
Tuesday 2 05.06.2012	08:30–09:30 3 Students Oksana Ozhoga	10:00–12:00 2 Guests Andreas Kutschke	16:15–17:25 3 Students Ivan Lvov	18:00–19:00 3 Students Mykola Ievdokimov
Wednesday 3 06.06.2012	08:30–09:50 4 Students Pavan Penumakala	10:20–12:00 1 Guest & 2-Stu Sunkara	13:00–14:20 1 Guest & 1-Stu Schulz Florian	14:45–15:25 2 Students Sandaka
Thursday 4 07.06.2012	08:30–09:50 4 Students Dadkhah	10:15–12:00 1 Guest & 2-Stu Yu Sun	13:00–15:00 1 Guest & 1-Stu Mubashir Hussain	15:30–17:30 1 Guest Yujing wang
Friday 5 08.06.2012	08:30–09:45 1 Guest Olatunji	10:15–12:00 2 Guests Stein	13:00–14:40 4 Students Dadkhah	—

Table 2: Group and Day Program Organizers

Day	Group	Organizer	Email
Monday	Prof. Bertram	Sebastian Borsch	sebastian.borsch@ovgu.de
Tuesday	Prof. Altenbach	Oksana Ozhoga-Maslovskaja	oksana.ozhoga-maslovskaja@ovgu.de
Wednesday	Prof. Specht	Pavan Kumar Penumakala	pavan.penumakala@st.ovgu.de
Thursday	Prof. Tsostas	Yujing wang	yujing.wang@st.ovgu.de
Friday	Prof. Tomas	Olakunle Nosiru Olatunji	olakunle.olatunji@st.ovgu.de

06:40 Meeting at Magdeburg Hbf on Platform No: 5

06:58 08:21 Train Travel : IRE 4275 Magdeburg–Berlin

08:21 09:00 Berlin Railway station-Gendarmenmarkt

09:00 09:25

Mini Breakfast

09:25

Opening

Session 1, Chair : Jan Kalisch

09:30 10:30 **Prof. Salima Bouvier¹** **Plasticity at low scale and microstructure consideration in relation with macroscopic behavior**

10:30 11:30 **Prof. Thomas Böhlke²** **Continuum modeling of micro-structured materials**

11:30 12:00

Check-in the hotel

12:00 13:00

Lunch Break

Session 2, Chair : Srihari Dodla

13:00 14:00 **Felix Hildebrand³** **Modeling and simulation of laminate microstructures at large strains**

14:00 14:20 **Shyamal Roy** Deformation twinning of FeMn

14:20 14:35 **Martin Weber** Material plasticity at the example of fibre-reinforced materials

14:35 14:55 **Sebastian Borsch** Simulation of a polymeric composite

14:55 15:30

Afternoon Coffee Break

Session 3, Chair : Sebastian Borsch

15:30 15:55 **Jan Kalisch** Cubatures on SO₃

15:55 16:10 **Srihari Dodla** Experimental studies of lamellar copper-silver composites

16:10 16:25 **Esmail Tohidlou** Simulation of Equal Channel Angular Pressing process

16:30

City tour

18:30

Dinner-Löwenbräu^A

Session 1, Chair : Oksana Ozhoga

- 08:30** 08:50 **Mykola Ievdokimov** Investigation of the strain localization behavior with application of the phase transition approach
- 08:50** 09:10 **Ivan Lvov** Micromacro analysis of creep behavior of multi-pass welds
- 09:10** 09:30 **Anna Girchenko** On the effective properties of the particular artificial materials with the chiral elements

09:30 10:00 **Morning Coffee Break**

Session 2, Chair : Andreas Kutschke

- 10:00** 11:00 **Prof. Gariboldi⁴** Microstructural effects on creep behaviour of alloys
- 11:00** 12:00 **Prof. Skoczen⁵** Plastic strain induced phenomena between absolute zero and room temperature

12:00 13:00 **Lunch Break**
13:00 16:00 **Technical Museum TOUR**
16:00 16:15 **Refreshment (with coffee)**

Session 3, Chair : Ivan Lvov

- 16:15** 16:35 **Klim Kovalev** Diffusion of magnetic particles in a ferrofluid in the presence of magnetic and velocity fields
- 16:35** 16:55 **Kristin Held** Discretisation of coupled pdes for surfactant influenced interfaces
- 16:55** 17:25 **Andreas Kutschke** Modeling the material behavior of advanced chromium steels

17:25 18:00 **Coffee Break**

Session 4, Chair : Mykola Ievdokimov

- 18:00** 18:20 **Oksana Ozhoga** Creep damage modeling of a Polycrystalline material
- 18:20** 18:40 **Oleksandr Prygorniev** Inelastic analysis of Polycrystals based on Voronoi tessellation
- 18:40** 19:00 **Adil Mamat** Creep model of two phase Polycrystal material

19:00 **Dinner at Indian Restaurant AARTI^B**

DAY 3, 06.06.2012, Wednesday

Session 1, Chair : Pavan Penumakala

08:30	08:50	Ee Han	Modeling phase transition for compressible two and multiphase flows
08:50	09:10	Dr. V. Ssemaganda	Metastable solutions for a thermodynamically consistent Becker-Döring model
09:10	09:30	Robin Gröpler	Coagulation equation with singular kernels
09:30	09:50	Gourisankar Sandaka	Modeling Lime Calcination in shaft kilns

09:50 10:20 **Coffee Break**

Session 2, Chair : Sunkara

10:20	10:40	Pavan Penumakala	Process simulation of Continuous Casting of steels
10:40	11:40	Dr.-Ing. P.A.Nikrityuk⁶	Euler-Lagrange modeling of phase change phenomena in particulate flows: CFD-based and subgrid models
11:40	12:00	Dr.-Ing. A.K. Nallathambi	Simulation of solidification in Twin-belt caster

12:00 13:00 **Lunch Break**

Session 3, Chair : Schulz Florian

13:00	13:20	Koteswara Rao Sunkara	Design of rectangular flights in rotary drums
13:20	14:20	Dr.-Ing. Fest-Santini⁷	Drops and sprays: experiments as basis for flow prediction and simulation

14:20 14:45 **Coffee Break**

Session 4, Chair : Gourisankar Sandaka

14:45	15:05	Baer Stephan	Spray characterization and heat transfer during cooling processes of intermittent sprays
15:05	15:25	Schulz Florian	Infrared thermography based fuel film investigations

15:30 19:00 **Charlottenburg TOUR**
19:30 **Dinner at Italian Restaurant^C**

DAY 4, 07.06.2012, Thursday

Session 1, Chair : Dadkhah

08:30	08:50	Yu Sun	Investigation of lotion distribution in wet wipes by pore network model and X-ray tomography
08:50	09:10	Yujing Wang	Pore-scale comparison of liquid distributions between X-ray experiments and pore network simulation
09:10	09:30	Nicole Vorhauer	Capillary film flow in 2D SiO ₂ pore networks - influence on phase distributions and drying rates
09:30	09:50	Dr.-Ing. P. Müller	Simulation of a Zeolite 4A Granule using 3D-DEM

09:50 10:15 **Coffee Break**

Session 2, Chair : Yu Sun

10:15	10:35	Maryam Dadkhah	Morphological Characterization of Agglomerates by X-ray Tomography
10:35	11:00	Mubashir Hussain	Modeling the aggregation kernel for Fluid bed process using Monte-Carlo simulations
11:00	12:00	Prof. Ganesan⁸	ALE scheme for two phase flows with surfactants

11:50 13:00 **Lunch Break**

Session 3, Chair : Hussain

13:00	13:30	Dr.-Ing. Kharaghani	Pore-scale simulation of convective gel drying
13:30	15:00	Prof. Hapgood⁹	Understanding wet granulation: a mechanistic view, Part-I

15:00 15:30 **Coffee Break**

Session 4, Chair : Yujing wang

15:30	17:30	Prof. Hapgood	Understanding wet granulation: a mechanistic view, Part-II
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18:00 19:00 **German Parliament Visit**
19:30 **Ship tour + dinner on BOAT^D**

DAY 5, 08.06.2012, Friday

Session 1, Chair : Olakunle OLATUNJI

08:30 09:45 **Prof. BRILLIANTOV¹⁰** **Collision Dynamics of Viscoelastic Particles with Adhesion: From micro to nano-particles**

09:45 10:15 **Coffee Break**

Session 2, Chair : Sören STEIN

10:15 11:15 **Prof. KACIANAUSKAS¹¹** **Contact Models for Dry Particles - Theory and Experience**

11:15 12:00 **Dr. JASEVICIUS¹²** **Numerical Modeling of Interaction of Ultrafine Particles**

12:00 13:00 **Lunch Break**

Session 3, Chair : Maryam Dadkhah

13:00 13:25 **Dipl.-Ing. Katja MADER** **Micro Mechanical Particle Properties and Elastic-plastic, Frictional Contact Behaviour with Adhesion**

13:25 13:50 **M. Sc. Olakunle OLATUNJI** **Stability Determination of Steric-Stabilized Nanoparticles - Numerical and Experimental Analysis**

13:50 14:15 **Dipl.-Ing. Sören STEIN** **Simulation of the Filtration Behaviour of Flocculated and Non-flocculated Particle Suspensions**

14:15 14:40 **M. Sc. Zinaida KUTELOVA** **Surface Modification of Spherical Glass Beads**

14:40 15:00 **Coffee Break**

15:00 18:00 **Free Time**

18:21 20:00 **Return Journey to Magdeburg (IRE 4278)**

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C. Wednesday, 06.06.2012 **Opera Italiana,**
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