# **Workshop** Micro-Macro-Interactions in structured Media and Particle Systems

# May, 3<sup>rd</sup>-4<sup>th</sup> in Potsdam

<u>Travel guide</u>	
Meeting:	Friday at 06:50am in the central hall of the central station Magdeburg
Journey:	train leaves central station at 07:06 from platform 8
	change in Potsdam central station (08:22 to 08:40)
	arrival at Potsdam Charlottenhof at 08:42
Return Journey:	train leaves Charlottenhof at 14:10 (destination Brandenburg)
	change in Brandenburg (14:34 to 15:00)
	arrival at Magdeburg central station at 15:52

## **Program**

### <u>Friday</u>

# 09:00 Opening

Chair: V. Ssemaganda

09:05	P. Penumakala	Thermomechanical simulation of continuous casting of steels
09:25	G.S. Sandaka	Determination of material properties of Lime calcination
09:40	D. Juhre	Guest lecture The dynamic flocculation model for filled elastomers – micromechanical modelling and finite element implementation

### 10:10 Coffee Break

#### Chair: Z. Kutelova

10:35	D. Thévenin	Guest lecture Coupled multi-scale problems in fluid dynamics: turbulent, multiphase and reacting flows
11:05	K.R. Sunkara	Design studies in flighted rotating drums
11:20	V. Ssemaganda	The Riemann problem for fluid flow mixture balance laws
11:40	O. Ozhoga-Maslovsk	aja Creep damage evolution under non-proportional loading

#### 12:00 Lunch

- **12:50** Meet for Excursion
- 13:30 Excursion: New Palais and Sanssouci

Chair: S. Borsch

# 16:15 Board Meeting & Presentation of Posters (2-3minutes each)

S. Baer	Local mass flux and heat transfer coefficient of an intermittent spray
A. Girchenko	Effective properties of the materials with the chiral elements
R. Gröpler	Numerical simulation of lime calcination in normal and mixed-feed shaft kilns
K. Held	Iterative solution of a coupled bulk surface partial differential equation
K. Kavaliou	Influence of diffusion of magnetic particles on the stability of a ferrofluid seal
Z. Kutelova	Flow behavior of micro and nano reference particles
I. Lvov	Micro-mechanical analysis of creep behaviour in a multipass weld
K. Mader-Arndt	AFM and nanoindenter measurements of functionalized spherical glass particles
S. Roy	Modelling multiple deformation twinning of metals
F. Schulz	GDI-Spray investigation within a pressure chamber
Y. Wang	Effect of solid surface wettability on drying behavior of particle packings investigated by X-ray microtomography

### 16:45 Poster session with coffee and cake

18:15 Meeting for Dinner $\rightarrow$	Dinner @ El Puerto
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### <u>Saturday</u>

Chair: K. Mader-Arndt

08:00	S. Borsch	Two-scale modeling of a polymeric composite
08:15	A. Maimaiti	Polycrystal simulation of creep at elevated temperature
08:35	S. Dodla	Mechanical response of copper silver composites
08:55	J. Kalisch	Texture evolution in terms of harmonic tensors - Computational performance
09:10	O. Prygorniev	Surface layer effects in polycrystalline structures under cyclic viscoplasticity
09:25	E. Tohidlou	Materials parameter identification for nickel single crystal with crystal plasticity
09:40	A. Kutschke	Simulating the material behavior of advanced chromium steels
09:55	M. Ievdokymov	Investigation of the strain localization behavior with application of phase field approach

# 10:10 Coffee Break

Chair: K. Held

10:30	M. Krüger	Guest lecture Materials development for high temperature applications
11:00	T. Halle	Guest lecture Generation of metallic microstructures for numerical simulations
11:30	M. Weber	Material plasticity using the example of fiber-reinforced materials
11:45	O. Olatunji	Effect of particle and surfactant concentrations on sedimentation behaviour of steric-stabilized nanoparticles
12:05	Y. Sun	A study of liquid imbibition by pore network simulation and micro-model experiment
12:25	M. Dadkhah	Morphological characterization of agglomerates produced in a spray fluidized bed by X-ray tomography
12:45	M. Hussain	Population balance modeling of micro-macro transition in fluidized bed granulation

13:05 Closing Remarks

13:10 Lunch