

# Pre-nominated Session FSM6

## Multiscale phenomena in mechanics

Co-Chair(s):        **A. Carpinteri (Italy)**  
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<b>Paper ID</b>	<b>Title</b>	<b>Authors</b>
FSM6S_10399	Simulations of Micro - and Nano - Channel Flows by a Dissipative Particle Dynamics Method	Justyna Czerwinska, Nikolaus A. Adams
FSM6L_11224	Multi - Scaling Approach in the Mechanics of Disordered Materials	Alberto Carpinteri, Simone Puzzi
FSM6S_11237	Grad - Type Expansion About Nonequilibrium States for the Relaxion - Time Approximation of the Boltzmann - Peierls Equation	Zbigniew Banach, Wieslaw Larecki
FSM6S_11340	Two - Scale Simulations of Epitaxial Surfaces	Heike Emmerich, Christof Eck
FSM6L_11471	A Geometrical Theory of Discrete Dislocations in Lattices, with Applications to Dislocation Dynamics and Crystal Plasticity	M. P. Ariza, M. Ortiz
FSM6L_11476	Stress - Defect Interactions at Molecular / Continuum Scales	Mathieu Bouville, Krishna Garikipati, Michael Falk
FSM6L_11806	Deterministic Size Effect in the Strength of Cracked Quasi - Brittle Structures	B. L. Karihaloo, H. M. Abdalla, Q. Z. Xiao
FSM6L_11830	Multi - Scale Second - Order Computational Homogenization of Heterogeneous Materials	V. Kouznetsova, M. G. D. Geers, W. A. M. Brekelmans
FSM6L_11862	Jumping of a Spinning Spheroid	Yutaka Shimomura, Michal Branicki, Keith Moffatt
FSM6S_12040	Characteristics of Orientation and Grain - Size Distributions	Luca Placidi, Kolumban Hutter
FSM6S_12078	Numerical Homogenization of a Locally Hyperelastic Constitutive Law	Antoine Gloria, Claude Le Bris
FSM6L_12112	Multiscale Analyses of Granular Media at Finite Strains Based on Micro - Macro Transitions with Different Boundary Constraints	Joachim Dettmar, Christian Miehe

FSM6L_12113	Exploitation of Incremental Energy Minimization Principles in Computational Multiscale Analyses of Inelastic Solids	Christian Miehe
FSM6S_12118	Non - Convex Homogenization of Inelastic Composites with Interaction of Material and Structural Instabilities on Different Scales	Martin Becker, Christian Miehe
FSM6L_12334	Physical Modeling of Fracture Mechanics in Complex Materials	Fabrizio Cleri, Luciano Colombo, Pier G. Gabrielli, Mariella Ippolito, Alessandro Mattioni
FSM6S_12336	Analysis of a Variational Method Coupling Discrete and Continuum Mechanics	Xavier Blanc, Claude Le Bris, Frederic Legoll