18th-GAMM-Seminar on Microstructures 2019

WIAS Berlin, Erhard Schmidt lecture hall

Friday, January 18th 2019

8:45 - 9:15	Registration	
9:15 - 9:20	Opening	
9:20 - 9:30	In Memoriam Prof. Dr. Erwin Stein (C. Carstensen)	
9:30 - 10:15	J. Mosler	On the modeling of material interfaces.
10:15 - 10:35	E. Rohan	Homogenization of selfcontact in porous fluid–saturated media.
10:35 - 11:00	Coffee Break	
11:00 - 11:20	E. Gürses	Computation of macroscopic response of multi-phase materials with planar interfaces.
11:20 - 11:40	S. Stupkiewicz	Modelling of transformation patterns in pseudoelastic shape-memory alloys.
11:40 - 12:00	T. Bartel	On the derivation of relaxed energy densities using perturbations of curl- and div-free fields.
12:00 - 12:20	H. Hoormazdi	A novel numerical treatment for the gradient-enhanced damage-plasticity coupling.
12:20 - 14:00	Lunch Break	
14:00 - 14:45	A. Favata	Atomistic and Continuum Modeling of Graphene: a variational approach.
16:00 - 16:20	A.u. Khan	Thermal grooving in a three-dimensional setting using anisotropic surface energy.
16:20 - 16:40	R. Kovács	Generalizing constitutive laws: the role of non-equilibrium thermodynamics.
15:25 - 16:00	Coffee Break	
16:00 - 16:45	L. Berlyand	Homogenization problems with non-separated scales.
16:45 - 17:30	V. Kouznetsova	Multi-scale modelling of emergent dynamic metamaterial behaviour in linear and non-linear regimes.
17:45 - 18:45	Internal Meeting of the GAMM-Activity Group "Analysis of Microstructures" (Room 406)	
19:30	Conference Dinner at Restaurant Nolle (Georgenstraße, S-Bahnbogen 203, 10117 Berlin)	

Saturday, January 19th 2019

9:15 - 10:00	L. Scardia	Multiscale problems in dislocation theory.
10:00 - 10:20	R.J. Martin	The quasiconvex envelope of conformally invariant energy functions on $GL^+(2)$.
10:20 - 10:40	P. Pelech	Use of Gradient Polyconvexity in Modeling of Rate-independent Evolution of Diffused Phase Transition in Shape Memory Alloys.
10:40 - 11:00	L. Kertsch	A thermodynamically consistent mean-field model for elastoplastic deformation and microstructure evolution.
11:00 - 11:30	Coffee Break	
11:30 - 11:50	J. Llorca	Multiscale modelling of precipitation in metallic alloys.
11:50 - 12:10	F.E. Bille	Fourth order gradient plasticity model with the Kroner incompatibility tensor.
12:10 - 12:30	T. Yalçinkaya	Physics based cohesive zone relations for intergranular cracking.
12:30 - 12:50	D.R. Jantos	Applying Hamilton's principle to topology optimization: an "inverse damage" model.
13:00 - 13:40	Lunch Break	
13:40 - 14:00	T.N. Tien	Non-standard discretizations of a class of relaxed minimization problems.
14:00 - 14:45	M. Feischl	Time stepping and regularity of LLG and LLG-Maxwell coupling.

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