

Program

Monday, October 11, 2021

Auditorium	
14:00	Welcome Sven Krumke (TUK), Anita Schöbel (ITWM), Bernd Simeon (TUK)
14:10	A.07 On the Numerical Simulation of Elastic and Nonsmooth Mechanical Systems¹ Olivier Brûls, University of Liege, BE
15:00	OPTIMIZATION AND DATA SCIENCE
	A.27 Data Analytics and Optimization in Production and Logistics¹ Alexander Martin, FAU Erlangen-Nürnberg, Erlangen DE
	A.01 Cost vs. Risk – a Bicriteria Approach to Robust Supply Chain Optimization² Heiner Ackermann, Fraunhofer Institute for Industrial Mathematics ITWM, Kaiserslautern, DE Erik Diessel, Fraunhofer Institute for Industrial Mathematics ITWM, Kaiserslautern, DE
	A.17 Data-Driven Robust Optimization using Unsupervised Deep Learning² Marc Goerigk, University of Siegen, DE
16:30	Coffee break
16:50	MULTISCALE AND MODEL ORDER REDUCTION
	A.10 Allying Physics-based Reduced Models and Physics Informed Data-driven Models into the Hybrid Modelling Paradigm¹ Francisco Chinesta, Arts et Metiers Institute of Technology, Paris, FR
	A.32 Large Deformations of Metal Foams: Dynamic CT Results, Simulations and Modeling² Sebastian Rief, Math2Market GmbH, Kaiserslautern, DE
	A.31 3D Image based Stochastic Micro-structure Modelling of Foams for Simulating Elasticity² Claudia Redenbach, TU Kaiserslautern, Kaiserslautern, DE Sarah Staub, Fraunhofer Institute for Industrial Mathematics ITWM, Kaiserslautern, DE

Program

Tuesday, October 12, 2021

	Auditorium	Seminar room Z03.07/08
9:00	A.08 Analysis-aware Defeating: the Mathematical Theory ¹ Annalisa Buffa, EPF Lausanne, CH	
9:50	MULTISCALE AND MODEL ORDER REDUCTION	HYBRID SYSTEM SIMULATION
	A.40 An Efficient Real-time Reconstructor for Extremely Large Telescopes ² Bernadett Stadler, Johannes Kepler University Linz, AT	A.16 Combining Real Driving and System Simulation in the Automated Vehicle-in-the-loop: A Development Platform for Automated Driving ¹ Matthias Gerds, Universität der Bundeswehr München, Neubiberg, DE
	A.24 An Efficient Model Order Reduction Scheme for Dynamic Contact in Linear Elasticity ² Diana Manvelyan, Siemens AG, München, DE	
	A.12 Dimension Reduction, Homogenization and Simulation of Textile ² Riccardo Falconi, Fraunhofer Institute for Industrial Mathematics ITWM, Kaiserslautern, DE	A.03 Data-Driven and Cooperative Optimal Trac Control ² Urs Baumgart, Fraunhofer Institute for Industrial Mathematics ITWM, Kaiserslautern, DE
	A.22 Model Order Reduction Techniques for Multiscale Fatigue Simulations of Short Fiber Reinforced Polymers ² Jonathan Köbler, Fraunhofer Institute for Industrial Mathematics ITWM, Kaiserslautern, DE	A.06 Radio Network Simulation and AI ² Keith Briggs, BT Labs/AIMM project, Adastral Park, UK
11:20	Coffee break	
11:40	A.38 On using Reduced Order Models in Adaptive Data-augmented Training of Machine Learning Models for Reactive Flow ² Felix Schindler, University of Münster, DE	A.36 A General Framework for Machine Learning based Optimization under Uncertainty and Inverse Problems ¹ Claudia Schillings, University of Mannheim, DE
	A.20 On Modeling and Simulation of Multiscale Problems Related to Catalytic Filters ² Oleg Iliev, Fraunhofer Institute for Industrial Mathematics ITWM, Kaiserslautern, DE	
	A.34 State-Time Formulation to Reduce the Temporal Dimension in Design Optimization ² Ward Rottiers, Department of Mechanical Engineering, KU Leuven, BE	A.09 Data-Driven System Simulation: New Trends and Methods in Vehicle Engineering ² Michael Burger, Fraunhofer Institute for Industrial Mathematics ITWM, Kaiserslautern, DE
	A.25 Preconditioning of Multiphysics Problems using Rational Approximations ² Svetozar Margenov, Institute of Information and Communication Technologies, BAS, Sofia, BG	A.19 Time Series Analysis based on Graph Fourier Methods ² Tobias Hofmann, Chemnitz University of Technology, DE
13:10	Lunch break	
14:30	A.05 Multistage Stochastic Optimization via Kernels (online) Dimitris Bertsimas, Massachusetts Institute of Technology, Cambridge, USA	
15:20	HYBRID SYSTEM SIMULATION	OPTIMIZATION AND DATA SCIENCE
	A.21 Polyconvex Anisotropic Hyperelasticity with Neural Networks ² Dominik K. Klein, Technical University of Darmstadt, DE	A.37 A Machine-learning-based Approach for Finding Recovery-robust Timetables ² Alexander Schiewe, TU Kaiserslautern, DE
		A.29 Generalization Through Controlled Optimization ² Rohit Pochampalli, TU Kaiserslautern, DE
16:05	Coffee break	
16:20	A.02 Modular Modelling, Modular Simulation, Modular Time Integration ¹ Martin Arnold, Martin Luther University Halle-Wittenberg, DE	
	A.39 Online and Offline Calibration of Digital Twins in the Smart Assembly 4.0 Framework ² (online) Anders Sjöberg, Fraunhofer-Chalmers Centre, Gothenburg, SE	
	A.33 Generating Dynamic Human Motion with Optimal Control ² Michael Roller, Fraunhofer Institute for Industrial Mathematics ITWM, Kaiserslautern, DE	
18:00	OPTIMIZATION AND DATA SCIENCE	
	A.11 Analytics for Zero Hunger ¹ Dick den Hertog, University of Amsterdam, NL	
19:00	Dinner, Atrium at Fraunhofer ITWM	

Program

Wednesday, October 13, 2021

	Auditorium	Seminar room Z03.07/08
9:00	MULTISCALE AND MODEL ORDER REDUCTION	OPTIMIZATION AND DATA SCIENCE
	A.26 On Structure-preserving Model Order and Complexity Reduction¹ Nicole Marheineke, University of Trier, DE	A.35 The Binary Knapsack Problem with Qualitative Levels² Luca E. Schäfer, TU Kaiserslautern, DE
	A.18 Compressed Gas Network Digital Twins² Christian Himpe, Max Planck Institute for Complex Dynamical Systems, Magdeburg, DE	A.23 Tumor Control vs. Normal Tissue Complication Probabilities, the Multicriteria Model and Optimization of Radiotherapy Karl-Heinz Küfer, Fraunhofer Institute for Industrial Mathematics ITWM, Kaiserslautern, DE
	A.30 Combining CFL-like Conditions and Multirate DAE Framework for Applications in System Simulation Software² Bernhard Pöchtrager, Austrian Academy of Sciences, Linz, AT	A.15 Prediction of Mechanical Properties of Heavy Steel Plates² Daniela Gaith, MathConsult GmbH, Linz, AT
	A.41 A Multi-scale Model Hierarchy for Material Flow on Conveyor Belts² Jennifer Weissen, University of Mannheim, DE	A.14 Data-Analysis and Ensemble-Postprocessing for Decision Support in Agronomic Field Management² Jochen Fiedler, Fraunhofer Institute for Industrial Mathematics ITWM, Kaiserslautern, DE
	A.13 A Unit Cell Wave Based Reduced Order Modelling Approach for Fast Vibration Response Predictions of Large-scale Finite Periodic Structures² Fei Qu, KU Leuven, BE	A.04 Offer Preparation for Rail Freight Transport² Tim Bergner, TU Kaiserslautern, DE
11:15	Coffee break	
11:30	A.28 (Localized) Model Reduction with Adaptive Enrichment for PDE Constrained Optimization¹ Mario Ohlberger, Mathematics Münster, DE	
12:15	Closing remarks	
12:30	Farewell snack	