CRC 1114 Final Conference
List of talks

For abstracts, please see the programm on our website

Wednesday, 09.09.2026				
Speaker	**Event**	**Time**	**Room**	**Title**
Koumoutsakos, Petros	Plenary	9:00	Lecture Hall	AI for Fluid Mechanics: Challenges and Frontiers
Glassmeier, Franziska	Plenary	10:00	Lecture Hall	Multiscale Cloud Physics
Weare, Jonathan	Plenary	16:30	Lecture Hall	Estimating long-time rare-event statistics from short trajectories
Chmiela, Stefan	MS01	11:30	005	Accelerating Molecular Dynamics with Implicit Machine Learning
Heenen, Hendrik H.	MS01	12:00	005	From atomistic free energies to growth kinetics: ML-accelerated multiscale simulation of graphene growth on liquid copper
Nüske, Feliks	MS01	12:30	005	Consistent Projection of Langevin Dynamics: Preserving Thermodynamics and Kinetics in Coarse-Grained Models
Bella, Peter	MS02	14:30	005	Stochastic homogenization of degenerate elliptic equations
Neukamm, Stefan	MS02	15:00	005	Quantitative stochastic homogenization of elastoplastic spring networks
Zeppieri, Caterina Ida	MS02	15:30	005	The random fractional obstacle problem
Smith, Roger	MS03A	11:30	006	The fluid dynamics of tropical cyclones
Rudolph, Annette	MS03A	12:00	006	Atmospheric blocking patterns across the scales
Hauser, Seraphine	MS03A	12:30	006	Complementary perspectives on the role of dry and moist dynamics for atmospheric blocking formation
Almgren, Ann	MS03B	14:30	006	Balancing Theory, Numerics and Observations in the Development of a new Regional Atmospheric Model
Maghoul, Amir	MS03B	15:00	006	Numerical and asymptotic analysis of atmospheric flows on the quasi-geostrophic and Obukhov scales
Hotz, Ingrid	MS03B	15:30	006	Topological Feature Tracking

Thursday, 10.09.2026				
Speaker	**Event**	**Time**	**Place**	**Title**
Friesecke, Gero	Plenary	9:00	Lecture Hall	High-dimensional optimal transport problems in the physical sciences
Ceriotti, Michele	Plenary	10:00	Lecture Hall	tba
Klein, Rupert	Plenary	16:30	Lecture Hall	12 Years of CRC 1114
Carloni, Paolo	MS04	11:30	005	QM/MM MD simulations of proton-coupled transporters
Passerone, Daniele	MS04	12:15	005	ML Potentials and Enhanced Sampling: A Powerful Strategy for Nanoscience Modelling
Duncan, Andrew	MS05	14:30	005	Diffusion Paths for Sampling: From Stochastic Averaging to Sequential Monte Carlo
Opper, Manfred	MS05	15:00	005	Generative diffusion models with fractional Brownian noise
Strauch, Claudia	MS05	15:30	005	Diffusion modelling beyond Ornstein–Uhlenbeck: statistical analysis of random stopping and reflections
Kuehn, Christian	MS06A	11:30	006	Towards Geometric Singular Perturbation Theory for PDEs
Pavliotis, Grigorios	MS06A	12:00	006	On the Diffusive-Mean Field limit of Kinetic Interacting Particle Systems
Wieczorek, Sebastian	MS06A	12:30	006	Singular Basins of Attraction in Multiscale Systems
Jayakumar, Vaishnavi	MS06B	14:30	006	The Physics of Political Change: Diffusion, Stability, and Regime Dynamics
Kiran, Narcicegi	MS06B	15:00	006	Network Recoverability under Aggregation and Smoothing
Andrzejak, Ralph Gregor	MS06B	15:30	006	Effective directional interdependence in homogeneous non-directionally coupled networks

Friday, 11.09.2026				
Speaker	**Event**	**Time**	**Place**	**Title**
Bell, John	Plenary	9:00	Lecture Hall	Between Kinetic Theory and Navier-Stokes -- Modeling Fluids at the Mesoscale
Yarushina, Viktoriya	Plenary	10:00	Lecture Hall	Coupled Deformation, Flow, Reaction and Heat in Geological Systems: From First Principles to Predictive Models
Hanke, Martin	MS07	11:30	005	Data driven parameterizations of multidimensional generalized Langevin equations
Stein, Christopher J.	MS07	12:00	005	Variational inference of free energy differences in strongly coupled open systems
Zimmer, Johannes	MS07	12:30	005	Learning thermodynamic evolution from particles
Cornalba, Federico	MS08	14:30	005	A discontinuous Galerkin approximation of the Dean-Kawasaki equation
Gvalani, Rishabh	MS08	14:50	005	Ergodicity of McKean-Vlasov equations with common noise
Kremp, Helena	MS08	15:10	005	Stochastic homogenisation for Dean-Kawasaki-type SPDEs
von Renesse, Max	MS08	15:30	005	tba
Zhong, Xin	MS09A	11:30	006	Modelling metamorphic and magmatic mineral evolution with machine-learning interatomic potentials and phase-field methods
Khakimova, Liudmila	MS09A	12:00	006	Chemically- and pressure-driven metamorphic (de)volatilization processes: front-tracking analytics
Koelzer, Alexander	MS09A	12:30	006	From Millions of Years to Milliseconds – Earthquake sequence simulations in complex tectonic settings
Boisserée, Simon	MS09B	14:30	006	Space-time adaptivity and preconditioning for porous media flow models
Cheng, Fan	MS09B	15:00	006	Analysis of geodynamical viscoelastoplastic flows -- From porescale to macroscale
García-Pintado, Javier	MS09B	15:30	006	Tectonic-scale patterns of viscoelastoplastic deformation subject to hydrothermal circulation