

Workshop

“SPP meets TP”: Variational methods for complex phenomena
in solids”

February 21 - 24, 2023

organized by

Georg Dolzmann (Regensburg), Xavier Lamy (Toulouse), Angkana Rüland (Heidelberg)

Time measurement: CET

• **Tuesday, February 21**

09:00 - 09:20	<i>Arrival and Self-Registration</i>
09:20 - 09:30	<i>Welcome by HIM Director Christoph Thiele</i>
09:30 - 10:20	F. Rindler <i>Elasto-plasticity driven by dislocation movement</i>
10:20 - 10:50	<i>Coffee break</i>
10:50 - 11:40	A. Acharya <i>An action functional for nonlinear dislocation dynamics</i>
11:40 - 12:30	C. Maor <i>From Volterra’s dislocations to strain-gradient plasticity</i>
12:30 - 15:10	<i>Lunch break</i>
15:10 - 16:00	P. Tscherner <i>Modeling and Simulation of Paper Folding</i>
16:00 - 16:20	<i>Coffee break</i>
16:20 - 17:10	D. Knees <i>Analysis and simulation of a rate-independent phase-field damage model</i>
17:10 - 18:00	M. Lewicka <i>Geodesics and isometric immersions in kirigami</i>
from 18:00 on	<i>Reception in the coffee room: wine and bretzels</i>

• **Wednesday, February 22**

09:30 - 10:20	J. Ginster <i>Scaling Laws and the Emergence of Complex Patterns in Helimagnetism</i>
10:20 - 10:50	<i>Coffee break and Group Photo</i>

10:50 - 11:40	A. Tribuzio <i>Energy scaling of singular-perturbation models involving higher-order laminates</i>
11:40 - 12:30	J. Fabiszisky <i>Multiscale structures in compliance minimization</i>
12:30 - 15:10	<i>Lunch break</i>
15:10 - 16:00	P. Lewintan <i>L^1-Korn-Maxwell-Sobolev inequalities in all dimensions</i>
16:00 - 16:20	<i>Coffee break</i>
16:20 - 17:10	R. Zhang <i>Wave propagation in periodic waveguides: spectral decomposition and numerical simulation</i>
17:10 - 18:00	G. Nair <i>Energy Minimizing Configurations for Single-Director Cosserat Shells</i>

• **Thursday, February 23**

09:30 - 10:20	M. S. Gelli <i>Asymptotic analysis of convolution-type energies on periodically perforated domains</i>
10:20 - 10:50	<i>Coffee break</i>
10:50 - 11:40	M. G. Mora <i>Explicit minimizers for anisotropic Coulomb energies</i>
11:40 - 12:30	D. Wiedemann <i>Homogenisation of processes in porous media with evolving microstructure</i>
12:30 - 15:10	<i>Lunch break</i>
15:10 - 16:00	B. Schmidt <i>Fracture and Curvature in Thin Structures</i>
16:00 - 16:20	<i>Coffee break</i>
16:20 - 17:10	P. Wozniak <i>Approximation schemes for energies of prescribed fracture geometry</i>
17:10 - 18:00	M. Sarhil <i>Modeling of mechanical metamaterials via the relaxed micromorphic model</i>

• **Friday, February 24**

09:30 - 10:20	A. Mielke <i>Viscoelastic fluid models for geodynamic processes in the lithosphere</i>
10:20 - 10:50	<i>Coffee break</i>

10:50 - 11:40	A. Marveggio <i>Approximation of multiphase mean curvature flow by means of the Allen-Cahn phase-field model</i>
11:40 - 12:30	S. Watson <i>The L^2-gradient flow of the 3-well Aviles-Giga: emergent ordering dynamics, scaling symmetries & frustration</i>