Program

room Badas

Monday 25/09/2023

9:00-9:30 **Opening and welcome**

MS "Peridynamics and its Applications"

9:30-10:00 Erkan Oterkus (University of Strathclyde, UK)
"TBA"

10:00-10:30 Barjoui Arman Shojaei (Helmholtz-Zentrum Hereon, Germany)
"TBA"

10:30-11:00 Adem Candaş (Istanbul Technical University, Turkey)
"Impact modeling of functionally graded materials using state-based Peridynamics"

11:00-11:30 Coffee break

11:30-12:00 Alexander Hermann (Helmholtz-Zentrum Hereon, Germany)
"TBA"

MS "Computational methods for modelling complex media"

12:00-12:30 Kerstin Weinberg (Universität Siegen, Germany)
"Microstructured cellular material under static and dynamic loading - experiments and numerical simulations"

12:30-13:00 Bilen Emek Abali (Uppsala University, Sweden)
"Damage formulation in strain gradient elasticity and simulation by means of a mixed finite element method"

13:00-14:30 Lunch

14:30-15:00 Victor Eremeyev (University of Cagliari, Italy)
"On ellipticity and infinitesimal stability in generalized elasticity"

15:00-15:30 Luca Placidi (UniNettuno University, Italy)
"TBA"

15:30-16:00 Anil Misra (The University of Kansas, USA)
"TBA"

16:00-16:30 Coffee break

16:30-17:00 Reza Afshar (Uppsala University, Sweden)
"Effect of medullary rays on mechanical properties of wood by micro-CT analysis"

17:00-17:30 Ioan R. Ionescu (University Sorbonne Paris Nord, France)
"Wave propagation in cracks-architectured meta-materials"

17:30-18:00 Yu Fan (Beihang University, China)
"TBA"

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Tuesday 26/09/2023

9:00-10:00 Plenary: Sébastien Candel (Université Paris-Saclay, France)
Levi-Civita Prize 2021

MS "Dynamics of heterogeneous and discontinuous materials and structures"

10:00-10:30 Sergey Grishechkin (PTC Inc.)
"Design of lattice structures in PTC Creo"

10:30-11:00 Elena Atroshchenko (University of New South Wales UNSW, Australia)
"Piezo-electric meta-materials for simultaneous energy harvesting and sensing"

11:00-11:30 Coffee break

11:30-12:00 Mikhail Poluektov (University of Dundee, UK)
"Propagation and stability of stress-affected transformation fronts in solids"

12:00-12:30 Igor Ostanin (University of Twente, the Netherlands)
"Discrete element method as a tool to model mechanics of microstructures and metamaterials"

12:30-13:00 Viacheslav Slesarenko (University of Freiburg, Germany)
"Metamaterials with curvy elements: prediction and generation via deep generative models"

13:00-14:30 Lunch

14:30-15:30 Plenary: Jean-François Molinari (EPFL), Switzerland
Beltrami Prize 2021

MS "Dynamics of heterogeneous and discontinuous materials and structures"

15:30-16:00 Pavel Galich (Technion — IIT, Israel)
"Designing phononic crystals based on symmetry groups"

16:00-16:30 Coffee break

16:30-17:00 Igor Berinskii (Tel Aviv University, Israel)
"Dynamics and homogenization of bio-inspired random fiber networks"

17:00-17:30 Pavel Trapper (Ben-Gurion University of the Negev, Israel)
"Numerical modelling of submarine landslides"

17:30-18:00 Maor Shuminov (Technion — IIT, Israel)
"Impact response of 2D bistable lattices"

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Wednesday 27/09/2023

9:00-9:45 Vincent Tournat (Le Mans Université, France),
"Non-linear waves in flexible mechanical metamaterials: fundamentals and opportunities"

9:00-10:30 Francesco dell'Isola (University of L'Aquila, Italy)
"The problem of synthesis of metamaterials"

10:30-11:00 Massimo Cuomo (University of Catania, Italy)
"Hierarchical design of metamaterials made of TPMS"

11:00-11:30 Coffee break

MS "Multiphysics metamaterials for wave propagation and vibration control"

11:30-12:00 Gabriele Cazzulani (Politecnico di Milano, Italy)
"Piezoelectric waveguide for Space-time modulation"

12:00-12:30 Florian Allein (ISEN Lille),
"Space-time modulation of piezoelectric phononic crystals"

12:30-13:00 Boris Lossouarn (Cnam, France),
"Analogous piezoelectric networks for the design of highly damped metastructures"

13:00-14:30 Lunch

14:30-15:30 Plenary: Emanuela del Gado (Georgetown University, USA),
" Microscopic stresses and stress relaxation in soft amorphous materials" (on line)

MS "Computational methods for modelling complex media"

15:30-16:00 Patrick Kurzeja (TU Dortmund University, Germany)
"Modelling instabilities in fluid-filled structures to achieve attenuation at low frequencies with smart design"

16:00-16:30 Coffee break

16:30-17:00 Erden M. Yildizdag (University of Sassari, Italy),
"A discrete element method framework to investigate mechanical behavior of masonry structures"

17:00-17:30 Christophe Droz (Inria, Univ. Gustave Eiffel, France)
"Efficient structure-preserving algorithms for calculating complex band diagrams in periodic metamaterials"

17:30-18:00 Romain Rumpler (KTH Royal Institute of Technology, Sweden)
"Control and inverse characterisation of full anisotropic open-cell periodic structures"

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Thursday 28/09/2023

9:00-10:00 Plenary: Stéphane Bordas (Université du Luxembourg, Luxembourg)
Beltrami Prize 2022

MS "Bridging the nano-to-micro mesoscale"

10:00-10:30 Benoit Coasne (CNRS, France),
"Dynamics in compliant nanoporous materials: Coupling multiscale dynamics and mechanics"

10:30-11:00 Guido Raos (PoliMI, Italy), "Coupled electrical-mechanical phenomena in lithium batteries" (or, "Mechanics of polymer chains, networks, and nanocomposites")

11:00-11:30 Coffee break

11:30-12:00 Giovanni di Luzio (PoliMI, Italy),
"Discrete modeling of self-healing materials"

12:00-12:30 Enrico Masoero (Cardiff University, UK),
"Kinetic Monte Carlo simulations of chemomechanical processes during microstructure evolution"

12:30-13:00 György Hantal (BOKU, Austria),
"Bridging timescales by rare event simulations: Rate and mechanism of nucleation of a simple salt from water"

13:00-14:30 Lunch

14:30-15:00 Katerina Ioannidou (CNRS, France),
"Fundamentals of cement poromechanics"

15:00-15:30 Emilio Barchiesi (University of Sassari, Italy),
"An energy-based discrete modeling of damageable elasto-plastic masonry walls"

15:30-16:00 Yannick Hoarau (University of Strasbourg, France)
"TBA"

16:00-16:30 Coffee break

16:30-17:00 Raffaeela Cabriolu (Norwegian University of Science and Technology, Norway)
"Effect of Organic Ions on bubbles cavitation: A Molecular Dynamics Study"

17:00-17:30 Christophe Labbez (CNRS, France),
"Chemical equilibrium under mechanical stress" (on line)