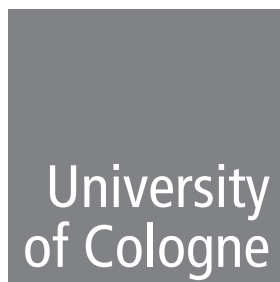




17th GAMM Workshop  
Applied and Numerical Linear Algebra  
with special emphasis on  
High Performance Computing (HPC)

September 07 - 08, 2017  
Mathematical Institute  
University of Cologne  
Cologne, Germany



## Program

Supported by



# Thursday

	Room 203	Room 005
08:00 - 08:55	<b>Registration</b>	
08:55 - 09:00	<b>Opening</b>	
09:00 - 09:45	<b>Wim Vanroose:</b> Asynchronous Krylov methods with deep pipelines	
09:55 - 10:20	<b>Siegfried Cools:</b> On parallel performance and numerical stability of communication hiding pipelined Krylov methods for solving large scale linear systems	<b>Anastasia Kruchinina:</b> Parallel recursive polynomial expansion for sparse density matrix construction in electronic structure calculations
10:20 - 10:45	<b>Sofia Bikopoulou:</b> Checksum-based fault tolerance for solving large linear systems on multicore architectures	<b>Parikshit Upadhyaya:</b> On the convergence factor of the self-consistent field iteration
10:45 - 11:10	<b>Martin Lanser:</b> On the use of AMG methods designed for elasticity problems in inexact BDDC methods	<b>Jascha Knepper:</b> An adaptive coarse space for the GDSW algorithm
11:10 - 11:40	<b>Coffee Break</b>	
11:40 - 12:05	<b>Martin Köhler:</b> Efficient computation of the QR decomposition on GPU accelerated architectures	<b>Emil Ringh:</b> Krylov methods for low-rank commuting generalized Sylvester equations
12:05 - 12:30	<b>Jens Saak:</b> Towards high performance IRKA on hybrid CPU-GPU systems	<b>Ion Victor Gosea:</b> Modeling and reduction of hybrid systems
12:30 - 12:55	<b>Markus Wittmann:</b> Performance analysis of sparse triangular solve on current hardware architectures	<b>Martin Kühn:</b> Adaptive FETI-DP and BDDC methods with a generalized transformation of basis
12:55 - 14:00	<b>Lunch Break</b>	
14:00 - 14:45	<b>Pierre Gosselet:</b> Error estimation for FETI(DP) and BDD(C)	
14:45 - 15:10	<b>Christie Louis Alappat:</b> RACE: Recursive Algebraic Coloring Engine	
15:10 - 15:35	<b>Ian Zwaan:</b> Krylov-Schur type restarts for the two-sided Arnoldi method	
15:35 - 16:05	<b>Coffee Break</b>	
16:05 - 16:30	<b>Giampaolo Mele:</b> Disguised and new Quasi-Newton methods for nonlinear eigenvalue problems	
16:30 - 16:55	<b>Elias Jarlebring:</b> The infinite Bi-Lanczos method for nonlinear eigenvalue problems	
17:00 - 18:00	<b>Meeting of the GAMM Activity Group “Applied and Numerical Linear Algebra”</b>	
19:00	<b>Conference Dinner at the Brauhaus Päßgen (Friesenstraße 64-66)</b>	

# Friday

	Room 203	Room 005
09:30 - 10:15	<b>Oliver Rheinbach:</b> Nonlinear domain decomposition solvers on the exascale	
10:15 - 10:40	<b>Jonas Thies:</b> An optimal domain decomposition method for the C-grid Navier-Stokes Jacobian	
10:40 - 11:05	<b>Philipp Birken:</b> Additive W smoothers for multigrid methods for compressible flow problem	
11:05 - 11:35	<b>Coffee Break</b>	
11:35 - 12:00	<b>Robert Luce:</b> Incremental computation of the block triangular matrix exponential	
12:00 - 12:25	<b>Behnam Hashemi:</b> Computing enclosures for the exponential of a symmetric matrix	
12:25 - 12:50	<b>Andreas Frommer:</b> A general framework and analysis for block Krylov subspace methods for the computation of matrix functions	
12:50 - 13:00	<b>Closing Remarks</b>	

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