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Thursday, September 15, 2022

Time	Speaker	Title
09:00		**Opening (Room 3)**

Singularities (Room 3) — Chair: Thomas Apel

Time	Speaker	Title
09:20	Serge Nicaise	An analysis of high-frequency Helmholtz problems in domains with conical points and their finite element discretization
10:10		**Coffee Break**

Time	**Singularities (Room 3)** Chair: Serge Nicaise		**Solvers (Room 4)** Chair: Gundolf Haase		**DG/CFD (Room 8)** Chair: Stefan Sauter	
10:35	Dmitriy Leykekhman	Pointwise error estimates for C^0 interior penalty approximation of biharmonic problems	Markus Bause	Space-time finite element and multigrid methods for coupled hyperbolic-parabolic systems	Gunar Matthies	Some aspects of variational time discretisations of higher order and higher regularity
11:00	Johannes Pfefferer	Finite element error estimates for PDEs with irregular Dirichlet boundary data using boundary concentrated meshes	Matthias Mayr	Using structured multigrid methods in unstructured FEM solvers	Ritesh Singla	Supremum-norm a posteriori Error Control of Quadratic Discontinuous Galerkin Methods for the Obstacle Problem
11:25	Philipp Zilk	Isogeometric approximation of the eigenfrequencies of membranes with cracks and application to shape identification	Stephan Köhler	Globalization of Nonlinear FETI-DP Methods	Jakob Wagner	Fully Discrete Error Estimates for Finite Element Discretizations of the Instationary 2D Navier-Stokes Equations
11:50	Somveer Singh	A computational method for nonlinear weakly singular integro-partial differential equations arising from viscoelasticity	Markus M. Knodel	Application of fully implicit Nested Newton solvers to multicomponent multiphase flow in porous media and to elastoplastic deformations of biological tissue	Chutima Kongvarhodom	Modeling of two-phase flow in porous media: transport behavior of lubricant oil in rubberwood
12:15		**Lunch Break**				

Optimal Control (Room 3) — Chair: Arnd Rösch

Time	Speaker	Title
13:30	Mariano Mateos	FE Approximation of Dirichlet Control Problems Governed by the Stokes System
14:20	Max Winkler	Optimization of pedestrian dynamics
15:10		**Poster Set-up (Room 3)**

Poster Session (Room 3) — Chair: Arnd Rösch

Time	Speaker	Title
15:15	Achraf Bouhmady	Dynamic Pricing in Technology Market
15:16	Fabian Castelli	An hp-Adaptive Finite Element Method for a Chemo-Mechanical Battery Active Particle Model
15:17	Nils Margenberg	The neural network multigrid solver for the Navier-Stokes equations and its application to 3D simulation
15:18	Dalah Mohamed	A Finite element method for solving 2D contact electro-elastic antiplane with friction
15:19	Surendra Nepal	Error analysis for a moving boundary problem describing the penetration of a diffusant concentration into rubbers
15:20	Amir Peiraviminaei	Simulating the seismic ground motion impact on large buildings: A 3D-1D Finite Element-Truss Model coupling
15:21	Kieran Quaine	Space-time enriched finite element methods for the wave equation
15:22	Hazim Saleh	Computational Bite Force Estimation from a Human Mandible Density Profile
15:23	Yashwanth Sooriyakanthan	Towards the design of an in-sillico computational tool for the simulation of floorborne vibrations on magnetic resonance imaging scanners
15:24	Petr Sváček	On numerical simulation of FSI and FSAI models of human phonation by FEM
15:25	Julia Ullrich	Numerical Modelling of Temperature-based Time of Death Estimation
15:26		**Coffee Break and Poster Discussions**

Time	**Optimal Control (Room 3)** Chair: Mariano Mateos		**Singularities (Room 4)** Chair: Volker John		**Space-Time (Room 8)** Chair: Markus Bause	
16:10	Boris Vexler	Numerical Analysis of optimal control problem governed by transient Stokes equations with state constraints pointwise in time	Jens Markus Melenk	Local convergence of the FEM for the integral fractional Laplacian	Christian Wieners	Space-time discontinuous Galerkin methods for weak solutions of hyperbolic linear symmetric Friedrichs systems
16:35	Michael Hinze	PDE constrained shape optimization in the Lipschitz topology	Markus Faustmann	Weighted analytic regularity and hp-FEM for the integral fractional Laplacian	Max von Danwitz	Space-Time Finite Elements and Model Order Reduction
17:00	Roland Herzog	Efficient Solution of A Nonlocal Optimal Control Problem	Mohadese Ramezani	A local discontinuous Galerkin method for the subdiffusion inverse source problem with a weakly singular solution	Martyna Soszynska	Multirate Adaptive Time-stepping Schemes for Coupled Systems of PDEs
17:25	Christof Haubner	Optimal control and regularization of a simplified Signorini problem	Tanvi Wadhawan	Adaptive quadratic finite element method for unilateral contact problem.	Kieran Quaine	Space-Time Enriched Finite Element Methods for the Wave Equation
17:50	Anass Ouannasser	Existence and Uniqueness for some Non-Resonant Quasilinear Elliptic Systems with Variable Exponents			Sumit Mahajan	Finite Element Method for the Generalized Burgers-Huxley Equation with Memory
18:15		**Dinner**				
20:00		**Meeting Scientific Committee**				

Friday, September 16, 2022

Machine Learning (Room 3) — Chair: Thomas Apel

Time	Speaker	Title
08:30	Gitta Kutyniok	The Impact of Artificial Intelligence on Partial Differential Equations: From Successes to Limitations
09:20		**Room Change Break**

Time	**Machine Learning (Room 3)** Chair: Thomas Richter		**FEM-BEM (Room 4)** Chair: Michael Jung		**Space-Time (Room 8)** Chair: Gunar Matthies	
09:25	Nils Margenberg	The neural network multigrid solver for the Navier-Stokes equations and its application to 3D simulation	Alexander Rieder	Mortar coupling of hp-discontinuous Galerkin and boundary element methods for the Helmholtz equation	Sebastian Franz	Numerical simulations of first order systems
09:50	Piotr Minakowski	A priori and a posteriori error estimates for the Deep Ritz method applied to the Laplace and Stokes problem	Reza Mokhtari	A high-order FEM for distributed-order subdiffusion equations	Ceyhun Özdemir	A 3D finite element - boundary element coupling method in time domain
10:15		**Coffee Break**				

Time	**Machine Learning (Room 3)** Chair: Gitta Kutyniok		**Novel Discretizations (Room 4)** Chair: Roland Herzog		**Optimal Control (Room 8)** Chair: Michael Hinze	
10:40	Evelyn Herberg	An Optimal Time Variable Learning Framework for Deep Neural Networks	Volker John	Finite element methods respecting the discrete maximum principle for convection-diffusion equations I	Helmut Harbrecht	On shape optimization with parabolic state equation
11:05	Roland Maier	Operator compression with deep neural networks	Petr Knobloch	Finite element methods respecting the discrete maximum principle for convection-diffusion equations II	Thomas Flaig	Implicit Runge-Kutta schemes for optimal control problems with evolution equations
11:30	Thomas Richter	Fluid-rigid body interactions with large motion and contact	Stephen Moore	Discontinuous Galerkin Isogeometric Analysis for some elliptic problems with Singularities	Divay Garg	Mixed Finite Element Method for 2nd Order Dirichlet Boundary Control Problem
11:55	Farinaz Mostajeran	On a deep neural network algorithm for solving backward heat conduction problems	Elena Bachini	An intrinsic finite element method for PDEs on surfaces	Nossaiba Baba	Bioeconomic Model of three marine species in Moroccan Zone with tide effects
12:20		**Lunch Break**				
13:30		**Group Photo**				
13:40		**Excursion Kloster Andechs**				

Meeting GAMM-FA Optimale Steuerung — Chair: Thomas Apel

Time	Speaker	Title
14:00		
18:00		**Conference Dinner**

Saturday, September 17, 2022

Computational Mechanics (Room 3) — Chair: Helmut Harbrecht

Time	Speaker	Title
08:30	Joachim Schöberl	Matrix-valued Finite Elements with Applications in Mechanics and Curvature Computation
09:20		**Room Change Break**

Time	**Computational Mechanics (Room 3)** Chair: Helmut Harbrecht		**Optimal Control (Room 4)** Chair: Johannes Pfefferer	
09:25	Stefan Sauter	High order Crouzeix-Raviart elements in two- and higher dimension.	Olaf Steinbach	Regularization and finite element error estimates for distributed control problems with energy regularization
09:50	Volker Kempf	Anisotropic and pressure-robust discretization of incompressible flows	Richard Löscher	Adaptive FEM for distributed optimal control problems subject to the wave equation with variable energy regularization
10:15		**Coffee Break**		

Time	**Computational Mechanics (Room 3)** Chair: Joachim Schöberl		**Adaptivity (Room 4)** Chair: Sven Beuchler	
10:40	Fleurianne Bertrand	Eigenvalue problems arising from coupled partial differential equations	Alex Bespalov	Multilevel adaptivity for stochastic collocation finite element methods
11:05	Sayed Miah	Reduced order modelling using neural networks for predictive modelling of 3D-magneto-mechanical problems with application to magnetic resonance imaging scanners	Merlin Andreia	An Adaptive Time Stepping Scheme for Rate-Independent Systems with Non-Convex Energy
11:30	Lisa Julia Nebel	Formation of wrinkles in bi-layer systems	Jean-Baptiste Clément	p-Adaptive discontinuous Galerkin method for Richards' equation solution
11:55	James Elgy	The Magnetic Polarizability Tensor for the Classification and Characterisation of Different Metallic Objects	Ismail Merabet	A priori and a posteriori error analysis for a hybrid formulation of a prestressed shell model
12:20		**Closing (Room 3)**		
12:35		**Lunch**		