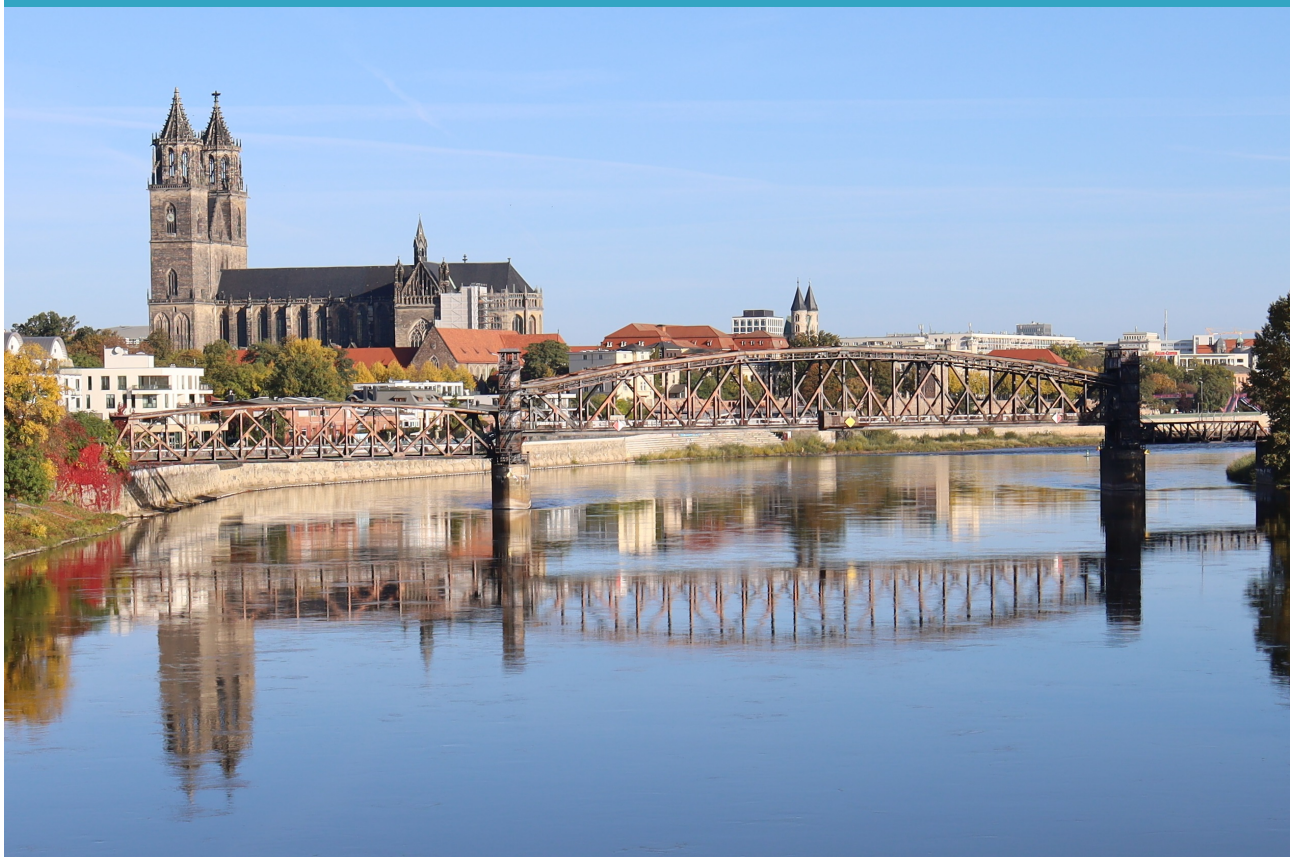
94th Annual Meeting

of the Association of Applied Mathematics and Mechanics

March 18th–March 22nd, 2024
Magdeburg (Germany)

Daily Scientific Program



GESELLSCHAFT für
ANGEWANDTE MATHEMATIK und MECHANIK e.V.
ASSOCIATION of APPLIED MATHEMATICS and MECHANICS

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MAX PLANCK INSTITUTE
FOR DYNAMICS OF COMPLEX
TECHNICAL SYSTEMS
MAGDEBURG

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Contents

Monday, March 18

	14:00
PML (G26/H1)	**Turbulent-laminar patterns** *Tuckerman, Laurette*

	15:00
PL1 (G26/H1)	**Nonlocal interaction problems with anisotropy** *Mora, Maria Giovanna*

	16:30	16:50	17:10	17:30	17:50	18:10
YRM1 (G22/020)	**Recent results in the mathematical analysis of Hibler's sea ice model** *Brandt, Felix*	**Advancements in sea ice dynamics modeling based on a mixed least-squares Finite Element study with non-conforming stress approximation** *Hellebrand, Sonja*	**Comparing heterogeneity and Linear Kinematic Features in sea ice models with Viscous-Plastic and Maxwell Elasto-Brittle rheologies** *Bourgett, Mirjam*	**Simulating Sea Ice Faster with GPUs** *Jendersie, Robert*	**A model for ice-mélange based on particle and continuums mechanics** *Kahl, Saskia*	**Modelling freezing and BioGeoChemical processes in Antarctic Sea Ice** *Pathak, Raghav*

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YRM2 (G22/013)	**Dynamical low-rank based optimisation for computing eigenvalues in nuclear engineering** *Scalone, Carmen*	**Multi-level dynamical low-rank approximation for grid-based radiation dose calculations** *Stammer, Pia*	**Multi-scale simulations of thermal radiative transfer equations using dynamical low-rank approximation** *Patwardhan, Chinmay*	**Projected exponential methods for stiff dynamical low-rank approximation problems** *CARREL, Benjamin*	**Memory and time efficient neural network training via dynamical low-rank approximation** *Schotthoefer, Steffen*	**On dynamical low-rank approximation for the Su-Olson problem** *Baumann, Lena*
YRM3 (G22/H2)	**An operator-theoretic view on discretisation of random evolution equations** *Klioba, Katharina*	**Dynamic Control of a Soft Robot: Combining Data and Model** *Grube, Malte*	**Error bounds for Koopman-based control** *Schaller, Manuel*	**Index aware learning of differential algebraic equations** *Cortes Garcia, Idoia*	**Model reduction on manifolds: a differential geometric framework** *Unger, Benjamin*	**Stability and robustness in data-driven predictive control** *Berberich, Julian*
YRM4 (G16/H5)	**Utilising Closely Spaced Modes of Tower Structures for Damage Localisation using Multi-Objective Model Updating** *Ragnitz, Jasper*	**Uncertainty quantification for two-step model calibration using least-squares and Bayesian inference** *Tröger, Jendrik-Alexander*	**Probabilistic parameter identification of a rate-dependent constitutive model for porcine stomach tissue** *Wollner, Maximilian P.*	**Aspects of parameter identification in thermoplasticity** *Rose, Lars*	**Optimization of the specimen geometry for one-shot discovery of material models** *Ghouli, Saeid*	**An extension of the Dynamic Regressor Extension and Mixing approach for real-time parameter estimation** *Othmane, Amine*
YRM5 (G26/H1)	**Aneurysm treatment: About in silico device insertion, a porous media surrogate and LBM Blood-flow simulations** *Muhr, Markus*	**Microstructure-informed regional constitutive modeling of human brain tissue** *Reiter, Nina*	**Modelling muscle-actuated motion: Benefits for internal mechanics, optimization and learning** *Wochner, Isabell*	**Modelling of micro crack healing in flexoelectric bones** *Witt, Carina*	**Stabilized Finite Element Simulation to Determine Washout in The Left Ventricle with Implanted Left Ventricular Assist Device** *Schuster, Maximilian Roman*	**Constitutive modeling of active skeletal muscle in a continuum-mechanical model of the human shoulder** *Sachse, Renate*

Tuesday, March 19

	08:30	08:50	09:10	09:30	09:50	10:10
S02.01 (G22/111)	**Finite Element Modelling of Concentrated Impact Loads on the Masticatory Muscles at the Head** *Wang, Zechang*	**Identifying a suitable material model to simulate the implantation process of endoprostheses into human bone** *Strackeljan, Cornelius*	**On the application of the Finite Cell Method to static analysis of trabecular bone tissue specimen using high-resolution microCT data** *Shahmohammadi, Mohammad Amin*		**Numerical simulation of individualized flow diversion cerebral aneurysms treatment** *Do, Huy Quang*	**Sensitivity study of a computational model for endovascular coil deployment in cerebral aneurysms** *Holzberger, Fabian*
S03.01 (G22/013)	**A comparison of micromorphic gradient-extensions for anisotropic damage** *van der Velden, Tim*	**Model order reduction for problems involving gradient-extended damage and plasticity** *Brepols, Tim*	**A gradient-extended two-surface damage-plasticity model based on the star-convex decomposition of the strain energy** *Zhang, Jian*	**Theoretical and Applied Strategies for Numerical Damage Optimisation** *Guhr, Fabian*	**An implicit gradient-enhanced microplane damage material model in the coupled implicit MPM-FEM** *Oropeza Navarro, Osvaldo Andres*	
S04.01 (G26/H1)	**Remeshing in the Finite Cell Method for different types of geometry descriptions** *Sartorti, Roman*	**Immersed isogeometric analysis with boundary-conformal quadrature for large deformation problems** *Elbadry, Yusuf T.*	**On the importance of exact geometry representation for shell geometries with highly changing curvature** *Dornisch, Wolfgang*	**A scaled boundary shell formulation in isogeometric analysis for static and dynamic analysis** *Reichle, Mathias*	**The Mixed Displacement Method to Avoid Shear Locking in Problems in Elasticity** *Vinod Kumar Mitruka, Tarun Kumar Mitruka*	**Simulation of Axisymmetric Problems Using the Petrov-Galerkin Finite Element Method** *Zähringer, Felix*

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S05.01 (G22/217)	**Experimental nonlinear modal analysis: its potential and recent advancements** *Scheel, Maren*		**Modal Analysis and Modal Damping of MIKOTA's Vibration Chain** *Weber, Wolfgang*	**Experimental analysis of oscillations of a rotor supported by gas foil bearings.** *Sorgec, Berk*	**Inductive mode selective damping of structural vibrations** *Rosenboom, Mitja*	
S06.2.01 (G16/H5)	**Multistage parameter identification of a finite-strain viscoelastic-viscoplastic material model for biobased thermosets** *Laubert, Lukas*	**Frequency domain analysis of viscoelastic elastomer blends considering interfacial transition zones** *Ulrich, Marc*	**Experimental analysis of a beam with a 2D triangular substructure** *Panjalipoursangari, Narges*	**Material Plasticity - Development of the material stiffness in fiber-reinforced materials with large plastic deformations** *Weber, Martin*		
S07.01 (G16/215)	**A Framework Incorporating Rate-Independence in Phase-Field Modeling with Application to Hysteretic Effects in Shape Memory Alloys** *El Khatib, Omar*	**Modeling of interface elasticity within Allen-Cahn type phase field theory** *Wilbuer, Hendrik*	**A coupled approach for generalized hyperelastic continua and phase fields** *Doghman, Jad*	**FE-Implementation and Application of a Fully Coupled Chemo-Mechanical Phase-Field Model** *Roth, Stephan*	**On the behaviour of a phase field model for wetting on sinusoidally shaped surfaces** *Kunz, Jana*	**Phase separation in metal hydrogen systems predicted by Cahn-Hilliard type phase-field simulations** *Dyck, Alexander*
S08.01 (G16/054)	**Numerical multiphase yield design modelling of reinforced soil structures: a focus on the interaction between soil and inclusions** *Donval, Elodie*	**Comparative Analysis of Fracture Simulation Methods in Finite Element Models for Multiphase Materials and Multiscale applications** *Najafi Koopas, Rasoul*	**Analytical strain localization for inhomogenous eigenstrains in lamellar materials** *Klein, Claudius*	**Numerical polyconvexification of isotropic damage** *Neumeier, Timo*	**Morphology-Based Homogenization of Thermodynamic Driving Forces and Mechanical Properties in Phase Transforming Materials** *von Oertzen, Vincent*	**Rate-dependent effects in micromechanical constitutive multiscale modeling of ferroelectrics** *Warkentin, Andreas*
S09.01 (G22/216)	**Application and parameter identification of the Lagrangian-averaged vorticity deviation vortex detection method in three-dimensional flows around solid bodies** *Kovács, Kinga Andrea*	**Energy stability analysis of MHD flow in a rectangular duct** *Boeck, Thomas*	**Modeling active suspensions with the mixture theory** *Ben Gozlen, Houssem*			

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S14.01 (G22/218)	**A degenerate cross-diffusion system as the inviscid limit of a nonlocal tissue growth model** *Schmidtchen, Markus*		**Fast-slow limits for gradient flows on metric graphs** *Heinze, Georg*	**Degenerate flow and transport problems in porous media with vanishing porosity** *Schulz, Raphael*	**Hypocoercivity in Hilbert spaces** *Nigsch, Eduard*	**Compactness and existence theory for the nonlocal radiative-temperature equation** *Dematté, Elena*
S15.01 (G22/105)	**UM-Bridge: Bridging the Gap between Advanced UQ and Advanced Models from Prototype to HPC** *Seelinger, Linus*		**Combining noisy well data and expert knowledge in a Bayesian calibration of a flow model under uncertainties: an application to solute transport in the Ticino basin** *Tamellini, Lorenzo*	**Bayesian data assimilation for complex wetting processes with transport maps and stochastic surrogates** *Bonart, Henning*	**Scale-bridging within a complex model hierarchy for investigation of an innovative circular energy economy by use of Bayesian model calibration** *Gossel, Lisanne*	**Uncertainty of mechanical properties of short-fiber reinforced polymers manufactured by injection-molding process** *Rohrmüller, Benedikt*
S16.01 (G22/110)	**Stabilization of topology optimization problems using Voronoi tessellations** *Kikis, Georgia*		**Shape Design Optimization of a flat Endmill Tool** *Kalu-Uka, Abraham*	**Remarks on Shape Sensitivity Analysis of Dynamic Structures** *Ghasemi, Seyed Ali*	**Analysing sensitivity information of composite laminate shell structures** *Liedmann, Jan*	**Prediction of CO2 uptake on activated carbon by artificial neural networks** *Venturella, Suzan*
S18.01 (G22/020)	**Voronoi diagrams and Finite Volume methods in any dimension** *Heida, Martin*	**DG-type reconstructions for SBP finite difference schemes** *Bach, Daniel*	**Monolithic Convex Limiting For Legendre–Gauss–Lobatto Discontinuous Galerkin Spectral Element Methods** *Bolm, Benjamin*	**Numerical Solution of Ultra-Relativistic Euler Equations using Discontinuous Galerkin Finite Element Method** *Mairaj, Muhammad*	**deal.t: An implementation of T-splines within the `deal.II` framework** *Hiniborch, Robin*	**TrixiParticles.jl: an accessible numerical framework for particle-based simulations in Julia** *Faulhaber, Erik*
S19.01 (G22/211)	**An ADMM-based time domain decomposition approach for PDE constrained optimization** *Ulbrich, Stefan*	**On vanishing state constraints for parabolic PDEs with applications to hybrid optimal control** *Kuchler, Christian*	**Global minimization of polynomial integral functionals with semilinear elliptic PDE constraints** *Fantuzzi, Giovanni*	**Optimal control for a class of hypocoercive Fokker-Planck equations** *Breiten, Tobias*	**Adjoint-based calibration of nonlinear stochastic differential equations** *Bartsch, Jan*	**Risk-averse optimal control of random elliptic variational inequalities** *Alphonse, Amal*
S20.01 (G22/122)	**Gradient-free control algorithms for convex optimization problems** *Grushkovskaya, Victoria*	**A port-Hamiltonian perspective on energy-optimal control of adaptive high-rise buildings** *Oppeneiger, Benedikt Florian*	**Optimized Self-Consumption of Renewable Energies with Forecast-Based Energy Management for Agricultural Farms** *Dierkes, Eva*	**Robust and Efficient Hybrid Optimal Control via Gaussian Process Regression and Multiple Shooting with Experimental Validation on a Double Pendulum on a Cart** *Hesse, Michael*	**Optimal trajectories for a Dubins vehicle in mode-target games** *Pedrosa, Matheus V. A.*	**Commutator-free based on Cayley transform for quantum optimal control problems** *Wembe, Boris*

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S21.01 (G22/208)	**Virtual X-rays: parallel-beam tomography hidden within electric probing** *Siltanen, Samuli*		**Denoising of Sphere- and SO(3)-valued Data by Relaxed Tikhonov Regularization** *Bresch, Jonas*	**Accelerating 3D Topology Optimization through Sample-Efficient Deep Learning** *Erzmann, David*	**Postprocessing U-Net for the Kuopio Tomography Challenge 2023** *Freudenberg, Tom*	
S22.01 (G22/120)	**Model Reduction of Hamiltonian systems: From the formulation on manifolds to data-driven realizations** *Glas, Silke*		**Reducing the entry barrier of Peridynamic simulations** *Hesse, Jan-Timo*	**Gradient based optimization method for temporal multiscale differential problems** *Chang Dominguez, Dayron*	**MESHFREE Simulations for Industrial Applications** *Castelli, Fabian*	**Robust matrix-free polynomial preconditioning using the hyper-power method** *Mika, Michał Łukasz*
S25.01 (G22/H2)	**On the approximation of vector-valued functions by samples** *Uschmajew, André*	**Learning stochastic reduced order models from data** *Nicolaus, Jan Martin*	**A time-aware tensor decomposition for concept evolution** *Chatzis, Christos*	**A novel univariate feature selection filter-measure based on the reduction of class overlapping** *Liaw, Jin Cheng*	**On Efficient and Accurate Kernel-Based Interpolation/Regression for Dynamic Datasets** *Kapadia, Harshit*	
S26.01 (G22/209)	**Mathematical insights on embedding theories.** *Kirsch, Alfred*	**Multi-center decomposition of molecular densities: A numerical perspective** *Cheng, YingXing*	**Parallel Coordinate Descent Methods for Full Configuration Interaction** *Zhang, Yuejia*	**On algebraic varieties and roots in coupled cluster theory** *Faulstich, Fabian Maximilian*	**Coupled Cluster for Periodic Systems** *Schneider, Reinhold*	

	11:00
PL2 (G26/H1)	**Contributions of 4D imaging in mechanics of materials** *Hild, François*

	12:00
PL3 (G26/H1)	**Enforcing physics structure in scientific machine learning: The role of projection-based reduced-order modeling** *Willcox, Karen E.*

	14:00	14:20	14:40	15:00	15:20	15:40
DFG-GRK 2297 (G22/020)	**Bi-linear Control Based On gEDMD for Metastable Systems** *Guo, Lei*	**Smooth clustering-based autoencoders for very low-dimensional parametrizations of fluid flow models** *Kim, Yongho*	**Physics-based, non-intrusive modeling for systems with spatially localized behavior through reduced/full-order model coupling** *Gkimisis, Leonidas*	**Error analysis for hybrid finite element/neural network discretizations** *Kapustsin, Uladzislau*	**Source Detection on Graphs** *Feldmann, Sarah*	**Refined TSSOS** *Shaydurova, Daria*
DFG-PP 2256 (G22/H2)	**On the homogenization into generalized continua: a computational approach for parameter identification for the Relaxed Micromorphic Model** *Scheunemann, Lisa*	**Reinterpreting laminate composite voxels in computational micromechanics: level sets and assumed strain methods** *Lendvai, Jonas*	**Co-Design of variational formulations and parallel solvers in Non-Isothermal Thermo-Chemo- Mechanics: Comparison of Minimization and Saddle- Point formulation and scalability studies** *Röver, Friederike*	**Phase transformation in elasto-plastic materials - a multi-phase simulation** *Dinkelacker-Steinhoff, Sarah*	**Structure-preserving approximation for quantitative variational phase-field models in the context of powder-bed fusion additive manufacturing** *Brunk, Aaron*	**Mapping Shear Transformation Zones in Silica Network Glass** *Shekh Alshabab, Somar*
DFG-PP 2298 (G22/013)	**Foundations of Supervised Deep Learning for Inverse Problems** *Kabri, Samira*	**Combinatorial and implicit views on parameter optimization in neural networks** *Montufar, Guido*	**Regularized, structure-preserving neural networks for the minimal entropy closure of the Boltzmann moment system** *Schotthoefer, Steffen*	**Adaptive Step Sizes for Preconditioned Stochastic Gradient Descent** *Köhne, Frederik*	**Non-vacuous PAC-Bayes bounds for Models under Adversarial Corruptions** *Mustafa, Waleed*	**Convergence results for gradient flow and gradient descent systems in artificial neural network training** *Ahmadova, Arzu*
DFG-PP 2311 (G16/H5)	**Comparison of Pericardium Modeling Approaches for Mechanical Whole Heart Simulations** *Krauß, Jonathan*	**Modeling and Simulation of Pharmaco-Mechanical FSI for an Enhanced Treatment of Cardiovascular Diseases - Part I: Modeling Aspects** *Nurani Ramesh, Sharan*	**Modeling and Simulation of Pharmaco-Mechanical FSI for an Enhanced Treatment of Cardiovascular Diseases - Part II: Numerical Methods, Software, and Results** *Saßmannshausen, Lea*	**SimLivA - A Data-Integrated, Continuum-Biomechanical Framework for In-Silico Staging of Ischemia-Reperfusion Injury During Liver Transplantation** *Mandl, Luis*		

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DFG-PP 2353 (G26/H1)	**Learning bifurcation structures in the small-data limit using reservoir computing** *Yadav, Manish*	**Hybrid Modelling of Multi-body Systems: Application of Two Discrepancy Models for Trajectory Prediction** *Wohlleben, Meike*	**Artificial Recurrent Model for Parameter Identification of Dynamic Systems** *Bielitz, Timo*	**A deep learning approach to calculate elementary effects of Morris sensitivity analysis** *Raj, Rohit*	**An iterative-closest-point algorithm for marker-free 3D shape reconstruction of tube-like continuum robots** *Hoffmann, Matthias Klaus*	**Optimization of Crash Box Design in Crashworthiness Analysis Using Reinforcement Learning** *Borse, Aditya*
DFG-PP 2410 (G16/215)	**Convex integration applied to the compressible Euler equations: non-uniqueness and admissibility criteria** *Markfelder, Simon*	**On Non-Strict Hyperbolic Systems and Related Wave Phenomena** *Thein, Ferdinand*		**Asymptotic Preserving Numerical Methods for Linear Kinetic Transport Equations Based on Upwind SBP Schemes Combined with Multiderivative RK Methods** *Ortleb, Sigrun*	**Convergence of FE schemes for compressible flows via dissipative weak solutions** *Öffner, Philipp*	
MS1 (G22/105)	**Distributed optimal feedback control and neural networks** *Grüne, Lars*	**NMPC for Cyber-Physical Systems – Decentralized Algorithms for Dynamic Real-Time Collaboration** *Faulwasser, Timm*	**Distributed control of nonlinear constrained multi-agent systems: A tracker-planner framework using local model predictive controllers and Voronoi partitions** *Köhler, Johannes*	**A Fixed-Point Iteration Scheme for Sensitivity-Based Distributed Optimal Control** *Pierer von Esch, Maximilian*	**Sensitivity Analysis of the Performance of a Distributed MPC Scheme on an Occupancy Grid in Combination with Priority Rules** *Sprodowski, Tobias*	**Distributed Control Under Attack: Identifying Anomalous Behavior with Inverse Optimal-Control** *Ebel, Henrik*
MS2 (G22/110)	**Adaptive Hierarchical Modeling of Friction** *Rademacher, Andreas*	**Dual based and goal oriented adaptivity by means of upwind and downwind approximations** *Mahnken, Rolf*	**Surrogate models for shape uncertainty quantification** *Scarabosio, Laura*	**On data-driven moment closures for radiative transfer** *Schlottbom, Matthias*	**Hierarchical modelling in benchmarking, analysis and code development for coupled geo-processes** *Nagel, Thomas*	**On the systematic coupling of multiphysics, multiscale, and multidomain problems** *Egger, Herbert*
MS3 (G22/111)	**Eigenvalue optimization and matrix nearness problems via constrained gradient systems.** *Guglielmi, Nicola*		**Structured eigenvalue backward errors for rational matrix functions with symmetry structures** *Prajapati, Anshul*	**Computing sep-lambda, a measure of how close two square matrices are to sharing an eigenvalue** *Mitchell, Tim*	**Distance to singularity a "common" problem for dissipative Hamiltonian matrix pencils** *Mehl, Christian*	**Nearest singular pencil via Riemannian optimization** *Noferini, Vanni*
MS4 (G22/112)	**Gaussian Process Surrogate for Bayesian Parameter Estimation Involving Incompressible Fluids** *Wendland, Holger*	**How many neurons do we need? A refined analysis for shallow networks trained with gradient descent** *Mücke, Nicole*		**Some results on the NTK spectrum and spectral bias of neural networks in the kernel regime** *Montufar, Guido*	**Kernel Methods for Koopman-based Modeling** *Nüske, Feliks*	

MS5 (G22/120)	14:00	14:20	14:40	15:00	15:20	15:40
	A new reformulation of the Muskat problem with surface tension *Matioc, Anca*	**The Mullins–Sekerka equation: Existence theory and weak-strong stability for a novel weak solution concept** *Hensel, Sebastian*	**A Non-local Free Boundary Problem Arising in a Model of Cell Polarization** *Logioti, Anna*	**Phase-Field Models for Organic Solar Cell Production** *Tretmans, Carmen*	**Comparison of the fracture toughness of two species of cactus using phase field modeling** *Dondl, Patrick*	**A free boundary model for transport induced neurite growth** *Marino, Greta*

Poster1 (G22 Floor)	16:00
	A hybrid mixed variational formulation and discretization for the linear transport equation *Beranek, Nina*
	AI-enhanced integrators for lifetime analysis of wind turbines *Othmane, Amine*
	Approximation of Stochastic Evolution Equations *Klioba, Katharina*
	Challenges in the Simulation of Rotating Electric Motors using Isogemetric Analysis *Merkel, Melina*
	Constitutive modeling of human brain tissue *Reiter, Nina*
	Coupled multiscale bone modeling *Blaszczyk, Mischa*
	Curvature-driven pattern formation in Biomembranes *Pešić, Anastasija*
	Dynamical Systems as a Machine Learning Framework *Stender, Merten*
	MESHFREE Simulations with the Generalized Finite Difference Method *Castelli, Fabian*
	Novel geometric integrators for multibody systems *Kinon, Philipp L.*

	16:00
	Performance guarantees meet data-driven control *Lanza, Lukas*
	Phase-Morphology-Based Homogenization *von Oertzen, Vincent*
	Quantum computing through the lens of control *Berberich, Julian*
	Strong simulations for strong magnets: The effects of defects *Reichel, Maximilian*
	Time-separated stochastic mechanics *Geisler, Hendrik*

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S02.02 **(G22/111)**	**A Thermodynamic framework for constructing a constitutive model accounting for fiber reorientation through active and passive responses** *KUMAR, RAHUL*	**Constitutive Modeling of Viscoelastic Behavior and Irreversible Damage in Porcine Pulmonary Artery** *Reddipaga, Mani*	**Fast simulation of coronary in-stent restenosis: a non-intrusive data-driven reduced order surrogate model** *Shi, Jianye*	**Constitutive Artificial Neural Networks (CANNs): A framework for inelastic anisotropic soft biological tissues** *Linka, Kevin*	**Towards Using Active Learning Methods for Human-Seat Interactions To Generate Realistic Occupant Motion** *Fahse, Niklas*	
S03.02 **(G22/013)**	**Fracture modeling of flexoelectric materials with mixed FE** *Serrao, Prince Henry*	**Multiscale damage analysis based on the variational effective model** *Xu, Xu*	**A finite element framework for thermo-mechanically coupled gradient-enhanced damage formulations** *Sobisch, Lennart*	**Neural networks meet phase-field: A hybrid fracture model for elastomers** *Dammaß, Franz*	**A multi-field decomposed model order reduction approach for thermo-mechanically coupled multiphysics simulations including damage** *Zhang, Qinghua*	**A novel approach for a thermo-mechanically coupled and gradient-enhanced damage model** *Liu, Fangrui*

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S04.02 (G26/H1)	**Analysis and Simulation of curved hoses under internal pressure - 3D continuum models** *Hoesch, Quirin*	**Influence of support conditions for violin plates in experimental modal analysis** *Rauh, Benedikt*	**Approximate dual basis functions for mass lumping within explicit IGA simulations** *Held, Susanne*	**On the potential of approximate dual basis functions towards efficient mixed plate formulations in isogeometric analysis** *Stammen, Lisa*	**A closed-form approach on mode III loading of thin layers** *Rheinschmidt, Florian*	
S05.02 (G22/217)	**Friction damping in structural dynamics: from fundamental understanding to physics-based machine learning identification** *Marino, Luca*		**A Rational Ansatz for the Approximation of Koopman Eigenfunctions** *Römer, Ulrich J.*	**Quantifying Uncertainty in Neural Network predictions of forced vibrations** *Westmeier, Tobias*	**Complex dynamics of coupled nonlinear oscillators from a functional networks perspective** *Geier, Charlotte*	**Characterization of music effect pedals by data analysis** *Rentzsch, Frederik*
S06.2.02 (G16/H5)	**Modelling material properties of composites using stochastic tensor approach** *Schuttert, Wouter Jan*	**Notes on the Schapery model to describe nonlinear viscoelastic phenomena** *Margalho de Barros, Marcos Andre*	**Viscoelastic Constitutive Artificial Neural Networks (vCANNs) – a framework for data-driven anisotropic nonlinear finite viscoelasticity** *Abdolazizi, Kian*	**A thermodynamically consistent physics-informed neural network model for nanoparticle-filled epoxy nanocomposites with moisture content** *Bahtiri, Betim*	**Constitutive artificial neural network for elasto-plastic material behavior** *Simon, Jaan-Willem*	
S07.02 (G16/215)	**Determination of critical local straining conditions for solidification cracking at laser beam welding by experimental and numerical methods** *Gumenyuk, Andrey*	**Application of a multi-object tracking algorithm to investigate thermo-fluid dynamics of the melt pool during laser beam welding** *Forster, Carola*	**Performance Analysis for the Free Surface Lattice Boltzmann Method for High Performance Computing** *Plewinski, Jonas*	**A microstructural thermoelastoplastic analysis of the mushy zone during laser beam welding** *Hartwig, Philipp*	**Efficient parallel finite element simulations of laser beam welding processes** *Bevilacqua, Tommaso*	**Efficient Simulation Strategy to Investigate a PTW Safety Concept** *Fehr, Jörg*
S08.02 (G16/054)	**Microstructure reconstruction for realistic RVEs: harnessing descriptor differentiability** *Seibert, Paul*	**Active learning for inverse mesostructure design** *Raßloff, Alexander*	**Fiber orientation-length coupling in short-fiber reinforced composites** *Mehta, Alok Ranjit*	**Microstructure generation for discontinuous long curved fiber-reinforced polymers via optimization on curved manifolds along the geodesics** *Lauff, Celine*	**Quantification of Microstructure-Related Uncertainties in Macroscopic, Structural Quantities of Interest based on Artificial Microstructures and the FE2-Method** *Dorn, Hendrik*	**Aspects of numerical efficiency and viability in the optimization of minimal-surface-based periodic microstructures** *Krischok, Andreas*

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S13.01 (G22/216)	**Active flow control for road vehicles** *Krajnovic, Sinisa*		**Modeling for surrogate-based optimization of actuation parameters for active drag reduction in turbulent boundary layer flows** *Hübenthal, Fabian*	**Numerical investigation of drag reduction effects on a track bicycle fork using airfoils with a wavy leading edge** *Klein, Marten*		
S14.02 (G22/218)	**A note on the generalized Jacobian in the sense of Clarke for the inverse of a bi-Lipschitz map and applications in relaxation theory** *Dolzmann, Georg*	**Stress-mediated growth determines E. Coli division site morphology** *Pelech, Petr*	**Convergence of equilibria of thin elastic plates in a discrete model - The von Kármán case** *Buchberger, David*	**Dimension reduction for elastoplastic rods in the bending regime** *Richter, Kai*	**Inertial evolution of non-linear viscoelastic solids in the face of (self-)collision** *Češík, Antonín*	
S15.02 (G22/105)	**Sparse polynomial chaos expansions: a review of recent developments** *Sudret, Bruno*		**Advanced Directional Importance Sampling Method for Dynamic Reliability Analysis of Linear Structural Systems under Stochastic Non-Gaussian Loading** *Zhang, Xuanyi*	**Efficient model order reduction of vibroacoustic problems under stochastic loads** *Hüpel, Yannik*	**Statistical reduced order modelling for frequency dependent PDEs** *Hermann, Lucas*	**Towards a Sampling-Free Statistical Finite Element Method in Computational Mechanics** *Narouie, Vahab*
S16.02 (G22/110)	**Sequential topology optimization for additive manufacturing** *Jantos, Dustin Roman*	**An experimental validation of optimized structures with hardening material behavior** *Kick, Miriam*	**On varying time integration schemes for a density-based topology optimization approach at large deformations** *von Zabiensky, Max*	**Topology Optimization of Continuum Structures using Simultaneous Stress and Displacement Constraints** *Rutsch, Felix*	**Cavity Shape Optimization in Injection Molding to Compensate for Shrinkage and Warpage** *Tillmann, Steffen*	**Sustainability in bridge design – investigation of the potential of topology optimization and additive manufacturing on a model scale** *Masarczyk, Daniela*
S18.02 (G22/020)	**Energy-adaptive and Riemannian Newton methods for Problems of Kohn-Sham Type** *Altmann, Robert*	**The least-squares method in the theory of nonlinear periodic boundary value problems with concentrated delay** *Chuiko, Sergey*	**Adomian decomposition method for nonlinear boundary-value problems unsolved with respect to the derivative** *Nesmelova, Olga*	**Higher-order operator splitting methods for port-Hamiltonian systems** *Mönch, Marius*	**Proper Orthogonal Decomposition for port-Hamiltonian energy networks** *Ortegón Villacorte, Andrés Felipe*	**A posteriori estimates for a coupled piezoelectric model** *Samrowski, Tatiana*

	16:30	16:50	17:10	17:30	17:50	18:10
S19.02 (G22/211)	**Control in the coefficients of an elliptic differential operator: topological derivatives and Pontryagin maximum principle** *Wachsmuth, Daniel*	**Asymptotics and Optimal Control for Radiative Processes** *Pinnau, René*	**Optimal Control of the Generalized Riemann Problem for Hyperbolic Systems of Conservation Laws** *Breitkopf, Jannik*	**A Variational Calculus for Optimal Control of Networks of Scalar Conservation or Balance Laws** *Steinhardt, Marcel*	**Semi-smooth Newton Method for parabolic PDE-constraint Optimization** *Reinhold, Alexander*	**Local extrema in two-phase optimal design problems** *Vrdoljak, Marko*
S20.02 (G22/122)	**Modelling Gas Networks with Compressor Stations: A Port-Hamiltonian Approach** *Bendokat, Thomas*	**Behaviour of frame structures with pseudoelastic shape memory alloy damping elements** *Kuczma, Mieczyslaw*	**Frequency response function for systems incorporating viscoelastic elements with uncertain-but-bounded parameters** *Łasecka-Plura, Magdalena*	**Estimation of nonparametric restoring forces for nonlinear mechanical single-degree-of-freedom systems: a robust and effective approach** *Eberle, Robert*		
S21.02 (G22/208)	**Data driven enhanced methods in terahertz tomography including a partially learned Landweber iteration** *Schuster, Thomas*	**Using feasibility constraints in the data space do deal with unknown rigid motion in (Nano-)CT** *Ehlers, Björn*	**Real data EIT reconstruction using virtual X-rays and deep learning** *Rautio, Siiri*	**Reconstruction of active forces generated by actomyosin networks** *Klass, Emily*	**Motion Correction in Fluorescence Microscopy** *Beutler, Sascha*	
S22.02 (G22/120)	**Identification of temperature-dependent material parameters in piezoelectricity** *Kuess, Raphael*	**Optimal Dirichlet Boundary Control by Fourier Neural Operators Applied to Nonlinear Optics** *Margenberg, Nils*	**Parameter Identification for a Two-Compartment Contrast Flow Field Model** *Externbrink, Sophie*	**Data- and knowledge-constrained splines for the prediction of physical phenomena** *Haag, Claudius*	**Isogeometric methods for the simulation of electric motors considering rotation** *Merkel, Melina*	
S24.01 (G22/112)	**Some remarks on Lode angle and Lode parameter** *Bruhns, Otto Timme*	**Karl Schellbach (1804–1892) – one of the fathers of the Finite Element Method?** *Ullrich, Peter*		**„The fruit trees were in full bloom and the weather allowed coffee to be taken outdoors." New Perspectives on the History of the Association of Applied Mathematics and Mechanics (GAMM) 1920-1970** *Lemberg, Jason*	**On the Heritage of Kurt Magnus in Gyro Technology** *Wagner, Jörg Friedrich*	**Timoshenko and the Creation of new Elements in Teaching Mechanics** *Altenbach, Holm*

	16:30	16:50	17:10	17:30	17:50	18:10
S25.02 (G22/H2)	**Neural ODE for Hamiltonian Systems with Irregular and Noisy Data** *Janik, Konrad*	**Functional SDE approximation inspired by a deep operator network architecture** *Miranda, Charles*	**Approximating Langevin Monte Carlo with ResNet-like Neural Network Architectures** *Schütte, Janina Enrica*	**Blending Finite Volume Fluxes with Reinforcement Learning** *Schmickler, Sophia Ruth*	**Extending denoising diffusion generative models by respecting physical constraints** *Bastek, Jan-Hendrik*	
S26.02 (G22/209)	**Exploring Electrostatic Effects in Aqueous Nanosystems: From Continuum Models to Classical Force Field Simulations and Machine Learning** *Loche, Philip*		**A L^2 maximum principle on the disk with applications to continuum solvation models** *Carvalho Corso, Thiago*	**Julia MolSim: Bridging the Gap between Mathematical Research and Practical Applications in Molecular Simulations** *Travelletti, Cédric*	**Complex Activation and Catalytic Cycles of Deubiquitinylase Enzymes** *Ilter, Metehan*	**Molecular dynamics-based investigation of polymer fracture** *Ries, Maximilian*

Wednesday, March 20

	08:30	08:50	09:10
S02.03 (G22/111)	**The effect of active leg swing on walking template model dynamics** *Renjewski, Daniel*	**Model Order Reduction of Collision Models for Safe Human-Robot Collaboration** *Leinert, Emmely*	**Determination of the mechanical properties of the sacroiliac joint of a dog by imaging measurement methods and model update in a multi-body model** *Daniel, Christian*
S04.03 (G26/H1)	**Kinematic Hardening and Size Effects in Elastoplastic Nonlinear Timoshenko Beams** *Gärtner, Til*	**Isotropic growth model for generalised scaled boundary isogeometric analysis on slender structures** *Spahn, Florian*	**Physics-enhanced neural networks for material modeling in beam theory** *Schommartz, Jasper Ole*
S06.1.01 (G16/H5)	**Merging traditional and neural network material modeling** *Meyer, Knut Andreas*		**On neural networks as propagators in data-driven inelasticity** *Harnisch, Marius*
S07.03 (G16/215)	**Domain decomposition approaches for the saddle point problem of thermoelasticity** *Wasiak, Adam*	**CALPHAD-based thermodynamic modelling and phase field simulations of dendritic solidification in austenitic stainless steel** *Umar, Muhammad*	**Insights from Sustainable Data Management in Investigating Solidification Crack Formation** *Janki, Atin*
S08.03 (G16/054)	**Statistically compatible hyper-reduction for computational homogenization** *Wulfinghoff, Stephan*	**Nonlinear model order reduction using manifold learning techniques for computations on representative volume elements** *Faust, Erik*	**A Comparative Study Between a Phenomenological, a Hybrid Neural Network and a Hyper ROM FE² Approach for Multiscale Simulations** *Lange, Nils*

	08:30	08:50	09:10
S10.01 (G22/216)	**Stochastic modeling of a turbulent hydrogen/nitrogen jet flame in a vitiated coflow** *Starick, Tommy*	**Optimising production of synthetic natural gas (SNG) from methane synthesis** *Rakhi, Rakhi*	**Detached eddy simulation (DES) of a turbulent pre-mixed flame stabilized on a bluff body** *HEMAIZIA, Abdelkader*
S14.03 (G22/218)	**Approximation and existence of a viscoelastic phase-field model for tumour growth in two and three dimensions** *Garcke, Harald*		**Weak stabilty of the three-dimensional axisymmetric Ericksen-Leslie model** *Kortum, Joshua*
S15.03 (G22/105)	**The Quasi Continuous-Level Monte Carlo Method and its Applications** *Barth, Andrea*	**Towards Multilevel Slice Sampling for Bayesian inverse problems** *Bitterlich, Kevin*	**A parallel high-performance multi-level Monte Carlo method with memory constraint and CPU-time budget** *Baumgarten, Niklas*
S16.03 (G22/110)	**Semismooth Newton Methods for Minimization Problems with Box-Constraints in Sobolev Spaces** *Christof, Constantin*		**Sparse representation recovery in convex optimization through a metric non-degenerate source condition** *Carioni, Marcello*
S18.03 (G22/020)	**Solving Nonlinear Finite Element Problems in Hyperelasticity** *Fesefeldt, Lina*	**On recent advancements in the development of Lattice Boltzmann methods for solids** *Müller, Henning*	**Higher order iterative decoupling for poroelasticity** *Mujahid, Abdullah*
S19.03 (G22/211)	**DC Reformulation of Cardinality Constrained Problems in Function Spaces** *Dittrich, Bastian*	**Spatially sparse optimization problems** *Lentz, Anna*	**TV-regularized optimal switching control of PDEs by sequential relaxation** *Bock de Barillas, Paulina*
S20.03 (G22/122)	**A Note on the Local Observability of Uniform Hypergraphs** *Gerbet, Daniel*	**On the Observation of Glucose-Insulin Models** *Röbenack, Klaus*	**Artifacts arising in Harmonic Balance solutions of the softening Duffing oscillator** *Dänschel, Hannes*
S21.03 (G22/208)	**Differential Prony-Type Method for Approximation of the Gaussians** *Derevianko, Nadiia*	**Fourier-Domain Inversion for the Modulo Radon Transform** *Beckmann, Matthias*	**THE INFORMATION GEOMETRY OF SMART** *Elshiaty, Yara*
S22.03 (G22/120)	**Multiscale flow simulations of dilute polymeric solutions with bead-rod chains using Brownian configuration fields** *Meier, Andreas*	**Experiences from the development of a hybrid reduced order stochastic/LES solver for turbulent flows** *Marinković, Pavle*	**Improving the convergence of pseudo-time stepping for CFD simulations with neural networks** *Zandbergen, Anouk*

	08:30	08:50	09:10
S25.03 (G22/H2)	**Greedy Sampling for Parameter Estimation in Partial Differential Equations** *Forootani, Ali*	**Structure preserving inference of mechanical systems** *Filanova, Yevgeniya*	**Learning Linear and Quadratic Dynamical Systems with Guaranteed Stability** *Pontes Duff, Igor*
S26.03 (G22/209)	**Energy-Driven Decision-Making Across Biological Systems: From Gene Regulation to Population Dynamics** *Kumar, Rajneesh*	**Shape-driven simulation of protein self-assembly** *Mayrhofer, Lukas*	**Uncertainty quantification for molecular statics via implicit differentiation** *Maliyov, Ivan*

	10:30
RvML (G26/H1)	**Price winner(s) and title(s) will be announced in the Opening**

	14:00	14:20	14:40	15:00	15:20	15:40
S02.04 (G22/111)	**Multiscale Analysis of Human Dura Mater – From Nano- to Macroscale** *Niestrawska, Justyna Anna*		**Seasonal variation of Elymus for the assessment of ecosystem services** *Liu, Jintian*	**Location and layer-dependent biomechanical characterization of the porcine small intestine wall** *Hasselbeck, Dorina*	**On the morphological and mechanical properties of filamentous pellets along the culture process** *Liu, Qiyue*	**Global sensitivity analysis for biomechanical models with dependent input parameters** *Brandstaeter, Sebastian*
S03.03 (G22/013)	**Microscale Modeling of Damage Mechanisms in Dual-Phase Steel DP800** *Niehüser, Alexander*	**INFLUENCE OF IMPACT LOADING ON CREEP, DAMAGE AND FRACTURE OF METALS** *Breslavsky, Dmytro*	**Concurrent Approximation of Rank-One Convex Envelopes with Application to Continuum Damage Mechanics** *Köhler, Maximilian*	**On the path-dependence of ductile damage models** *Feike, Klas*	**Mixed finite element implementation of plane crack problems within strain gradient elasticity** *Nazarenko, Lidiia*	**Analysis of failure of fibre-reinforced high performance concretes due to low cycle fatigue** *Brands, Dominik*
S04.04 (G26/H1)	**Inverse Problem for Parameterizing Nonlinear Elastic Bending Behavior for Cable Simulation** *Zhao, Tian*		**Test Rig for Validating the Integrated Motion Measurement of Flexible Beams** *Kohl, Michael*	**Simultaneous solution of implicitly defined curved, linear Timoshenko beams in two-dimensional bulk domains** *Kaiser, Michael Wolfgang*	**A direct peridynamic-type beam theory** *Naumenko, Konstantin*	**A variational approach to inelastic Cosserat rods in the plane** *Linn, Joachim*

	14:00	14:20	14:40	15:00	15:20	15:40
S05.03 (G22/217)	**Numerical detection of suppression of quasi-periodic solutions** *Seifert, Alexander*	**SBFEM with perturbation method for solving the Reynolds equation** *Pfeil, Simon*	**Shape optimization for MEMS gyroscopes** *Hörsting, Marian*	**Modeling of oscillating piezoelectric actuators with cracks** *Riedel, Simon*		
S06.1.02 (G16/H5)	**Damage-Plasticity Models at Finite Strains: Gradient-Enhancements, Calibration and Numerics** *Mergheim, Julia*		**Quantification of the effect of uncertainty of material parameters on damage initiation in finite strain elastoplasticity** *Böddecker, Merlin*	**Modeling and identifying yield stress and Taylor-Quinney factor using a thermodynamic consistent constitutive theory and infrared thermography measurements** *Lalovic, Nikola*	**An experimental and numerical benchmark: Evolution of forming induced residual stresses under cyclic loading** *Schneider, Tom*	**Modelling cyclic behavior of high-temperature steels: a two-time-scale approach** *Knape, Katharina*
S07.04 (G16/215)	**Framework for an electro-chemo-mechanical multi-component multi-phase-field corrosion model** *Dittmann, Jan*	**A combined explicit-implicit approach for robust finite cell simulations of phase field fracture** *Hosseini, Seyed Farhad*	**A Finite Element Approach to Multiphysical Problems in Poroelasticity** *Reiff, Pit*		**Dual-phase field models for immiscible fluid flow through fractured unsaturated porous media** *Peters, Sven*	**Non-intrusive inference of digital twins from conjugate, multiphase, porous media models to enable autonomous processes** *Kannapinn, Maximilian*
S08.04 (G16/054)	**Machine learning for the forward and inverse homogenization of cellular materials** *Kochmann, Dennis M.*		**From microgeometry to macroscopic modeling of porous materials enhanced by deep neural networks** *Heider, Yousef*	**A Machine Learning Approach for a Statistical Homogenization Method for Elastic Two-phase Materials** *Schmollack, Luzie*	**Multiscale modeling of anisotropic finite strain elasticity with physics-augmented neural networks and generalized structure tensors** *Kalina, Karl*	**Surrogate elements for nonlinear microstructures using physics-enhanced machine learning** *Li, Wei*
S10.02 (G22/216)	**Numerical studies in compressible thermal convection flows** *Schumacher, Jörg*	**Numerical Study on the Effects of Transient Pressure Gradients on Isothermal and Heated Pipe Flows** *Polasanapalli, Sai Ravi Gupta*	**Stochastic modeling and theoretical analysis of heated concentric coaxial pipes at low Prandtl number** *Tsai, Pei-Yun*		**Measurement of active grid generated turbulence** *Szaszák, Norbert*	

	14:00	14:20	14:40	15:00	15:20	15:40
S12.01 (G22/112)	**Integrated approach for automated structural health monitoring of steel pipes through long-range ultrasonic testing and machine learning** *Kapoor, Garima*	**Optimizing Structural Health Monitoring Systems: A 2D Numerical Investigation on Impedance Matching for FML with Integrated Sensors** *Rottmann, Max*	**Analysis of wave scattering at the common interface of piezoelectric media half-spaces under surface/interface elasticity theory** *Nath, Arindam*	**Surface effects on wave propagation in piezoelectric-piezomagnetic bilayer loosely bonded thin plates using nonlocal theory of elasticity** *Mondal, Subrata*		
S14.04 (G22/218)	**The Anisotropic Cahn–Hilliard Equation: Regularity Theory and Strict Separation Properties** *Wittmann, Julia*	**Mathematical analysis of phase separation on evolving surfaces** *Poiatti, Andrea*	**On a convective Cahn-Hilliard system with dynamic boundary conditions** *Stange, Jonas*	**Existence of weak solutions to a Cahn-Hilliard-Biot system** *Haselböck, Jonas*	**Curvature-driven pattern formation in Biomembranes** *Pešić, Anastasija*	**Nonlocal-to-Local Convergence for a Diffuse Interface Model for Two Phase Flow with Matched Densities** *Hurm, Christoph*
S15.04 (G22/105)	**Dynamical and neural network approaches to down-scaling of noisy and partial observations** *Knio, Omar*		**Bifurcation diagrams of PDEs with parametric uncertainty** *Piazzola, Chiara*	**Koopman Mode Decomposition of a system with uncertain parameters** *Gießler, Stephanie*	**Sensitivity Analysis for Bifurcations in Random Ordinary Differential Equations** *Lux-Gottschalk, Kerstin*	**On finite dimensional noise and finite dimensional models in uncertainty quantification** *Starkloff, Hans-Jörg*
S16.04 (G22/110)	**Application of a Projection type method on Shape and Topology Optimization Problem concerning Additive Manufacturing** *Urmann, Maximilian*	**Mesh-independent topology optimisation in the H^1 Sobolev space** *Habera, Michal*	**Convergence of a steepest descent algorithm in shape optimisation using W1,∞functions** *Hinze, Michael*	**A differential geometric point of view on shape optimization** *Pryymak, Lidiya*	**Geometry-based Solutions to Multivariate Minimization Problems** *Hütter, Sebastian*	**A set-valued stochastic approximation analysis of two-timescale actor-critic reinforcement learning with non-linear function approximation and clipped gradients** *Redder, Adrian*
S18.04 (G22/020)	**Divergence-conforming methods for transient double-diffusive flows** *Bürger, Raimund*	**Structure preserving variational approximation of dynamic poroelasticity in first-order form** *Bause, Markus*	**Structure-Preserving Numerical Methods for Nonlinear Dispersive Wave Equations** *Lampert, Joshua*	**Structure-Preserving Time Discretization of Port-Hamiltonian Systems via Discrete Gradient Pairs** *Schulze, Philipp*	**Structure-preserving numerical methods for Fokker-Planck equations** *Bartel, Hanna*	

	14:00	14:20	14:40	15:00	15:20	15:40
S19.04 (G22/211)	**On Stabilizing Model Predictive Control for Generalized Nash Equilibrium Problems** *Topalovic, Antonia*	**Stabilizability of RHC for linear nonautonomous parabolic equations under uncertainty** *Azmi, Behzad*	**Feedback stabilization of parabolic equations. State estimation errors and model disturbances.** *Rodrigues, Sergio S.*	**Convergence result of smooth approximations of feedback laws to optimal control problems with non-differentiable value function** *Vásquez-Varas, Donato Maximiliano*	**Feedback control of parameter-dependent linear systems** *Guth, Philipp A.*	
S20.04 (G22/122)	**Data-based methods for control: Why and how to incorporate machine learning** *Bieker, Katharina*		**High Gain Observer Design for Nonlinear Systems using Machine Learning** *Fiedler, Julius*	**Partial observations, coarse graining and equivariance in Koopman operator theory for large-scale dynamical systems** *Peitz, Sebastian*	**Online learning with joint state and model estimation** *Götte, Ricarda-Samantha*	**Adaptive Data-Driven Models in Port-Hamiltonian Form for Control Design** *Junker, Annika*
S21.04 (G22/208)	**Algorithmic regularization in asymmetric over-parameterized matrix sensing** *Stöger, Dominik*	**Unraveling Acoustic Signal Patterns in Fisheries Through DINO-Based Self-Supervised Learning** *Pala, Ahmet*	**Comparing the Performance of Beamformer Algorithms in Estimating Orientations of Neural Sources** *Höltershinken, Malte Bernhard*			
S22.04 (G22/120)	**GPU Acceleration of a General Purpose Finite Element Framework** *Richter, Thomas*	**Floating-point accuracy and symbolic spectral decomposition of 3x3 matrices** *Zilian, Andreas*	**Improving performance of the ICON-O ocean model using parallel spectral deferred corrections** *Freese, Philip*	**Low-rank Lyapunov ADI on the GPU** *Schulze, Jonas*	**Multilevel Block Partitioning for Solving Sylvester-like Matrix Equations** *Köhler, Martin*	**Numerical realization of the Mortensen observer via a Hessian-augmented polynomial approximation of the value function** *Schröder, Jesper*
S25.04 (G22/H2)	**A Recursive Multilevel Algorithm for Deep Learning** *Jacob, Isabel*	**Frank-Wolfe Algorithms for Abs-smooth functions** *Tadinada, Sri Harshitha*	**Iteratively Reweighted Least Squares Recovery on Tensor Networks** *Kraemer, Sebastian*	**Variationally correct methods for model reduction of parameterized transport equations by neural networks** *Oster, Mathias*	**On automated model discovery and a universal material subroutine** *Kuhl, Ellen*	

	14:00	14:20	14:40	15:00	15:20	15:40
S26.04 (G22/209)	**Tensor-Based Approaches for Modeling and Simulation of Molecular Systems** *Gelß, Patrick*		**Symmetries and tensor train representation of electronic wave functions** *Dupuy, Mi-Song*	**Numerical Experiment on changing tensor network topology in DMRG calculations for strongly correlated systems.** *Boamah, Elizabeth Adomako*	**Predicting the Full CI energy of large systems to chemical accuracy from restricted active space density matrix renormalization group calculations** *Friesecke, Gero*	

	16:30	16:50	17:10	17:30	17:50	18:10
S01.01 (G22/217)	**Characterization of the behavior of slender, soft robots** *Schindler, Leon*	**Real-time Models for Systems with Costly or Unknown Dynamics** *Bestle, Dieter*	**Multi-Criteria Hydraulic Turbine Optimization using a Genetic Algorithm and Trust-Region Postprocessing** *Rentschler, Tobias*	**Exploring the Optimal Leg-Stiffness in a 2D Monoped** *Raff, Maximilian*	**Simulation of Thermical and Dynamical Behavior of High-Precision Optical Systems** *Eberhard, Peter*	
S02.05 (G22/111)	**Using active learning and surrogate models in the inverse viscoelastic parameter identification of human brain tissue** *Hinrichsen, Jan*	**Modeling the porous properties of brain tissue** *Greiner, Alexander*	**A constitutive relation for human brain tissue obtained using an inverse technique and the numerical study of existence of non-classical solutions** *Das, Mrunal Kanti*	**Construction of a Hyperelastic Potential for human brain tissue using an Inverse Method and its Finite Element Implementation to study 3D Boundary Value Problems** *Vaidya, Yagnik Kalpeshkumar*	**Coupling of neuronal excitation and mechanosensitive ion channel activation in the human brain** *Werneck, Linda*	
S03.04 (G22/013)	**M-Integral and energy-release rates: A didactical account** *Kienzler, Reinhold*			**Lifetime prediction for cyclic material behavior – Application to multiaxial fatigue** *Langenfeld, Kai*	**Geometric and Constitutive Modeling of MgO-C Refractories Based on Recyclates for Thermo-Mechanical Simulations** *Gopi, Jishnu Vinayak*	**Analysis of damage and failure behavior of additively manufactured stainless steel 316L by biaxial experiments** *Gerke, Steffen*
S04.05 (G26/H1)	**Lattice structures as an energy-absorbing component for impact loads** *Bieler, Sören*	**Investigating Auxetic Elements to Enhance Energy Absorption in Flexible Structures: An Integrated Experimental and Numerical Approach** *Pi Savall, Berta*	**Numerical and Experimental Modeling of the Mechanical Behavior of Syntactic Foam (lightweight aggregates - Aluminum 2024)** *Sadeghpourhaji, Reza*	**Simulations of superelastic lattice materials manufactured by additive manufacturing using a hypoelastic material model** *Schasching, Marius M.*	**Tuning the buckling behaviour of slender, material extrusion manufactured collinear stayed polymer lattices** *Ou, Yating*	**A robust finite strain isogeometric solid-beam element towards simulations of microlattice structured Li-ion battery electrodes** *Shafqat, Abdullah*

	16:30	16:50	17:10	17:30	17:50	18:10
S06.2.03 (G16/H5)	**Design and application of inelastic Constitutive Artificial Neural Networks (iCANN)** *Holthusen, Hagen*		**Exploring the possibilities of physically enhanced neural networks in advanced material modeling** *Maurer, Lukas*	**How to incorporate physical information into ANNs by physics-based Rao-Blackwellization: Example of isotropic rubber elasticity** *Geuken, Gian-Luca*	**An expanded model for the evolution of olivine crystals** *Haddenhorst, Hendrik Holger*	**Identifying Fiber Orientation and Fiber Volume Fraction Distributions in a Commercial Paperboard for Computational Modelling** *Neumann, Johannes*
S07.05 (G16/215)	**Modeling coupled damage processes in porous media across the scales** *Jänicke, Ralf*	**Numerically efficient solution methods in highly nonlinear variational thermoinelasticity** *Goldbeck, Hauke*	**Implementation of a thermomechanically coupled constitutive model for single-crystalline SMA based on an Augmented Lagrangian formulation** *Löps, Paul*	**Thermomechanically coupled finite element formulation for strain-induced crystallization** *Tang, Xuefeng*	**Thermomechanical analysis of strain recovery in shape memory alloys under variable non-isothermal conditions** *Descher, Stefan*	**Basic problems of steady vibrations in the coupled theory of thermoelastic nanomaterials with triple porosity** *Svanadze, Merab*
S08.05 (G16/054)	**Revisiting Cohesive composite boxels with imperfect interfaces: Challenges and Limitations** *Keshav, Sanath*	**Influence of grain boundaries on the overall diffusivity in polycrystalline solids** *Scholz, Lena*	**A computational homogenisation approach accounting for interfaces in electrical conductors** *Güzel, Dilek*	**Single-species diffusion in particle-matrix composites using a dual-potential model from computational homogenization** *Rollin, David*	**Investigation of elastic and inelastic size effects in composites using micromorphic multiscale simulations** *Malik, Alexander*	
S11.01 (G22/216)	**Modeling and Simulation of Simultaneous Transport and Incompressible Flows on all Level Sets in a Bulk Domain** *Fries, Thomas-Peter*		**Unstructured Finite-Volume Arbitrary Lagrangian / Eulerian Interface Tracking computational framework for incompressible two-phase flows with surfactants** *Schwarzmeier, Moritz*	**hp-Adaptive Simulation of Compressible Two-Phase Flows with Phase Transition** *Mossier, Pascal*	**Simultaneous experimental analysis of concentration and velocity fields in gravity-driven inclined liquid film flows over smooth and microstructured surfaces** *Weigelt, Johann*	**Capabilities and limitations of Smoothed Particle Hydrodynamics for the simulation of two-phase flow instabilities** *Vallem, Rishindra*
S12.02 (G22/112)	**An investigation of wave characteristics in Peridynamic media using Nonlocal Helmholz decomposition** *Dhua, Sudarshan*	**Impact of Surface/interface effect on the propagation of shear wave in a composite piezoelectric cylinder** *Maji, Arpita*	**A case study on the damage detection of beams via the time reversal method** *Huguet, Mélissandre*			

	16:30	16:50	17:10	17:30	17:50	18:10
S14.05 (G22/218)	**Time-periodic flow past a body: Approximation by problems on bounded domains** *Eiter, Thomas*		**Rotating solutions to the incompressible Euler-Poisson equation with external particle** *Kepka, Bernhard*		**Quantitative Analysis for the Ill-Posedness of the Prandtl Equations** *De Anna, Francesco*	
S15.05 (G22/105)	**Neural network based operator surrogates for elliptic PDEs** *Marcati, Carlo*		**Adaptive multilevel Neural Networks for parametric PDEs with error control** *Eigel, Martin*	**Adaptive sparse grid methods with kink detection for uncertainty quantification in gas networks** *Wilka, Hendrik*	**Application of Isogeometric Analysis for Interval Analysis** *Manque, Nataly*	**Unlocking Possibilities: Quantifying Imprecise Probabilities with Possibility Theory** *Hanss, Michael*
S16.05 (G22/110)	**Using a Quadratic Constrained Active Signature Method to Solve Nonsmooth Retail Portfolio Maximization Problems** *Kreimeier, Timo*	**Towards a practical conjugate gradients method for semismooth problems** *Bethke, Franz*	**About Solving Complementarity Problems by Combining SCIP with a Piecewise Linear Solver** *Schmidt, Adrian*			
S17.01 (G22/208)	**Numerical linear algebra for data assimilation** *Tabeart, Jemima M.*		**Balanced Truncation using Noisy Gramians for Bayesian Inverse Problems with Quadratic Nonlinearity** *König, Josie*	**Low-Rank Multi-Patch IGA** *Riemer, Tom-Christian*	**Real-world datasets ideality for photometric stereo under unknown lighting** *Crabu, Elisa*	**On the injectivity radius of the Stiefel manifold** *Stoye, Jakob*
S18.05 (G22/020)	**On a Hybridized Domain Decomposition Formulation** *Seibel, Timon*	**Matrix-free algorithms for finite element solvers in nearly incompressible hyperelasticity** *Schussnig, Richard*	**Comparison between block preconditioner and monolithic preconditioner for iterative solution of coupled multi-field problems from generalized continuum models** *Alkmim, Nasser*	**Differentiability Matching and Z-Score Normalization in Piecewise Approximated Physics Informed Neural Networks for Solving PDEs** *Kong, William*	**Relaxation based methods for the coupling of nonconservative hyperbolic systems** *Kolbe, Niklas*	

	16:30	16:50	17:10	17:30	17:50	18:10
S19.05 (G22/211)	**Shape optimization for Maxwell's equations** *König, Philipp*	**Shape Optimization by Constrained First-Order System Least Mean Approximation** *Starke, Gerhard*	**Eigenvalue Optimization for Elastic Structures with a Phase Field approach** *Kahle, Christian*	**Eigenvalue optimization with respect to shape-variation in electromagnetic cavities** *Herter, Christine*	**Computing Multiple Local Minimizers of Topology Optimization Problems and Application for Hydrogen Electrolysis Cell Design** *Baeck, Leon Niklas*	**Analysis of an optimization problem for a piezoelectric energy harvester** *Kaltenbacher, Barbara*
S20.05 (G22/122)	**Learning-based robust funnel MPC** *Dennstädt, Dario*	**Safe data-driven power grid synchronization** *Lanza, Lukas*	**The tangential AAA algorithm for learning MIMO-DAE dynamical systems from frequency-domain data** *Gosea, Ion Victor*	**Unveiling the Promise of Event Cameras for Underwater Robotics Localization for Agile Navigation** *Alvarez-Tunon, Olaya*	**Possibilistic Robot Localization Using Visual Landmarks** *Könecke, Tom*	**Reversible methods in deep learning** *Maslovskaya, Sofya*
S25.05 (G22/H2)	**Sparsity-Inspired Regularization for Image Reconstruction** *Neumayer, Sebastian*		**Analyzing Concrete Pavement Damage Progression Using Image Dataset Techniques** *Garita-Duran, Hellen*	**Neural Galerkin schemes that can preserve Hamiltonians and other quantities** *Schwerdtner, Paul*	**Deep Learning for Structure-Preserving Universal Stable Koopman-Inspired Embeddings for Nonlinear Canonical Hamiltonian Dynamics** *Yıldız, Süleyman*	
S26.05 (G22/209)	**Reduced basis surrogates for quantum spin systems based on tensor networks** *Stamm, Benjamin*	**Numerical simulation of the Gross–Pitaevskii equation via vortex-tracking** *Kemlin, Gaspard*	**Using a posteriori error estimators to construct low-cost solution strategies for the Gross-Pitaevskii equation** *Hassan, Muhammad*			

Thursday, March 21

	08:30	08:50	09:10	09:30	09:50	10:10
S01.02 (G22/217)	**Multimodal 3D Reconstruction of Icy Surfaces for Robotic Applications: A Dataset and Analysis** *Kaastrup-Hansen, Amalie*	**Imitation learning for graph search algorithms and super-smooth spline in navigation of mobile robots: a case study on Turtlebot** *Oveisi, Atta*	**Effectiveness of lightweight neural network in imitating model predictive controllers in robotics** *Pal, Amit Kumar*			
S02.06 (G22/111)	**Computer Simulation of Damage, Fiber Realignment, Growth, and Smooth Muscle Activation in Arteries in Health and Disease** *Balzani, Daniel*		**Correlative analysis of highly resolved AAA wall composition and strain in mice** *Wittek, Andreas*	**Fast and Reliable Reduced-Order Models for Cardiac Electrophysiology** *Chellappa, Sridhar*	**Towards Integral Validation Strategies of Active Cardiac Contraction Models** *Ogiermann, Dennis*	
S03.05 (G22/013)	**A monolithic approach to the phase-field modeling of brittle fracture using the scaled boundary finite element method** *Pasupuleti, Ajay Kumar*	**Acceleration of immersed computations of brittle phase-field fracture utilizing moment fitting schemes** *Gorji, Mahan*	**Model-based analysis of surface roughness on fatigue processes** *Yan, Sikang*	**Phase-field damage models for brutal crack growth: An adaptive time-discretization method** *Rörentrop, Felix*	**Efficient phase-field models for ductile fatigue fracture** *Kalina, Martha*	**An eXtended Phase-Field Method for 2D Simulations of Fatigue Fracture Processes** *Krüger, Christian*

	08:30	08:50	09:10	09:30	09:50	10:10
S04.06 (G26/H1)	**Physics-based machine learning model for the manufacturing of thermo-plastic composites** *Hürkamp, André*	**Artificial neural networks for structural damage detection and localization** *Freitag, Steffen*	**Advanced discretization techniques for hyperelastic physics-augmented neural networks** *Franke, Marlon*	**Physics-Informed Neural Networks for Material Model Calibration** *Wessels, Henning*	**Advanced Parameter Identification for Structural Steel Modeling: Integrating Multiple Load Protocols with Convolutional Neural Networks** *Altay, Okyay*	**Physics informed neural networks in structural dynamics** *Polydoras, Vasileios*
S06.2.04 (G16/H5)	**Mechanical data acquisition for microgels** *Khiêm, Vu Ngoc*	**Remarks on parameter identification using finite elements and full-field data** *Hartmann, Stefan*		**Process simulation for thermal powder bed fusion additively manufactured glasses based on the Hamilton principle using Neigbor Element Methode (NEM)** *Rudolf, Tobias*	**One-point integration for T2 elements in viscoelasticity** *Choi, Yongbin*	**Topology optimization for precipitation hardening in ferroelectric material** *Bohnen, Matthias*
S07.06 (G16/215)	**On the effects of coupling in a thermo-chemo-mechanically model** *Gisy, Johannes*	**Thermo- and chemo-elastic beam modeling and simulation with isogeometric collocation methods** *Alzate Cobo, Juan Camilo*	**Hygro-thermo-mechanical modelling of frozen ground and shotcrete interaction during tunneling excavation** *Williams Moises, Rodolfo Javier*	**Coupled chemo-electro-mechanical model for galvanic corrosion in clinched components** *Harzheim, Sven*	**Implementation of a Finite-Element Framework Coupling Chemo-Mechanics and the Non-Local Gurson-Tvergaard-Needleman Model** *Patil, Siddhi Avinash*	
S08.06 (G16/054)	**Thermo-mechanically coupled Nonuniform Transformation Field Analysis of heterogeneous solids** *Fritzen, Felix*	**Mesh- and model adaptivity for NTFA and full-field elasto-plastic homogenization based on downwind and upwind approximations** *Tchomgue Simeu, Arnold*	**A hyperelastic-plastic mean-field-method at large deformations with damage for CFRP** *Zhan, Yingjie*	**Parameterized hyperelastic material modeling and multiscale topology optimization with physics-augmented neural network constitutive models** *Weeger, Oliver*	**Nonlinear electro-elastic finite element analysis with neural network constitutive models** *Klein, Dominik K.*	
S11.02 (G22/216)	**Mathematical analysis of modified level-set equations** *Soga, Kohei*		**Two-Phase Flow Simulations in a Space-Time Framework for Injection Molding Applications** *Ferrer Fabón, Blanca*	**Viscous Two Layer Gravity Driven Flows** *Ellermeier, Wolfgang F*	**On the kinematic transport of sectional curvatures for a moving hypersurface** *Fricke, Mathis*	

	08:30	08:50	09:10	09:30	09:50	10:10
S14.06 (G22/218)	**Modeling and optimization of optical resonances.** *Karabash, Illia*		**Parameter-asymptotic behavior of integro-differential models of nonlinear acoustics** *Meliani, Mostafa*	**Large Data Solutions to 1-D Hyperbolic Systems, Ill-Posedness, and Convex Integration** *Krupa, Sam Gittleman*	**Self-similar behaviour for Boltzmann-type equations** *Throm, Sebastian*	**Bifurcation and Asymptotics of Cubically Nonlinear Transverse Magnetic Surface Plasmon Polaritons** *He, Runan*
S15.06 (G22/105)	**Consensus-Based Rare Event Estimation** *Ullmann, Elisabeth*		**Computing upper probabilities of failure using optimization algorithms together with importance sampling.** *Fetz, Thomas*	**Probabilistic microstructural modelling of the failure initiation process in cast iron** *Hohe, Jörg*	**Less interaction with forward models in Langevin dynamics: Enrichment and Homotopy** *Sommer, David*	**Modelling Distributions with Wasserstein Proximal methods and Low-Rank Tensor Decompositions** *Aksenov, Vitalii*
S17.02 (G22/208)	**Riemannian optimization on the symplectic Stiefel manifold** *Stykel, Tatjana*	**Optimization of Approximate Maps for Linear Systems Arising in Discretized PDEs** *Islam, Rishad*	**Preconditioning and deflation in the action of the matrix sign function with an application to Lattice QCD** *Ramirez-Hidalgo, Gustavo*	**Recycling of Krylov subspaces in the simulation of nonlinear dynamic systems** *Stellmach, Laurenz*	**Struture preserving approximations to Cayley transforms** *Frommer, Andreas*	**Reorthogonalized Pythagorean variants of block classical Gram Schmidt** *Oktay, Eda*
S18.06 (G22/020)	**A posteriori error estimates for nonconforming discretizations of singularly perturbed biharmonic operators** *Gallistl, Dietmar*	**A posteriori error estimates for numerical approximations of the Keller-Segel system** *Giesselmann, Jan*	**A-posteriori error estimates for systems of hyperbolic conservation laws** *Sikstel, Aleksey*	**A Posteriori Error Estimation and Adaptivity for Temporal Multiscale Problems** *Lautsch, Leopold*	**Goal oriented error estimation for space-time adaptivity in phase-field fracture** *Kosin, Viktor*	
S19.06 (G22/211)	**Numerical Analysis for Dirichlet Optimal Control Problems on Convex Polyhedral Domains** *Vexler, Boris*	**Numerical analysis of optimal control problem along curves in three dimensions.** *Leykekhman, Dmitriy*	**Error Estimates for Optimal Control of the Instationary Navier-Stokes Equations Subject to State Constraints** *Wagner, Jakob*		**Identification of the basal drag parameter in ice sheet models using L-curves** *Höyns, Lea-Sophie*	**Parameter identification of ice rheology and bottom friction for glaciers** *Schmidt, Niko*

	08:30	08:50	09:10	09:30	09:50	10:10
S20.06 (G22/122)	**Funnel MPC for nonlinear systems with arbitrary relative degree** *Berger, Thomas*	**Model complexity optimization of equivalent dynamical linearization data models used in model-free adaptive control based on bias/variance trade-off** *Salighe, Soheil*	**Systematic Parameter Study on Joint Level Impedance Control - Towards a Variable Impedance Control Scheme for Legged Robots** *Kist, Arian*	**Dual Quaternion parametrization of a Sliding Mode Control with Artificial Potential Functions** *Stankovic, Ana*	**Design of Two Coupled Fuzzy Controllers for a Planar Direct Internal Reforming Solid Oxide Fuel Cell** *Zhai, Tianyu*	**A two-step order reduction approach of incompressible Navier-Stokes equations for H-infinity robust nonlinear controller design** *Heiland, Jan*
S23.01 (G22/112)	**A spectral inclusion property of essential spectrum of operator pencils** *Wilson, Mitsuru*		**Spectrum of the Maxwell Equations for a Flat Interface between Homogeneous Dispersive Media** *Dohnal, Tomas*			
S25.06 (G22/H2)	**GAN Enables Outlier Detection and Property Monitoring for Additive Manufacturing of Complex Structures** *Henkes, Alexander*	**Interconnection of port-Hamiltonian systems with port-Hamiltonian Neural Networks** *Peters, Till*	**On minimizing the training set fill distance in machine learning regression** *Climaco, Paolo*	**Driving on a racetrack with a hybrid reinforcement learning approach** *Gottschalk, Simon*		
S26.06 (G22/209)	**Learning effective dynamics via kernel-based approximation of Koopman generator** *Nateghi, Vahid*	**Boltzmann Generators as Optimal Transport Problems** *Winters, Quinn Campbell*	**Active, Multi-Fidelity Learning for Efficient Molecular Machine Learning** *Zaspel, Peter*	**Artificial Intelligence based detection of local spots in network materials prone to mechanical failure.** *Bachhav, Bhagyashri*	**Coupling continuum and high fidelity models with multilevel on-the-fly sparse grids** *Hülser, Tobias*	

	11:00
PL4 (G26/H1)	**Dynamics and control of aerial manipulation** *Beitelschmidt, Michael*

	12:00
PL5 (G26/H1)	**Conquering the quantum world: old problems and new challenges for the applied mathematics community** *Cancès, Eric*

	14:00	14:20	14:40	15:00	15:20	15:40
S01.03 (G22/217)	**Optimisation of the hammer throw using parameterised synthetic motion kinematics in a multi-body system (MBS)** *Schmidtchen, Fabian*	**Development of a kinematic model for a free kinematic forming process to compute the tool trajectory** *Ekanayaka, Virama*	**Analysis of dynamic absorption system with a nonlinear damper described by a fractional-order model** *Nešić, Nikola*	**Nonlinear dynamics of group rolling of bodies between concentric circle paths** *(Stevanović) Hedrih, Katica*		
S02.07 (G22/111)	**Immersed boundary approach for vascularized tissues** *Belponer, Camilla*	**Generation of organ-scale synthetic vasculature using mathematical optimization** *Jessen, Etienne*	**A multi-compartment perfusion model of blood flow through deformed hierarchical vessel networks** *Hohl, Jannes*	**Coupling of a perfusion model to a poroelastic-growth model for modeling liver tissue regrowth** *Ebrahem, Adnan*	**Towards multi-scale model selection for rare data applications in life sciences** *Reisch, Cordula*	**Multiphase Modeling and Simulation of Function-Perfusion Processes in the Human Liver on Different Scales** *Lambers, Lena*
S03.06 (G22/013)	**Limitations of finite interface width in phase field simulations and solutions by the example of quasi-brittle damage evolution** *Kurzeja, Patrick*	**On the influence of a nonlinear viscosity in a viscoelastic phase field model for fracture in ice** *Sondershaus, Rabea*	**An Enriched Phase-Field Approach to Fracture: Transformed Phase-Field Ansatz (Part 1)** *Löhnert, Stefan*	**An Enriched Phase-Field Approach to Fracture: Enrichment of the Displacement Field (Part 2)** *Curoșu, Verena*	**Prescribing traction-separation-laws to phase-field modelling of cohesive fracture** *Lammen, Henning*	
S04.07 (G26/H1)	**Simulation of viscoplastic structures under material uncertainties using time-separated stochastic mechanics** *Geisler, Hendrik*	**Numerical analysis of the stress-based formulation of linear elasticity** *Sky, Adam*	**Variational three-field reduced order modeling for nearly incompressible materials** *Shamim, Muhammad Babar*	**Mitigation Techniques for Volumetric Locking in the Implicit Material Point Method (MPM)** *Meyer, Julian*	**Stabilization-free Virtual Element Method for 3D Hyperelastic Applications** *Xu, Bing-Bing*	**Mathematical Foundation of the Master-Slave Elimination for Arbitrary Nonlinear Multi-Point Constraints** *Boungard, Jonas*
S06.1.03 (G16/H5)	**An efficient implementation of a micromorphic gradient extended, rate-independent single crystal plasticity model based on an Augmented Lagrangian formulation** *Prüger, Stefan*	**Barrier parameter update strategies for interior-point methods in single crystal plasticity** *Steinmetz, Felix*	**On discrete conservation of constraints in microstructure evolution** *Bode, Tobias*	**On the adaptive solution of phase-field problems with A-stable explicit last-stage diagonally implicit Runge-Kutta (ELDIRK) methods** *Westermann, Hendrik*	**Latent heat in a thermo-mechanical theory for inclusion growth prediction via the multiphase-field method** *Prahs, Andreas*	

	14:00	14:20	14:40	15:00	15:20	15:40
S07.07 (G16/215)	**Domain wall dynamics in cubic magnetostrictive materials subject to Rashba effect and nonlinear dissipation** *Dwivedi, Sharad*	**Finite element based micromagnetic simulations of heterogeneous microstructres** *Reichel, Maximilian*	**Fully-Coupled Finite Element Implementation of a Constitutive Model for Magnetic Shape Memory Alloys** *Jeeja, Akshay Balachandran*	**Effect of nonlinear viscous dissipation on magnetic domain wall motion in transversely isotropic hexagonal magnetostrictive materials** *Maity, Sumit*	**Analytical and numerical investigations of Maxwell-stress-induced higher-order singularities in cracked dielectrics and piezoelectrics** *Behlen, Lennart*	**Impact of inertial and nonlinear damping effects on the strain-induced domain wall motion in bilayer composite structure** *Dolui, Sarabindu*
S08.07 (G16/054)	**A linear algebra perspective on FFT-accelerated finite element solvers for periodic homogenization** *Zeman, Jan*		**FFT-based computational micromechanics with essential boundary conditions** *Risthaus, Lennart*	**Fourier vs. Radon approach to computational homogenization** *Jabs, Lukas*	**Multiscale(FE-FFT) approach to topology optimization using phase-field methods to generate intentionally designed porous structures** *Yaraguntappa, Basavesh*	**FE-DeepONet: A hybrid solver based on physics-informed deep operator networks for multiscale simulations** *Eivazi, Hamidreza*
S11.03 (G22/216)	**Parametric finite element approximation of two-phase Navier–Stokes flow with viscoelasticity** *Trautwein, Dennis*		**An unstructured geometrical unsplit VOF method for viscoelastic two-phase flows** *Asghar, Muhammad Hassan*	**Phase-field modeling and computation of mixture flows** *ten Eikelder, Marco*	**Bridging the scales in capillary rise dynamics with complexity-reduced models** *Raju, Suraj*	
S14.07 (G22/218)	**Analysis of a drift-diffusion model for perovskite solar cells** *Glitzky, Annegret*		**Analysis of a Soap Film Catenoid Driven by an Electrostatic Force** *Schmitz, Lina*	**New results on global bifurcation of travelling periodic water waves** *Weber, Jörg*	**The two-phase periodic Stokes flow in the plane driven by surface tension and gravity** *Böhme, Daniel*	
S17.03 (G22/208)	**Sketched and truncated Krylov methods for core linear algebra problems** *Schweitzer, Marcel*		**A new rational Krylov subspace based projection method for solving large-scale algebraic Riccati equations via low-rank approximations** *Faßbender, Heike*	**Extreme solutions of algebraic Riccati inequalities** *Mehrmann, Volker*	**Low-rank solution of restricted discrete-time Gramians** *Kürschner, Patrick*	

	14:00	14:20	14:40	15:00	15:20	15:40
S18.07 (G22/020)	**Two Discretisations of the Time-Dependent Bingham Problem** *Schedensack, Mira*	**Time integration in spectral methods for reaction diffusion equations** *Pulch, Roland*	**Time discretisation of parabolic problems on evolving domains by means of a Crank-Nicolson scheme and implicit extensions** *Frei, Stefan*	**A Second-Order Iterative Time Integration Scheme for Linear Poroelasticity** *Deiml, Matthias*	**A second order accurate in time positivity preserving scheme for a Chemotaxis system** *Pervolianakis, Christos*	
S19.07 (G22/211)	**Robust PDE Constrained Design Optimization of Electrical Machines with Isogeometric Analysis** *Komann, Theodor*	**Riemannian shape optimization of thin shells using isogeometric analysis** *Rosandi, Rozan*	**Shape optimization on Riemannian manifolds including nonsmoothness** *Suchan, Tim*	**A Trust-Region Method for p-Harmonic Shape Optimization** *Wyschka, Henrik*	**Constrained Best Approximation of Symmetric Shape Tensors and its Role for the Determination of Shape Gradients** *Hetzel, Laura*	**Shape Optimization of a Bipolar Plate using a Dimension Reduction Approach** *O'Reilly, Cymoen*
S20.07 (G22/122)	**Boundary control of distributed-parameter systems: A solution-based approach** *Irscheid, Abdurrahman*		**Control design for convection-reaction systems with storage effects and positive relative degree** *Wurm, Jens*	**Open-Loop Control of Shallow Water Waves in a Tube with Moving Boundary in Material-Fixed Coordinates** *Mayer, Luca*	**Trajectory tracking control based on computer vision of a two-way soft prototype actuated with SMA wires** *Acevedo-Velazquez, Aline Iobana*	**Feedback semiglobal stabilization to trajectories for the Kuramoto–Sivashinsky equation** *Seifu, Dagmawi Abraham*
S23.02 (G22/112)	**Optimal Sobolev Regularity for Degenerate Equations of Porous Media Type** *Sauer, Jonas*		**Existence and Uniqueness of Solutions of the Koopman–von Neumann Equation on Bounded Domains** *Stengl, Marian*	**A Galerkin projection approach for general port-Hamiltonian descriptor systems** *Morandin, Riccardo*	**Input-to-state stability for unnbounded bilinear feedback systems** *Hosfeld, René*	
S25.07 (G22/H2)	**Preconditioning the Kernel ANOVA SVM** *Stoll, Martin*	**Transformers and Function Approximation: What Can We Learn About the Attention Scheme?** *Thesing, Laura*	**On the invariance of Gaussian RKHS's under Koopman operators** *Philipp, Friedrich*	**Utilizing Machine Learning for Hydrogel Swelling Prediction** *Wang, Yawen*		

	14:00	14:20	14:40	15:00	15:20	15:40
S26.07 (G22/209)	**A Quasi Time-Reversible Grassmann extrapolation of density matrices for accelerating Born-Oppenheimer molecular dynamics** *Pes, Federica*	**A posteriori error analysis of a linear Schrödinger type eigenvalue problem for atomic centered discretizations** *Lygatsika, Ioanna-Maria*	**A Posteriori Error Analysis for Kohn-Sham Equations with Convex Exchange-Correlation Functionals** *Lainez Reyes, Rafael Antonio*	**Applying a Well-Defined Energy Density for Machine-Learned Density Functionals** *Polak, Elias*	**Moreau-Yosida Regularization in Density-Functional Theory** *Laestadius, Andre*	

	16:30
PL6 (G26/H1)	**Dynamic fracture simulations with peridynamics and phase-field fracture** *Weinberg, Kerstin*

	17:40	18:00	18:20
S01.04 (G22/217)	**Digital Twins of electrical switching devices for over-current protection with application to AI- assisted life-time prognosis** *Suresh Singhal, Dhruv*	**Visual Feedback Control for Positioning Support of a Rotary Crane** *Kakuta, Yotaro*	**A Spring-Mass Chain Multi-body Approach for Modeling Yarn Balloon Dynamics in Ring Spinning** *Perez-Delgado, Yves Jesus*
S04.08 (G26/H1)	**Accelerating the design of the effective surface of pressing tools with probabilistic inverse modelling approaches** *Hupfeld, Henning Karsten*	**Structural dynamics of a Scaled Trailer Model: Investigation of the Influence of Different Loading Variants** *Volltrauer, Jan Markus*	
S06.1.04 (G16/H5)	**Modeling of the phase transformation behavior in metastable austentic stainless steels** *Thammineni, Hari Kisan*	**Elasticity in phase-field crystal models of solidification** *Punke, Maik*	**Micromechanical multi-scale simulation of the directionally-solidified Mo-Hf-B alloy** *Nizinkovskyi, Rostyslav*
S06.2.05 (G22/013)	**Mesoscopic Structure Modeling of Flexible Macroporous Aerogels using Cluster-Cluster Aggregation** *Xiong, Weibo*	**Double-surface plasticity for a micropolar continuum** *Börger, Alexander*	**Computational Modelling of Non-Woven Material Compression** *Wan, Chengrui*

	17:40	18:00	18:20
S07.08.1 (G16/215)	**A hybrid approach for ferroelectric continua combining the finite element method and an efficient scale bridging concept** *Wakili, Reschad*	**Material modeling of ferroelectric solids in presence of flexoelectricity** *Kozinov, Sergey*	**Numerical detection of shaft misalignments using a sensor-integrating jaw coupling** *Menning, Johannes Dieter Martin*
S07.08.2 (G22/H2)	**Experimental characterization of acoustic damping materials** *Marter, Paul*	**An automatic simulation pipeline for coupled simulations of acoustic damping materials** *Radtke, Lars*	**An approach simulating interacting solid, liquid and gas domains for dynamic seal applications** *Graf, Matthias*
S08.08 (G16/054)	**Micromechanics of X-Ray Diffraction Stress Measurements** *Krause, Maximilian*	**Scale independent extension operators for manifold valued Sobolev maps on perforated domains** *Happ, Leon*	**Application of upper bound rigid-block analysis method to porous solids** *Hund, Jonas*
S18.08 (G22/020)	**On a multiscale formulation for rough boundaries** *Schmidt, Kersten*	**An adaptive stochastic Galerkin method based on multilevel expansions** *Voulis, Igor*	
S20.08 (G22/122)	**On the Kolmogorov n-width of reachable sets of the bilinear Schrödinger equation** *Zuyev, Alexander*	**Well-posedness and exponential stability of a controlled dispersed flow tubular reactor model** *Yevgenieva, Yevgeniia*	**Towards checking BIBO stability for hyperbolic systems** *Wierzba, Alexander A.*

Friday, March 22

	08:30	08:50	09:10	09:30	09:50	10:10
S01.05 (G22/217)	**A non-stiff Lie group integrator for highly flexible structures with large rotations** *Arnold, Martin*	**A RATTLE integrator for the simulation of unilaterally constrained mechanical systems** *Capobianco, Giuseppe*	**Case Study on Modeling Multibody Systems as Port-Hamiltonian Systems** *Hochdahl, René*	**Structure-preserving time discretization of multibody systems with singular inertia matrix** *Kinon, Philipp L.*	**Vibration analyses of a mandible** *Vulović, Aleksandra*	
S02.08 (G22/111)	**Enhancing Leg Alignment in Adolescents: Exploring Optimal Positioning of Tension Band Implants for Guided Growth - A Finite Element Investigation** *Wittek, Andreas*	**Application of the Neighbored Element Method on a Hamilton principle-based multi-species biofilm model** *Klempt, Felix*	**Cell-preserving Scheme for Mechanobiological Research on Dedifferentiation of Chondrocytes** *Lee, Hyun*	**A refined model for the coupled analysis of actice biological processes for meniscus tissue regeneration** *Jäger, Henry Sebastian*		
S03.07 (G22/013)	**Numerical investigations on three-dimensional metal cutting simulations within the Material Point Method employing the Johnson-Cook material law** *Koßler, Marvin*	**Simulation of coated particles breakage using Discrete Element and Bonded Particle Method** *Safdar, Wasif*	**Brittle fracture investigation in a coupled peridynamic and classical elasticity model** *Pernatii, Anna*	**Peridynamic computations of wave propagation and dynamic fracture** *Partmann, Kai*	**Physics-based machine learning for computational fracture mechanics** *Aldakheel, Fadi*	

	08:30	08:50	09:10	09:30	09:50	10:10
S04.09 (G26/H1)	**Analytical considerations of the load-deflection behavior in fibers during a filament winding process** *Steinweller, Christina*	**Computational Modeling of Concrete Composites with Short Shape Memory Alloys Fibers** *Tabrizikahou, Alireza*	**Torwards a holistic simulation framework for the response of a multilayered pavement structure subjected to realistic tire loading** *May, Marcel*	**Additive Manufacturing in Structural Mechanics: Tackling Sustainable Development Goals through Cooperative Labwork** *Völlmecke, Christina*	**Numerical Validation of an Innovative 3D Calculation Method of High-Rise Buildings under Consideration of Component and Soil Stiffness** *Badr, Michael*	**Experimental Validation of an Innovative Method for Minimization of Deformation Tolerances of Reinforced Concrete Ceilings** *Müllner, Herbert W.*
S06.2.06 (G16/H5)	**How to Identify the hardening curve of PVDF films from tensile tests and simple shear tests for application in adhesive bondline modelling** *Kilian, Riem*	**Thermoviscoelastic modeling and simulation of enthalpy relaxation in thermoplastic polymers** *Keursten, Johannes*	**Effects of Temperature and Humidity on the Interfacial Shear Strength of Carbon Fiber Reinforced Polyamide 6: Insights from Single Fiber Pull-Out Tests and Finite Element Analysis** *Christ, Nicolas*	**Hydrothermal behavior of PA 6 reinforced with discontinuous long carbon fibers** *Kehrer, Loredana*		
S07.09.1 (G16/215)	**On the influence of the microstructure model on multiscale bone simulations** *Blaszczyk, Mischa*	**Efficient and Accurate Numerical Simulation of Micromagnetic Problems Using Projection-Based Finite Elements and Optimization on Manifolds** *Müller, Alexander*	**Dual Weighted Residual Error Estimation for a Stationary Coupled Fluid Flow Heat System** *Endtmayer, Bernhard*	**Thixoviscoplastic flow simulations based on Houska thixotropic and Bingham viscoplastic models** *Begum, Naheed*	**Advanced PIV-based measurement method to determine fiber orientation in a transparent fresh concrete substitute liquid** *Vaupel, Tim*	**Port-Hamiltonian Modeling and Stability Analysis for Coupled Network PDAEs describing Gas Networks** *Tischendorf, Caren*
S07.09.2 (G22/H2)	**Convergence of waveform relaxation for coupled DAEs describing circuits with generalized elements** *Pade, Jonas*	**Towards model-based feedback control of hydrogels 3D bioprinting** *Urrea-Quintero, Jorge-Humberto*	**Macroscopic properties of solid oxide fuel cell electrodes via microstructure-based numerical homogenization** *Langner, Eric*			
S08.09 (G16/054)	**Concepts for modeling the inelastic behavior of foam structures** *Abendroth, Martin*	**Multiscale analysis of interlocking effects for polymer additive manufacturing on aluminum foam** *Timmann, Frederic*	**FE^2 method to model plane and rod-like carbon-based nanostructures** *Ochs, Julian*	**FE² simulation of low-cycle fatigue in metals** *Zobel, Maximilian*	**Modeling microstructural effects in scaffold mediated bone regeneration** *Suchan, Oliver*	

	08:30	08:50	09:10	09:30	09:50	10:10
S13.02 (G22/216)	**Reduced Order Modelling in Fluid Mechanics: focus turbulence and compressibility** *Rozza, Gianluigi*		**Model-based deep reinforcement learning for flow control** *Weiner, Andre*	**A volume-averaging and stochastic turbulence modeling framework for homogeneous roughness-induced drag in turbulent flows** *Medina Méndez, Juan A.*	**Multi-fidelity surrogate modeling of the response of an actuated turbulent boundary layer** *Olivucci, Paolo*	**Distributed control of Rayleigh–Bénard convection using symmetry-exploiting deep reinforcement learning** *Chidananda, Vikas*
S17.04 (G22/208)	**A new fast numerical method for the generalized Rosen-Zener model and its application to matrix exponential approximation** *Pozza, Stefano*	**Adaptive rational Krylov methods for exponential Runge–Kutta integrators** *Bergermann, Kai*	**Mixed-precision Paterson–Stockmeyer method for evaluating matrix polynomials** *Liu, Xiaobo*		**The Fréchet derivative of the tensor t-function** *Lund, Kathryn*	
S18.09 (G22/020)	**Trefftz-DG for Stokes problems** *Lehrenfeld, Christoph*	**Geometrically higher order unfitted space-time methods for PDEs on moving domains** *Heimann, Fabian*	**Analysis of a nonconformig finite element method for vector-valued Laplacians on the surface** *Mehlmann, Carolin*	**On H(Curl) shape functions** *Haubold, Tim*	**Derivation and simulation of thermoelastic Kirchhoff plates** *Alms, Johanna*	**ON THE DYNAMICS OF BLOWUP-POINTS: AN INVERSE MATRIX MODELING APPROACH FOR ESTIMATIONS ON THE NONLINEAR BEHAVIOR OF THE INCOMPRESSIBLE 3D NAVIER-STOKES EQUATION** *Shadmani, Davood*
S20.09 (G22/122)	**Structure-Preserving Interpolation of Quadratic-Bilinear Systems via Regular Multivariate Transfer Functions** *Werner, Steffen W. R.*	**Extending balanced truncation to general domains** *Borghi, Alessandro*	**Optimization-based model order reduction of port-Hamiltonian descriptor systems** *Voigt, Matthias*	**Model reduction of descriptor systems with quadratic output functionals** *Benner, Peter*	**Model Order Reduction for switched Differential Algebraic Equations** *Manucci, Mattia*	**Removing Inconsistencies of Reduced Bases in Parametric Model Order Reduction by Matrix Interpolation** *Schopper, Sebastian*

	11:00
PL7 (G26/H1)	**Topological Design Problems and Massive Integer Optimization** *Leyffer, Sven*

PL8 (G26/H1)	12:00
	Mixed-initiative engineering design *Elgeti, Stefanie*

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