

JUNE 29, WEDNESDAY

ROOM A

Morning Session

CHAIRMAN I.G. GORYACHEVA

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| 9:15 – 9:30 | OPENING CEREMONY |
| 9:30 – 10:10 | E.A. Ivanova, A.M. Krivtsov, N.F. Morozov, B.N. Semenov, A.D. Firsova. Nanomechanics: Continuum and Discrete Approaches |
| 10:10 – 10:50 | D.P. Boso, M. Lefik, B.A. Schrefler. Multiscale Modelling for Composites Including Continuum to Discrete Linkage |
| 10:50 – 11:30 | A. Castellanos. Correlation Between Interparticle Forces and Bulk Behaviour in Fine Powders |

Break

ROOM B

CHAIRMAN A. CASTELLANOS

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| 11:40 – 12:00 | W. Bi, N. Taberlet, P. Richard, A. Valance, R. Delannay. 2D and 3D Granular Chute Flows |
| 12:00 – 12:20 | E.F. Grekova, G.C. Herman. Wave Propagation in Rocks and Soils Modelled as Inhomogeneous Reduced Cosserat Continuum |

Coffee break

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| 12:40 – 13:00 | I. Iordanoff, Y. Berthier. Relationships Between Local Energy Dissipation and Macroscopic Friction in a Cohesive Granular Media under Plane Shearing Conditions |
| 13:00 – 13:20 | I.S. Pavlov, A.I. Potapov, G.A. Maugin. On the Influence of Grain Size on the Macroproperties of a Granular Medium |
| 13:20 – 13:40 | S.A. Timan, M.Yu. Shamaev, V.G. Oshmyan. Micromechanical Modelling of Deformation and Fracture of Voided Polycrystalline Polymer |

Evening Session

CHAIRMAN E.F. GREKOVA

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| 15:30 – 15:50 | L. Blanc, C. Blanzé, P. Ladevèze. A Multiscale “Trefftz” Computational Method for Medium-Frequency Vibrations of Assemblies of Heterogeneous Plates |
| 15:50 – 16:10 | A.B. Movchan. Asymptotics of Eigenfrequencies for Parameter Dependent Structures of Elastic Shells and 3D Solids |
| 16:10 – 16:30 | V.I. Erofeyev, A.G. Pegushin, S.F. Sheshenin. Modeling the Interaction of Ultrasonic Elastic Wave with Vibration Fields in Solids with Microstructure |

Coffee break

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| 16:50 – 17:10 | A.A. Zelenina, L.M. Zubov. Theory of Bending and Twisting of Elastic Bodies with Microstructure under Finite Deformations |
| 17:10 – 17:30 | M.Yu. Gutkin, A.G. Sheinerman, T.S. Argunova, E.N. Mokhov. Elastic Interaction of Dislocated Micropipes with Polytype Inclusions in SiC |
| 17:30 – 17:50 | Yu.S. Borisov, M.A. Guzev. On Necessity of Taking into Account an Internal Energy Characteristics of the Material when Modeling by Means of Molecular Dynamics Method |
| 17:50 – 18:10 | M.A. Guzev, I.M. Kolgotin. The Way Model Parameters Changing Influences on Area of Thin Uniform Rod Destruction during Its Straining |

JUNE 30, THURSDAY

ROOM A

Morning Session

CHAIRMAN A.M. KRIVTSOV

- 9:30 – 10:10** **I.G. Goryacheva.** Multi-Scale Analysis in Contact Mechanics
10:10 – 10:50 **P.A. Zhilin.** Some Problems of the Nonlinear Rod Theory
10:50 – 11:30 **K.P. Chong.** Nano Science and Engineering in Mechanics

Break

ROOM B

CHAIRMAN V.A. EREMEYEV

- 11:40 – 12:00** **K.E. Aifantis, J.R. Willis.** Modeling Interfaces Through Strain-Gradient Plasticity for an Axially Symmetric Configuration
12:00 – 12:20 **W.A.M. Brekelmans, L.P. Evers, M.G.D. Geers, C. Bayley.** Crystal Plasticity with Dislocation (Gradient) Governed Hardening
12:20 – 12:40 **V.M. Yarushina.** One Family of Non-Classical Models of Nonlinear Elasticity and Creep

Coffee break

- 13:00 – 13:20** **N. Bilger, F. Auslender, M. Bornert, A. Zaoui.** New Bounds and Estimates for Porous Media: Effect of a Non Uniform Distribution of Voids on the Plastic Response of Voiced Materials
13:20 – 13:40 **E.L. Aero.** Some Applications of a Nonlinear Micromechanics for Media with Irreversibly Modified Discrete Structure

Evening Session

CHAIRMAN A.D. SERGEYEV

- 15:30 – 15:50** **M. Holecek, F. Moravec.** A Simple Two-Scale Model of Smooth Muscle Tissue
15:50 – 16:10 **D.-Y. Jung, S. Tsutsumi.** A Numerical Simulation of Bone-Remodeling Processes. Periprostheses Bone-Remodeling Caused by High Stresses Following Hip Arthroplasty

Coffee break

CHAIRMAN A.B. FREIDIN

- 16:30 – 16:50** **V.A. Eremeyev.** On Phase Equilibrium in Gradient Elasticity
16:50 – 17:10 **A.B. Freidin, Y.B. Fu, L.L. Sharipova, E.N. Vilchevskaya.** Equilibrium and Stability of Two-Phase Deformations
17:10 – 17:30 **S.N. Gavrillov.** Dynamics of a Free Phase Boundary in an Elastic Bar with Variable Cross-section Area
17:30 – 17:50 **E.N. Vilchevskaya.** Initial State of Heterogeneous Deformation of Solids Due to Multiple Appearance of New Phase Ellipsoidal Nuclei
17:50 – 18:10 **L.L. Sharipova.** Stability of Two-Phase Piecewise-Homogeneous Deformations in Relation with Phase Transition Zones

JULY 1, FRIDAY

ROOM A

Morning Session

CHAIRMAN V.A. EREMEYEV

- 9:30 – 10:10** **E.V. Lomakin, H.-J. Christ.** Deformation of Elastic Material with Stress-State-Dependent Properties at the Crack Tip under Longitudinal Shear Conditions
- 10:10 – 10:50** **D.A. Indeitsev.** Influence of the Kinetics of Processes on the Behavior of Thin Structures in a Continuous Medium
- 10:50 – 11:30** **G.A. Leonov.** Stability and Oscillation of Systems with Cylindrical Phase Space

Break

ROOM B

CHAIRMAN A.M. KRIVTSOV

- 11:40 – 12:20** **M. Ciavarella, G. Demelio.** A Review on Recent Studies on Conductance of Multiscale Rough Random Surfaces
- 12:20 – 12:40** **V. Kouznetsova, M.G.D. Geers, W.A.M. Brekelmans.** An Advanced Computational Homogenization Technique for Multi-Scale Modelling of Ductile Damage

Coffee break

- 13:00 – 13:20** **S. Lurie, D. Volkov-Bogorodskii, V. Zubov, N. Tuckova.** Multi-Scale Modeling of Interphase Layer in Mechanics of Heterogeneous Mediums. Applications for the Filled Composites
- 13:20 – 13:40** **I. Monetto.** An Anisotropic Damage Model for Interfacial Failure in Multi-Phase Materials
- 13:40 – 14:00** **A.R. Podgaets, E.A. Kudrina.** Effective Properties of Composites Reinforced with Carbon Nanotubes

Evening Session

CHAIRMAN A.V. METRIKINE

- 15:30 – 16:10** **N. Pugno.** New Criteria in Quantized Fracture Mechanics: Applications at Nanoscale
- 16:10 – 16:30** **I.V. Simonov, N. Pugno.** Quantum-Continuous Model of the Dynamic Fragmentation Due to Large Explosion

Coffee break

- 16:50 – 17:10** **A.V. Metrikine.** The Causality Principle and the Gradient Elasticity Models
- 17:10 – 17:30** **E. Klotins.** Nonlinear Fokker-Planck Equation for Nonlocal and Nonconservative Model Hamiltonians: Symplectic Integration and Application to Metastable Ferroelectrics
- 17:30 – 17:50** **E. Rohan.** On Homogenization of Double Diffusion Deformable Media
- 17:50 – 18:10** **V.I. Kolesnikov, A.I. Zadorozhnyi.** Method of Regularization of Singular Perturbations, Turning Points and Problem of Concentration Peak of Gas Admixture in Metal