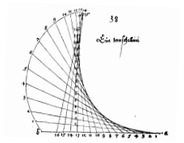


International Conference on Multigrid and Multiscale Methods in Computational Sciences 2016

Tuesday, December 6, 2016

Kammermusiksaal: Keynote Lectures

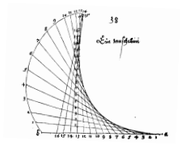
9:00	R. Bank: Two Level Solver for hp Adaptive Subspaces
9:45	M. Wheeler: Solvers for Conservative Flow and Transport Algorithms in Porous Media
10:30	*Coffee Break*

	Kammermusiksaal MS1: Space-Time PDE Solvers (Part I) (U. Langer, C. Wieners)	Styrumsaal MS2: Multilevel Algorithms and Theories (J. Xu)	Huttensaal MS3: PDE Constrained and Shape Optimization (V. Schulz, M. Siebenborn)
11:00	A. Reusken: Space-Time Trace FEM for PDEs on Evolving Surfaces	Q. Hong: A Discrete Korn's Inequality and Related Finite Elements	D. Gathungu: Multigrid Solution of an Elliptic Fredholm Partial Integro-Differential Equation with a Hilbert-Schmidt Integral Operator
11:25	S. Sauter: Adaptive Time Discretization for Retarded Potentials	U. Meier Yang: The Impact of Emerging Architectures on the Design of Algebraic Multigrid Methods	S. Schmidt: Generating Shape Derivatives and Repeated Differentiation Hessians Automatically
11:50	J. Ernesti: Weakly Conforming Least-Squares for First-Order Systems in Space-Time	R. Hiptmair: Multilevel Decomposition of Boundary Element Spaces and Applications	M. Siebenborn: High Performance Optimization Algorithms for Interface Identification Problems
12:15	M. Neumüller: Space-Time Multigrid Methods for Parabolic Problems	P. d'Ambra: Algebraic Multigrid Based on Maximum Weighted Matching in Matrix Graphs Exploiting an Auction Algorithm	V. Schulz: Efficient PDE Constrained Shape Optimization Based on Steklov-Poincare Type Metrics
12:40	*Lunch*		

Kammermusiksaal: Keynote Lectures

14:30	R. Kornhuber: Numerical Homogenisation and Multigrid
15:15	R. Krause: Non-linear Multigrid and Domain Decomposition - A Survey
16:00	*Coffee Break*

	Kammermusiksaal MS4: Applications of HPC in Fluid Dynamics (M. Resch)	Styrumsaal MS5: Numerical Simulation Frameworks (Part I) (A. Nägel)	Huttensaal CP1: AMG
16:30	M. Resch: HPC as a Tool in Flow Simulation	D. Logashenko: Simulation of Free Surfaces in the Density-Driven Groundwater Flow	H. Zhang: A Unified Approach to the Construction of Coarse Spaces and Convergence Analysis in AMG
16:55	R. Schneider: Flow Simulations in Blood	S. Reiter: Mesh Generation for Thin Layered Domains and its Applicatios to Parallel Multigrid Simulation of Grourndwater Flow	K. Kahl: Optimal Interpolation in Algebraic Multigrid Methods
17:20	A. Ruopp: Flow Simulation in Water Power Plants	A. Vogel: Multigrid for an Adaptive Finite Volume Method Using Hanging Nodes	B. Metsch: Algebraic Multigrid for the Finite Pointset Method
17:45	J. Zhang: Flow Simulation in Nuclear Safety Applications	A. Nägel: Linear Implicit Extrapolation Methods for Density Driven Flow	A. Napov: An Efficient Algebraic Multigrid Method for Graph Laplacian Systems
18:10	*End*		



International Conference on Multigrid and Multiscale Methods in Computational Sciences 2016

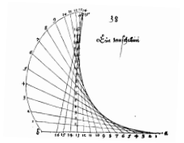
Wednesday, December 7, 2016

Kammermusiksaal: Keynote Lectures

9:00	P. Deuflhard: The Grand Four
9:45	J. Xu: A Unified Approach to the Construction of Coarse Spaces and Convergence Analysis in AMG
10:30	*Coffee Break*

	Kammermusiksaal MS6: Space-Time PDE Solvers (Part II) (U. Langer, C. Wieners)	Styrumsaal MS7: Computational Biosciences (Part I) (R. Krause, G. Queisser)	Huttensaal CP2: Special MG
11:00	R. Bank: Treating Time as Just Another Space Variable	M. Favino: VMS Methods for Reaction-Diffusion Problems: An Interesting Case with Multiple Residual Bubbles	S. Takacs: A Robust Multigrid Method for Isogeometric Analysis
11:25	M. Zank: A Space-Time Boundary Element Method for the Wave Equation	E. Babushkina: Adaptive Multilevel Monte Carlo Methods for Elliptic Problems with Uncertain Coefficients	T. Ludescher: A Multigrid Method for Unfitted Finite Element Methods
11:50	S. Findeisen: A Parallel and Adaptive Space-Time Method for Maxwell's Equations	M. Bolten: Usage of Block-Smoothers and Aggressive Coarsening to Improve Scalability of Multigrid	W. Zulehner: On the Analysis of Block Smoothers for Saddle Point Problems
12:15	U. Köcher: Space-Time Discretisation and Solver Technology for Biot's Model of Poroelasticity	R. Scott: Optimal Algortihms Using Optimal Meshes	M. Islahuddin: Algebraic Multigrid for a Pore Network Model of Moisture Transfer
12:40	*Lunch*		

Social Event



International Conference on Multigrid and Multiscale Methods in Computational Sciences 2016

Thursday, December 8, 2016

Kammermusiksaal: Keynote Lectures

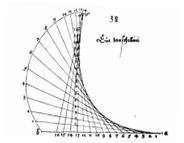
9:00	U. Langer: Fast Solvers for Large-Scale Systems of Galerkin IgA Equations
9:45	Z. Mo: Automatically Parallelization and Highly Scalable Programming Frameworks for Numerical Simulation
10:30	*Coffee Break*

	Kammermusiksaal	Styrumsaal	Huttensaal
	MS8: Computational Biosciences (Part II) (R. Krause, G. Queisser)	MS9: Numerical Simulation Frameworks (SCHPC) (Part II) (Z. Mo)	MS10: Computational Models and Methods in Interdisciplinary Problems: Biomechanics, Electromagnetism, and Hydrogeology (Part I) (A. Grillo)
11:00	M. Stepniewski: Smooth Subdivision Geometric Multigrid Method with Application in (Neuro-)Biological Numerical Simulations	J. Cheng: JAUMIN: A Programming Framework for Unstructured Mesh Applications	S. Berrone: New Numerical Approaches for Large Scale Discrete Fracture Network Flow Simulations
11:25	M. Breit: Electro-Diffusion on Neuronal Micro-Domains - Dos and Don'ts	X. Xu: aSetup-AMG: An Adaptive Setup Based AMG Preconditioner for Solving Large-Scale Sparse Linear Systems in Multi-Physics Simulations	M. Carfagna: A Cahn-Hilliard Approach to Thermodiffusion in Porous Media
11:50	U. v. Rienen: Modeling and Simulation of Nerve-Electrode Interactions in Neuronal Implants	T. Cui: PHG: A Framework for Parallel Adaptive Finite Element Method	M. Icardi: Micro-Scale Simulation of Flow, Transport and Reaction in Porous Media
12:15	J. Hahne: Spiking Neurol Network Simulation Including Gap Junctions	G. Tan: Building an Autotuning and Composable AMG Solver for Exascale Computing	R. Penta: Can a Continuous Mineral Foam Explain the Stiffening of Aged Bone Tissue? A Micromechanical Approach to Mineral Fusion in Musculoskeletal Tissue
12:40	*Lunch*		

Kammermusiksaal: Keynote Lectures

14:30	G. Queisser: Optimized Multigrid for Life Science Applications
15:15	C. Wieners: Parallel Inelastic Heterogeneous Multiscale Simulations
16:00	*Coffee Break*

	Kammermusiksaal	Styrumsaal	Huttensaal
	MS11: Computational Models and Methods in Interdisciplinary Problems: Biomechanics, Electromagnetism, and Hydrogeology (Part II) (A. Grillo)	MS12: Numerical Simulation Frameworks (SCHPC) (Part III) (Z. Mo)	CP3: Application
16:30	A. Schneider: Regional-Scale Modeling of Density-Driven Groundwater Flow	R. Xu: Mend-Centered Geometric Multi-Grid Algorithm for Solutions on Linear Problems in Computational Solid Mechanics	N. Kintscher: Geometric Multigrid for the Tight-Binding Hamiltonian of Graphene
16:55	K. Kröhn: 3D Flow and Solute Transport in Fractured Rock	H. An: Anderson Acceleration and Application to Three Temperature Energy Equations	K. Rafetseder: A Decomposition Result for Kirchhoff-Love Plate Bending Problems and Associated Discretization Approaches
17:20	M. Knodel: Application of Multigrid Solvers to Mathematical Models in Medicine and Biophysics at Realistic Geometries	A. Zhang: JASMIN: A High Performance Programming Framework for Numerical Simulation	P. Robbe: A Multi-Index Quasi-Monte Carlo Algorithm for Lognormal Diffusion Porblems
17:45	S. Falletta: A Mortar FEM-BEM Coupling for Wave Propagation Problems in Unbounded Domains		A. v. Barel: Robust Optimization with a Multilevel Monte Carlo Method
19:00	**Multigrid Award 2016 (Kammermusiksaal)**		



International Conference on Multigrid and Multiscale Methods in Computational Sciences 2016

Friday, December 9, 2016

Kammermusiksaal: Keynote Lectures

9:00	A. Grillo: A Poroplastic Approach to the Structural Reorganisation of Fibre-Reinforced Porous Media
9:45	W. Hackbusch: The Hierarchical LU-Iteration - a Robust and Algebraic Method
10:30	*Coffee Break*

	Kammermusiksaal MS13: Modeling the Barrier Function of Human Skin (A. Nägel, G. Wittum)	Styrumsaal	Huttensaal
11:00	G. Wittum: Swelling of Corneocytes and Other Perspectives of Skin Modelling		
11:25	M. Heisig: Parameter Sensitivity Analysis of a Two-Dimensional Skin Diffusion Model		
11:50	A. Nägel: Mathematical Models for Skin Penetration		
12:15	R. Wittum: Three-Dimensionally Resolved Microscopic Model of Diffusion in Viable Epidermis		
12:40	*End of the Conference*		