

Numerical Solution of Partial Differential Equations: Theory, Algorithms and their Application

Symposium in honor of Raytcho Lazarov's 40 years research in
Computational Methods and Applied Mathematics
Sozopol, Bulgaria, June 7-8, 2013

SCIENTIFIC PROGRAM

June 7, Friday		
TIME	TOPIC	SPEAKER
10:00 – 10:30 Registration		
10:30 – 12:00 Session 1 , Chairperson: Svetozar Margenov		
10:30	Opening	
10:45	Greetings and Awards	
11:15	On positivity preservation in finite element methods for the heat equation	VidarThomee , Chalmers University of Technology, Sweden
12:00 – 14:00 Lunch Break		
14:00 – 16:00 Session 2 , Chairperson: Ludmil Zikatanov		
14:00	Efficient Solvers for Multiharmonic Eddy Current Optimal Control Problems with Various Constraints	Ulrich Langer , Johannes Kepler University, Linz, Austria
14:30	Aspects of guaranteed error control in computational partial differential equations	Carsten Carstensen , Humboldt University, Berlin, Germany
15:00	Numerical Upscaling via Spectral Element - based AMG	Panayot S.Vassilevski , Lawrence Livermore National Laboratory, USA
15:30	Robust Multilevel Methods for Highly Heterogeneous Media	JoergWillems , RICAM, Linz, Austra
16:00 - 16:30 Coffee break		

16:30 – 18:30 Session 3 , Chairperson: Panayot S.Vassilevski		
16:30	Applications of a Preconditioner for Matrices of a Special Two-by-Two Block Form	Owe Axelsson , Institute of Geonics, Ostrava,Czech Republic
17:00	Structures and Waves in a Nonlinear Heat-Conducting Medium	StefkaDimova , Sofia University, Bulgaria
17:30	Efficient Parallel Algorithms for Unsteady Incompressible Flows	Peter Minev , University of Alberta, Canada
18:00	Modeling and Simulation for Complex Flows and Materials	Oleg Iliev , ITWM, Kaiserslautern, Germany
19:30 – 23:00 Official Diner		

June 8, Saturday		
TIME	TOPIC	SPEAKER
09:00 – 10:30 Session 4 , Chairperson: Peter Minev		
09:00	Numerical Approximation of Fractional Powers of Elliptic Operators	Joeseph Pasciak , Texas A&M University, USA
09:30	The Hybridized Eigenproblem	Jay Gopalakrishnan , Portland State University, USA
10:00	Multidimensional Sensitivity Analysis of Large-Scale Mathematical Models	Ivan Dimov , Institute of Information and Communication Technologies, BAS, Bulgaria
10:30 – 11:00 Coffee Break		
11:00 – 13:00 Session 5 , Chairperson: Oleg Iliev		
11:00	Nonsmooth Initial Data Error Estimates for the Finite Volume Element Method for a Parabolic Problem	Panagiotis Chatzipantelidis , University of Crete, Greece
11:30	An Exponential Fitting Scheme for Convection-Diffusion Equations with Tensor Coefficients	Ludmil Zikatanov , Pennsylvania State University, USA
12:00	Domain Decomposition Scheme for First Order Evolution Equations with Nonself-adjoint Operators	Petr Vabishchevich , Nuclear Safety Institute, Russian Academy of Sciences
12:30	Robust Algebraic Multilevel Preconditioners for Anisotropic Problems	Svetozar Margenov , Institute of Information and Communication Technologies, BAS, Bulgaria
12:30 Closing		