

# 5<sup>th</sup> German-Japanese Workshop on Computational Mechanics

Monday, September 23, 2019

Workshop venue: TU Dresden, von-Mises-Bau, Room E02, Georg-Schumann-Straße 7, 01187 Dresden

Session 1	
Chairman: Junji Kato (Nagoya University)	
10:00-10:10	<b>Opening Ceremony</b> Michael Kaliske (TU Dresden) Takahiro Yamada (Yokohama National University)
10:10-10:50	<b>Redefining three-dimensional J-integral and DJ, and their applications to large deformation low cycle fatigue problems</b> [keynote] Hiroshi Okada (Tokyo University of Science)
10:50-11:10	<b>Characterization of magneto-electric composites: An algorithmic scale-bridging scheme</b> Jörg Schröder (Universität Duisburg-Essen)
11:10-11:30	<b>Space-Time Isogeometric Analysis (ST-IGA)</b> Kenji Takizawa (Waseda University)
10:50-11:50	<b>Investigation of instability-induced pattern transformations in periodic hydrogels</b> Marc-André Keip (Universität Stuttgart)

11:50-13:30 Lunch

Session 2	
Chairman: Shigenobu Okazawa (University of Yamanashi)	
13:30-13:50	<b>Robust topology optimization and additive manufacturing</b> Junji Kato (Nagoya University)
13:50-14:10	<b>Phase-field models with anisotropic and dissipative features</b> Michael Kaliske (TU Dresden)
14:10-14:30	<b>Unified Fluid/Structure Simulation for Industrial Applications</b> Makoto Tsubokura (Kobe University/RIKEN R-CCS)
14:30-14:50	<b>On the superposition principle of stress intensity factors in residual stress fields</b> Benjamin Klusemann (Leuphana Universität Lüneburg)

14:50-15:20 Coffee break

Session 3	
Chairman: Sven Klinkel (RWTH Aachen)	
15:20-15:40	<b>GPU accelerated phase-field lattice Boltzmann simulations for growth of multiple equiaxed dendrites with motion</b> Tomohiro Takaki (Kyoto Institute of Technology)
15:40-16:00	<b>Damage and fracture modelling using the scaled boundary finite element method</b> Carolin Birk (Universität Duisburg-Essen)

19:00-... Banquet

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Session 4	
Chairman: Wolfgang Ehlers (Universität Stuttgart)	
9:00-9:40	<b>Model reduction &amp; data-driven mechanics - developments and applications</b> [keynote] Stefanie Reese (RWTH Aachen)
9:40-10:00	<b>Development of fast and scalable implicit finite-element earthquake simulation methods</b> Kohei Fujita (The University of Tokyo)
9:40-10:20	<b>Lattice Boltzmann Simulation of the Dynamic Behaviour of Solids</b> Ralf Müller (TU Kaiserslautern)

10:20-10:50 Coffee break

Session 5	
Chairman: Günther Meschke (Ruhr-Universität Bochum)	
10:50-11:10	<b>Parallel Analysis of Fluid-Structure Interaction with Inconsistent Interfaces</b> Naoto Mitsume (University of Tsukuba)
11:10-11:30	<b>Scalable Algorithms for High Performance Computing in Computational Contact Mechanics</b> Alexander Popp (Universität der Bundeswehr München)
11:30-11:50	<b>Shape Optimization for Suppressing Time Dependent Flows on Non-Newtonian Fluid</b> Takeshi Nakazawa (Osaka University)
11:50-12:10	<b>Robust Time Integration Schemes for General Engineering Systems</b> Detlef Kuhl (Uni Kassel)

12:10-13:40 Lunch

Session 6	
Chairman: Daigoro Isobe (University of Tsukuba)	
13:40-14:00	<b>Constitutive model for self-healing ceramics and its application to finite element analysis</b> Shingo Ozaki (Yokohama National University)
14:00-14:20	<b>Advanced Finite Element Methods for Free-Surface Flow Simulation</b> Marek Behr (RWTH Aachen)
14:20-14:40	<b>Meshfree analysis of LPSO-structured magnesium using higher-order gradient crystal plasticity</b> Yuichi Tadano (Saga University)
14:40-14:50	<b>Closing</b> Peter Wriggers (Leibniz Universität Hannover) Kenjiro Terada (Tohoku University)

15:00-20:00 Cultural Event