Computational Methods in Multi-scale, Multi-uncertainty and Multi-physics Problems

Paper ID	Paper Title	Author Name	Presentation Slot
274	A novel three-dimensional dual-scale method for contact mechanics problems	Alberto Carmine	**2.1.1**
232	Multi-Adaptive Framework for Computational Efficiency in Peridynamic Modeling: Applications in Material Science	Alexander Hermann	**1.1.7**
292	DFT investigation of the structure, elastic and optical properties of mineral qatranaite.	Anna Majtyka-Piłat	**2.1.3**
256	A Multicomponent Transeversely Isotropic Viscoelastic Model for Vascular Smooth Muscle Cells: The contribution of	Antonis Marousis	**2.2.33**
233	Peridynamic Elastic Wave Propagation in Infinite 2D Domains: Designing Nonlocal Dirichlet-Type Absorbing Boundary	Arman Shojaei	**2.1.10**
266	Thermodynamic equilibrium of large scale Monte Carlo magnetic simulations	Artur Chrobak	**2.2.23**
258	Solving Multiphase Flow Problems using Intelligent Finite Element Methods	Boyang Chen	**1.1.1**
260	Study on the Influence of Carbon Nanotubes on the Mechanical Behavior of a Cementitious Matrix Using a Multiscale	Carlos Felipe Guzman	**1.2.20**
246	Phase-field modelling for drying-induced cracks: from homogeneous to localized damage	Chenyi Luo	**1.1.18**
264	Unleashing Emergent Behavior: from Slime Molds to Swarm Robotics	Christian Peco	**2.2.28**
229	A Constitutive Formulation for Styrene-Based Shape Memory Polymers That Incorporates the Mullins Effect	Dun Li	**1.1.8**
240	Comparison of Hemodynamic Characteristics of Localized Aortic Valve Calcifications under Uniform and Helical LVOT Flows	EMRE CENK ERSAN	**2.1.16**
278	Modular Supercomputing for High-Performance Simulation of Diblock Copolymer and Solvent Mixtures	Farshid Mossaiby	**2.1.4**
280	An Auto-Regressive Deep Learning for Investigating Error Model in Computational Simulation of Contaminant Transport:	Fernando Alves Rochinha	**1.1.9**
275	On the modeling of particle cavitation in rubber-toughened amorphous polymers	Francisca Alves	**2.1.15**
250	Modeling of partially oriented spring-exchange magnetic composites	Grzegorz Ziółkowski	**1.2.21**
291	Automatic Identification of Macroscopic Constitutive Parameters for Polycrystalline Materials based on Computaional	Guilherme F Gonçalves	**1.1.13**
231	A Schwarz alternating collocation method for turbulent Rayleigh-Bénard	Henar Herrero	**2.1.13**
284	Physics informed neural network for solution of multispecies contaminant transport with variable parameters	honghan Du	**2.2.25**
249	Multi-scale effective elastic properties homogenization and finite element simulation of origami-inspired foldable structures	Israr Uddin	**1.1.16**
267	Multiscale modeling approaches for nonlinear porous thermoplastic polymers	Issam Doghri	**1.1.12**
293	A numerical model for heat transfer coefficient in flow boiling and condensation in a horizontal straight tube with	Ivan A Gonzalez	**2.2.17**
273	Investigation into the hygro-viscoelastic properties of fibre reinforced polymer composites via an asymptotic homogenization apporach	Juan Carlos Pina	**2.2.21**
216	Experimental and micromechanical modelling studies of the precipitate size effect on the creep response of P91 martensitic steels	Jundong Yin	**2.1.2**
281	Multiphase flow coupled modelling in deformable dual-porosity media: theoretical derivation and numerical case	Kai Wang	**2.2.18**
294	Structural properties of azopolymers for optoelectronic applications	Katarzyna Halina Filipecka-Szymczyk	**2.2.26**
241	Tri-phase Simulation of Cavitating Flow with Discrete Particles	Kwan Zhi Teh	**1.1.10**
265	Crossing scales in constitutive modeling of damage in elastomers	Laura Moreno Corrales	**2.2.27**
244	On the integration of domain knowledge and branching neural network for fatigue life prediction with small samples	Lei Gan	**1.1.17**
222	Multi-Scale Modelling and Characterization of Heterogenous Deformation in Austenitic Stainless Steel Welded Joints at Different Temperatures	Lifeng Gan	**2.1.8**
245	A DG-FEM Method for Fluid-structure Interaction Using Machine Learning Package	Linfeng Li	**2.2.24**
254	Homogenized descriptions for the elastoplastic response of polycrystalline solids: mean-field approximations vs. full-field	Loïc Chaix	**1.1.2**
277	Modeling plastic deformation and wear in contact problems by means of a multi-scale approach	Lucia Nicola	**2.1.6**
295	Computational Homogenisation of CNT Reinforced Nanocomposite Undergoing Large Deformation Considering Different	Masoud Ahmadi	**2.2.29**
283	Data-driven Derivation of Digital Twins from Conjugate, Multi-phase Food Processing Models	Maximilian Kannapinn	**2.1_9**
224	Data-driven constitutive modeling with symbolic regression	Mikhail Itskov	**2.2.16**
218	Model order reduction for thermo-mechanically coupled multiphysics simulations including damage	Qinghua Zhang	**1.1.3**
272	Dislocation-based finite element method for homogenized limit domain characterization of porous media and structured	Renato Zona	**1.1.4**
228	Downwind and upwind approximations for model adaptivity of heterogeneous media	Rolf Dietrich Mahnken	**2.2.22**
276	On the Validation of Models for TRIP Steels with Bayesian-based Parameter Identification	Rui Coelho	**2.1.11**
220	Explicit Formulation of Adiabatic Viscoplastic Johnson-Cook Type Constitutive Models	Samy Abu-Salih	**1.1.11**
287	Viscoelastic Drop Breakup in Cross Flow: A Numerical Study	Sarika S Bangar	2.2.34
279	Modeling of High Strain Rate Effects on the Mechanical Behavior of Concrete Using Smooth Particle Hydrodynamics	Sergio J. Yanez	**2.1.7**
255	Application of Physics-Informed Neural Networks for Multiphysics Problems and Nonlinear Constitutive Material Behavior in Solids	Shahed Rezaei	**1.1.6**
223	Investigating and predicting the permeability of porous media under compression	shan zhong	**2.1.14**
235	A Case Study to Validate Drag Models by ANSYS Fluent and CFD-DEM Simulation	Shuai Shu	**2.2.19**
253	Tritium transport in multi-physics modelling of large scale components for nuclear fusion using the MOOSE finite	Stephen Dixon	**1.1.5**
286	Effect of density ratio on the concentration wave in a dusty vortex	Thota Srinivas	2.2.35
225	Modelling the Impact of Insufficient Base Cleaning on Fresh Concrete Flow within Bored Piles using CFD	Tom Mitchell	**2.1.12**
285	Investigation of Frictional Sliding Behavior of Rough Surfaces using Maxwell-slip Model	Tutku Ilgın Özcan	**1.1.14**
221	Microstructure reconstruction using physics-aware multiscale VAE	xiangyun ge	**1.2.19**
257	A Multiphase Finite Element Poro-Viscoelastic Model for Soft Biological Cells	Yannis Dimakopoulos	**2.1.5**
234	A Finite Element-Boundary Element Coupling Method for Elastoplastic Analysis of Multiscale Structures in Electronic Packaging	Yanpeng Gong	**2.2.20**
239	Multiscale modeling of graphite oxidation in water ingress accidents of high temperature gas-cooled reactors	Yi Je Cho	**1.1.15**
282	Physics-informed neural network for diffusion wave problem	Yixin Li	**2.2.30**