GAMM2025

Monday 7 April 2025

Young Researchers' Minisymposia: YRMS1: New Perspectives on Classical Iterative Solvers in Numerical Linear Algebra - Room 1 (16:30 - 18:30)

-Conveners: Eda Oktay; Kathryn Lund

time	[id] title	presenter
16:30	[663] Mixed precision preconditioning strategies for GMRES	VIEUBLÉ, Bastien
16:50	[664] Mixed Precision Iterative Refinement for Linear Inverse Problems	ONISK, Lucas
17:10	[665] Inner product free Krylov methods for large-scale inverse problems	SABATÉ LANDMAN, Malena
17:30	[666] A stable one-synchronization variant of reorthogonalized BCGS and its application in s-step GMRES	MA, Yuxin

Young Researchers' Minisymposia: YRMS2: Neural network-based constitutive modeling of elastic and inelastic materials - Room 2 (16:30 - 18:30)

-Conveners: Karl A. Kalina; Dominik K. Klein

time	[id] title	presenter
16:30	[667] Constitutive Kolmogorov–Arnold Networks (CKANs): Combining Accuracy and Interpretability in Data-Driven Material Modeling	ABDOLAZIZI, Kian
16:50	[668] Physics-augmented neural networks meet data-driven identificaton - A dual-stage constitutive modeling framework	LINDEN, Lennart
17:10	[669] Material Model Discovery from Physics-Enforced Neural Networks	MEYER, Knut Andreas
17:30	[670] From Food Science to Engineering: Unveiling Tofu's Mechanics using iCANNs	BOES, Birte
17:50	[671] Physics-augmented neural networks for efficient multiscale beam simulations	SCHOMMARTZ, Jasper O.
18:10	[672] Effective material modeling of complex viscoelastic shell structures with artificial neural networks	GEIGER, Jeremy

Young Researchers' Minisymposia: YRMS3: Discretization of (port-)Hamiltonian systems - Room 3 (16:30 - 18:30)

-Conveners: Dorothea Hinsen; Philipp L. Kinon

time	[id] title	presenter
16:30	[673] Structure-preserving splitting methods for closed port-Hamiltonian systems	MÖNCH, Marius
16:50	[674] Discrete gradient methods for semi-explicit port-Hamiltonian DAEs	MORANDIN, Riccardo
17:10	[675] Structure-preserving finite element method for port-Hamiltonian systems with implicit or differential constitutive relations	BENDIMERAD-HOHL, Antoine
17:30	[676] Structure-preserving discretization of geometrically exact beams in the framework of Lie group variational integrators	HERRMANN, Maximilian
17:50	[677] Determination of ISS gain functions leveraging finite-dimensional approximations with applications to dissipative systems	HILLEBRECHT, Birgit

| 18:10 | [678] Learning of Hamiltonians, variational principles, and symmetries from data | OFFEN, Christian |

Young Researchers' Minisymposia: YRMS4: Multi-scale phenomena in magnetic and elastic materials - Room 7 (16:30 - 18:30)

-Conveners: Annika Bach; Leonard Kreutz

time	[id] title	presenter
16:30	[679] Local boundary conditions in nonlocal hyperelasticity via heterogeneous horizons	SCHÖNBERGER, Hidde
16:50	[680] Three dimensional gradient plasticity, a Gamma-Convergence approach	FORTUNA, Martino
17:10	[681] Variational methods applied to discrete models in brittle damage	BONHOMME, Elise
17:30	[682] On Scaling Properties For A Class Of Two-Well Problems For Higher Order Homogeneous Linear Differential Operators	TISSOT, Camillo
17:50	[683] Pattern Formation in Biomembranes: from Interpolation Inequalities to a Scaling Law result	PEŠIĆ, Anastasija
18:10	[684] Energy barriers for boundary nucleation in solid solid phase transitions	ZEMAS, Konstantinos

Young Researchers' Minisymposia: YRMS5: Mathematical analysis for systems of interacting particles - Room 8 (16:30 - 18:30)

-Conveners: Florian Oschmann; Iulia Cristian

time	[id] title	presenter
16:30	[685] Derivation of the Vlasov-Stokes equation	HÖFER, Richard
16:50	[686] Homogenization of the compressible Navier–Stokes equations in critically perforated domains	LEMMING, Friederike
17:10	[687] Non-existence of mean-field models for particle orientations in suspensions	SCHUBERT, Richard
17:30	[688] Understanding the Phase Transition in the 2D Becker-Döring Model	SCHOLTEN, Jens
17:50	[689] Sharp interface dynamics in viscous two-phase flows: stability and long-time behavior	SALGUERO, Elena

Young Researchers' Minisymposia: YRMS6: Phase-Field Modeling of Multi-Physics Problems - Room 9 (16:30 - 18:30)

-Conveners: Martha Kalina; Vincent von Oertzen

time	[id] title	presenter
16:30	[690] Towards a multi-phasefield model to analyze residual stresses	HELLEBRAND, Sonja
16:50	[691] A Phase-Field Framework for the Modeling of Rate-(In)Dependent Hysteretic Behavior of Phase-Transforming Solids	OMAR, El Khatib
17:10	[692] Phase-field modeling of deformation twinning and its interaction with plastic slip in magnesium during nano-indentation	REZAEE-HAJIDEHI, Mohsen
17:30	[693] A Geometrical Approach to Modeling Wetting on Structured Surfaces	KUNZ, Jana
17:50	[694] On the energy decomposition in variational phase-field models for brittle fracture under multi-axial stress states	VICENTINI, Francesco
18:10	[695] Neural networks meet fracture phase-field: Hybrid modelling of crack propagation	DAMMASS, Franz