#### GAMM 2025 Conference Poznan University of Technology, Poznań, 7-11 April 2025

	Monday 7.4.2025	Tuesday 8.4.2025	Wednesday 9.4.2025	Thursday 10.4.2025	Friday 11.4.2025
08:30 - 09:00					
09:00 - 09:30	Registration	Contributed	Contributed Sessions	Contributed	Contributed
09:30 - 10:00	(LCC)	Sessions		Sessions	Sessions
10:00 – 10:30			Coffee Break +		
10:30 – 11:00		Coffee Break	Poster Session	Coffee Break	Coffee Break
11:00 – 11:30	Pre-GAMM Seminar	Plenary Lecture 2	R. v. Mises Lecture	Plenary Lecture 5	Plenary Lecture 7
11:30 – 12:00	"How to Conference"	Karen Veroy-Grepl	GAMM General	Katharina Schratz	Marie-Therese Wolfram
12:00 – 12:30	11:00-12:30 (LCC 7)	Plenary Lecture 3	Assembly	Plenary Lecture 6	Plenary Lecture 8
12:30 – 13:00		<mark>Lars Grüne</mark>	Assembly	Utz von Wagner	Andreas Menzel
13:00 – 13:30	Opening (Magna)	Lunch Break	Lunch Break (LCC)	Lunch Break	Closing
13:30 – 14:00	GAMM Juniors	(LCC)	+ YAMM Lunch	(LCC)	(Magna)
14:00 – 14:30	Prandtl Lecture	Minicumpocia	Coromony: dhe of BLIT		Lunch
14:30 – 15:00	Frankti Lecture	Minisymposia Ceremony: dhc of PUT  to Leszek Demkowicz		Contributed	(LCC)
15:00 – 15:30	Plenary Lecture 1	DFG-PP Sessions	+ Plenary Lecture 4	Sessions	
15:30 – 16:00	Łukasz Madej	D1 G 11 363310113	· Fichary Ecotore 4		
16:00 – 16:30	Coffee Break	Coffee Break	Coffee Break	Coffee Break	
16:30 – 17:00	Young				
17:00 – 17:30	Researchers'	Contributed	Contributed	Contributed Sessions	
17:30 – 18:00	Minisymposia	Sessions	Sessions	Continuated Sessions	
18:00 – 18:30	iviiiis y iii posia				
18:30 – 19:00					
19:00 – 19:30			Networking event for		
19:30 – 20:00	Welcome	Public Lecture (LCC)	women at GAMM 2025		The Grand Theater:
20:00 – 20:30	Reception	<mark>Andrzej Dragan</mark>	TOMEN AC GANNIN 2025	Conference Dinner	The Magic Flute
20:30 – 21:00	(LCC)			(Earth Hall, PCC)	(Die Zauberflöte)
21:00 – 21:30				(Lartin Hail, 1 CC)	(Die Laubernote)
21:30 – 22:00					

All conference activities at LCC (PUT's Campus Warta), only Conference Dinner at Earth Hall, PCC.

<sup>), -</sup> Lunch and coffee breaks will be provided at the conference venue (LCC)

<sup>-</sup> LCC = Lecture and Conference Centre of PUT with the Aula Magna

<sup>-</sup> Plenary, Prandtl & Public Lectures in Aula Magna at LCC

<sup>-</sup> PCC = Poznań Congress Center at Poznań International Fair

											Sch	edule of	contrib	uted ses	sions of	YRMS,	DFG PP,	MS, and	I Section	ns S01S	27										
	hours		S01	S02	S03	S	04	S05	S06.1	S06.2	S07		S09	S10	S11			S14	S15		S17	S18	S19	S20	S21	S22	S23	S24	S25	S26	S27
Monday	16:30-16:50 16;50-17:10 17:10-17:30 17:30-17:50 17:50-18:10 18:10-18:30	YRMS																													
Tuesday	8:30-8:50 8:50-9:10 9:10-9:30 9:30-9:50 9:50-10:10 10:10-10:30	CS			\$03.01 (6 slots)	S04.01 (6 slots)			S06.1.01 (6 slots)		\$07.01 (6 slots)	\$08.01 (6 slots)		\$10.01 (6 slots)		\$12.01 (6 slots)			\$15.01 (6 slots)		\$17.01 (6 slots)	\$18.01 (6 slots)	\$19.01 (6 slots)			\$22.01 (6 slots)		\$24.01 (6 slots)	\$25.01 (6 slots)		
	14:00-14:20 14:20-14:40 14:40-15:00 15:00-15:20 15:20-15:40 15:40-16:00	DFG PP MS																													
Tuesday	16:30-16:50 16;50-17:10 17:10-17:30 17:30-17:50 17:50-18:10 18:10-18:30	CS	\$01.01 (5 slots}		\$03.02 (6 slots)	S04.02 (6 slots)			S06.1.02 (4 slots)		\$07.02 (6 slots)	\$08.02 (6 slots)		\$10.02 (6 slots)	\$11.01 (5 slots)	\$12.02 (4 slots)		\$14.01 (6 slots)	\$15.02 (5 slots)	\$16.01 (6 slots)	\$17.02 (5 slots)		\$19.02 (5 slots)	\$20.01 (6 slots)		\$22.02 (6 slots)	S23.01 (3 slots)		\$25.02 (6 slots)		
Wednesday	8:30-8:50 8:50-9:10 9:10-9:30 9:30-9:50 9:50-10:10	CS	\$01.02 (5 slots)			S04.03 (5 slots)			S06.1.03 (5 slots)		\$07.03 (5 slots)			\$10.03 (5 slots)	\$11.02 (5 slots)	\$12.03 (4 slots)		\$14.02 (5 slots)	\$15.03 (5 slots)		\$17.03 (4 slots)	\$18.03 (5 slots)	\$19.03 (5 slots)		S21.01 (3 slots)	\$22.03 (5 slots)			\$25.03 (5 slots)	S26.01 (5 slots)	
	16:30-16:50 16;50-17:10 17:10-17:30 17:30-17:50 17:50-18:10 18:10-18:30	CS	\$01.03 (3 slots)	S02.01 (6 slots)		\$04.04 (6 slots)					\$07.04 (6 slots)	S08.03 (6 slots)		\$10.04 (6 slots)				\$14.03 (6 slots)		\$16.02 (6 slots)	\$17.04 (5 slots)	\$18.04 (6 slots)	\$19.04 (5 slots)	\$20.03 (6 slots)	S21.02 (4 slots)	\$22.04 (5 slots)			\$25.04 (6 slots)	S26.02 (6 slots)	
Thursday	8:30-8:50 8:50-9:10 9:10-9:30 9:30-9:50 9:50-10:10 10:10-10:30	CS		S02.02 (6 slots)	\$03.03 (6 slots)	\$04.05 (6 slots)		S05.01 (6 slots)		S06.2.01 (6 slots)	\$07.05 (5 slots)	S08.04 (6 slots)		\$10.05 (3 slots)				\$14.04 (6 slots)	S15.05 (6 slots)	S16.03 (6 slots)		S18.05 (6 slots)	\$19.05 (5 slots)	\$20.04 (6 slots)	S21.03 (6 slots)				\$25.05 (6 slots)	S26.03 (6 slots)	S27.01 (6 slots)
Thursday	14:00-14:20 14:20-14:40 14:40-15:00 15:00-15:20 15:20-15:40 15:40-16:00	CS						S05.02 (6 slots)		S06.2.02 (6 slots)	S07.06 (3 slots)	S08.05 (6 slots)						\$14.05 (6 slots)		S16.04 (6 slots)		\$18.06 (6 slots)			S21.04 (6 slots)				\$25.06 (6 slots)		\$27.02 (6 slots)
Thursday	16:30-16:50 16;50-17:10 17:10-17:30 17:30-17:50 17:50-18:10 18:10-18:30	CS			\$03.05 (6 slots)	S04.08 (6 slots)	S04.09 (3 slots)	S05.03 (6 slots)		\$06.2.03 (5 slots)		S08.06 (6 slots)	S09.02 (4 slots)					\$14.06 (6 slots)		S16.05 (6 slots)		S18.07 (3 slots)		\$20.06 (5 slots)		S22.07 (4 slots)			\$25.07 (6 slots)		\$27.03 (5 slots)
Friday	8:30-8:50 8:50-9:10 9:10-9:30 9:30-9:50 9:50-10:10 10:10-10:30	CS			S03.06 (6 slots)	S04.10 (6 slots)	S04.11 (6 slots)	S05.04 (4 slots)		S06.2.04 (6 slots)							\$13.02 (6 slots)	\$14.07 (6 slots)		\$16.06 (6 slots)		\$18.08 (6 slots)		S20.07 (6 slots)					\$25.08 (6 slots)		\$27.04 (5 slots)

#### Monday, April 7

14:00
100 years of Prandtl's Mixing Length: falling short for aerodynamic analysis?
Rossow, Cord-Christian

15:00

PL 1 Computational microstructure design: harnessing the synergy of numerical and experimental investigations

Madej, Lukasz

	16:30	16:50	17:10	17:30	17:50	18:10
YRMS1	Mixed precision preconditioning strategies for GM- RES Vieublé, Bastien	Mixed Precision Iterative Refinement for Linear Inverse Problems Onisk, Lucas	Inner product free Krylov methods for large-scale inverse problems Sabaté Landman, Malena	A stable one- synchronization variant of reorthog- onalized BCGS and its application in s-step GMRES Ma, Yuxin		
YRMS2	Constitutive Kolmogorov–Arnold Networks (CK-ANs): Combining Accuracy and Interpretability in Data-Driven Material Modeling Abdolazizi, Kian	Physics- augmented neu- ral networks meet data-driven iden- tificaton – A dual- stage constitutive modeling frame- work Linden, Lennart	Material Model Discovery from Physics-Enforced Neural Networks Meyer, Knut Andreas	Application of Plasticity Theory in Automated Model Discovery Boes, Birte	Physics- augmented neural networks for effi- cient multiscale beam simulations Schommartz, Jasper o.	Effective material modeling of complex viscoelastic shell structures with artificial neural networks  Geiger, Jeremy

YRMS3	Structure- preserving splitting methods for closed port-Hamiltonian systems Mönch, Marius	Discrete gradi- ent methods for semi-explicit port- Hamiltonian DAEs Morandin, Riccardo	Structure- preserving finite element method for port-Hamiltonian systems with im- plicit or differential constitutive rela- tions Bendimerad-Hohl, Antoine	Structure- preserving dis- cretization of geometrically exact beams in the framework of Lie group variational integrators Herrmann, Maximil- ian	Determination of ISS gain func- tions leveraging finite-dimensional approximations with applications to dissipative sys- tems Hillebrecht, Birgit	Learning of Hamiltonians, variational principles, and symmetries from data  Offen, Christian
YRMS4	Local boundary conditions in non- local hyperelastic- ity via heteroge- neous horizons Schönberger, Hidde	Three dimensional gradient plasticity, a Gamma-Convergence approach Fortuna, Martino	Variational methods applied to discrete models in brittle damage Bonhomme, Elise	On Scaling Properties For A Class Of Two-Well Problems For Higher Order Homogeneous Linear Differential Operators Tissot, Camillo	Pattern Formation in Biomembranes: from Interpolation Inequalities to a Scaling Law result Pešić, Anastasija	Energy barriers for boundary nucle- ation in solid solid phase transitions Zemas, Konstanti- nos

## Monday, April 7

	16:30	16:50	17:10	17:30	17:50	18:10
YRMS5	Derivation of the Vlasov-Stokes equation Höfer, Richard	Homogenization of the compress- ible Navier-Stokes equations in crit- ically perforated domains Lemming, Friederike	Non-existence of mean-field mod- els for particle orientations in suspensions Schubert, Richard	Understanding the Phase Transition in the 2D Becker- Döring Model Scholten, Jens	Sharp interface dynamics in vis- cous two-phase flows: stability and long-time behavior Salguero, Elena	
YRMS6	Towards a multi- phasefield model to analyze residual stresses Hellebrand, Sonja	A Phase-Field Framework for the Modeling of Rate-(In)Dependent Hysteretic Be- havior of Phase- Transforming Solids El khatib, Omar	Phase-field modeling of deformation twinning and its interaction with plastic slip in magnesium during nano-indentation Rezaee-Hajidehi, Mohsen	A Geometrical Approach to Modeling Wetting on Structured Surfaces Kunz, Jana	On the energy de- composition in variational phase- field models for brittle fracture under multi-axial stress states Vicentini, Francesco	Neural networks meet fracture phase-field: Hy- brid modelling of crack propagation Dammaß, Franz

		8:30	8:50	9:10	9:30	9:50	10:10
•	503.01	Sideways Cracks in Elastomers: Ex- perimental Insights & Phase-Field Modelling Moreno-Mateos, Miguel Angel	Uncertainties in phase-field fracture simulations of simple experiments Zhang, Silu	A geometrically exact phase field approximation of cohesive fracture Lammen, Henning	A phase-field fracture model of nearly incompress- ible hyperelastic material based on a mixed formulation Zhang, Le	Phase-field modeling for failure behavior of polymer fiber-reinforced high-performance concrete using the Schapery viscoelastic model Margalho de Barros, Marcos Andre	An extended phase-field method for the efficient simulation of fracture processes Löhnert, Stefan
\$	504.01	Sliding contact of two flexible rods: the role of configu- rational forces Vetyukov, Yury	Sliding contact of two flexible rods: the role of configu- rational forces Vetyukov, Yury	A Finite Swelling Beam Model with Axial and Radial Diffusion Alzate cobo, Juan c.	Twisted Wire Strands under Coupled Bending and Torsion Hawwash, Muhan- nad	Finite element modal analysis of moving bandsaw blades using incremental rod theory with consideration of the pre-stress distribution in the cross section Scheidl, Jakob	The effect of boundary rota- tions and kinematic imperfections on clamped column buckling Hedvard, Michelle
•	506.1.01	A novel algorithm for crystal plas- ticity based on an augmented Lagrangian formu- lation Niehüser, Alexander	Analysis and com- parison of interior- point methods for rate-independent single-crystal plas- ticity Steinmetz, Felix	Numerical Investigation and Validation of a Riveted Connection with LPBF AlSi10Mg Components based on a Thermomechanical Coupled Chaboche-GTN Approach Richter, Lukas	A novel procedure for identification of material parameters in advanced creep-fatigue constitutive model based on artificial neural networks Jahnke, Alexander	Hybrid data-driven and physics- informed regu- larized learning of cyclic plastic- ity with neural networks Hilderbrand, Stefan	On Unifying Tensor and Matrix Approaches in Material Modeling Schlebusch, Rainer

	S07.01	Steady vibration problems in the theory of Moore- Gibson-Thompson thermoelasticity for materials with voids Svanadze, Merab	Modelling and sim- ulation of experi- ments for fractured and fracturing porous media Wagner, Arndt	Modelling of re- suspension and sedimentation of solid particles in fractured and fracturing porous media using a TPM-phase-field approach with mass production terms
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suspension and sedimentation of solid particles in fractured and fracturing porous media using a TPM-phase-field approach with mass production terms Rivas. Yann Coupling phase-field fracture with non-isothermal fluid-structure interaction problems von Wahl, Henry

A phase field model to describe the behavior of volcanic crystals Haddenhorst, Hendrik Holger Modeling of hydrogenembrittlement using a monolithically coupled, nonlocal Gurson-Tvergaard-Needleman damage model Prüger, Stefan

	8:30	8:50	9:10	9:30	9:50	10:10
S08.01	Micromechanical modelling of void growth in metals and alloys deform- ing by slip and twinning Virupakshi, Saketh	Micromechanical modelling of void growth in metals and alloys deform- ing by slip and twinning Virupakshi, Saketh	On the efficient so- lution of cell prob- lems by means of wavelet-enhanced FFT-approaches Kaiser, Tobias	Analysis of an X-FFT solver for two-dimensional thermal homoge- nization problems Gehrig, Flavia	Modeling of porous materials on mul- tiple length scales using FE and FFT approaches Dahler, Julian	Thermomechanically coupled FE-FFT-based simulation of polycrystalline materials Gierden, Christian
S10.01	Progress in high- moment turbulent scaling laws of wall-bounded shear flows Oberlack, Martin	Progress in high- moment turbulent scaling laws of wall-bounded shear flows Oberlack, Martin	Momentum Transfer of Riblets in the Drag Increasing Regime Rapp, Natalie	Unsteady turbulent energy dissipation in an axisymmetric turbulent wake Obligado, Martin	Inverse energy cascade within atmospheric con- vective structures Jędrejko, Paweł	Heat transfer in thermally devel- oping, inhomoge- neously heated turbulent pipe flows Bürk, Leo
S12.01	Analysis of the formation of caustic by a concave reflector in a geometric and wave field Kulowski, Andrzej	Analysis of the formation of caustic by a concave reflector in a geometric and wave field Kulowski, Andrzej	Numerical Study on Enhanced Impedance Match- ing for Symmetric Lamb Waves in FML with Inte- grated Sensors Rottmann, Max	Acoustic black holes in the Rayleigh-Lamb Theory Schoenebeck, David	Wave propagation in non uniform media by linear expansion of the refraction law Bassetti, Alessandro	One-way wave equation Bschorr, Oskar
S15.01	On significance of probabilistic entropy and distance in elasto-plasticity problems  Kamiński, Marcin	On significance of probabilistic en- tropy and distance in elasto-plasticity problems Kamiński, Marcin	Random vibra- tions of internally supported plates by the Boundary Element Method Guminiak, Michał	Combining first- order second- moment method and internal numer- ical differentiation for efficient uncer- tainty quantifica- tion Tröger, Jendrik- Alexander	On modeling of porous-media wet- ting with randomly distributed hy- drophobic defects Gossel, Lisanne	Estimates of errors generated by uncertain data in a coupled pieso-electric problem Samrowski, Tatiana

	8:30	8:50	9:10	9:30	9:50	10:10
\$17.01	Accelerating op- erator Sinkhorn iteration with over- relaxation Uschmajew, André	Accelerating op- erator Sinkhorn iteration with over- relaxation Uschmajew, André	Mixed-Precision Parallel Tensor Train Operations Oktay, Eda	Mixed-precision techniques for the low-rank Lyapunov ADI Schulze, Jonas	A hybrid Chebyshev-Tucker tensor format with applications to multi-particle mod- elling Sun, Bonan	Mixed-precision iterative refinement for low-rank Lya- punov equations Liu, Xiaobo
S18.01	Lattice Boltzmann for 2D linear elas- todynamics with Dirichlet and Neu- mann boundary conditions Boolakee, Oliver	Lattice Boltzmann Method for linear elastodynamics in 3D Weverbergh, Julie	Numerical solution of the fractional Euler-Bernoulli equation for a beam with fixed- supported and fixed-free ends Nowak, Anna	Numerical approximation of fractional compositions of differential operators with fixed memory length and its application to the problem of fractional continuum mechanics Kustal, Dominika	Analysis of a fractional-order model for diabetes mellitus incorporating education and media awareness campaigns using the Two-step Newtonian Polynomial approach Prajapati, Vishalkumar	Investigation of a fuzzy fractional diabetes model involving Glucose—Insulin alliance scheme with a fuzzy double parametric approach Sartanpara, Parthkumar P.
S19.01	A Riemannian View on PDE- constrained Shape Optimisation Romero, Estefania Loayza	A Riemannian View on PDE- constrained Shape Optimisation Romero, Estefania Loayza	A least-squares space-time ap- proach to parabolic shape optimization Stahl, Michael	Low-regret shape optimization in the presence of missing data Simon, John Sebastian	A combined phase field - sharp inter- face approach for PDE constrained shape optimization Hinze, Michael	Incorporating strain decomposi- tion into fracture propagation sim- ulations using shape optimization algorithms Suchan, Tim

S22.01	Rational Surrogate Modeling of Para- metric Dynamical Systems Römer, Ulrich	Rational Surrogate Modeling of Para- metric Dynamical Systems Römer, Ulrich	A parallel batch greedy algorithm in reduced basis methods Reich, Niklas

Towards an efficient shifted Cholesky-QR for applications in model order reduction Bindhak, Maximilian Stability and Error Analysis of Reduced-Order Methods Based on POD with Finite Element Solutions for Nonlocal Diffusion Problems

Nie, Yufeng

Discontinuous Galerkin and Trefftz methods for Model Reduction Born, Tobias

	8:30	8:50	9:10	9:30	9:50	10:10
S24.01	Fritz Noether - a great mathemati- cian and victim of various political dictatorships Altenbach, Holm	Investigation on the rolling sphere on a rotational sur- face – in memory of Fritz Nöther Ziegenhorn, Matthias	Investigation on the rolling sphere on a rotational sur- face – in memory of Fritz Nöther Ziegenhorn, Matthias	The quest for explicit formulas for conformal mappings onto the unit circle: Mertens, Schwarz, and Christoffel Ullrich, Peter	The Evolution of André Lévêque's Thermal Boundary- Layer Solution McMahon, Niall	A graphical method for the synthesis of a container empty- ing mechanism Buśkiewicz, Jacek
S25.01	On uniqueness in structured model learning Morina, Erion	Genetic column generation for adversarial multi- class classification Penka, Maximilian	Kernel-based Greedy Approxima- tion of Parametric Elliptic Boundary Value Problems Haasdonk, Bernard	Data analysis of architected struc- tural geometries with persistent homology Milor, Abel Henri Guillaume	Centralities in urban multilayer networks Stoll, Martin	Data-Driven Prediction of Dynamic Systems based on Sparse Reconstruction and Neural Networks Du, Lin

PL 2	-	11:00 Physics-Based Model Order Reduction in Digital Twins: Challenges and Opportunities in the Multi-Scale Material Setting Veroy-Grepl, Karen										
PL3	12:00 Optimization Grüne, Lars	-Based Control for Lar	ge-Scale and Complex	c Systems: When and \	Why Does It Work?							
	14:00	14:20	14:40	15:00	15:20	15:40						

MS1	Divide, Learn, and Conquer in Image Classification Klawonn, Axel	Additively Pre- conditioned Trust Region Strate- gies for Machine Learning Krause, Rolf	Domain Decom- position for Ran- domized Neural Networks Heinlein, Alexander	Multilevel and par- allel approaches to enhance the train- ing of Transformers Salvadó Benasco, Marc		
MS2	Plastic strain induced phenomena at temperatures close to absolute zero Skoczen, Blazej	Precise strain analyses in the small deformation range using DIC measurement data and approximation-based smoothing Lehmann, Thomas	Damage analysis of power engineering steels supported by DIC/ESPI tech- niques Kowalewski, Zbig- niew	Determination of fatigue characteristics in the normal stress-fatigue life system Łagoda, Tadeusz	Challenges and solutions in optical measurement methods for experimental mechanics applications Kujawinska, Malgorzata	Deformation and temperature de- termination using DIC/TG measure- ment Hartmann, Stefan

	14:00	14:20	14:40	15:00	15:20	15:40
MS4	On Neural network- enhanced integra- tors for dynamical systems Othmane, Amine	Error bounds for Koopman-based predictors and their application in control Schaller, Manuel	An experimental comparison of data-driven virtual sensing methods for predictive maintenance Heindel, Leonhard	Ocean Wave Dy- namics: Data and Evolution Equa- tions Hoffmann, Norbert	Data Driven Dy- namics using Recurrent Neural Networks - Stabi- lization, Prediction & Uncertainty Quantification Hetzler, Hartmut	Reservoir Computing: A Nonlinear Dynamics Perspective Stender, Merten
PP01	Design Opti- mization of Soft Robots Based on Workspace Con- straints Schindler, Leon	Koopman Based Trajectory Opti- mization with Pe- riodic Boundaries for Co-Design Raff, Maximilian	Surrogate-based Robust Tracking Controller for a Lambda Robot Hajipour Talkouei, Sanam	A constraint- satisfying neural network architec- ture for the gener- ation of Grashof fulfilling four-bar linkages Röder, Benedict	Model Predictive Path-Following Control of a Quadrotor Leprich, David	Optimization-based design assistance for planning of stereotactic surgeries with curved cannulae Flaßkamp, Kathrin
PP02	Representation of control Lyapunov functions with neural networks Sperl, Mario	Adaptive Step Sizes for Stochas- tic Gradient De- scent Köhne, Frederik	Generalisation Error for Semi- Supervised Learn- ing Using Graph Neural Networks Ayday, Nil	Data-Driven Spatial Adaptivity for Reg- ularising Inverse Problems Neumayer, Sebas- tian	Neural Sampling from Boltzmann Densities Chemseddine, Jan- nis	Algebraic struc- tures and invari- ants of Gradient Flow for Linear Neural Networks Torres, Angelica

	14:00	14:20	14:40	15:00	15:20	15:40
PP03	Material Design for Multiple Loads Sommella, Lorenzo	Predicting plastic activity in disor- dered solids via geometric mea- sures Shekh Alshabab, Somar	A dimensionally reduced capillary problem and its phase-field approx- imation Sciaraffia, Luciano, Wang, Yizhen	Arclength methods and dissipative processes – Anal- ysis and numerical experiments Rörentrop, Felix	Towards dynamic phase-field fracture in finite strains Tornquist, Sven	Computational Semiconvexifica- tion for Relaxation in Isotropic Dam- age Neumeier, Timo
PP04	From Injury to Full Recovery: Mon- itoring Patient Progress Through Advanced Sensor and Motion Cap- ture Technology Andres, Annchristin	Investigation of the influence of screw position and screw insertion on the local micro- mechanics of the fracture gap and the interfragmen- tary movement Roland, Michael	Cell seeding dy- namics in a porous scaffold material with applied sensi- tivity analysis Jäger, Henry	Flexible macro- micro coupling for liver applications Gerhäusser, Stef- fen, Uekermann, Benjamin	Enriched and Discontinuous Galerkin Discretiza- tions for a Cardiac Mechanics Bench- mark Problem Stengel, Laura	Advancing Endovascular Treatment: Simulating Thrombus Formation in Patient-Specific Aneurysms Holzberger, Fabian
PP05	Anomalous dissipation in compressible and incompressible flow Zinchenko, Georgy	Multi-point prob- ability density hi- erarchy for homo- geneous isotropic turbulence Görtz, Simon	Statistical conservation laws for the scalar and Navier-Stokes equations Huang, Qian	Toward machine- learned implicit large-eddy simula- tions of compress- ible turbulence Bezgin, Deniz A.		

	16:30	16:50	17:10	17:30	17:50	18:10
S01.01	Trajectory scaling for redundant manipulators—evolution of selected algorithms  Wojtyra, Marek	Trajectory scaling for redundant manipulators—evolution of selected algorithms  Wojtyra, Marek	Optimal control of a pendulum driven via a frictional clutch: Challenges and solution ap- proaches Capobianco, Giuseppe	Data-Driven Inverse Dynamics Con- trol for a Five-bar Parallel Robot Malczyk, Paweł	Improving the accuracy of a generalized- $\alpha$ method for multibody system models with large rotations Arnold, Martin	
S03.02	Three-dimensional simulation of crack initiation in ice shelves at pinning points Sondershaus, Rabea	A 2D Approach to Predict the High- Cycle Fatigue Life of Clinched Joints Chen, Chin	Dynamic frac- ture with thin structures and bond-associated peridynamics Partmann, Kai	Assessment of the debonding failure in multilayer structures using a closed-form analytical model Becker, Wilfried	An explicit finite element solver for a dynamic formulation of gradient-enhanced damage Sobisch, Lennart	Simulation of crack surface friction within the phase- field method Koch, Leonie
S04.02	A novel mixed- hybrid, higher- order accurate formulation for Kirchhoff-Love shells Neumeyer, Jonas	Material reconstruction of heterogeneous isogeometric Kirchhoff-Love shells under various load conditions  Lazorczyk, Bartlomiej	Be negative: topology optimization of an existing FE-Model by subtracting the thickness of a shell Berendes, Philipp	A polygonal Reissner-Mindlin plate formula- tion based on the scaled bound- ary finite element method consider- ing locking effects Hellers, Anna	The role of fiber orientation in the analysis and simulation of toroidal hoses under internal pressure Hoesch, Quirin	An efficient geometrically-exact nonlinear shell for- mulation based on Rodrigues parame- ters Sousa, Cinthia
S06.1.02	Stress partitioning in thermoelasto- plastic materials Lalović, Nikola	Different aspects of modelling propaga- tive instabilities in aluminum Mucha, Marzena	On The Blow-Up Solutions In Non- linear Elasticity Theory Gawinecki, Jerzy	Smoothed Particle Hydrodynamics Modeling of Solid- state Deposition Process Friction Surfacing Elbossily, Ahmed		

	16:30	16:50	17:10	17:30	17:50	18:10
S07.02	Smoothed Particle Hydrodynamics as a Tool for Im- proving Deep-Hole Drilling Baumann, Andreas	An approach to model the influence of hydrodynamics on wet grinding Thunich, Paul	Periodic self- propulsion of a swimmer Edelmann, Joris	Seamless Simulation Across Regimes – Uniformly Stable DG Discretization for Coupled Stokes- Darcy Flow Kowalski, Julia	Coupled CFD-DEM numerical analysis of reactive flow in a porous zone Wardach-Święcicka, Izabela	Space-Time Block- structured Meshing in Coupled Prob- lems with Moving Domains Schwentner, Teresa
S08.02	Generalized Cri- teria for Hyper- integration in Reduced-Order Multiscale Simula- tion Hütter, Geralf	Generalized Criteria for Hyper- integration in Reduced-Order Multiscale Simula- tion Hütter, Geralf	Statistically compatible hyper-reduction for variationally consistent homogenization and its application to diffusion Hauck, Jan	Nonlinear reduced order modeling for computational homogenization using manifold learning and hyperreduction techniques Faust, Erik	An efficient multi- scale finite element approach for ferro- electric continua Wakili, Reschad	Hyper-reduction through empir- ically corrected clustering Wulfinghoff, Stephan
S10.02	Error decomposition of large-eddy simulation applied to turbulent combustion  Geurts, Bernard	Error decomposition of large-eddy simulation applied to turbulent combustion  Geurts, Bernard	Application of Extended Large- Eddy Simualtion (XLES) to turbulent channel flow Marinković, Pavle	Investigating the Impact of Forcing Mechanisms on Passive Scalar Mixing Using Stochastic One-Dimensional Turbulence Joshi, Abhishek	Formulation of an improved wall model for turbulent concentric coaxial pipe flows Yap, Li Toong	Reconstruction of inhomogeneous turbulence based on stochastic Fourier-type integrals Lindner, Felix
S11.01	Arbitrary Lagrangian- Eulerian surface discretizations for self-evolving Navier-Stokes manifolds Sauer, Roger	Two-Phase Flow Simulations Us- ing Adaptive Time Refinement for Injection Molding Applications Fabón, Blanca Fer- rer	Advanced mod- elling of fibre dy- namics in a trans- parent substitute liquid using the Jeffrey equation and PIV analysis Vaupel, Tim	Diffuse interface method for two- phase flows: de- velopment and validation, towards phase change modelling Pozorski, Jacek	Phase-field mod- eling and compu- tation of N-phase mixture flows ten Eikelder, Marco	

	16:30	16:50	17:10	17:30	17:50	18:10
S12.02	Acoustic Waves at Very Low Fre- quency: Propaga- tion and Building Insulation Mastino, Costantino Carlo	Stretch ceilings in church acoustics design Sygulska, Anna	Can one hear the shape of a crack in a drum? - An analytical and data- based approach Zilk, Philipp	Time-Domain Sim- ulation of Brass Instruments with the Method of Characteristics Aurich, Daniel		
S14.01	From compressible to incompressible, MHD with non-conservative boundary condition Wróblewska-Kamińska, Aneta	From compressible to incompressible, MHD with non-conservative boundary condition Wróblewska-Kamińska, Aneta	Existence and weak-strong uniqueness of suitable weak solutions to an anisotropic electrokinetic flow model Plato, Luisa	Long-time asymptotics of the damped Euler equations by parabolic scaling Eiter, Thomas	Analysis of a vis- coplastic Burgers equation Thomas, Marita	Darcy's law for inhomogeneous incompressible flows Oschmann, Florian
S15.02	Deep learning methods for stochastic Galerkin approximations of ranodm PDEs Barth, Andrea	Stochastic Galerkin method for delay differential equa- tions with random parameters Pulch, Roland	Markov chain Monte Carlo with particle-solver- based likelihoods Løvbak, Emil	An adaptive Quasi Monte Carlo ap- proach for concen- trated distributions Zhou, Jinyi	Earthquake- induced multi- modal non-linear stochastic re- sponse of the guy line in the guyed tower Weber, Hanna	
S16.01	Gradient type numerical methods of shape and topological optimization Sokolowski, Jan	Gradient type numerical methods of shape and topological optimization Sokolowski, Jan	Numerical solu- tions of gradient flow dynamical system for shape optimization in elasticity Tan, Yixin	IGA Topology op- timization based on topological derivatives Teixeira, Guilherme Henrique	Biomimetic Reg- ularization of the Structural Opti- mization Method - Numerical Aspects Nowak, Michal	Optimizing Printing Nozzle Design for Fused Deposition Modeling Tillmann, Steffen

	16:30	16:50	17:10	17:30	17:50	18:10
S17.02	Structured rational matrices and their linearizations Dopico, Froilán	Structured rational matrices and their linearizations Dopico, Froilán	System representation of rational functions with poles outside an annulus Wojtylak, Michał	The closure of the bundle of a matrix pencil Pagacz, Patryk	Numerical radius symmetry and relations of Birkhoff-James and numerical radius orthogonality for different classes of operators  Cvetkovic Ilic, Dragana	
S18.02	Fluid-Structure Interactions in ALE coordinates Hergl, Chiara	A monolithic space-time temporal multirate finite element framework for interface and volume coupled problems Wick, Thomas	A Local hp Space- Time Multigrid Approach for Tensor-Product Finite Element Dis- cretizations of the Stokes Equations Margenberg, Nils	Space-time least- squares FEM for convection- diffusion problems Köthe, Christian	Projection Methods in the Context of Nematic Crystal Flow Reiter, Maximilian	
\$19.02	Convergence of variational and iterative regularization methods under a range invariance condition Kaltenbacher, Barbara	Goal-oriented optimal sensor placement for PDE-constrained inverse problems Mattuschka, Marco	Material Law Identification in Boundary Value Problems for Fiber Spinning Kannengießer, Lukas	New results on optimal control problems with total variaton penalty Haaf, Nico	Conditional gradient methods for total variation regularization with PDE constraints Iglesias, José A.	Optimal control of a Fokker- Planck/transport equation with BV- drift using renor- malized solutions Lange, Christian
S20.01	Model predictive control for uncertain systems robust and datadriven designs Köhler, Johannes	Model predictive control for un- certain systems - robust and data- driven designs Köhler, Johannes	Near-optimal performance of stochastic eco- nomic MPC Schießl, Jonas	Using Polar Coordinates for Sub- Riemannian For- mation Control of Mobile Robots Rosenfelder, Mario	Vertical Vibration Reduction of Ma- glev Vehicles using Nonlinear Model Predictive Control Hermle, Mario	Model hierarchy for the design of a MPC controller in gas networks Ortegón-Villacorte, Andrés

	16:30	16:50	17:10	17:30	17:50	18:10
S22.02	The Fast Newton Transform: Interpo- lation in downward closed spaces reaching the opti- mal geometric ap- proximation rates for Bos-Levenberg- Trefethen functions Hecht, Michael	On a multigrid so- lution technique for the three- dimensional in- compressible Navier-Stokes equations us- ing discretely divergence-free finite elements Lohmann, Christoph	Preconditioning for a coupled Navier-Stokes Cahn-Hilliard model for the morphology evolution in organic solar cells <i>Çiloğlu, Pelin</i>	Multilevel Over- lapping Schwarz Preconditioners for Fluid Problems Köhler, Stephan	Temporal Multi- scale Modelling of Long-term Damage in Fluid-structure Interaction Prob- lems Chang Dominguez, Dayron	Development of a GPU-accelerated, Finite Element based Dynamical Core for Sea Ice Richter, Thomas
S23.01	Multi-objective Design Optimization for Axial Turbine via Deep Learning-Assisted Latent Space Exploration Raj, Rohit; Rentschler, Tobias	Physics- constrained fre- quency response prediction of struc- tural dynamic systems via deep learning Libner, Christian	Learning Differ- ential Equations from Numerically Integrated Artificial Neural Networks Bielitz, Timo			
S25.02	A Neural Operator based Microscale Surrogate Model for Multiscale Simulations of Time Dependent Materials  Jeyaraj, Dhananjeyan	Towards data- driven inelasticity for spatial prob- lems: A neural network-based propagator ap- proach Harnisch, Marius	Deep learning for non-iterative gener- ation of optimized finite element meshes Legeland, Martin	Mathematical and numerical analysis of the robustness of Data-Driven Identification (DDI) method Hachem, Nour	Coupled CANN- DEM Simulation in Solid Mechanics Friedrich, Jonathan Georg	Comparison of Generative Learn- ing Methods for Turbulence Model- ing Drygala, Claudia

	8:30	8:50	9:10	9:30	9:50	10:10
S01.02	Challenges of bringing ML-assisted Model Predictive Control for Wind Turbines into Industrial Practice Zierath, János	Challenges of bringing ML- assisted Model Predictive Control for Wind Turbines into Industrial Practice Zierath, János	Incorporating Nonlinear Elas- tic Forces in the Nodal-Based Float- ing Frame of Refer- ence Formulation Holzinger, Stefan	Techniques for re- covering stresses from dynamic multibody simu- lations for fatigue assessment Nemov, Aleksandr	Analysis of Frictional Sliding Contact in Magnetic Track Brakes: A Simplified Methodology Kocbay, Emin	
S04.03	Prestressing of concrete using iron-based shape memory alloy (Fe-SMA) short fibers: Experimental and numerical analysis Tabrizikahou, Alireza	Prestressing of concrete using iron-based shape memory alloy (Fe-SMA) short fibers: Experimental and numerical analysis Tabrizikahou, Alireza	Experimental De- termination of a Load Approach FE- Method for Reduc- ing the Formwork Support Time of Reinforced Con- crete Ceilings W. Müllner, Herbert	Experimental and Numerical Analysis of the Impact of Perforation bands in the Facing on the Behavior of Sandwich Plates Chuda-Kowalska, Monika	Numerical and ex- perimental analysis of lightweight bar- membrane joints Zmuda Trzebia- towski, Marcin Adam	
S06.1.03	1D model of twin branching in shape memory alloys accounting for the energy dissipation effects Stupkiewicz, Stanisław	Evaluating chemo- mechanical cou- pling in phase-field methods: Bench- marks and Insights Kannenberg, Thea	Multiphase-Field Modeling of Mi- crostructure Evo- lution during Solid- State Processing of AI Alloys Nanayakkara, H.A.T Vimukthi	New insights into grain boundary kinetics by phase- field crystal model- ing Punke, Maik	Numerical Modelling of Deformation- Induced Marten- sitic Transforma- tion in Additively Manufactured 316L Stainless Steel under Cryogenic Conditions Maasch, Philipp	

	8:30	8:50	9:10	9:30	9:50	10:10
S07.03	Identification of Ferroelectric En- ergy Harvesting Cycles: from Ma- terial Modeling to Process Optimiza- tion Warkentin, Andreas	Multiscale modeling of structured magnetorheological elastomers using physicsaugmented neural networks  Roth, Heinrich	Numerical modeling of the thermomechanical and electrical behavior of a sensorintegrating jaw coupling Menning, Johannes D.M.	Energy, Momentum and Entropy Consistent Integrators for Discrete Coupled Systems Using GENERIC Reiff, Pit	Space-Time Discretization of Nonlinear Coupled Thermo-Elastodynamical Problems in a Novel, Polyconvexity-Inspired, Mixed GENERIC Framework Hille, Moritz	
S10.03	LES/PDF Simula- tions of Turbulent Reacting Flows Muradoglu, Metin	LES/PDF Simula- tions of Turbulent Reacting Flows Muradoglu, Metin	CFD Based Kinetic Parameter Esti- mation Method for Arbitrary Reactor Geometries Qureshi, Muhammad Uzair	Development of detailed surface reaction mechanism for methanation process based on experiments  Rakhi -	Kinetic investiga- tion of methanation over Ni-CeO2 using a one-dimensional model lbrayeva, D.	
S11.02	High order Sharp Interface numer- ical methods for multiphase flows Kummer, Florian	High order Sharp Interface numer- ical methods for multiphase flows Kummer, Florian	Modelling multi- scale multiphase flows with the MultiMorph Model Lucas, Dirk	Evolution of local bubble character- istics in a pres- surised pneumatic flotation cell Zürner, Till	Consistency of pseudopotential lattice Boltzmann methods in two-phase flow simulations of droplet dynamics  Czelusniak, Luiz Eduardo	

Time Domain Boundary Element Methods for the Neumann Problem: a Reduced Fformulation for Practical Applications Schneider, Simon A domain decomposition strategy for natural imposition of mixed boundary conditions in port-Hamiltonian systems

Brugnoli, Andrea

Porous wall induced instabilities in compressible boundary layers De Broeck, Lara

	8:30	8:50	9:10	9:30	9:50	10:10
S14.02	Variational mod- elling of porosity waves Zafferi, Andrea	Energy-variational structure in evolu- tion equations Lasarzik, Robert	On the connection of the Prandtl equations and the harmonic oscillator Kortum, Joshua	On some explicit solutions of the linearised Prandtl equations via hypergeometric functions De Anna, Francesco	On an inhomogeneous coagulation model describing sedimentation Cristian, Iulia	
S15.03	Uncertainty Quantification For Lévy Random Fields - Theory and Numerics Gottschalk, Hanno	Uncertainty Quantification For Lévy Random Fields - Theory and Numer- ics Gottschalk, Hanno	Laplace Trans- form-Based Non- Probabilistic Un- certainty Analysis of Viscoelastically Damped Structures Łasecka-Plura, Magdalena	Efficient first order second moment method for stochastic vibroacoustic problems with uncertain loads Hüpel, Yannik	Incorporating Model Form Un- certainty in Digital Twins for Reliable Parameter Updat- ing and Quantities of Interest Analysis Arcones, Daniel Andrés	
S17.03	Regularization and stabilization of port-Hamiltonian descriptor systems via output feedback Mehrmann, Volker	On port- Hamiltonian partial differential alge- braic equations Preuster, Till	Pollution free eigenvalue bounds for the Gramian operator <i>Grubišić</i> , <i>Luka</i>			
S18.03	Structure- preserving Model Reduction on Manifolds of port- Hamiltonian sys- tems Glas, Silke	Structure- preserving Model Reduction on Manifolds of port- Hamiltonian sys- tems Glas, Silke	Energy-preserving Arnoldi approxi- mations for Gauss- Runge-Kutta inte- grators Maier, Stefan	Beyond 1D: A higher dimensional perspective on composite gas flow simulations in pipelines Nayak, Ashwin Sadanand	Convergence of a Riemannian gradi- ent method for the Gross-Pitaevskii energy functional in a rotating frame Yadav, Mahima	

	8:30	8:50	9:10	9:30	9:50	10:10
S19.03	Sampling, opti- mization, SDEs and gradient flows Majka, Mateusz	Sampling, opti- mization, SDEs and gradient flows Majka, Mateusz	Spatial decay of perturbations in optimal control Schaller, Manuel	A novel distributed method for PDE- constrained GNEPs Sauer, Felix	Strategies for robust optimal con- trol of chromato- graphic separation processes Cebulla, Dominik H.	
S20.02	Comparison of a-posteriori error estimators in the context of Para- metric Model Order Reduction by Ma- trix Interpolation Schopper, Sebastian	Reduced Order Modeling for Fre- quency Response Functions of Non- linear Dynamical Systems: Appli- cation to Gear Transmission Sys- tems Mohamed, Hady	Application of op- erator inference to reduced-order modeling of con- strained mechani- cal systems Filanova, Yevgeniya	Approximate Bal- anced Truncation for Linear Struc- tured Systems based on Greedy Numerical Integra- tion Reddig, Celine	System-theoretic model order re- duction for data assimilation König, Josie	
S21.01	Duality in nonlinear eigenproblems Laubmann, Jonathan	Duality in nonlinear eigenproblems Laubmann, Jonathan	Adjointfree Esti- mation of Operator Norms Do we need the Adjoint to Es- timate Operator Norms? Schneppe, Felix			
S22.03	Neural Operator- accelerated Parallel-in-Time Methods Götschel, Sebastian	A Physics- Informed Neural Network with Gen- eralized Finite Difference method framework for solv- ing groundwater flow Tsung-Han, Li	Autoencoders with CUR Decomposi- tions for Physics- preserving Low- order Models in Fluid Flow Kim, Yongho	Concepts and strategies for the mathematical modelling of electroplating Schwöbel, Stephan Daniel		

	8:30	8:50	9:10	9:30	9:50	10:10
S25.03	On the perfor- mance and conver- gence of PINNs for problems in linear elasticity Kadlag, Dipraj	Model discovery and challenges us- ing inelastic Con- stitutive Artificial Neural Networks (iCANN s) at finite strains Holthusen, Hagen	Hard-constraining techniques and architectures in physics-informed neural networks for silicidation simulations Straub, Christopher	Anisotropic hyperelasticity meets physics-augmented neural networks Kalina, Karl A.	Application of Deep Learning Methods to Simu- late the Behaviour of Soft Tissue Materials in Biome- chanics Mustafa, Agon	
S26.01			On-the-fly adaptive sparse grids for coupling molecular monte-carlo and continuum models Hülser, Tobias	Koopman-based Control for Stochastic Sys- tems: Application to Enhanced Sam- pling Guo, Lei	Coarse-grained simulation of pro- tein self-assembly Mayrhofer, Lukas	

	10:00  Deformation dependent conductivities in a porous electromechanical system from variationally consistent homogenization
Poster	M. Blaszczyk, D. R. Rollin, F. Larsson, K. Runesson, R. Jänicke
	Nonlinear interpolation inequalities with fractional Sobolev norms and pattern formation in biomembranes J. Ginster, A. Pešić, B. Zwicknagl
	Microstructure modeling of binder-jet 3D-printed materials
	E. Donval, M. Schneider, H. Grimm-Strele, M. Godehardt, R. Burger, P. Lechner, D. Gün
	Polyconvex constitutive modeling with physics-augmented neural networks
	D. K. Klein, O. Weeger
	Adjoint coupled plasma-neutral solvers with reversible pseudorandom number generators  E. Løvbak, G. Samaey
	Structure-preserving methods for port-Hamiltonian flexible multibody systems Philipp L. Kinon, Peter Betsch, Simon R. Eugster, Riccardo Morandin, Philipp Schulze

Strong simulations for strong magnets: Effects of defects
M. Vorwerk & J. Schröder

Dynamic fracture with thin structures and bond-associated peridynamics
K. Partmann, C. Wieners, K. Weinberg

Interface conditions for Maxwell's equations by homogenization of thin inclusions: transmission, reflection or polarization *B. Schweizer, D. Wiedemann* 

11:00

R.v.Mises Lecture

14:00

PL 4 DPG Method on a New Road to Nonlinear Problems

Demkowicz, Leszek

	16:30	16:50	17:10	17:30	17:50	18:10
S01.03	Energy- and constraint- preserving integra- tion for elastically coupled multi-body systems Kotyczka, Paul	Galerkin-based approach for time integration of the rigid body in quaternion formu- lation May, Marvin	Practical Insights on Data-Based Robot Control: A Comparative Analysis of Data- Enabled Predictive Control and Model- Based Predictive Control Chen, Jingshan			
S02.01	A multifactorial approach for modelling vascular tone regulation: from molecular pathways through tissue response to systemic couplings Marino, Michele	Experimental and numerical characterisation of a viscoelastic material by unifying different time scales Ruhland, Laura	Multimodal me- chanical charac- terization of spinal cord tissue Ramachandran, Rahul Gopalan	PDE Framework for Tumor Invasion and Basement Membrane Dynam- ics: Application to Colorectal Cancer Schmid, Valentin	A novel variational biofilm model for growth death and metabolism effects in coupled species evolution Klempt, Felix	Thickness field optimization of implants used in hernia treatment: comparison of materials with different mechanical properties Kalinowski, Szymon

	16:30	16:50	17:10	17:30	17:50	18:10
S04.04	An efficient Ritz- Method for post- buckling analy- sis of compos- ite plates with bending-twisting coupling Dillen, Sebastian Dominik	A stationary pre- dictor corrector method for the simulation of elastic-plastic bending of axially moving plates with non-material finite elements Ramsauer, Stefan	A variationally consistent membrane wrinkling model based on spectral decomposition of the strain tensor Kiendl, Josef	Approximate sta- bility analysis of omega-stringer stiffened compos- ite panels El Yaakoubi-Mesbah, Cherine	Deformation and Damage in Three- Layered Plates with Auxetic Core at Static and Impact Loading Breslavsky, Dmytro	Statistical evaluation of the influence of geometric and technological variables on the strength parameters of sandwich panels Pozorska, Jolanta
S07.04	Anisotropic friction models of moving macromolecules in polymeric liquids Zmitrowicz, Alfred	Modeling concepts for piezoceram- ics in ultrasonic motors Sutter, Felix	Variational ther- momechanically coupled SMA ma- terial model and optimization of SMA based out- of-plane bistable microactuator Shamim, Muham- mad Babar	Multiphase-field simulation stud- ies on Ni thin film dewetting Becker, Nils	Simulating cycled loading of hydrogen on thin metallic structures Gisy, Johannes	A laser beam weld- ing process and its microstructural thermoelastoplas- tic analysis Hartwig, Philipp
S08.03	Neural network enhanced compu- tational polycon- vexification Balazi, Loïc	Deep Eshelby Network: An Al Framework for Mul- tiscale Mean-Field Homogenization Schwaighofer, Michael	Digital physics of 3D-printed sand cores Donval, Elodie	Model discovery in multiscale simulations for anisotropic materials  Urrea-Quintero, Jorge-Humberto	Deep-Learning- Based Numerical Homogenization of Heterogeneous Media Kröpfl, Fabian	Digital process and functional design for PUR foam components based on multiscale simulations Staub, Sarah

S10.04	Influence of porous material on the flow behind a backward-facing step: experimental study Klotz, Lukasz	Influence of porous material on the flow behind a backward-facing step: experimental study Klotz, Lukasz	Gas transfer through sea sur- face - turbulence and surfactan Piskozub, Jacek	Analysis and parametrization of turbulence in stably-stratified atmospheric boundary layers Wacławczyk, Marta	Turbulence statis- tics in thunder- clouds Sarkar, Joydeep	Modelling transient, compressible and subcritical vessel outflows Fischer, Michael-David
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	16:30	16:50	17:10	17:30	17:50	18:10
S14.03	Magnetic skyrmions Simon, Theresa	Magnetic skyrmions Simon, Theresa	Amplitude equa- tions for the fractional Swift- Hohenberg equa- tion Throm, Sebastian	Stress-Modulated Growth in the Pres- ence of Nutrients Blawid, Julian	On the Derivation of the Timoshenko Beam Model from Nonlinear Elas- ticity by Gamma- Convergence Fastovska, Tamara	The Schrödinger Poblem on Metric Graphs Krautz, Juliane
S15.04	Sensitivity Analysis of Bifurcation Curves Lux-Gottschalk, Kerstin	Augmented First- Order Reliability Method for Estima- tion of Imprecise Failure Probabili- ties Valdebenito, Marcos	Reliability analysis of structures with correlated random variables considering uncertain distribution parameters Li, Peipei; Valdebenito, Marcos A.; Faes, Matthias G.R.	Sensitivity Estimation of Failure Probability with Respect to Input Distribution Parameters in Stochastic Computational Models Zhang, Xuan-Yi	Optimization of shell struc- tures with fuzzy- probability based random fields us- ing artificial neural networks Schweizer, Maximil- ian	A high- performance multi- level stochastic gradient descent method with appli- cations in optimal control under un- certainty Schneiderhan, David
S16.02	Topology opti- misation of non- periodic metama- terials via beam- based modelling Weißinger, Philippa	Process modeling- based optimiza- tion of grayscale masked stere- olithography 3D printed parts Rutsch, Felix	Minimization of the structural compliance over the elastic moduli with a convex unit cost leads to a non-linear elasticity problem  Lewiński, Tomasz	Topology opti- mization in civil engineering – on the consideration of concrete failure characteristic and self-weight Masarczyk, Daniela	Topology Optimization Methods for Buckling Structures with Size Constraints Xiao, Manyu	Lasserre hierar- chy for topology optimization of frame structures under dynamic excitations Tyburec, Marek

Spectral properties of certain nonsymmetric saddle point matrices

Ramme, Justus

Spectral analysis of preconditioners for fully implicit Runge-Kutta methods Outrata, Michal On a matrix-Newton-type framework for solving NEPv Werner, Tom Generic eigenvalue algorithms and singular value algorithms for matrices of quaternions, reduced biquaternions, and dual numbers Slapničar, Ivan

	16:30	16:50	17:10	17:30	17:50	18:10
S18.04	Reduced-order modeling and data assimilation with applications in structural health monitoring Gräßle, Carmen	Reduced-order modeling and data assimilation with applications in structural health monitoring Gräßle, Carmen	Model Reduction for the Wave Equation beyond the limitations of the Kolmogorov N-width Feuerle, Moritz	Fast Solution of the Wave Equation Using Model Order Reduction and the Laplace Transform Henriquez, Fer- nando	Temperature Stratification in Lakes: Thermobaric Effects and Stability Irmscher, Jonathan	Global Free Flight Optimization via Eikonal Approach Jocas, Arturas
S19.04	Optimal control of an ill-posed bloodflow model: Navier-Stokes with do-nothing boundary controls Wagner, Jakob	Output-based receding horizon stabilizing control for linear parabolic equations Rodrigues, Sergio S.	A machine learning based approxi- mation of semi- concave functions with applications to optimal control Vasquez-Varas, Donato	The minimum energy estimator for a cubic wave equation Schröder, Jesper	Continuation methods for higher- order topology optimization Winkler, Michael	
S20.03	Controllability of an orbiting satel- lite model with electromagnetic- only actuation Yevgenieva, Yev- geniia	On the existence of periodic solutions to weakly non-linear distributed parameter control systems  Zuyev, Alexander	Approximate Control by Series Expansion with Application to the Ball and Beam System Gerbet, Daniel	Observability Test for Systems with Rational Nonlinear- ities Röbenack, Klaus	Comparison and analysis of event-triggered state estimation methods for nonlinear systems  Ji, Jiaxin	Flatness-based observer design of Shallow Water Waves in a Tube with Moving Boundary and non-collocated measurement in Material-Fixed Coordinates Wurm, Jens
S21.02	Hyperspectral Image denoising via Low-rank Tucker decomposition with Subspace Implicit Neural Representation Peng, Jiangjun	Denoising Hyperbolic-Valued Data by Relaxed Regularizations Bresch, Jonas	Riemannian Patch Assignment Gradi- ent Flows Gonzalez-Alvarado, Daniel	Information Geometry of Exponentiated Gradient: Convergence beyond L-Smoothness Elshiaty, Yara		

	16:30	16:50	17:10	17:30	17:50	18:10
S22.04	A Surface Crouzeix-Raviart Element for Geo- physical Flow Problems Mehlmann, Carolin	A Surface Crouzeix-Raviart Element for Geo- physical Flow Problems Mehlmann, Carolin	Efficient numerical methods for the Maxey-Riley-Gatignol equation Ruprecht, Daniel	Magneto- mechanical cou- pling for magne- tostriction using isogeometric anal- ysis Merkel, Melina	Isogeometric Anal- ysis of 2D Mag- netostatics with THB-Splines en- riched by Bézier Extraction for Lo- cal Refinement Grendas, Andreas	
S25.04	Learning regu- larizers - bilevel opitimization or unrolling? Lorenz, Dirk	Time-adaptive SympNets for sep- arable Hamiltonian systems Janik, Konrad	Sparse full-order model inference for incompressible fluid dynamics Yıldız, Süleyman	Investigation of hydrogel struc- ture parameters in the Flory-Rehner model with data- driven approaches Wang, Yawen	Optimal data se- lection for learning differential equa- tions Govoeyi, Medard	An Adaptive Random Fourier Features approach applied to learning Stochastic Differential Equations Kammonen, Aku
S26.02			Multiresolution of the free-particle propagator Dinvay, Evgueni	Second-Order Time-Splitting Hermite Spectral Method for Non- linear Schrödinger Equations with Time-Dependent Potential Bergold, Paul	Quasivoids in poly- disperse glassy systems with atomistic PEL exploration and iso-configuration method Swayamjyoti, S.	Analysis of an inexact domain decomposition method with application to the Conductor-like Screening model Ghosh, Nibedita

## Thursday, April 10

	8:30	8:50	9:10	9:30	9:50	10:10
MS3	Quantifying time- series similarity using topological conjugacy and related concepts Signerska- Rynkowska, Justyna	Classifying and predicting be-haviours of porous structures using Topological Data Analysis Bogdan, Michal		Topological Analysis of Dynamical Systems Marszewska, Marta	Prediction of elastic modulus for metallic porous materials using 3D convolution neural networks Topolnicki, Rafal	
S02.02	Lower limb multi- body model built in Artisynth for the use of coupled multibody-finite el- ement simulations Denk, Alexander	Drift-Free Sagittal Angle Estimation in Outdoor Running Using IMUs: Ap- plication to Shank and Foot Ghiassi, Mehdi	Finite element anal- ysis of the human elbow joint Kasprzyk, Julia	Finite Element Modelling of Im- pact Loads on the Human Head Wang, Zechang	A new concept for embedding fibers in continua via level-sets Fries, Thomas-Peter	Characterization of the statistically inhomogeneous mesostructure of moso bamboo using image processing Speichginger, Lukas
S03.03	Phase-field mod- elling of ductile fatigue fracture Kalina, Martha	A Fracture Crite- rion for the Predic- tion of Complex Fracture Patterns and Fragmentation in Tempered Glass Kanan, Anas	Anisotropic brittle damage models at finite strains van der Velden, Tim	A Regularized Continuum Damage Model Based on Endurance Sur- faces for Fatigue Prediction Feike, Klas	An analytical and numerical ap- proach for the description of damage-free dis- assembly of joined CFRP structures Kreikemeier, Janko	A double surface damage model for amorphous glassy polymers Hamdoun, Ayoub
S04.05	Dimension reduction in elasticity Kienzler, Reinhold	Dimension reduc- tion in elasticity Kienzler, Reinhold	Asymptotically exact theory of functionally graded elastic beams Chau Le, Khanh	Numerical and an- alytical study of elastic parameters in linearized mi- cropolar elasticity Schek, Lucca	The catenary line: numerical aspects and solutions for special boundary conditions. Beitelschmidt, Michael	Development of space-fractional finite element for scale-sensitive truss structures Stempin, Paulina

S05.01	Dynamics of Two Coupled Bodies on a Rough Hori- zontal Plane with Variable Coefficient of Friction Prokopenya, Alexan- der	Pure Mobility: Rolling resistance in future vehicle- road systems Ruff, David	Secular Perturba- tions of the Orbital Elements in the Maby-Body Sys- tem with Variable Masses Saparova, Moldir	Frequency analysis of a Superconducting Magnetic Bearing system in ring spinning using an Eddy Current Damper Delgado, Yves Jesus Perez	Peculiarities of Amplitude- Frequency Charac- teristics in Geomet- rically Nonlinear Vibrations of Com- posite Shells and Plates under Var- ious Deformation Models Goriachko, Taras, Marchuk, Mykhailo	On the Influence of Cracks on the Dy- namic Behavior of PICMA® Multilayer Actuators Riedel, Simon
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## Thursday, April 10

	8:30	8:50	9:10	9:30	9:50	10:10
S06.2.01	Thermodynamically regularized computation of straininduced crystallization  Jabareen, Mahmood	Exploring the effects of thermal aging on filled and unfilled natural rubber compounds with a perspective of SIC modelling Farkas, Ondrej	Data-driven mod- eling of strain- induced crystal- lization based on physics- augmented neural networks Friedrichs, Konrad	Efficiency enhancement strategies on the concept of representative directions applied to the dynamic flocculation model for filled elastomers  Niemeyer, Mascha	The Self-Heating of Rubber Ele- ments in Vibration Absorber Systems Niksirat, Esmat	Comparative Analysis of Homogenization Techniques for Interphase Modeling in Elastomer Blends Ulrich, Marc
S07.05	Porous media approach for multi- physics modeling of Nafion mem- brane in water electrolysis Aldakheel, Fadi	Porous media approach for multi- physics modeling of Nafion mem- brane in water electrolysis Aldakheel, Fadi	Multi-scale mod- eling of electro- chemo-mechanical interactions in battery electrode composites Jänicke, Ralf	A phase-field model for the an- odic dissolution process during electrochemical machining Schmidt, Annika	A thermodynamically consistent phase field model for organic solar cell production Tretmans, Carmen	
S08.04	Microstructure- Property Rela- tionships in Solid Oxide Fuel Cell Electrodes Langner, Eric	A Homogenization Approach for Mod- eling Ion Transport in Solid Oxide Fuel Cells Puderbach, Janna	FExMS - Coupling Finite Elements with Molecular Statics by Homoge- nization Neelakandan, Aa- gashram	Multiscale mod- eling of lamellar materials account- ing for size effects Klein, Claudius	The influence of microstructure model parameters on the prediction of effective elastic properties of cement paste Burczyński, Tadeusz	FE <sup>2</sup> method to model rod- and beam-like carbon- based nanostruc- tures Ochs, Julian
S10.05	The Influence of Hydrocarbon Ad- ditives on Laminar Burning Velocity and NOx Emis- sions in Hydrogen Combustion Hemaizia, Abdelka- der	Towards the use of HiPS as scalar mixing model in a full engine cycle simulation Starick, Tommy	Effect of swirl flame shaping on emissions in CH4-NH3 co-firing - experimental and numerical study Ślefarski, Rafał			

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S14.04	Localisation Limits and Degenerate Cross-Diffusion Systems Schmidtchen, Markus	Advection and enhanced diffusion in some active scalar problems Kalinin, Konstantin	Discrete-to- continuum limit for reaction-diffusion systems via varia- tional convergence of gradient sys- tems Heinze, Georg	On time-splitting methods for gra- dient flows with two dissipation mechanisms Stephan, Artur	On asymptotically self-similar be- havior in reaction- diffusion systems Schindler, Stefanie	Conditional Ex- ponential Equili- bration of Electro- Energy-Reaction- Diffusion Systems Kniely, Michael
S15.05	Bayesian shape inversion in time- harmonic scatter- ing Scarabosio, Laura	Bayesian shape inversion in time- harmonic scatter- ing Scarabosio, Laura	Sequential Quasi- Monte-Carlo Sam- pling for Bayesian Inference of Chem- ical Kinetic Models Utilizing Normaliz- ing Flows Panagiotopoulos, Andreas	Comparison of mono-level and bi-level approaches for surrogate-based robust optimization Schultz, Julius	Infinite Dimensional Bayesian Inversion for Semiconductor Devices Taghizadeh, Leila	Exploring Imprecise Probabilities in Quantum Algorithms with Possibility Theory Schneider, Jan
S16.03	Convexification can help opti- mization, at least sometimes Wirth, Benedikt	Convexification can help opti- mization, at least sometimes Wirth, Benedikt	Abs-Smooth Frank- Wolfe Method: Convergence Anal- ysis and Implemen- tation Tadinada, Sri Harshitha	Addressing Risk Aversion in Energy Market Models: A Non-Smooth Opti- mization Approach Schmidt, Adrian	How Stringent is the Linear Inde- pendence Kink Qualification in Abs-Smooth Opti- mization? Bethke, Franz	A robust optimiza- tion method for functions with dis- continuities along lower-dimensional manifolds lgel, Lennart
S18.05	A posteriori er- ror bounds with- out generic con- stants by the two- energies-principle Braess, Dietrich	Goal-oriented dual-weighted er- ror estimation for first order Virtual Elements Sellmann, Christian	Error representations for goal- oriented a posteri- ori error estimation in elasto-plasticity with applications to mesh adaptivity Mahnken, Rolf	Quantum Realiza- tion of the Finite Element Method Deiml, Matthias	Minimal residual discretization of a class of fully nonlinear elliptic PDE Tien Tran, Ngoc	Sparse low-rank approximation of multi-parametric partial differential equations Yang, Huqing

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S19.05	Numerical Methods and Optimality Conditions for PDE Constrained Optimal Control Problems with Control Variables Appearing Linearly Vossen, Georg	Newton's method for nonlinear map- pings into vector bundles Weigl, Laura	Decomposition methods for mixed- integer optimal control using Pon- tryagin's principle Hante, Falk	Finite Element Er- ror Analysis of the Beckmann Prob- lem of Optimal Transport Eidecker, Niklas	Optimal control of rate-independent systems with non- convex energy Andreia, Merlin	
S20.04	Improving Policy Iteration: A Koopman-Based Riccati Analogue for Nonlinear Control Systems Höveler, Bernhard	Exploring the Links between the Fun- damental Lemma and Kernel Regres- sion Molodchyk, Oleksii	Exponential trim turnpike property for optimal con- trol systems with symmetries Wembe, Boris	Optimal control for a class of linear transport domi- nated systems via the shifted proper orthogonal decom- position Burela, Shubhaditya	New Lagrangian framework for op- timality conditions in second order optimal control problems Maslovskaya, Sofya	New discrete La- grangian approach for solving me- chanical optimal control problems Konopik, Michael
S21.03	Variational exit wave reconstruc- tion - From Classi- cal approaches to deep unfolding Berkels, Benjamin	Variational exit wave reconstruc- tion - From classi- cal approaches to deep unfolding Berkels, Benjamin	Towards a super- resolution theory for infinite-width shallow neural networks Carioni, Marcello	Pattern-Generating Reaction-Diffusion Systems for Tex- ture Processing: Towards Gen- erative Texture Descriptors Welk, Martin	Bundle Scale Spaces and Local Gauge Symmetries for Graph Networks Cassel, Jonas	Multilevel Optimization: Geometric Coarse Models and Convergence Analysis Vanmaele, Ferdinand-Joseph
S22.05	Algorithmic Dif- ferentiation for Second-Order Derivatives of Fixed-Point Itera- tions with ADOL-C Siebert, Tim	MaRDI Open Interfaces for Scientific Computing Kabanov, Dmitry I.	Efficient Implementation of a semi-smooth Newton method for parabolic PDEconstraint optimization Reinhold, Alexander	Automatic code generation for ef- ficient matrix-free non-linear solvers with application to solid mechanics Wichrowski, Michał	IFDIFF - A Matlab Toolkit for ODEs with Filippov- type and State- Dependent Switches Sommer, Andreas	Spectral gaps for Laplacians of sym- plectic groups Mizerka, Piotr

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S25.05	A spatiotemporal deep learning framework for prediction of crack dynamics in heterogeneous solids: efficient mapping of concrete microstructures to its fracture properties Najafi, Rasoul	A baseline study on the potential of combining Ma- chine Learning and dynamic substruc- turing Hayn, Annika	Physics-Informed Recurrent Neu- ral Networks for Predicting Elasto- Plastic Be- havior in Hierarchical Finite Element Modeling Dyckhoff, Lena	Denoising Diffusion Model with Pixel Adaptive Convolutions for Sheet Metal Forming Analysis Ali, Syed Sarim	Hybrid model- ing via machine learning correc- tions of friction surfacing process simulations to- wards experimental measurements Klusemann, Ben- jamin	Hybrid finite ele- ment/neural net- work solver Kapustsin, Uladzis- lau
S26.03	Wigner crystalliza- tion Friesecke, Gero	Wigner crystalliza- tion Friesecke, Gero	A mathematical analysis of IPT- DMFT Perrin-Roussel, Solal	Certified Model Order Reduction for parametric Hermitian eigenproblems Zeng, Zhuoyao	Riemannian Opti- misation Methods for Ground States of Multicompo- nent Bose-Einstein Condensates Hermann, Martin	An Energy- Adaptive Rie- mannian Conjugate Gradient Method for Eigenvector Problems of Kohn- Sham Type Püschel, Jonas
S27.01	Room for Improvement – A Blended Learning Concept with Teachers as Tutors and a Digital Exercise Type for Mechanical Equations  Sattler, Moritz	Room for Improve- ment – A Blended Learning Concept with Teachers as Tutors and a Digi- tal Exercise Type for Mechanical Equations Sattler, Moritz	Addressing Common Learning Obstacles in Mechanics through Automated STACK Assignments: An Experience Report Zwiers, Ulrich	A concept for STACK-based in- dividual electronic assignments in third semester engineering me- chanics Strackeljan, Cor- nelius	Digital tutorials and examination tools for Structural Analysis – a case study Birk, Carolin	"Digital Engineering Mechanics" – implementation, opportunities and challenges  Lammen, Henning

	11:00
PL 5	Resonances as a computational tool Schratz, Katharina

	12:00
PL 6	On Nonlinear Oscillations
	von Wagner, Utz

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S03.04	Predicting fatigue lifetime of high- strength concrete using physics- informed neural networks Baktheer, Abedul- gader	Autoencoder based non-intrusive model reduction of damage simula- tions Brepols, Tim	A "Capriccio light" approach to study the capabilities of multiscale fracture simulations of thermoplastics Richter, Eva Maria	Predictability of fracture mechanical quantities based on chemically specific multiscale simulations  Pfaller, Sebastian		
S04.06	Experimental investigations on mechanics based additively manufactured stayed lattice structures  Ou, Yating	Modeling the Influence of Temperature for Extrusion-Based 3D Concrete Printing – from Material to Structural Stability Robens- Radermacher, Annika	Numerical Investigation of Laser Path on Residual Stresses in the Laser Powder Bed Fusion Process Puthoor, Alfred Jose	Structural detailing of material extru- sion additively manufactured 2D metamaterials with rigid inclusions Dönitz, Antonia	Numerical mod- elling of thin-walled plate-based lat- tices and TPMS structures for lightweight engi- neering applica- tions Milenkovski, Nikola	Numerical Mod- elling of Additive Manufacturing in Construction Hürkamp, André

S04.07	Advancing the Simulation of Non-Linear Elastody-namics with Lattice Boltzmann Methods Müller, Henning	Reduced integration-based stabilization for virtual elements Pacolli, Njomza	A comparative study of polygonal element formu- lations for linear elasticity Pasupuleti, Ajay Kumar	Comparison of Particle finite element method and Finite element method for nonlinear material behaviour in simple test cases Kadam, Paras	Reissner-Mindlin plate theory by the equilibrium-based FEM Świątkiewicz, Paulina	Estimation of Discrete Model Parameters for Float Glass Panels Using the Rigid Finte Element Method Abramowicz, Małgorzata
S05.02	A new paradigm for multi-fidelity continuation us- ing parallel model refinement Gross, Johann	A new paradigm for multi-fidelity continuation us- ing parallel model refinement Gross, Johann	Forced response analysis of dynamic systems with inertia nonlinearity by applying the Multi-Harmonic-Balance Method  Tatzko, Sebastian	Integration of Base Excitation with non-linear Cou- pling within the Multiharmonic Balance Method Kubatschek, Tido	Stability analysis using predictor-corrector continuation to develop Ince-Strutt diagrams for a nonlinear parametric oscillator Jonkeren, Mirco	A MATLAB Toolbox for the continua- tion of stationary solution branches Vogelei, Julian

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S06.2.02	Modeling rate- dependent damage effects in soft bio- logical tissue P. Wollner, Maximil- ian	Relaxation Effects in Thermo-Visco- Elastic Materials Hille, Frederik	Viscoplastic mod- eling of shotcrete 3D printing Tuan La, Quoc	Modeling of the Visco-Plastic Com- paction Behavior of Crushed Salt Based on Microme- chanical Deforma- tion Mechanisms Gartzke, Ann- Kathrin	Modelling Material Behavior and Quantifying Recovery Strain in 4D Printed Shape Memory Polymers Hembrock, Henrik	Aspects of a multi- plicative viscoelas- tic material model for ice Koßler, Marvin
S07.06	Implementation of a thermome- chanical model for journal bearings using p-FEM Schmidtchen, Fabian	Physics-based modeling of a counter-flow heat exchanger with application to control model development Klein, Marten	Thermal Analysis of Heat Sink with Different Channel Geometries Iticha, Welteji			
S08.05	Towards a digital twin for pave- ments: A vis- coplastic enhance- ment of the Micro- layer framework for asphalt modeling May, Marcel	Inverse design of architected materi- als: spinodoids vs TPMS Otto, Alexandra	Variable Scale Separations in Ho- mogenization of Phase Transform- ing Materials von Oertzen, Vin- cent	Development and Implementation of a New Algorithm for Periodic Bound- ary Conditions in 3D RVE Models Sadeghpour, Reza	Experiments on the energy absorption of open cellular structures under static and dynamic loading Weinberg, Kerstin	Generating mi- crostructures for long fiber rein- forced composites with fiber curvature control Lauff, Celine
S09.01	Numerical assessment of changes in blood flow hemodynamics after varied virtual endovascular procedures of treating the cerebral aneurysms  Tyfa, Zbigniew	Numerical assessment of changes in blood flow hemodynamics after varied virtual endovascular procedures of treating the cerebral aneurysms  Tyfa, Zbigniew	FSI simulation represents a novel and efficacious approach for evaluating the management of giant intracranial aneurysms Reorowicz, Piotr	Possible predictors of cerebrovascular accidents in paediatric patients with PHACES syndrome: in-silico investigations  Obidowski, Damian	Numerical Investi- gation of the Effect of Flow Vorticity on Red Blood Cell Orientation and Deformation Dirkes, Nico	Noninvasive assessment of artery wall stiffness Bialecki, Ryszard Andrzej

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S14.05	On a non- isothermal Allen- Cahn model for tumor growth Ipocoana, Erica	Viscoelastic Phase Separation: Well-posedness and Singular Limit to Viscous Cahn-Hilliard Equation Gau, Moritz	Analysis of a Cahn- Hilliard model for viscoelastoplastic two phase flows in geodynamics Cheng, Fan	Sharp Interface Reduction of a Mesoscale Model for Two-Species Surfactant Films Fuchs, Jakob	A fully coupled Stokes-transport system modeling thermoregulation in human skin Hacker, Kilian	Γ-Convergence and Stochastic Homogenization of Second-Order Sin- gular Perturbation Models for Phase Transitions Donnarumma, Anto- nio Flavio
S16.04	Minimum com- pliance design of grillages via opti- mal transportation methods Bolbotowski, Karol	Minimum com- pliance design of grillages via opti- mal transportation methods Bołbotowski, Karol	Optimization of fold-patterns on elastic thin plates Smoch, Christoph	Coordinated op- timization of ac- tuation and com- ponent structures in lightweight dy- namic arm-like systems Janzik, Felix; Uttich, Eike	Optimal simulation parameters for modeling phase transformations in steels Potorski, Pawel	Minimization of non-linear least squares inverse problems via global lineariza- tion Itner, Dominik
S18.06	Optimal Order Pressure Trajectory Approximation for Stokes Systems: Set of Pressure Solutions and its Post-Processing Bause, Markus	Stabilized finite elements for in- compressible Navier-Stokes flows on manifolds Kaiser, Michael Wolfgang	Mixed finite ele- ment for the Stokes eigenvalue problem Dagli, Tugay	A positivity pre- serving scheme for a coupled Chemotaxis- (Navier-)Stokes system Pervolianakis, Chris- tos	Goal-Oriented Adaptivity Techniques for Convection- Dominated Trans- port and Flow Problems Bruchhäuser, Marius Paul	Analysis and numerics of nonlinear PDE systems in porous media flow models Boisserée, Simon
S20.05	Exponential split- tings in the pres- ence of unbounded operators Kropielnicka, Karolina	Exponential split- tings in the pres- ence of unbounded operators Kropielnicka, Karolina	Extremum seeking algorithms with time-varying gains Grushkovska, Victo- ria	Simultaneous Inversion for Under- actuated Mechan- ical Systems with Servo-Constraints Wang, Tengman	An averaging approach for the optimal design of stand-alone minigrids  Kliche, Nina	Rational Approximation of Transfer Functions with Automated Detection of Relative Degrees Heiland, Jan

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21.04	Covariance Ma- trix Estimation for Massive MIMO Paul, Laura	Time-Harmonic Optical Flow with Applications in Elastography Melnyk, Oleh	Reconstructing Missing Fourier Data in MRI: Exploring GRAPPA and Subsampling Strategies in the Fourier Domain Riahi, Anahita	Automated Adjustment of the Focussing Optics of Free-electron Lasers Schmidt, Janina	Adaptive Breg- man-Kaczmarz: an approach to solve linear inverse problems with in- dependent noise exactly Tondji, Lionel	Density estimation for broken random samples Bi, Hancheng
S22.06	NURBS fitting method for smoothed sur- face approximation in polymer additive manufacturing Timmann, Frederic	Higher-Order Pro- jection Methods for Variable Viscosity Fluids Schussnig, Richard	Transient numerical investigation of fluid flow with the Fast Boundary-Domain Integral Method Tibaut, Jan	Smoothed aggregation algebraic multigrid for problems with heterogeneous and anisotropic material behavior Firmbach, Max	A Hybrid Ice Model Kahl, Saskia	Matrix-free inexact preconditioning techniques for discretizations on structured grids Mika, Michał
S25.06	Machine Learning and Stochastic 3D Modeling for Reconstructing 3D Grain Maps from 2D EBSD Data Furat, Orkun	Comparison of classical ANN architecture and neural operator approach to approximate 2-point probability functions  Schmollack, Luzie	Data-efficient inverse design of elastic spinodoid metamaterials Rosenkranz, Max	A Variational Autoencoder Approach to Structure-Property Mapping in Porous Metamaterials Heider, Yousef	A holistic Al approach from model creation to model evaluation in engineering applications  Drieschner, Martin	Inverse Material Design using Deep Reinforcement Learning and Ho- mogenization Würz, Valentin
S27.02	GAMEchanics: the open-source Mechanics-themed physical and virtual Escape Room Völlmecke, Christina	GAMEchanics: the open-source Mechanics-themed physical and virtual Escape Room Völlmecke, Christina	Enhancing Chemical Engineering Education: Constructive Alignment and Augmented Reality in Experimental Fluid Mechanics Kaufhold, Nils	On possibilities and challenges of GPT-assisted learn- ing environments Harnisch, Marius	Innovative Fluid Mechanics Ed- ucation through Augmented Real- ity and Interactive Learning Behr, Alexander S.	Programming- enhanced mechan- ics - an innovative teaching approach for AI Engineering Education Westphal, Hanna

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S03.05	A Mixed Three- Field Variational Formulation for Phase-Field Frac- ture Modeling of Elastomer Materi- als Noii, Nima	Configurational forces for mixed- mode crack load- ing and growth analysis with the virtual element method Schmitz, Kevin	Analysis of dy- namically loaded cracks with the virtual element method Wappler, Philipp	Determination of the Effective Crack Resistance in Porous Materials Using a Fracture Phase-Field Model Schlüter, Alexander	A Stochastic Phase-Field Ap- proach for Ductile- Like Fracture of Rubber-Like Mate- rials Tanış, Bülent Efe	Mechanical Behavior and Damage Evolution in Additively Manufactured Spinodoid Sreenivasa, Vishal
S04.08	Geometrically exact planar beam dynamics: Port-Hamiltonian modeling and structure-preserving discretization  L. Kinon, Philipp	A novel approach for mass lump- ing leveraging the spectral decompo- sition theorem Bäthge, Fabian	The Petrov- Galerkin Finite Element Method in the Context of Elastodynamic Problems Zähringer, Felix	Determining Shock Responses with Experimental Impulse-Based Substructuring Zobel, Oliver Maxim- ilian	Comparison of the dynamics of a scaled trailer model and its real- size counterpart Volltrauer, Jan	Filtering and Reg- ularization tech- niques to mitigate noise in experi- mental Frequency Based Substruc- turing and Transfer Path Analysis Trainotti, Francesco
S04.09	Application of the Finite Difference Method (FDM) in bending, dynamic and stability calculations of variable cross-section beams Rakowski, Jerzy	Analysis of rotational restraint for cross-beams of deck twin girder steel bridges Siekierski, Wojciech	Modelling of Failure Mechanisms of CFS Members Restrained with bonded CFRP Textile Rzeszut, Katarzyna	Technical fabrics mechanical prop- erties change as a reason of textile roofs failures Klosowski, Paweł		
S05.03	Multi-Stable Systems: Nonlinear Dynamics and Energy Harvesting Warmiński, Jerzy	Multi-Stable Systems: Nonlinear Dynamics and Energy Harvesting Warmiński, Jerzy	Slow-fast oscilla- tions of an elastic double pendulum Steindl, Alois	Optimal l <sup>p</sup> -Norm for Robust In- tegrity Measures of Safe Basins in High-Dimensional Systems Novelli, Nico	Mechanism of self excitation of silos for particles Kröger, Matthias	Investigations on Sensitivity of AFM Cantilevers Using Parametric Resonance Ehrmann, Jonathan

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S06.2.03	Neural networks meet hyperelas- ticity: On benefits and limits of poly- convexity K. Klein, Dominik	Data-driven sta- tistical learning of polymeric data Chau, Vu M.	Data-driven sta- tistical learning of textile reinforce- ments Ngoc Khiêm, Vu	A Data-Driven Constitutive Model for Compressible Polymers Dal, Hüsnü	Parameter identi- fication of a cold- box sand with a micromorphic continuum Börger, Alexander	
S08.06	Continuum Modeling of Dislocation Microstructures under Contact Mechanics Lee, Sing-Huei	Empirically Corrected Cluster Cubature for Reduced Order Models Goldbeck, Hauke	A generic soft- ware framework for adaptively solving two-scale coupled problems Desai, Ishaan	Upscaling Paper Microstructures: A Statistical Ap- proach Utilizing Mechanical and Image Data Neumann, Johannes	Quantifying the error of non-representative volume elements in stochastic homogenization of elastic composites Ravichandran, Shreyas Karthik	Identification of material parame- ters in the relaxed micromorphic model Jahnke, Alexander
S09.02	Mass transport of a two phase flow through a converg- ing gap with one moving wall Graf, Matthias	Unveiling the Edge: Streamwise Lo- calized Solutions and the Nature of Turbulence in Square-Duct Flow Gepner, Stanislaw	Experimental validation of a CFD model of blood flow in a myocardial bridge Melka, Bartlomiej	Numerical investi- gation of nanofluid heat transfer and fluid flow in a mi- crochannel with an elastic baffle Bouzennada, Tarek		
S13.01	Turbulent drag reduction: what we do know, and what we don't Gatti, Davide	Turbulent drag reduction: what we do know, and what we don't Gatti, Davide	Spanwise wall os- cillations without walls: a means to assess the physics of drag reduction Vieths, Karl	Reinforcement learning for the identification of an active separation control strategy of a fully-turbulent wind tunnel flow Steinfurth, Ben	Turbulent separa- tion control on an airfoil-type surface using spanwise corrugation Kaminski, Piotr	Thermo-electro Hydrodynamic Instability in Micro- gravity Conditions: Experimental In- vestigations Sliavin, Yaraslau

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S14.06	Polarization filter as a homogeni- sation limit for Maxwell's equa- tions Wiedemann, David	Time-harmonic Maxwell's equa- tions in half- waveguides Schubert, Tim	Boundary-field formulation for transient electro- magnetic scatter- ing by dielectric scatterers and coated conductors Wendland, Wolfgang	Existence and Uniqueness of Fractional Integro- Differential Equa- tions with Singular Kernel Verma, Pratibha	Global Solver based on the Sperner-Lemma and Mazurkewicz- Knaster- Kuratowski-Lemma based proof of the Brouwer Fixed- Point theorem Moshagen, Thilo	On regularity for systems of elliptic equations with mixed boundary conditions Tsopanopoulos, Michael
S16.05	Topology optimiza- tion under chance constraints Uihlein, Andrian	DC-Reformulation for Gradient-L <sup>0</sup> - Constrained Prob- lems in Function Spaces Herberg, Evelyn	A numerical method for solv- ing the generalized tangent vector Zhou, Yizhou	A least-squares space-time approach for parabolic equa- tions Kahle, Christian	Phase-Field Struc- tural Optimization of Elasto-Plastic Contact Structures Myśliński, Andrzej	Neural network function approxi- mation for solving parametric opti- mization problem via optimality con- dition penalties Hoffmann, Matthias; Flaßkamp, Kathrin
S18.07	Accelerating exponential integrators Ostermann, .Alexander	Semi-explizit Discretization of Thermo- poroelasticity Schmeck, Jochewed	A rigorous (validated) method for numerically solving systems of Delay Differential Equations  Szczelina, Robert			
S20.06	Safeguarded Hybrid Reinforcement Learning for Driving on a Racetrack Gottschalk, Simon	Reducing Com- munication in Distributed Pre- dictive Control: A Case Study from Mobile Robotics Ebel, Henrik				

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S22.07	Meshless Numerical Approach to Forced Convection Problems with Optimized Port Configuration Chu, Chiung-Lin; Fan, Chia-Ming	Method of Fundamental Solutions with Domain-Decomposition Method and the Particle Swarm Optimization for Solving the Degenerate Boundary Problems  Lam, Tan Phat	Numerical solutions of boundary detection problems by using the method of fundamental solution and the particle swarm optimization Fan, Chia-Ming	Optimization of the exhaust unit geometry to minimize Ex-zone dimensions Kaufhold, Nils		
S25.07	Neural networks for isotropic poly- convex hyperelas- tic energies, Part 1: Analysis of ex- isting approaches and improved net- works Mosler, Jörn	Neural networks for isotropic poly- convex hyperelas- tic energies, Part 2: A convex neural network frame- work with universal approximation capability Geuken, Gian-Luca	Multiscale Modelling through Physics- constrained Voigt- Reuss networks Keshav, Sanath	Data-efficient inverse design of elastic spinodoid metamaterials Rosenkranz, Max	VENI, VINDy, VICI: A Genera- tive Approach to Reduced-Order Modeling with Em- bedded Uncertainty Quantification Kneifl, Jonas	Certification of physics-informed neural networks for the solution of partial differential equations <i>Ernst, Lewin</i>
S27.03	Mechanics in teaching - theoretically sound basis and application-oriented fascination for engineering studen Kuhl, Detlef	Mechanics in teaching - theoret- ically sound basis and application- oriented fascina- tion for engineer- ing studen Kuhl, Detlef	Didactic com- ments on some of the most fun- damental mathe- matical concepts used in teach- ing university- level mathematics courses Gunesch, Roland	How to activate and engage stu- dents in the basic mechanics lecture. – A case study Simon, Jaan-Willem	Self-Assessment to improve me- chanical design understanding Roth, Timo	

## Friday, April 11

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S03.06	A gradient- enhanced JH2 model for dynamic simulations of concrete structures Rosenbusch, Sjard Mathis	Numerical Model of Crack Propagation in Elasto-Plastic Material Using Grif- fith and Cohesive Zone Models Rusin, Jarosław	Proposing a Linear Failure Index for the Christensen Criterion for Use in Finite Element Analyses Hach, Mathis	Simulation study of direct-shear test on FRP-to-concrete bonded joints Jankowiak, Iwona	Numerical Method for Determining Material Stability Loss During Large Deformation Jackiewicz, Jacek	Wavelet-based ran- dom finite element analysis of dynam- ically loaded steel girders Knitter-Piątkowska, Anna
S04.10	From local interactions to global dynamics: a network-based view on structural vibrations  Geier, Charlotte	Graph-Based Truss Modeling of Corru- gated Boards for Stress Analysis During Compres- sion Fitas, Ricardo	Structural Optimization of Endoprosthetic Structures: Fatigue and Crack Propagation Testing for Al-Driven Design of Diatom-Based Lightweight Materials  Eisenträger, Johanna	A Convolutional Autoencoder Ap- proach to Predict Shear Angle De- formations Dur- ing Forming of Fiber-Reinforced Thermoplastics Middelhoff, Jan	Automatic Model Identification and Calibration of Hy- perelastic Materials based on Digital Image Correlation and Bayessian Regression Nguyen, Duc Hoang	Remarks on stochastic analysis of space-fractional truss model Jabbar, Noman
S04.11	How can the master-slave elimination for multipoint constraints be drastically accelerated?  Boungard, Jonas	Cantilever with electromagnetic actuator for time- periodic modal energy transfer Gorbach, Tobias	Using Transfer Path Analysis for Condition Moni- toring of Magnetic Bearings Kreutz, Michael	Real-Time Hybrid Substructuring for Testing Lower Limb Prostheses Kist, Arian	Equilibration-based a-posteriori error estimates for solid mechnics Brodbeck, Maximil- ian	Building Digital Twins for Engineer- ing Applications (Material testing) Budihala, Gajendra Babu

Inverse Problem for Weakly Non- linear Boundary Value Problems with Delay Chuiko, Sergey
Chuiko, Sergey

Nonlinear Periodic Boundary Value Problems with Switching at Non-Fixed Points in Time Nesmelova, Olga Consideration of non-linear oscillations under uncertainties in the context of the electrical activity of pancreatic  $\beta$ -cells Clasen, Paula

An Analysis of Linear and Nonlinear Flexural Vibration of Bimodular Tapered Beams
El Chabaan, Galeb

## Friday, April 11

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S06.2.04	Improved mod- elling of the mi- crostructure around through- thickness rein- forcements in composite lami- nates Radtke, Albrecht	Investigation of Solution Accuracy in PFEM Sim- ulations Using (Semi-)Analytical Benchmark Prob- lems Bettmann, Antaeus	Numerical mod- eling of soft in- terpenetrating composites with tunable anisotropy Mrozek-Czajkowska, Agata	A material model accounting for elasto-plasticity at finite deforma- tions for paper and paperboard Ochoa Ontiveros, Lilian Aurora	Aspects of a multi- plicative viscoelas- tic material model for ice Koßler, Marvin	Phase field simula- tion of precipitation hardened ferroelec- tric material Bohnen, Matthias
S13.02	Control effective- ness of vortex generators in high- speed flows in off-design condi- tions Schreyer, Anne- Marie	Control effective- ness of vortex generators in high- speed flows in off-design condi- tions Schreyer, Anne- Marie	Aeroacoustic Effects of Rod Vortex Generators for the Reduction of Boundary Layer Separation Suresh, Thanushree	Silent conditions testing of pulsed jet actuator for sep- aration flow control over large aerody- namic surface Stryczniewicz, Wit	Performance Enhancement of Small-Scale Wind Turbine using Response Surface Optimization Method Laouar, Roudouane	Improving Small HAWT Rotor Per- formance through the Integration of MOGA and Screen- ing Methods Bekkai, Riyadh
S14.07	On the passage from nonlinear to linearized vis- coelastodynamics Kampschulte, Malte	Positive temper- ature in nonlin- ear thermovis- coelasticity and the derivation of linearized models Machill, Lennart	Legendre- Hadamard con- ditions in the non- linear theory of fiber-reinforced elastic solids and shells Birsan, Mircea	Balanced viscosity solutions for rate-independent systems with state-dependent dissipation and applications in non-associated plasticity Boddin, Samira	Linearization of quasistatic evolu- tion in fracture Friedrich, Manuel	Characterizing BV- and BD- ellipticity for a class of positively 1-homogeneous surface energy densities Engl, Dominik
S16.06	Solving Security- Constrained Op- timal Power Flow with Benders De- composition Hess, Martin	Recent advances in real-time opti- mal power flow of electric distribution networks Chen, Shuo	Stochastic Optimal Control of Heating Networks under Demand Uncer- tainty Heidrich, Johanna	Predictive Building Energy Manage- ment by Means of Mixed-Integer Op- timal Control with Automated Setup Burda, Artyom	Minimizing the maximum cutting temperature of a milling process Kalu-Uka, Abraham	Efficient Local Optimization of Optical Design Tasks Seger, Tobias

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S18.08	Parameter-robust unfitted finite ele- ment methods for a Maxwell interface problem Haubold, Tim	A comparative study of H(curl) and Lagrange based interpo- lations for the magnetic field Vorwerk, Maximilian	Solar Collectors: Radiation Esti- mation and Con- vective Heat Loss Analysis Mekahlia, Alaeddine	On the accuracy of the boundary element method for problems with discontinuous geometries Rajski, Michal Pawel	A methodology for calculating rotor- stator flows based on finite volume mesh-tying Karimian, Kian	Numerical methods for nonlocal and nonlinear parabolic equations with applications Plociniczak, Łukasz
S20.07	Modeling of ambient temperature influence on dynamic characteristics of viscoelastic layered plates Litewka, Przemysław	Application of the Complex Harmonic Balance Method to determine parame- ters of a nonlinear fractional Zener model Pawlak, Zdzisław	Application of the contour integral method to determine of the dynamic characteristics of structures equipped with viscoelastic dampers Lewandowski, Roman	The use of vis- coelastic layers to retrofit the dynamic resistance of re- inforced concrete frames Yavas, Civan	Towards Advanc- ing Energy Effi- ciency in Subway Systems through Port-Hamiltonian Formulation Hinsen, Dorothea	Stability of hybrid systems of variable dimension Schulte, Marvin
S25.08	Convergence and Implicit Bias: Analyzing Diagonal Linear Networks with Gradient Descent Bartolomaeus, Wiebke	A multilevel proximal trust-region method for nonsmooth optimization with applications to scientific machine learning Wang, Qi	Challenges and op- portunities of the German Transplant Register using computer mod- els and artificial intelligence Schnurpel, Anton	Convergence of gradient based training for lin- ear Graph Neural Networks Patel, Dhiraj	Autoregressive and Generative Learning of Time Dynamics in Er- godic Systems Ross, Edmund	Application range of a mathematical model computing distributions of random impulse excitations Frankowska, Natalia; Sulewski, Marek

Platform for structured self-directed learning in fluid mechanics Fischer, Michael-David  Platform for structured self-directed learning in fluid mechanics Fischer, Michael-David  Platform for structured self-directed learning in fluid mechanics Fischer, Michael-David  Platform for structured self-directed learning in fluid mechanics Fischer, Michael-David  On methods to motivate students to self-organized learning and to enable them to acquire future skills Bartel, Thorsten  Bring your own smartphone: Students to self-organized learning and to enable them to acquire future skills Bring your own smartphone: Students to self-organized learning and to enable them to acquire future skills Bartel, Thorsten  Bring your own smartphone: Students to self-organized learning and to enable them to acquire future skills Bring your own smartphone: Students to self-organized learning and to enable them to acquire future skills Bartel, Thorsten  Mathematical Modelling in Action: CAMMP's Educational Activities Bata, Katharina	tured self-directed learning in fluid mechanics mecha Fischer, Michael- rischer
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PL 7	Large interacting particle systems in the social and data sciences Wolfram, Marie-Therese
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PL 8	A multiscale perspective on electrical conductivity
	Menzel Andreas

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