JUNE 29, WEDNESDAY

ROOM A

Morning Session

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.** Mechanics and Nanomechanics

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 Tensile Stresses in Fine Powders

Break

ROOM B

11:40 – 12:00 **D. Harris.** Granular Flow: a New Plasticity Model Containing a Length Scale

12:00 – 12:20 **W. Bi, N. Taberlet, P. Richard, A. Valance, R. Delannay.** 2D and 3D Granular Chute Flows

12:20 – 12:40 **Q.-C. He.** On the Micromechanical Definition of Macroscropic Strain and Strain-Rate Tensors for Granular Materials

Coffee break

13:00 – 13:20 **E.F. Grekova, G.C. Herman.** Wave Propagation in Rocks and Soils Modelled as Inhomogeneous Reduced Cosserat Continuum

13:20 – 13:40 **I. Iordanoff, Y. Berthier.** Relationships Between Local Energy Dissipation and Macroscopic Friction in a Cohesive Granular Media under Plane Shearing Conditions

13:40 – 14:00 **I.S. Pavlov, A.I. Potapov, G.A. Maugin.** On the Influence of Grain Size on the Macroproperties of a Granular Medium

Evening Session

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

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 **S.A. Timan, M.Yu. Shamaev, V.G. Oshmyan.** Micromechanical Modelling of Deformation and Fracture of Voided Polycrystalline Polymer

17:30 – 17:50 **M.Yu. Gutkin, A.G. Sheinerman, T.S. Argunova, E.N. Mokhov.** Elastic Interaction of Dislocated Micropipes with Polytype Inclusions in SiC

17:50 – 18:10 **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

18:10 – 18:30 **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

9:30 – 10:10 **I.G. Goryacheva.** Multi-Scale Analysis in Contact Mechanics

10:10 – 10:50 **P.A. Zhilin.** Some Nonlinear Problems of the Rod Theory

10:50 – 11:30 **K.P. Chong.** Nano Science and Engineering in Mechanics

Break

ROOM B

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 Voided Materials

13:20 – 13:40 **G. Bonnet.** A Closed-Form Solution for the Effective Properties and Local Stresses Related to Some Periodic Elastic Media

13:40 – 14:00 **I.M. Gitman, H. Askes, L.J. Sluys.** Multi-Scale Modelling: Local and Non-Local Schemes

Evening Session

15:30 – 15:50 **D.-Y. Jung, S. Tsutsumi.** A Numerical Simulation of Bone-Remodeling Processes. Periprosthesis Bone-Remodeling Caused by High Stresses Following Hip Arthroplasty

15:50 – 16:10 **M. Holecek, F. Moravec.** A Simple Two-Scale Model of Smooth Muscle Tissue

Coffee break

16:30 – 16:50 **V.I. Kondaurov.** The Scalar and Tensorial Kinetics of Phase Transformations in Solids

16:50 – 17:10 **V.A. Eremeyev.** On Phase Equilibrium in Gradient Elasticity

17:10 – 17:30 **A.B. Freidin.** Equilibrium and Stability of Two-Phase Deformations

17:30 – 17:50 **S.N. Gavrilov.** Dynamics of a Free Phase Boundary in an Infinite Elastic Rod

17:50 – 18:10 **E.N. Vilchevskaya.** Initial State of Heterogeneous Deformation of Solids Due to Multiple Appearance of New Phase Ellipsoidal Nuclei

18:10 – 18:30 **L.L. Sharipova.** Stability of Two-Phase Piecewise-Homogeneous Deformations in Relation with Phase Transition Zones

JULY 1, FRIDAY

ROOM A

Morning Session

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

Break

ROOM B

11:00 – 11:40 **M. Ciavarella, G. Demelio.** A Review on Recent Studies on Conductance of Multiscale Rough Random Surfaces

11:40 – 12:00 **G. Szefer, D. Jasinska.** Modelling of Stresses and Deformations at the Nanosize Level

Coffee break

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

12:40 – 13:00 **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

13:00 – 13:20 **I. Monetto.** An Anisotropic Damage Model for Interfacial Failure in Multi-Phase Materials

13:20 – 13:40 **S.L. Dudarev.** Lattice and Continuum Models in the Treatment of Point Defects and Dislocations

13:40 – 14:00 **A.R. Podgaets, E.A. Kudrina.** Effective Properties of Composites Reinforced with Carbon Nanotubes

Evening Session

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.L. Aero.** Some Applications of a Nonlinear Micromechanics for Media with Irreversibly Modified Discrete Structure

17:30 – 17:50 **E. Klotins.** Nonlinear Fokker-Planck Equation for Nonlocal and Nonconservative Model Hamiltonians: Symplectic Integration and Application to Metastable Ferroelectrics

17:50 – 18:10 **E. Rohan.** On Homogenization of Double Diffusion Deformable Media

18:10 – 18:30 **V.I. Kolesnikov, A.I. Zadorozhnyi.** Method of Regularization of Singular Perturbations, Turning Points and Problem of Concentration Peak of Gas Admixture in Metal