

Conference Programme

3rd International Conference on Material Modelling
 incorporating the
13th European Mechanics of Materials Conference

September 8th - 11th, 2013
Warsaw, Poland



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Conference Programme

The organisers gratefully thank the following institutions for their support in organising ICMM3 2013: The European Mechanics Society (EUROMECH) which co-organised the thirteenth European Mechanics of Materials Conference (EMMC13) incorporated within ICMM3, and the European Collaborative dissemination of Aeronautical research and application project (E-CAero).



Welcome to ICMM3

It is a pleasure to welcome you to the city of Warsaw, Poland, which hosts the third International Conference on Material Modelling (ICMM3) incorporating the thirteenth European Mechanics of Materials Conference (EMMC13).

The conference programme brings together over two hundred and fifty contributions from a variety of topics associated with materials modelling. The programme is thus divided into twenty-three sessions in six parallel tracks over three days. Together, this provides an excellent forum in which to exchange information, discuss ideas, and foster new research collaborations.

The conference is held in the Old Library of Warsaw University located close to the historical Old Town of Warsaw and its notable landmarks, including the Royal Castle, King Zygmunt's Column, the Market Square, and the Barbican. There are a large number of cafes, restaurants, and shops located there, to while away the time in a peaceful and relaxing environment.

We wish you a pleasant and interesting stay in Warsaw.
If you have any questions or queries, feel free to talk to us.

Warsaw, August 2013
The Local Organising Committee

The ICMM3 conference will take place at the Old Library building of the University of Warsaw (see map on next page).

Address:

University of Warsaw
ul. Krakowskie Przedmieście 26/28
00-927 Warszawa
POLSKA

Local Organising Committee:

Paweł Dłużewski
Grzegorz Jurczak
Albrecht Bertram
Marcin Maździarz
Toby D. Young
Agnieszka Rutecka
Grzegorz Maciejewski
Piotr Tausowski
Jan Cholewiński
Piotr Przybyła

Conference events

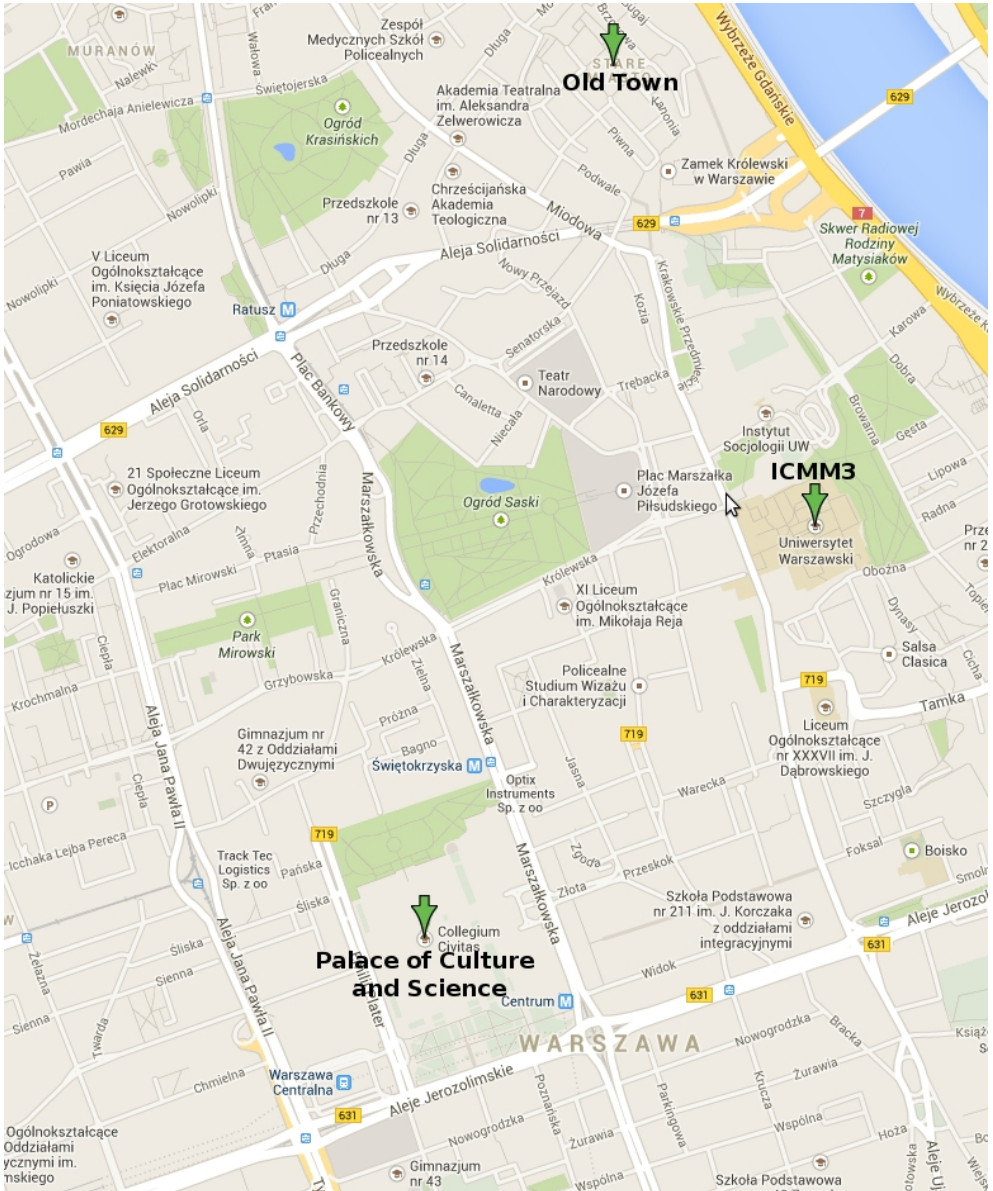
Sunday 17.00-20.00

Registration and Welcome Party at conference venue

Wednesday 18.00-21.00

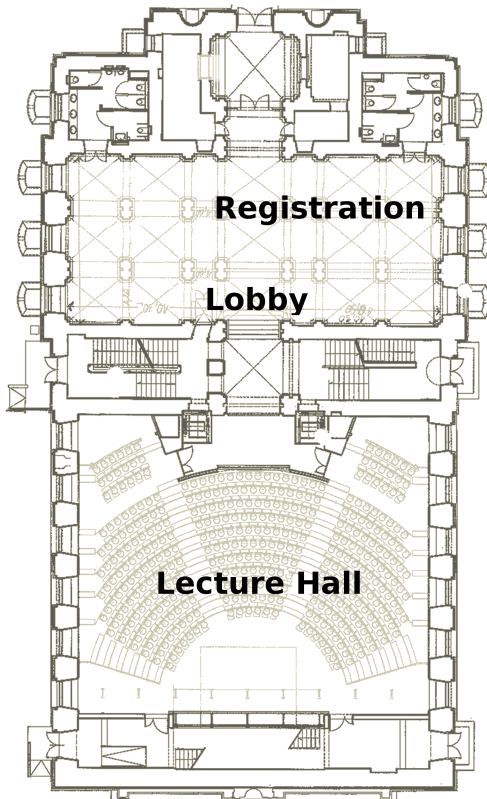
Gala Dinner at Palace of Culture and Science

Pl. Defilad 1 /entrance from Marszałkowska street/
(see the map below)

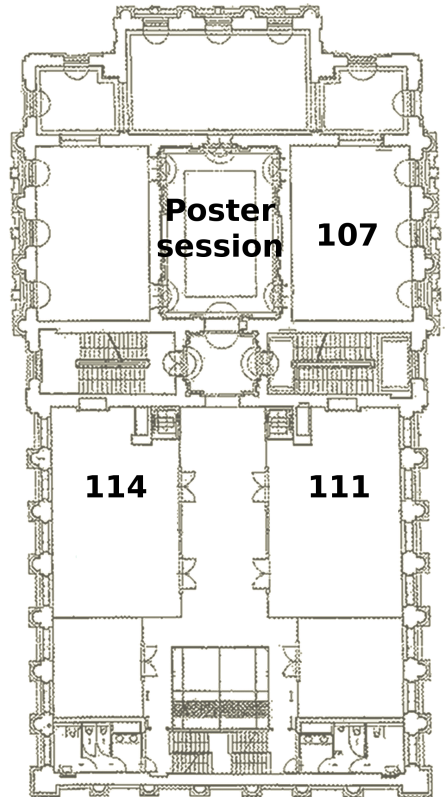


Plan of the Old Library

Entrance

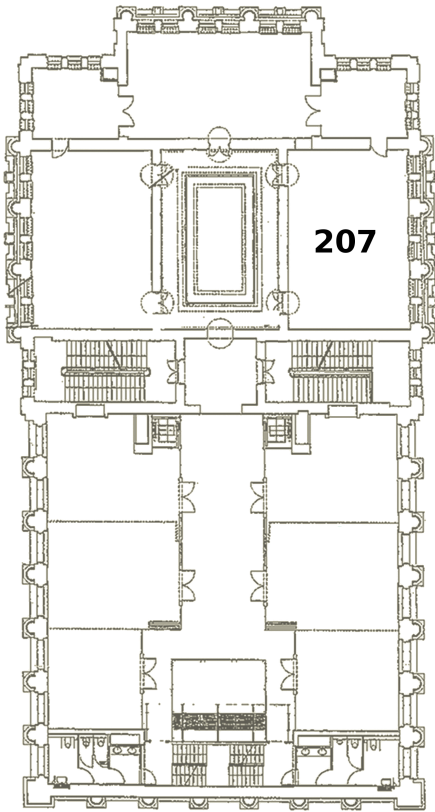


Ground floor

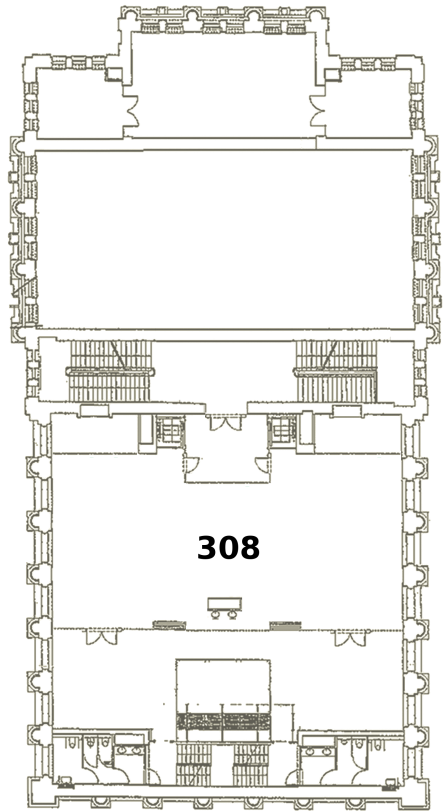


1st floor

Plan of the Old Library



2nd floor



3rd floor

Session I – Viscoplasticity

Chair - Holm Altenbach

9.00-9.20 Fabio De Angelis,

Constitutive relations and evolutive laws in non-smooth elasto/viscoplasticity

9.20-9.40 Takeshi Iwamoto and Ryo Terasawa,

A Finite Element Simulation on Effect of Intermediate Configuration in Multiplicative Decomposition of Deformation Gradient for Single Crystal TRIP Steel

9.40-10.00 Chun Cheng, Rolf Mahnken, Eckart Uhlmann, and Ivan Mitkov Ivanov,

A Multi-Mechanism Model for Cutting Simulations Combining Visco-plastic Asymmetry and Phase Transformation

10.00-10.20 Hans van Dommelen, Amin Sedighiamiri, and Leon Govaert,

Micromechanics of the deformation kinetics of semicrystalline polymers

10.20-10.40 Coffee break

Session II - Viscoplasticity

Chair - Tetsuya Matsuda

10.40-11.00 Nobutada Ohno, Kohei Narita, and Dai Okumura,

Homogenized Elastic-Viscoplastic Behavior of Open Porous Bodies with Two Pore Pressures

11.00-11.20 Stefanie Reese, Yalin Kiliclar, and Ivaylo Vladimirov,

A new anisotropic model of coupled damage-viscoplasticity - application in electromagnetic forming processes

11.20-11.40 John Sweeney, Paul Spencer, and Fin Caton-Rose,

Flow Rules for Amorphous and Semi-crystalline polymers

11.40-12.00 Yuichi Tadano, Kengo Yoshida, and Mitsutoshi Kuroda,

Plastic Instability Analysis under Biaxial Stress Using Rate Dependent Constitutive Model

12.00-14.00 Lunchtime

Session III - Viscoplasticity

Chair - Nobutada Ohno

14.00-14.20 Holm Altenbach, Andreas Kutschke, Konstantin Naumenko,

and Getaschew Shunki Tibba,

Analysis of a Superheater Component Made from Advanced Chromium Steel Under Temperature and Cyclic Load

14.20-14.40 Matthieu Mazière and Samuel Forest,

Simulation of Portevin - Le Chatelier effect under cyclic loading

14.40-15.00 Tetsuya Matsuda, Kohei Oide, and Fumiya Kawasaki,

Elastic-Viscoplastic Modelling of Woven Composites Using a Multi-Scale Approach

15.00-15.20 Minghao Zhang, Anne-Françoise Gourgues-Lorenzon, Esteban Busso, Eliette Mathey,

and Mingxin Huang,

Experimental Studies and Numerical Predictions of Recrystallisation-Assisted Viscoplastic Strain Under Low Stresses After Hot Deformation

15.20-15.40 Coffee break

Session IV - Viscoplasticity

Chair - David McDowell

15.40-16.00 Pavan Kumar Penumakala, Ashok Kumar Nallathambi, Eckehard Specht,

and Albrecht Bertram,

Stress evaluation during the continuous casting of steel using a viscoplastic model

16.00-16.20 Guillaume Marion, Georges Cailletaud, Matthieu Mazière, Christophe Colin,

Benoît Appolaire, and Arnaud Longuet,

Viscoplastic behaviour of Ti-6Al-4V involving phase transformation

16.20-16.40 Martin Wagner, Josef Spachtholz, Franz Wilhelm, Christian Kliemt,

and Joachim Hammer,

Simulation of viscoplastic material behavior of cast aluminium alloys due to thermal-mechanical loading

16.40-17.00 Jean-Luc Bouvard, Noëlle Billon, Douglas Bammann, and Mark Horstemeyer,

Formulation a thermomechanical internal state variable constitutive model for elastomers

Session I - Aeronautic materials

Chair - Tasadduq Khan

- 9.00-9.20 Katarzyna Kowalczyk-Gajewska and Stanisław Stupkiewicz,
Modelling of grain refinement using a three-scale crystal plasticity model
- 9.20-9.40 Dirk Steglich, Youngung Jeong, Mohammed Omar Andar,
and Toshihiko Kuwabara,
Biaxial Deformation Behaviour of AZ31 Magnesium Alloy: Crystal-Plasticity- Based Prediction and Experimental Validation
- 9.40-10.00 Florent Fournier Dit Chabert, Pascale Kanouté, Stéphane Quilici,
and Arnaud Longuet,
Fatigue life modelling of high temperature nickel base superalloy in isothermal and non isothermal conditions
- 10.00-10.40 Coffee break

Session II - Aeronautic materials

Chair - Katarzyna Kowalczyk-Gajewska

- 10.40-11.00 Krzysztof P. Mróz, Michał Petaś, and Krzysztof Doliński,
Fatigue damage modelling in layered material system
- 11.00-11.20 Zdzisław Nowak, Marcin Nowak, Ryszard Pęcherski, Marek Potoczek,
and Romana Ewa Śliwa,
The Compressive Strength of Ceramic Open-Cell Foams with the Variability of Cell Sizes
- 11.20-11.40 Berkache Amar and Dizene Rabah,
Numerical Study Of Closure Models Applied To Turbine Blade Film Cooling
- 11.40-14.00 Lunchtime

Session III - Fracture mechanics

Chair - Zhiliang Zhang

- 14.00-14.20 Birgit Beckmann, Kai Schicktanz, and Manfred Curbach,
DEM-Simulation of Concrete Fracture Phenomena
- 14.20-14.40 Giovanni Lancioni,
Inelastic evolution and fracture of stretched bars by means of incremental energy minimization
- 14.40-15.00 Guillermo Díaz and Jörn Mosler,
Texture analysis of polycrystals by means of an embedded strong discontinuity approach
- 15.00-15.20 Martin Helbig and Thomas Seelig,
Modelling of damage in rubber-toughened materials
- 15.20-15.40 Coffee break

Session IV - Interfacial Mechanics

Chair - Marc Geers

- 15.40-16.00 Samuel Forest and Nicolas Guéinichault,
Inspection of free energy functions in gradient crystal plasticity
- 16.00-16.20 Yakov Benveniste,
Two Models of Three-Dimensional Thin Interphases with Variable Conductivity and Their Fulfillment of the Reciprocal Theorem
- 16.20-16.40 Stefan Kaessmair, Ali Javili, and Paul Steinmann,
Thermomechanics of solids with generic imperfect coherent interfaces
- 16.40-17.00 Ali Javili, Francesco Dell'Isola, and Paul Steinmann,
Geometrically nonlinear higher-gradient elasticity with energetic boundaries

Session I - Atomistic and ab-initio modelling of materials

Chair - Jacek Majewski

- 9.00-9.20 Rafał Kozubski, Mirosław Kozłowski, Andrzej Biborski, and Piotr Sowa,
Kinetics of structural transformations in nano-structured intermetallics: atomistic simulations
- 9.20-9.40 Shreevant Tiwari and David L. McDowell,
Analyzing Multiaxial Inelastic Yield and Flow in Nanocrystalline Metals using Molecular Dynamics Simulations
- 9.40-10.00 Yusuke Kinoshita and Nobutada Ohno,
Atomistic study of microscopic plastic deformation process in beta-Sn
- 10.00-10.20 Yoji Shibutani, Tomohito Tsuru, and Tomoyuki Hirouchi,
Defects Interactions between Dislocations and Grain Boundaries by Molecular Dynamics Simulations
- 10.20-10.40 Coffee break

Session II - Atomistic and ab-initio modelling of materials

Chair - Akke Suiker

- 10.40-11.00 Marleen Kooiman, Markus Hütter and Marc Geers,
Coarse-graining Dislocation-mediated Plasticity: Equilibrium Behavior of Dislocations and their Influence on Elastic Response
- 11.00-11.20 Tianxiang Liu and Sébastien Groh,
A molecular static/molecular dynamics study of crack-void interaction in α -Iron
- 11.20-11.40 Philippe Carrez, Antoine Kraych, Karine Gouriet, Pierre Hirel, and Patrick Cordier,
Atomistic calculations of dislocation core structures in MgSiO₃ perovskite
- 11.40-14.00 Lunchtime

Session III - Atomistic and ab-initio modelling of materials

Chair - Markus Hütter

- 14.00-14.20 Sébastien Groh,
From Orowan to Prismatic loop during bypass of impenetrable obstacles by edge dislocations in magnesium
- 14.20-14.40 Ivan Zubko, Vladimir Kochurov, and Roman Gorodilov,
Atomistic modelling of thermo-elastic properties for graphene monolayer using energy-based approach
- 14.40-15.00 David Molnar, Fabian Maier, Peter Binkele, and Siegfried Schmauder,
Molecular Dynamics simulations on the bcc -> fcc phase transition of Cu precipitates in alpha-Fe
- 15.00-15.40 Coffee break

Session IV - Atomistic and ab-initio modelling of materials

Chair - Philippe Carrez

- 15.40-16.00 Karolina Milowska and Jacek Majewski,
Elastic Properties of Covalently Functionalized Carbon Nanotubes and Graphene Layers
- 16.00-16.20 Akke Suiker and Barend Thijssse,
Displacive phase transformations in iron: Nucleation, kinetics and morphology
- 16.20-16.40 Toby D. Young,
Self-consistent pseudopotential theory of electronic structure using real-space piecewise basis states

Session I - Strain gradient and nonclassical approaches

Chair - Albrecht Bertram

- 9.00-9.20 Marc Geers, Benoît Appolaire, Maeva Cottura, Esteban Busso, Samuel Forest, and Aurélien Villani,
Strain gradient crystal plasticity enriched with vacancy diffusion controlled dislocation climb
- 9.20-9.40 Stephan Wulfinghoff, Eric Bayerschen, and Thomas Böhlke,
Micromechanical Simulation of the Hall-Petch Effect with a Crystal Gradient Plasticity Theory including a Grain Boundary Yield Criterion
- 9.40-10.00 Eric Bayerschen, Stephan Wulfinghoff, and Thomas Böhlke,
Strain Gradient Plasticity Modeling including a Grain Boundary Yield Criterion and Application to Size Effects in Micro-Tensile Test Experiments
- 10.00-10.20 Thiebaud Richeton and Stéphane Berbenni,
From bicrystals to spherical inclusions: analytical derivation of the stress fields in presence of plastic strain gradients
- 10.20-10.40 Coffee break

Session II - Strain gradient and nonclassical approaches

Chair - Thomas Hochrainer

- 10.40-11.00 Victor A. Eremeyev and Holm Altenbach,
Equilibrium of Second-Gradient Fluids and Nonlinear Elastic Solids
- 11.00-11.20 Albrecht Bertram and Samuel Forest,
The Thermodynamics of Gradient Plasticity
- 11.20-11.40 Uwe Mühlich, Geraf Hütter, Lutz Zybelle, Andreas Seupel, and Meinhard Kuna,
A first order strain gradient damage model for simulating quasi-brittle failure in porous elastic solids
- 11.40-12.00 Darby Luscher, Jason Mayeur, David L. McDowell, and Curt Bronkhorst,
Influence of Length Scale Parameters for Nonlocal Crystal Plasticity on Localization in Polycrystalline Specimens
- 12.00-14.00 Lunchtime

Session III - Strain gradient and nonclassical approaches

Chair - Samuel Forest

- 14.00-14.20 Thomas Hochrainer,
Continuum dislocation dynamics based on the second order alignment tensor
- 14.20-14.40 Johannes Schnepf,
Lagrangian functions for defects in three- and four-dimensional material manifolds
- 14.40-15.00 Patrizia Trovalusci,
Generalized continua for discontinuous complex materials. A Voigt-like approach using the principle of virtual works
- 15.00-15.20 Elias C. Aifantis,
Gradient Materials Mechanics
- 15.20-15.40 Coffee break

Session IV - Coupled field problems

Chair - Kerstin Weinberg

- 15.40-16.00 Swantje Bargmann and Antonino Favata,
Continuum mechanical modeling of laser-pulsed heating in polycrystals: a multi-physics problem of coupling diffusion, mechanics and thermal waves
- 16.00-16.20 Ryszard Pyrz,
Strain-Tunable Functional Properties in Nanocomposite Materials
- 16.20-16.40 Alessio Gizzi, Christian Cherubini, Simonetta Filippi, and Anna Pandolfi,
On the Constitutive Relationships of Active Media Electromechanics
- 16.40-17.00 Laurence Brassart, Kejie Zhao, and Zhigang Suo,
Plasticity of lithiated silicon under chemo-mechanical loading

Session I - Computational modelling of materials with microstructures

Chair - Giovanni Lancioni

- 9.00-9.20 Kazutake Komori,
Evaluation of Ductile Fracture in Ferrite-Pearlite Steels for Drawing by the Void Model
- 9.20-9.40 Yoshiki Mikami and Masahito Mochizuki,
Numerical Simulation of Microscopic Stress in Polycrystalline Materials Considering Hardening due to Irradiation
- 9.40-10.00 Brahim-Khalil Benazzouz,
Kaolinite thermodynamic properties calculations using molecular dynamics simulation
- 10.00-10.20 Trung Hieu Hoang, Mohamed Guerich, and Julien Yvonnet,
Determination of the size of an RVE for nonlinear random composites
- 10.20-10.40 Coffee break

Session II - Computational modelling of materials with microstructures

Chair - Fabrice Barbe

- 10.40-11.00 Rainer Glüge,
Generalized boundary conditions on representative volume elements and their use in determining the effective material properties
- 11.00-11.20 Willy Leclerc and Philippe Karamian-Surville,
Domain Decomposition Methods For Evaluating Elastic Properties Of Random Fibre Composites
- 11.20-11.40 Arabella Mauri and Edoardo Mazza,
A Random Fibre Network Model for Foetal Membranes
- 11.40-12.00 Joanna Szyndler and Łukasz Madej,
Numerical Analysis of the Digital Material Representation Behavior under Plane Strain
- 12.00-14.00 Lunchtime

Session III - Computational modelling of materials with microstructures

Chair - Sergio Turteltaub

- 14.00-14.20 Swantje Bargmann and Natalia Konchakova,
Modeling of crystalline sub-micron gold with a gradient extended theory
- 14.20-14.40 Alexey Shveykin, Peter Trusov, and Pavel Volegov,
Two level modeling of inelastic and superplastic deformation of metals
- 14.40-15.00 Arash Behrouzi, Benjamin Klusemann, and Swantje Bargmann,
Microstructural Material Modelling in Metal Forming
- 15.00-15.20 Sergey Danilchenko and Andrey Nasedkin,
Finite element simulation of contact problems for materials with heterogeneities, surface effects and defects
- 15.20-15.40 Coffee break

Session IV - Computational modelling of materials with microstructures

Chair - Antoinette Maniatty

- 15.40-16.00 Francesco Maresca, Varvara G. Kouznetsova, and Marc G.D. Geers,
Subgrain martensite mechanics in multi-phase steels
- 16.00-16.20 Maher El Haj Kacem, Nicolas Lecoq, Romain Quey, and Fabrice Barbe,
Rate effects on predicted TRIP and product phase elastoviscoplastic properties for austenite-to-ferrite transformation
- 16.20-16.40 Shunping Yan and Yong Yu,
Discontinued plastic deformation effect on forest dislocations cutting
- 16.40-17.00 Yong Yu and Shunping Yan,
Dislocation dynamics model for slip lines forming of micrometer-scale single crystal

Session II - Material theory

Chair - Miroslav Šilhavý

- 10.40-11.00 Cesare Davini, Lorenzo Freddi, and Roberto Paroni,
Asymptotic theories for thin-walled beams
- 11.00-11.20 Jana Wilmers and Swantje Bargmann,
Non-Fickian Diffusion in Amorphous Polymers
- 11.20-11.40 Reuven Segev and Marcelo Epstein,
Notes on the Geometry of Dislocations
- 11.40-12.00 Dariusz Kurpisz and Tadeusz Wegner,
Energy-Based Method in Phenomenological Description of Mechanical Properties of Nonlinear Elastic Material for Flat State of Stress
- 12.00-14.00 Lunchtime

Session III - Material theory

Chair - Roberto Paroni

- 14.00-14.20 Massimiliano Lucchesi, Miroslav Šilhavý, and Nicola Zani,
Dual variational problems and limit analysis for masonry bodies
- 14.20-14.40 Antonino Favata,
A thermoelastic beam theory via Virtual Power Principle
- 14.40-15.00 Mokarram Hossain, Prashant Saxena, and Paul Steinmann,
Modelling the curing process for magneto-sensitive elastomeric materials
- 15.00-15.20 Alexander Freidin, Elena Vilchevskaya, Igor Korolev, and Leah Sharipova,
Chemical Affinity Tensor and Chemical Reaction Front Kinetics in Deformable Solids
- 15.00-15.40 Coffee break

Session IV - Material theory

Chair - Reuven Segev

- 15.40-16.00 Phoebus Rosakis,
Continuum Surface Energy from a Lattice Model
- 16.00-16.20 Katarzyna Kowalczyk-Gajewska, Elżbieta Pieczyska, Michał Maj, Hisaaki Tobushi, Shunichi Hayashi, and Mariana Cristea,
Finite strain model of shape memory polymers
- 16.20-16.40 Christoph Bröcker and Anton Matzenmiller,
On the generalization of uniaxial thermoviscoplasticity with damage to finite deformations based on enhanced rheological models

Session I - Biomechanics

Chair - Anna Pandolfi

- 9.00-9.20 Wilfried Bürzle and Edoardo Mazza,
Mechanical behaviour of human fetal membrane in different experimental configurations
- 9.20-9.40 Tom Shearer,
Hyperelastic modelling of the anterior cruciate ligament and patellar tendon
- 9.40-10.00 Semih Perdahcioglu, Ton van den Boogaard, Dany Audish, Dennis Janssen,
and Nico Verdonshot,
Failure modeling of human femur
- 10.00-10.20 Sandeep P. Patil, Bernd Markert, and Frauke Gräter,
Multiscale modeling of spider silk fiber mechanics
- 10.20-10.40 Coffee break

Session II - Elasticity and viscoelasticity

Chair - Patrizia Trovalusci

- 10.40-11.00 Merab Svanadze,
Boundary integral method in the theory of thermoelasticity for solids with double porosity
- 11.00-11.20 Maia M. Svanadze,
Boundary value problems in the theory of thermoviscoelasticity for Kelvin-Voigt materials with voids
- 11.20-11.40 Saida Belhas, Chérif Belamri, and Abdelouahed Bendaas,
Damping behavior of an Al-Cu alloy with 20% of SiC fibers
- 11.40-12.00 Mikhail Poluektov, Leon Govaert, Hans van Dommelen, and Marc Geers,
Micromechanical modelling of the thermo-mechanical behaviour of oriented semicrystalline polymer foils
- 12.00-14.00 Lunchtime

Session III - Elasticity and viscoelasticity

Chair - Tomasz Zieliński

- 14.00-14.20 Bodo Nolte,
Damping, Dispersion and Classification
- 14.20-14.40 Noëlle Billon, Audrey Durin, Jean Luc Bouvard, Jerome Bikard, and Gilles Robert,
Thermo-mechanical Modelling for Visco Elastic, Visco Plastic Polymers; Application to fatigue
- 14.40-15.00 Michele Serpilli,
Asymptotic modeling of a piezoelectric layered assembly
- 15.00-15.20 Pierre Gelineau, Ludovic Cauvin and Fahmi Bédoui,
Multi-scale modeling of nano-clay reinforced polymers
- 15.20-16.00 Coffee break

Poster Session

16.00-18.00

Session I - Interfacial Mechanics

Chair - Ali Javili

- 9.00-9.20 Michael M.W. Dogge, Ron H.J. Peerlings, and Marc G.D. Geers,
Continuum dislocation transport in two-phase materials
- 9.20-9.40 Dhiraj Kumar Mahajan, Fathollah Varnik, and Alexander Hartmaier,
Surface Roughness Effect on Static, Dynamic and Mechanical Properties of Polymers at Interfaces
- 9.40-10.00 Andrew McBride, Daya Reddy, Daniel Gottschalk, and Ali Javili,
A model of gradient crystal plasticity at finite deformations accounting for thermomechanical surfaces and grain boundaries
- 10.00-10.20 Matthias Schmidtchen and Rudolf Kawalla,
Investigation of the effect of adsorption layers and surface roughness on the final bond strength in multi layer roll bonded metallic material compounds
- 10.20-10.40 Coffee break

Session II - Damage, fatigue, reliability and lifetime prediction

Chair - Błażej Skoczeń

- 10.40-11.00 Lucival Malcher and Maurílio A.C.D. Cunha,
Numerical Strategy for Calibration of Damage Models Based on Multi-objective Function
- 11.00-11.20 Lidija Nazarenko and Swantje Bargmann,
Modeling of Damage Evolution in Porous Anisotropic Materials under Thermal Loading
- 11.20-11.40 Bernard Fedelich, Markus Vöse, Frederik Otto, and Günther Eggeler,
Micromechanical modelling of a Copper-Antimony-Alloy under creep conditions
- 11.40-12.00 Aggelos Pikrakis and Nikos Andrianopoulos,
A novel approach simulating fatigue crack growth in long cracks
- 12.00-14.00 Lunchtime

Session III - Damage, fatigue, reliability and lifetime prediction

Chair - Lucival Malcher

- 14.00-14.20 Aneta Ustrzycka and Błażej Skoczeń,
Kinetics of evolution of radiation induced micro-damage in ductile materials subjected to time-dependent stresses
- 14.20-14.40 Goran Ljustina, Martin Fagerström, and Ragnar Larsson,
Rate Sensitive Continuum Damage Models and Mesh Dependence in Finite Element Analyses
- 14.40-15.00 Christophe Le Guyader, Yazid Madi, Farida Azzouz, and Jacques Besson,
Anisotropic ductile damage model to simulate fracture of a 2219 T87 aluminum alloy
- 15.00-15.20 Ricardo Branco, José Domingos Costa, and Fernando Antunes,
Fatigue life prediction of lateral notched round bars subjected to bending-torsion loading
- 15.20-16.00 Coffee break

Poster Session

16.00-18.00

Session I - Atomistic and ab-initio modelling of materials

Chair - Rafał Kozubski

- 9.00-9.20 Ken-Ichi Saitoh, Yohei Sameshima, Takuya Okada, and Hiroaki Itoh
Atomistic Simulation of Crystal Change and Carbon Diffusion in Nano-sized Wiredrawing of Pearlitic Steel
- 9.20-9.40 Arun Prakash, Johannes Möller, and Erik Bitzek,
FE2AT: Finite Element Informed Atomistic Simulations
- 9.40-10.00 Małgorzata Sznajder and Jacek Majewski,
Ab-initio studies of heteropolar SiC/GaN junctions
- 10.00-10.20 Céline Gérard and Laurent Pizzagalli,
Nanoparticles elasticity: surface and size effect
- 10.20-10.40 Coffee break

Session II - Experimental identification and material characterization

Chair - Rolf Mahnken

- 10.40-11.00 Bassem Barkia, Jean-Philippe Couzinié, Véronique Doquet, Ivan Guillot,
and Eva Heripré,
Multiscale characterization and modelling of the viscoplastic behaviour of titanium at room temperature
- 11.00-11.20 Zhaoyu Chen and Stefan Diebels,
Nanoindentation of soft polymer: Modelling and Experimental investigation
- 10.20-11.40 Jakub Tabin and Błażej Skoczeń,
Experimental investigation of discontinuous plastic flow in 304 and 316 austenitic stainless steels at liquid helium temperature
- 11.40-12.00 Dawid Marcinek, Błażej Skoczeń, and Stefano Sgobba,
Constitutive modelling and experimental study of discontinuous plastic flow in 316LN and JK2LB steels at very low temperature
- 12.00-14.00 Lunchtime

Session III - Experimental identification and material characterization

Chair - Laurent Delannay

- 14.00-14.20 Irene Linares Arregui and Bo Alfredsson,
Non-linear elastic-plastic characterization of a high strength bainitic roller bearing steel
- 14.20-14.40 Hassiba Ait Sadi, Malek Britah, Alain Iost, and Nadir Mesrati,
Study of the mechanical behavior of leaded copper by scratch test and nanoindentation
- 14.40-15.00 Akram Jadawi, Fabrice Barbe, Mehrdad Negahban, and Jean-Marc Saiter,
From microstructure to mechanical properties characterization of an expanded starch-based polymer
- 15.00-15.20 Aleksander Karolczuk, Mateusz Kowalski, and Krzysztof Kluger,
Residual stress determination based on the hole drilling method in explosively welded bimetallic composite
- 15.20-15.40 Brahim Safi, Mohammed Saidi, Youcef Ghernouti, and Abdelbaki Benmounah,
Effect of the heat curing on strength development of ultra-high performance fiber reinforced concrete (UHPFRC) containing sand dune and ground brick waste
- 15.40-16.00 Coffee break

Poster Session

16.00-18.00

Session I - Coupled field problems

Chair - Paweł Dłużewski

- 9.00-9.20 Anne Jung, Guido Falk, and Stefan Diebels,
Thermo-mechanical modelling of the thermo shock behaviour of cellular hybrid refractories
- 9.20-9.40 Andrey Nasedkin,
Nonstandard approaches to finite element modelling of piezoelectric devices with gyration effects, thermal and acoustic fields
- 9.40-10.00 Galina Levi and Tatyana Belyankova,
Features of Contactless Excitation of Surface Acoustic Waves in Pre-stressed Thermo-elastic Layer
- 10.00-10.20 Philipp Gaida, Andreas Jahr, and Kerstin Weinberg,
FEA and experimental validation of an electroactive polymer actuator

10.20-10.40 Coffee break

Session II - Coupled field problems

Chair - Andrey Nasedkin

- 10.40-11.00 Kerstin Weinberg and Amer Omar,
On phase decomposition and coarsening in binary and ternary solder - experimental and numerical studies
- 11.00-11.20 Aurelien Villani, Samuel Forest, and Esteban P. Busso,
A Coupled Diffusion - Crystal Plasticity - Phase Field Framework to Study Grain Boundary Cavitation in Irradiated Materials
- 10.20-11.40 Grzegorz Jurczak, Marcin Maździarz, and Paweł Dłużewski,
Effect of threading dislocation on elastic and electric properties of semipolar GaN/AlN quantum dot
- 11.40-14.00 Lunchtime

Session III - Composite materials

Chair - Laurence Brassart

- 14.00-14.20 Dominik Branke, Markus Kästner, Joseph Goldmann, Anton Poznyakovskiy, Martin Pohl, and Volker Ulbricht,
Multiscale modelling of the long term behaviour of textile reinforced composites
- 14.20-14.40 Omer Fatih Yalcin and Yalcin Mengi,
A Dynamic Theory for Laminated Thermoelastic Composites
- 14.40-15.00 Tobias Waffenschmidt, César Polindara, Andreas Menzel, Sergio Blanco, and José Maria Goicolea,
A gradient-enhanced scalar continuum damage model for fibre-reinforced materials at large strains
- 15.00-15.20 Łukasz Figiel,
Modelling interphase effects on large deformation behaviour of thermoplastic polymer-clay nanocomposites
- 15.20-15.40 Mehmet Yetmez, Serhat Aktas, Ismail Gundogdu, Enes Gur, Emre Karaul, Yagızcan Ulusoy, and Hamza Erdogan,
Vibration Analysis of Cracked Laminated Glass Beam with Bolted Joint
- 15.40-16.00 Coffee break

Poster Session

16.00-18.00

Session I - Computational modelling of materials with microstructures

Chair - Stéphane Berbenni

9.00-9.20 Ulrich Ehlenbröcker, Rolf Mahnken, Andreas Schneidt, Thomas Antretter, and Michael Wolff,*A multiscale approach for the modeling of bainitic phase transformation in multi-variant polycrystalline low alloy steels*9.20-9.40 Maeva Cottura, Yann Le Bouar, Alphonse Finel, Benoît Appolaire, Kais Ammar, and Samuel Forest,*Phase Field modeling of microstructure evolution coupled with plastic activity*9.40-10.00 Arkadi Berezovski, Jüri Engelbrecht, and Mihhail Berezovski,*Numerical simulation of elastic wave diffraction*10.00-10.20 Grzegorz Jurczak, Toby Young, Paweł Dłużewski, and George Dimitrakopoulos,*Elastic and electric properties of a semi-polar (11-22) GaN/AlN quantum dots*

10.20-10.40 Coffee break

Session II - Computational modelling of materials with microstructures

Chair - Ragnar Larsson

10.40-11.00 Sergio Turteltaub, Sourena Yadegari, and Akke Suiker,*Grain Cluster Method for Multiscale Simulations*

11.00-11.20 Romain Quey,

*Multiscale microstructure generation using Voronoi tessellations*11.20-11.40 Ivano Benedetti and M.H. Aliabadi,*Brittle failure in polycrystalline RVEs by a grain-scale cohesive boundary element formulation*11.40-12.00 Hélder David Miranda, F.M. Andrade Pires, and A.T. Marques,*Impact of the geometry of inclusions at the micro-scale on the overall stochastic properties*

12.00-14.00 Lunchtime

Session III - Finite elasticity

Chair - Victor A. Eremeyev

14.00-14.20 Raad Al-Kinani, Torben Netz, and Stefan Hartmann,*Transversely isotropic finite deformation thermo-hyperelasticity in the framework of p-version finite elements*14.20-14.40 Ashraf Hadoush, Hasan Demirkoparan, and Thomas Pence,*Internally Balanced Solid Response in Compressible Hyperelasticity described by a Deformation Gradient Product Decomposition*14.40-15.00 Emmanuelle Rouhaud, Olivier Ameline, Benoit Panicaud, Richard Kerner, and Arjen Roos,*On the use of a four-dimensional formalism to build linear or non-linear isotropic hypo-elastic behaviors using the Lie derivative*15.00-15.20 Sergey Lychev and Alexander Manzhurov,*On Geometrical Foundations of the Theory of Growing Solids*

15.20-16.00 Coffee break

Poster Session

16.00-18.00

Session II - Stochastic materials modelling

Chair - Waldemar Schwarz

10.40-11.00 Lukáš Zrůbek, Jaroslav Kruis, Jan Novák, and Anna Kučerová,
*Evaluation of Microstructural Fields Based on Extended Wang Tile Sets and Schur
Complement Method*

11.00-11.20 Eliška Janouchová, Anna Kučerová, and Jan Sýkora,
Polynomial chaos-based methods for uncertainty quantification and reliability analysis

11.20-11.40 Jan Havelka, Jan Sýkora, and Anna Kučerová,
*Efficient methods for quantification of uncertainty in description of groundwater flow
through random materials*

11.40-14.00 Lunchtime

Poster Session

16.00-18.00

Poster Session

- Tahar Sayah and Khaled Hamouda,
Wear behaviour 3D AFM roughness of sintered nanomaterials produced by hot isostatic pressing (HIP)
- Mohamed Mokhtar Bouziane, Smail Benbarek, Sadek Mohamed Tabeti, Belabbes Bachir Bouiadjra, Tarik Achour, and Boualem Serier,
Finite element analysis of the mechanical behaviour of the different cemented hip femoral prostheses
- Mohamed Elnedhir Belgherras, Mohamed Mokhtar Bouziane, Boualem Serier, Smail Benbarek, and Belabbes Bachir Bouiadjra,
Effect of the Human activities on the mechanical behavior of the total hip arthroplasty
- Pavel Volegov, Peter Trusov, and Alexey Shveykin,
Hardening Laws in Multilevel Crystal Plasticity Models and Its Influence on the Macro Effects of Complex Cyclic Loading and Damage Accumulation
- Tetsuya Nemoto, Yasumi Ito, Zenzo Isogai, Hiroyuki Matsuura, and Akira Shimamoto,
Biophysical examination of the skin and subcutaneous tissues
- Brahim-Khalil Benazzouz,
A nanoscale simulation study of the structural and elastic properties of spherocobaltite (CoCO₃)
- Chérif Belamri and Saida Belhas,
Damping effect observed in the internal friction behavior of a single crystal alloy Al – (20%at.Ag)
- Grégoire Bazin, Gilles Ausias, and Philippe Pilvin,
Prediction of the geometry during a bending test on a pipe
- Marek Romanowicz,
Prediction of the Failure Locus of Fiber Reinforced Composites under Combined Transverse Compression and Axial Tension through Computational Micromechanics
- Elias C. Aifantis,
Nanomaterials and Nanomechanics
- Maria Carolina Freitas, J.A. Castro, and L.M. Pessanha,
Elastoplastic finite element analysis for porous metals
- Stefan Grütznier, Bernard Fedelich, Günther Walz, Birgit Rehmer, and Axel Kranzmann,
Material Modelling and Lifetime Prediction of Ni-base Gas Turbine Blades under TMF Conditions
- Jacek M. Bajkowski,
Research of Transient Response of Complex Beam With Granular Core
- Victor Mykhas'kiv and Tetyana Slobodeniuk,
Comparative analysis of elastic wave fields in three-dimensional matrix with the spherical inclusion in conditions of the ideal and smooth contact
- Sébastien Nadler, Romain Quey, Fabrice Barbe, and Henry Proudhon,
A topology-reconstruction method for automated meshing of voxel-based polycrystals
- Aldis Kalpinsh and Vairis Shtrauss,
Modelling Parameter-Property Relationships of Relaxation Measurements for Parameter Recognition Problems
- Yusup Sayfutdinov and Pavel Bychkov,
Experimental identification of growing plate model
- SeungGu Kang, KwangBok Shin, EunKyu Lee, IlRo Yoon, and JongHwa Lee,
A Study on Joints for Composite Material Application in High-Speed Maglev Train
- Weronika Bończyk,
The Use of 3D Method in Energy-based Models' Approximation

- Václav Nežerka, Bořek Patzák and Jan Zeman,
Finite Element Analysis of Masonry Bed-Joint Damage
- Mokarram Hossain, Bastian Walter, Prashant Saxena, and Paul Steinmann,
Iron-filled polymers for magneto-rheological elastomers: Experimental study and constitutive modelling
- Maja Stepień, Łukasz Figiel, and Andrzej Gałęski,
Modelling of biodegradable thermoplastics and their nanocomposites during melt processing
- Tatyana Ulyanova, Aitalina Okhlopkova, Anastasiya Parnikova, Nikolai Krutko, and Lyudmila Ovseenko,
Influence of Nanostructured Alumina Filler on the Structure and Properties of Polymer Composites
- Dániel Tüzes and Péter Dusán Ispánovity,
A mesoscopic stochastic model for micron-scale plasticity
- Wolfram Nöhring, Erik Bitzek, and Yoshitaka Umeno,
Atomic Scale Analysis of Structural Instability in Nanostructures
- Sebastian Borsch and Albrecht Bertram,
Constitutive modeling of a polymer and its composite
- Bennamia Ismail, Badereddine Aimad-Eddine, and Yahia Cherif Mansour,
A Classical Finite Element Beam for Free Vibration Analysis of a Model of Composite Light Aircrafts

Session I - Plasticity

Chair - Frédéric Barlat

- 9.00-9.20 Stéphane Berbenni, Vincent Taupin, and Claude Fressengeas,
A FFT-based approach for solving elastic fields of continuum dislocation mechanics
- 9.20-9.40 Jan Bielski and Błażej Skoczeń,
Multiscale constitutive model of discontinuous plastic flow (DPF) at cryogenic temperatures
- 9.40-10.00 István Groma, Péter Dusán Ispánovity, Géza Györgyi, and Zoltán Vándrus,
Scale free phase field theory of dislocations
- 10.00-10.20 Grzegorz Maciejewski,
Influence of dislocations on a crystal density: Atomistic and continuum modelling
- 10.20-10.40 Coffee break

Session II - Plasticity

Chair - Stefanie Reese

- 10.40-11.00 Sanda Cleja-Tigoiu and Raisa Paşcan,
Dissipative Non-local Models with Dislocations in Finite Elasto-Plasticity
- 11.00-11.20 Doyl Dickel, Katrin Schulz, Severin Schmitt, and Peter Gumbsch,
A Continuum Formulation of Stress Correlations of Dislocations in Two Dimensions
- 11.20-11.40 Rolf Mahnken and Frederik Hankeln,
Thermodynamic consistent modelling of polymer curing coupled to visco-elasticity at large strains
- 11.40-12.00 Antoinette Maniatty and Payman Karvanirabori,
Thermal-Mechanical Modeling of Single Crystal GaN and AlN
- 12.00-14.00 Lunchtime

Session III - Plasticity

Chair - Bernard Fedelich

- 14.00-14.20 Jisik Choi, Myoung-Gyu Lee, and Frédéric Barlat,
Simple shear flow behavior of advanced high strength steel sheets
- 14.20-14.40 Grażyna Ziętek and Zenon Mróz,
Modelling martensitic transformation induced by plastic strain: analysis of free energy function
- 14.40-15.00 Laurent Delannay and Sylvain Dancette,
Crystal plasticity modelling of TWIP steels
- 15.00-15.20 Ming Liu, Henry Proudhon, Vladislav Yastrebov, Brice Arrazat, and Karim Inal,
Finite Element Analysis of the Contact Behavior of Rough Surface
- 15.20-15.40 Coffee break

Session IV - Plasticity

Chair - Sanda Cleja-Tigoiu

- 15.40-16.00 Mohamed Zaaf, Abdelmalek Mebarek, Abdennacer Lemoui, and Salem Chabour,
Sensibility evaluation of rolling with anisotropy
- 16.00-16.20 Dominik Głowacki and Krzysztof Kozakiewicz,
Numerical simulation of the formation of the neck in heterogeneous material
- 16.20-16.40 Piotr Minakowski,
Plasticity of crystalline solids treated as material flow through adjustable crystal lattice

Gala Dinner

18.00-21.00

Session I - Inverse problems and optimisation in multiscale modelling

Chair - Piotr Breitkopf

- 9.00-9.20 Maciej Pietrzyk, Monika Pernach, and Roman Kuziak,
Inverse approach to the design of controlled cooling of rails
- 9.20-9.40 Liang Xia, Balaji Raghavan, Piotr Breitkopf, and Weihong Zhang,
Numerical material representation using proper orthogonal decomposition and diffuse approximation
- 9.40-10.00 Łukasz Sztangret, Jan Kusiak, and Maciej Pietrzyk,
Evaluation of possibility of application of various metamodels to inverse analysis of material tests
- 10.00-10.20 Łukasz Rauch and Maciej Pietrzyk,
Dedicated computer system for comparison of ANN and Kriging-based metamodels for identification of material models
- 10.20-10.40 Coffee break

Session II - Inverse problems and optimisation in multiscale modelling

Chair - Maciej Pietrzyk

- 10.40-11.00 Olga Bocharova,
Reconstruction of the properties of heterogeneous materials
- 11.00-11.20 Przemysław Makowski and Waław Kuś,
Evolutionary optimization of bone scaffolds geometry
- 11.20-11.40 Sławomir Czarnecki, Tomasz Lewiński and Paweł Wawruch,
The Free Material Design leads to the Locking Material Problem
- 11.40-14.00 Lunchtime

Session III - Nano- to macromechanics

Chair - Céline Gérard

- 14.00-14.20 Péter Dusán Ispánovity, Ádám Hegyi, István Groma, Géza Györgyi and Daniel Weygand,
Statistical properties of micron-scale crystal plasticity
- 14.20-14.40 Igor Berinskii and Anton Krivtsov,
Oscillations of graphene membranes
- 14.40-15.00 Ryszard Wojnar, Piotr Wojnar, and Tomasz Wojtowicz,
Calculations of strain induced energy gap variation in ZnTe/ZnMgTe core/shell nanowires
- 15.00-15.20 Ivan Zubko, Vladimir Kochurov, and Maksim Simonov,
Energy-based approach to computation of finite sized HCP-metal specimens elastic properties
- 15.20-15.40 Coffee break

Session IV - Nano- to macromechanics

Chair - István Groma

- 15.40-16.00 Jianyang Wu, Shijo Nagao, Jianying He, and Zhiliang Zhang,
Plasticity and High Toughness of CNT Nanosprings
- 16.00-16.20 Samvel Sargsyan and Anahit Farmanyan,
General Theory of Statics of Micropolar Elastic Multilayered Thin Shells
- 16.20-16.40 Alicja Piasecka-Belkhat and Anna Korczak,
The interval lattice Boltzmann method for transient heat transport in two-dimensional silicon thin film

Gala Dinner

18.00-21.00

Session I - Granular materials and particle systems

Chair - Joanna Wiącek

- 9.00-9.20 Jerzy Rojek, Carlos Labra, and Izabela Marczevska,
Influence of parameter evaluation on failure mode in discrete element models of rock materials
- 9.20-9.40 Marion Trombini, Carole Nadot-Martin, Damien Halm, Gérald Contesse,
and Alain Fanget,
Particle size effect in highly-filled particulate composites: multiscale damage modelling with a "Morphological Approach"
- 9.40-10.00 Szymon Nosewicz, Jerzy Rojek, Katarzyna Pietrzak, and Marcin Chmielewski,
Numerical modeling of stresses in composites manufactured by powder metallurgy

10.00-10.40 Coffee break

Session II - Granular materials and particle systems

Chair - Jerzy Rojek

- 10.40-11.00 Ryan Austin and David L. McDowell,
A model of high-strain-rate metal viscoplasticity with application to powder shock compression
- 11.00-11.20 Joanna Wiącek and Marek Molenda,
Effect of particle size distribution on the energy dissipation and mechanical response of packings of spheres under compressive loading
- 11.20-11.40 Gautham Manoharan, Ajay Mandyam, Abram Kakkozha, Ashwin Kolappan,
Karthik Vajapeyajula, Mahesh Panchagnula, and Srikanth Vedantam,
Experimental study of dense bi-disperse granular flow through a pipe with a ninety degree bend
- 11.40-14.00 Lunchtime

Session III - Phase transitions, twinning and shape memory effects

Chair - Rainer Glüge

- 14.00-14.20 Barbora Benešová, Martin Kružík, and Gabriel Pathó,
A mesoscopic thermomechanically-coupled model for thin-film shape-memory alloys by dimension reduction and scale transition
- 14.20-14.40 Gottfried Laschet and Markus Apel,
Effective thermo-elastic and plastic flow properties of 3-D Fe-Mn-C steel microstructure simulated by the phase-field method via homogenization techniques
- 14.40-15.00 Shyamal Roy, Rainer Glüge and Albrecht Bertram,
Microscale Modeling of Multiple and Higher Order Deformation Twinning
- 15.00-15.20 Michael Budnitzki and Meinhard Kuna,
A constitutive model for phase transitions in Si incorporating nonlinear elastic behavior at finite strain
- 15.20-15.40 Coffee break

Gala Dinner

18.00-21.00

Session I - Composite materials

Chair - Andreas Menzel

9.00-9.20 Mohammed Saidi, Brahim Safi, Madjid Samar, Abdelbaki Benmounah, and Messaoud Hamaine

Formulation and physicochemical characterization of ultra-high performance fiber concrete based of sand dunes (UHPFC)

9.20-9.40 Jörg Hohe, Hanna Paul, and Carla Beckmann,

A numerical model for prediction of the uncertainties in long fibre reinforced thermoplastics

9.40-10.00 Kodanda Ram Mangipudi, Eike Epler, Lorenz Holzer, and Cynthia A. Volkert,

Elastoplastic behaviour of interpenetrating phase composites: Combining mechanics of cellular solids with mean-field theory

10.00-10.20 Filip Siska, Arwa Tawfeeq, and Matthew Barnett,

Stiffness of damaged micro-truss structures

10.20-10.40 Coffee break

Session II - Scale transition and homogenization

Chair - Bob Svendsen

10.40-11.00 Rafał Ortwein and Błażej Skoczeń,

Micromechanics based constitutive modeling of martensitic transformation in metastable materials subjected to torsion at cryogenic temperatures

11.00-11.20 Stéphane Berbenni and Laurent Capolungo,

Homogenization schemes for elastic-viscoplastic heterogeneous materials based on an "affine" extension of the "Translated Fields" method

11.20-11.40 Anastasiia Krushynska, Kim Pham, Varvara Kouznetsova, and Marc Geers,

Transient computational homogenization for locally resonant acoustic metamaterials

11.40-12.00 Abdellah Salahouelhadj, Katarzyna Kowalczyk-Gajewska, Christophe Czarnota, and Sébastien Mercier,

Modelling of the cyclic behavior of elasto-viscoplastic composites by a Mori Tanaka approach and validation by Finite Element Calculations

12.00-14.00 Lunchtime

Session III - Scale transition and homogenization

Chair - Ron H.J.Peerlings

14.00-14.20 Markus Hütter, Bob Svendsen, and Theo Tervoort,

Fluctuation-based viscoplasticity and the issue of dissipation potentials

14.20-14.40 Michał Kurśa and Henryk Petryk,

Modelling of Deformation Banding in Grains of Polycrystalline Metals

14.40-15.00 Alexandre Ilchev, Vincent Marcadon, Serge Kruch, Bertrand Langrand, and Samuel Forest,

Periodic homogenization of an anisotropic elastic-plastic compressible material: application to cellular core sandwich structures

15.00-15.20 Céline Chesnais, Claude Boutin, and Stéphane Hans,

Effects of the local resonance in periodic reticulated materials

15.20-15.40 Coffee break

Session IV - Scale transition and homogenization

Chair - Henryk Petryk

15.40-16.00 Ron H.J.Peerlings, Leong Hien Poh, and Marc G.D. Geers,

Homogenisation towards grain size and structural size dependent plasticity

16.00-16.20 Paweł Hołobut,

The size of the representative volume element and its effect on the averaged properties of materials

16.20-16.40 Kenneth Runesson and Fredrik Larsson,

On Variationally Consistent Homogenization and the Role of a Generalized Hill-Mandel condition

Gala Dinner

18.00-21.00

Session I - Computational modelling of materials with microstructures

Chair - Kazutake Komori

- 9.00-9.20 Arina Marchenko, Matthieu Mazière, and Samuel Forest,
Dynamic and static strain aging modelling in polycrystalline alpha titanium
- 9.20-9.40 Nina-Carolin Fahlbusch, Wilfried Becker, and Vladimir A. Kolupaev,
Numerical and experimental investigation of closed-cell foams, focusing on failure
- 9.40-10.00 Tomasz G. Zieliński,
Modelling Sound Waves in Rigid Porous Media Using Regular and Random Periodic Representations of Microstructure
- 10.00-10.20 Bach Tuyet Trinh and Klaus Hackl,
Phase Field Approach for Damage Viscoplasticity and Microstructure Evolution in Ni-based superalloys
- 10.20-10.40 Coffee break

Session II - Computational modelling of materials with microstructures

Chair - Zdzisław Nowak

- 10.40-11.00 Rian Seghir, Jean-François Witz, Eric Charkaluk, and Philippe Dufrénoy,
Energy balances within metallic polycrystals: numerical and experimental perspective
- 11.00-11.20 Wolfram Nöhring, Arun Prakash, and Erik Bitzek,
A Coupled Finite Element Polycrystal Texture model of the Accumulative Roll Bonding Process
- 11.20-11.40 Piotr Pawluk, Antoine Brehier, Michał Kopcewicz, and Wiesław Świątnicki,
Experimental verification of phase composition obtained for computational modelling of phase transformations based on displacive mechanism in low alloy steels after quenching or austempering
- 11.40-14.00 Lunchtime

Gala Dinner

18.00-21.00

Conference Timetable

Sunday		WELCOME PARTY					
17.00-20.00	Lecture Hall	Room 107	Room 207	Room 111	Room 114	Room 308	
9.00-10.20	Viscoplasticity	Aeronautic materials	Atomistic and ab initio modelling of materials	Strain gradient and nonclassical approaches	Computational modelling of materials with microstructures		
10.40-12.00	Viscoplasticity	Aeronautic materials	Atomistic and ab initio modelling of materials	Strain gradient and nonclassical approaches	Computational modelling of materials with microstructures	Material theory	
12.00-14.00	Lunchtime						
14.00-15.20	Viscoplasticity	Fracture mechanics	Atomistic and ab initio modelling of materials	Strain gradient and nonclassical approaches	Computational modelling of materials with microstructures	Material theory	
15.40-17.00	Viscoplasticity	Interfacial mechanics	Atomistic and ab initio modelling of materials	Coupled field problems	Computational modelling of materials with microstructures	Material theory	
9.00-10.20	Biomechanics	Interfacial mechanics	Atomistic and ab initio modelling of materials	Coupled field problems	Computational modelling of materials with microstructures		
10.40-12.00	Elasticity and viscoelasticity	Damage, fatigue, reliability and lifetime prediction	Experimental identification and material characterization	Coupled field problems	Computational modelling of materials with microstructures	Stochastic material modelling	
12.00-14.00	Lunchtime						
14.00-15.40	Elasticity and viscoelasticity	Damage, fatigue, reliability and lifetime prediction	Experimental identification and material characterization	Composite materials	Finite elasticity		
16.00-18.00	Poster Session						
9.00-10.20	Plasticity	Inverse problems and optimisation in multiscale modelling	Granular materials and particle systems	Composite materials	Computational modelling of materials with microstructures		
10.40-12.00	Plasticity	Inverse problems and optimisation in multiscale modelling	Granular materials and particle systems	Scale transition and homogenization	Computational modelling of materials with microstructures		
12.00-14.00	Lunchtime						
14.00-15.20	Plasticity	Nano- to macromechanics	Phase transitions, twinning and shape memory effects	Scale transition and homogenization			
15.40-16.40	Plasticity	Nano- to macromechanics		Scale transition and homogenization			
18.00-21.00	GALA DINNER						
Wednesday							