

Thursday, June 4, Plenary Talks	
Plenary Hall	
09:00 - 09:15	Opening
Chairman	P. Vassilevski
09:15 - 10:55	J. Adler, <u>T. Manteuffel</u> , <i>First-Order System Least-Squares (FOSLS) Approach to Resistive Magnetohydrodynamic (MHD) Equations</i>
09:55 - 10:35	U. Langer, <i>Fast Solvers for Non-Linear Time-Harmonic Problems</i>
Coffee Break	
Chairman	U. Langer
11:00 - 11:40	K. Sabelfeld, <i>Stochastic Simulation for Solving Random Boundary Value Problems and Some Applications</i>
11:40 - 12:20	F. Tröltzsch, <i>On Finite Element Error Estimates for Optimal Control Problems with Elliptic PDEs</i>
Lunch Break	
Thursday, June 4, Parallel Sessions	
Lecture Hall A	
<u>14:00 - 16:15</u>	<i>Special Session on "Monte Carlo: Methods, Applications, Distributed Computing"</i>
Chairman	I. Dimov
14:00 - 14:35	<u>A. Asenov</u> , D. Reid, C. Millar, <i>Cutting-Edge Statistical Semiconductor Simulation through Grid Technology</i>
14:35 - 15:00	<u>V. Mitin</u> , A. Sergeev, L. Chien, N. Vagidov, <i>Monte-Carlo Modeling of Electron Kinetics in Room Temperature Quantum-Dot Photodetectors</i>
15:00 - 15:25	F. Castro, <u>M. Sbert</u> , <i>Incremental Reuse of Paths in Random Walk Radiosity</i>
15:25 - 15:50	<u>R. Martínez</u> , J. Coma, <i>Parallel Implementation of the Stochastic Radiosity Method</i>
15:50 - 16:15	T. Averina, <i>Effective Statistical Methods for Modeling Non-homogeneous Poisson Ensembles</i>
Lecture Hall B	
<u>14:00 - 16:05</u>	<i>Special Session on "Control and Uncertain Systems"</i>
Chairman	K. Malanowski
14:00 - 14:25	Opening
14:25 - 14:50	A. Dontchev, <i>Implicit Functions and Solution Mappings</i>
14:50 - 15:15	U. Felgenhauer, <i>On Directional Differentiability in Parametric Optimal Control Problems With Bang-Bang Controls Switching Simultaneously</i>
15:15 - 15:40	R. Anguelov, <u>S. Markov</u> , F. Minani, <i>Hausdorff Continuous Viscosity Solutions of Hamilton-Jacobi Equations</i>

15:40 - 16:05	I. Chrysosoverghi, B. Kokkinis, I. Coletsos, <i>Classical and Relaxed Optimization Methods for Nonlinear Parabolic Optimal Control Problems</i>
Lecture Hall C	
14:00 - 16:05	<i>Contributed Talks</i>
Chairman	S. Petrova
14:00 - 14:25	M. Pultar, <i>Numerical Modeling of Steel Construction under Fire Experiment</i>
14:25 - 14:50	<u>I. Hristov</u> , S. Dimova, T. Boyadjiev, <i>Transitions from Static to Dynamic State in Three Stacked Josephson Junctions</i>
14:50 - 15:15	G. Kalogeropoulos, A. Karageorgos, <u>A. Pantelous</u> , <i>An Efficient Algorithm for Bilinear Strict Equivalent Matrix Pencils</i>
15:15 - 15:40	S. Margenov, <u>Y. Vutov</u> , <i>Parallel MIC(0) Preconditioning for Numerical Upscaling of Anisotropic Linear Elastic Materials</i>
15:40 - 16:05	<u>R. Blaheta</u> , P. Byczanski, K. Krečmer, J. Starý, <i>An Iterative Solution Method for Multiscale Problems</i>
Coffee Break	
Thursday, June 4, Parallel Sessions	
Lecture Hall A	
16:25 - 18:05	<i>Special Session on "Multilevel and Multiscale Preconditioning Methods"</i>
Chairman	S. Margenov
16:25 - 16:50	O. Axelsson, <i>Preconditioning Methods for Two-Level Large Scale Matrices</i>
16:50 - 17:15	M. Neytcheva, X. He, <i>Challenging the Numerical Solution Methods When a Ball Falls in Water</i>
17:15 - 17:40	<u>J. Kraus</u> , S. Tomar, <i>Multilevel Preconditioning in $H(\text{div})$ and Applications</i>
17:40 - 18:05	<u>E. Karer</u> , J. Kraus, <i>Algebraic Multigrid for Problems in Linear Elasticity Discretized by DG Methods</i>
Lecture Hall B	
16:25 - 18:05	<i>Special Session on "Control and Uncertain Systems"</i>
Chairman	I. Chrysosoverghi
16:25 - 16:50	K. Malanowski, <i>Sensitivity Analysis for Optimal Control Problems</i>
16:50 - 17:15	<u>E. Cristiani</u> , P. Martinon, H. Zidani, <i>Coupling the Hamilton-Jacobi-Bellman and the Pontryagin's Minimum Principle Approach to Solve Optimal Control Problems</i>
17:15 - 17:40	N. Apreutesei, G. Dimitriu, R. Ștefănescu, <i>Time Optimal Control Problem for Prey-Predator Systems</i>
17:40 - 18:05	T. Bréchet, <u>T. Tsachev</u> , V. Veliiov, <i>Trading with Emission Permits</i>

Lecture Hall C	
16:25 - 18:05	<i>Special Session on “Environmental Modelling”</i>
Chairman	Z. Zlatev
16:25 - 16:50	<u>A. Ebel</u> , H. Elbern, A. Strunk, E. Friese, L. Nieradzic, N. Goris, <i>Four-Dimensional Variational Assimilation of Atmospheric Chemical Data — Application to Regional Modelling of Air Quality</i>
16:50 - 17:15	<u>G. Dimitriu</u> , N. Apreutesei, R. Ștefănescu, <i>Numerical Simulations with Data Assimilation Using an Adaptive POD Procedure</i>
17:15 - 17:40	K. Georgiev, Z. Zlatev, <i>Runs of UniDEM Model on IBM BlueGene/P Computer and Analysis of the Model Performance</i>
17:40 - 18:05	T. Ostromsky, I. Dimov, R. Georgieva, Z. Zlatev, <i>Sensitivity Analysis of a Large-Scale Air Pollution Model: Numerical Aspects and a Highly Parallel Implementation</i>
19:30	RECEPTION
Friday, June 5, Parallel Sessions	
Lecture Hall A	
09:00 - 10:15	<i>Special Session on “Multilevel and Multiscale Preconditioning Methods”</i>
Chairman	J. Kraus
09:00 - 09:25	A. Aprovitola, <u>P. D’Ambra</u> , D. di Serafino, S. Filippone, <i>On the Use of Aggregation-based Multilevel Preconditioners in the LES of Wall-bounded Turbulent Flows</i>
09:25 - 09:50	<u>C. Flaig</u> , P. Arbenz, <i>A Memory Efficient Multigrid Preconditioner for Micro-Finite Element Analysis Based on Voxel Images</i>
09:50 - 10:15	<u>H. Yang</u> , W. Zulehner, <i>Numerical Simulation of Fluid-Structure Interaction Problems on Hybrid Meshes with Algebraic Multigrid Methods</i>
Lecture Hall B	
09:00 - 10:15	<i>Special Session on “Applications of Metaheuristics to Large-Scale Problems”</i>
Chairman	D. Simian
09:00 - 09:25	<u>S. Fidanova</u> , E. Alba, G. Molina, <i>Hybrid ACO Algorithm for the GPS Surveying Problem</i>
09:25 - 09:50	<u>K. Atanassov</u> , S. Fidanova, <i>Generalized Nets as Tools for Modelling of the Ant Colony Optimization Algorithms</i>
09:50 - 10:15	<u>C. Crăciun</u> , M. Nicoară, D. Zaharie, <i>Enhancing the Scalability of Metaheuristics by Cooperative Coevolution</i>

Lecture Hall C	
09:00 - 10:15	<i>Special Session on “Monte Carlo: Methods, Applications, Distributed Computing”</i>
Chairman	M. Nedjalkov
09:00 - 09:25	<u>D. Vasileska</u> , A. Ashok, O. Harteem, S. Goodnick, <i>Modeling of GaN HEMTs</i>
09:25 - 09:50	<u>K. Raleva</u> , D. Vasileska, S. Goodnick, <i>The Role of the Boundary Conditions on the Current Degradation in FD-SOI Devices</i>
09:50 - 10:15	I. Dimov, <u>R. Georgieva</u> , <i>Monte Carlo Adaptive Technique for Sensitivity Analysis of a Large-Scale Air Pollution Model</i>
Coffee Break	
Friday, June 5, Parallel Sessions	
Lecture Hall A	
10:35 - 11:50	<i>Special Session on “Discretization and Fast Solution Techniques for Large-Scale Physics Applications”</i>
Chairman	L. Zikatanov
10:35 - 11:00	P. Vassilevski, <i>Operator-Dependent Discretization Spaces by Constrained Energy Minimization</i>
11:00 - 11:25	R. Falgout, <i>Sweep Algorithm Scalability in S_N Transport</i>
11:25 - 11:50	J. Brannick, <i>An Aggregation-Based MG Solver for the Non-Hermitian Systems in Lattice QCD</i>
Lecture Hall B	
10:35 - 12:15	<i>Special Session on “Reliable Numerical Methods for Differential Equations”</i>
Chairman	I. Faragó
10:35 - 11:00	<u>A. Ern</u> , A. Stephansen, M. Vohralík, <i>Guaranteed and Robust Discontinuous Galerkin a Posteriori Error Estimates for Convection-Diffusion-Reaction Problems</i>
11:00 - 11:25	<u>R. Ștefănescu</u> , G. Dimitriu, <i>Numerical Simulations of Reaction-Diffusion Systems Arising in Chemistry Using Exponential Integrators</i>
11:25 - 11:50	R. Anguelov, <i>Structurally Stable Numerical Schemes for Applied Dynamical Models</i>
11:50 - 12:15	<u>I. Pieczka</u> , J. Bartholy, R. Pongrácz, A. Hunyady, <i>Climate Change Scenarios for Hungary Based on Numerical Simulations with a Dynamical Climate Model</i>
Lecture Hall C	
10:35 - 12:15	<i>Special Session on “Grid and Scientific and Engineering Applications”</i>
Chairman	A. Karaivanova
10:35 - 11:00	<u>J. Török</u> , D. Németh, M. Lakat, <i>Effective Algorithm for Calculating Spatial Deformations of Pre-Stressed Concrete Beams</i>
11:00 - 11:25	<u>D. Németh</u> , M. Lakat, J. Török, I. Szeberényi, <i>Dictionary Compression and Information Source Correction</i>

11:25 - 11:50	P. Dó ́ bé, <u>R. Kápolnai</u> , A. Sipos, I. Szeberényi, <i>Applying the Improved Saleve Framework for Modeling Abrasion of Pebbles</i>
11:50 - 12:15	M. Ganzha, <u>M. Paprzycki</u> , M. Drozdowicz, M. Senobari, I. Lirkov, S. Ivanovska, R. Olejnik, P. Telegin, <i>Information Flow and Mirroring in an Agent-Based Grid Resource Brokering System</i>
Lunch Break	
Friday, June 5, Parallel Sessions	
Lecture Hall A	
14:00 - 16:05	<i>Special Session on "Upscaling and Multi Scale Methods"</i>
Chairman	R. Lazarov
14:00 - 14:25	M. Katsoulakis, <i>Hierarchical and Multi-Level Coarse-Graining Methods</i>
14:25 - 14:50	<u>O. Iliev</u> , R. Lazarov, J. Willems, <i>On an Efficient Approach for Calculating Effective Properties of Insulation Materials</i>
14:50 - 15:15	V. John, <u>E. Schmeier</u> , <i>On Finite Element Methods for Time-Dependent Convection-Diffusion-Reaction Equations</i>
15:15 - 15:40	O. Iliev, <u>R. Lazarov</u> , J. Willems, <i>Subgrid Finite Element Approximation for Brinkman Problem</i>
15:40 - 16:05	V. John, <u>M. Roland</u> , E. Schmeier, <i>Numerical Simulation of a Population Balance System</i>
Lecture Hall B	
14:00 - 16:05	<i>Special Session on "Control and Uncertain Systems"</i>
Chairman	T. Tsachev
14:00 - 14:25	T. Filippova, <i>Estimates of Trajectory Tubes of Uncertain Non-linear Control Systems</i>
14:25 - 14:50	R. Bultmann, G. Feichtinger, <u>G. Tragler</u> , <i>Stochastic Skiba Sets: An Example from Models of Illicit Drug Consumption</i>
14:50 - 15:15	M. Gusev, <i>On Optimal Control Problem for the Bundle of Trajectories of Uncertain System</i>
15:15 - 15:40	E. Goncharova, <u>A. Ovseevich</u> , <i>Asymptotics for Singularly Perturbed Reachable Sets</i>
15:40 - 16:05	O. Kostyukova, <u>W. Schmidt</u> , <i>Optimal Control of Hybrid Systems</i>
Lecture Hall C	
14:00 - 16:05	<i>Special Session on "Environmental Modelling"</i>
Chairman	A. Ebel
14:00 - 14:25	<u>R. San José</u> , J. Pérez, J. Morante, F. Prietoe, R. González, <i>Advanced Results of the PM10 and PM2.5 Winter 2003 Episode by Using MM5-CMAQ and WRF/CHEM Models</i>
14:25 - 14:50	<u>F. Deutsch</u> , P. Viaene, S. Janssen, J. Maes, L. Janssen, J. Vankerkom, C. Mensink, <i>Extensive Validation of the BelEU-ROS Air Quality Model for Fine Particulate Matter Species</i>

14:50 - 15:15	<u>G. Candiani</u> , C. Carnevale, E. Pisoni, M. Volta, <i>Assimilation of Chemical Ground Measurements in Air Quality Modeling</i>
15:15 - 15:40	K. Ganev, D. Syrakov, <u>G. Gadzhev</u> , M. Prodanova, G. Jordanov, N. Miloshev, A. Todorova, <i>Joint Analysis of Regional Scale Transport and Transformation of Air Pollution from Road and Ship Transport</i>
15:40 - 16:05	<u>A. Todorova</u> , G. Gadzhev, G. Jordanov, D. Syrakov, K. Ganev, N. Miloshev, M. Prodanova, <i>Numerical Study of Some High PM10 Levels Episodes</i>
Coffee Break	
Friday, June 5, Parallel Sessions	
Lecture Hall A	
<u>16:25 - 18:30</u>	<i>Special Session on "Industrial and Biomedical Multiscale Problems"</i>
Chairman	Y. Efendiev
16:25 - 16:50	<u>G. Bonfigli</u> , H. Hajibeygi, P. Jenny, <i>Recent Developments in the Multi-Scale-Finite-Volume Procedure</i>
16:50 - 17:15	I. Borsi, <i>Modelling Waste Water Flow in Multibore and Hollowfiber Filters</i>
17:15 - 17:40	<u>N. Kosturski</u> , S. Margenov, <i>Numerical Homogenization of Bone Microstructure</i>
17:40 - 18:05	P. Minev, <i>Fictitious Domain Methods for Flows with Rigid Particles</i>
18:05 - 18:30	<u>P. Popov</u> , Y. Efendiev, Y. Gorb, <i>Multiscale Modeling and Simulation of Fluid Flows in Highly Deformable Porous Media</i>
Lecture Hall B	
<u>16:25 - 17:40</u>	<i>Special Session on "Control and Uncertain Systems"</i>
Chairman	T. Filippova
16:25 - 16:50	E. Kostina, <i>Online Design of Optimal Experiments: A Challenge for Numerical Optimal Control</i>
16:50 - 17:15	M. Gerdtts, <i>Numerical Methods for Optimal Control Problems and Applications in Engineering</i>
17:15 - 17:40	N. Ribarska, <i>On a Question of J. Borwein</i>
Lecture Hall C	
<u>16:25 - 18:30</u>	<i>Special Session on "Grid and Scientific and Engineering Applications"</i>
Chairman	E. Atanassov
16:25 - 16:50	<u>A. Gómez-Iglesias</u> , M. Vega-Rodríguez, F. Castejón-Magaña, <u>M. Cárdenas-Montes</u> , E. Morales-Ramos, <i>Scatter Search and Grid Computing to Improve Nuclear Fusion Devices</i>
16:50 - 17:15	<u>D. Syrakov</u> , K. Ganev, M. Prodanova, V. Spiridonov, <u>A. Bogatchev</u> , N. Miloshev, G. Jordanov, <i>Climate Change Impact Assessment of Air Pollution Levels in Bulgaria</i>

17:15 - 17:40	D. Gorgan, <u>T. Stefanut</u> , V. Bacu, D. Mihon, <i>Grid Based Environment Application Development Methodology</i>
17:40 - 18:05	D. Syrakov, <u>K. Ganev</u> , M. Prodanova, N. Miloshev, G. Jordanov, <i>Background Pollution Forecast over Bulgaria</i>
18:05 - 18:30	E. Atanassov, <u>S. Ivanovska</u> , A. Karaivanova, <i>Tuning the Generation of Sobol Sequence with Owen Scrambling</i>
Saturday, June 6, Plenary Talks	
Plenary Hall	
Chairman	A. Ebel
09:00 - 09:15	Special Event: 70th Anniversary of Z. Zlatev
09:15 - 09:55	<u>Z. Zlatev</u> , I. Faragó, Á. Havasi, <i>On Some Stability Properties of the Richardson Extrapolation Applied Together with the θ-method</i>
Coffee Break	
Chairman	T. Manteuffel
10:20 - 11:00	P. Arbenz, <i>μ-Finite Element Analysis of Human Bone Structures</i>
11:00 - 11:40	Y. Efendiev, <i>Mixed Multiscale Finite Element Methods Using Limited Global Information</i>
Lunch Break	
14:00-19:00	<i>EXCURSION</i>
Sunday, June 7, Parallel Sessions	
Lecture Hall A	
09:00 - 10:15	<i>Special Session on "Discretization and Fast Solution Techniques for Large-Scale Physics Applications"</i>
Chairman	R. Falgout
09:00 - 09:25	<u>C. Hofreither</u> , U. Langer, S. Tomar, <i>Boundary Element Simulation of Linear Water Waves in a Model Basin</i>
09:25 - 09:50	B. Ayuso, L. Zikatanov, <i>Iterative Methods for Interior Penalty Discontinuous Galerkin Discretizations</i>
09:50 - 10:15	I. Graham, <u>R. Scheichl</u> , J. Van lent, L. Zikatanov, <i>Multilevel Solvers & Upscaling via Explicit Energy Minimisation</i>
Lecture Hall B	
09:00 - 09:50	<i>Special Session on "Environmental Modelling"</i>
Chairman	K. Georgiev
09:00 - 09:25	<u>N. Dobrinkova</u> , S. Fidanova, K. Atanassov, <i>Game-Method Model for Filled Fires</i>
09:25 - 09:50	<u>H. Chervenkov</u> , H. Jakobs, <i>Dust Storm Simulation with Regional Air Quality Model — Problems and Results</i>
Lecture Hall C	
09:00 - 10:40	<i>Special Session on "Control and Uncertain Systems"</i>
Chairman	U. Felgenhauer
09:00 - 09:25	M. Kawski, <i>Applications of Hopf Algebras and Chronological Calculus to Controllability</i>

09:25 - 09:50	<u>R. Baier</u> , M. Gerdtts, <i>Approximating Reachable Sets of Nonlinear Control Problems by Distance Functions</i>
09:50 - 10:15	T. Donchev, <i>Characterization of the Reachable Set of Impulsive Systems</i>
10:15 - 10:40	<u>M. Krastanov</u> , <u>V. Veliov</u> , <i>High Order Approximations to Multi-Input Non-Commutative Systems</i>
Coffee Break	
Sunday, June 7, Parallel Sessions	
Lecture Hall A	
<u>10:35 - 11:50</u>	<i>Special Session on "Multilevel and Multiscale Preconditioning Methods"</i>
Chairman	M. Neytcheva
10:35 - 11:00	<u>Z. Dostál</u> , T. Kozubek, V. Vondrák, <i>A Scalable TFETI Based Algorithm for Contact Problems: Theory, Implementation, Numerical Experiments, and Real World Problems</i>
11:00 - 11:25	<u>P. Boyanova</u> , S. Margenov, <i>Numerical Study of AMLI Methods for Weighted Graph-Laplacians</i>
11:25 - 11:50	<u>I. Georgiev</u> , J. Kraus, S. Margenov, <i>Multilevel Preconditioning of Crouzeix-Raviart 3D Pure Displacement Elasticity Problems</i>
Lecture Hall B	
<u>10:35 - 12:15</u>	<i>Special Session on "Reliable Numerical Methods for Differential Equations"</i>
Chairman	J. Karátson
10:35 - 11:00	S. Korotov, <i>The Longest-Edge Bisection Algorithms for Finite Element Meshes</i>
11:00 - 11:25	I. Faragó, <i>Discrete Maximum Principles and Their Applications</i>
11:25 - 11:50	M. Mincsovcics, <i>Discrete Maximum Principle for Finite Element Parabolic Operators</i>
11:50 - 12:15	T. Kurics, <i>A Damped Inexact Newton Method with Equivalent Preconditioning for the Subsonic Flow Problem</i>
Lunch Break	
Sunday, June 7, Parallel Sessions	
Lecture Hall A	
<u>14:00 - 16:05</u>	<i>Special Session on "Least Squares Finite Element Methods"</i>
Chairman	T. Manteuffel
14:00 - 14:25	<u>M. Gerritsma</u> , M. Bouman, A. Palha, <i>Least-Squares Spectral Element Method on a Staggered Grid</i>
14:25 - 14:50	G. Starke, <i>Adaptive Least Squares Finite Element Methods in Elasto-Plasticity</i>
14:50 - 15:15	<u>A. Palha</u> , M. Gerritsma, <i>Mimetic Least-Squares Finite Element Method for the Poisson Equation</i>

15:15 - 15:40	<u>F. Sporleder</u> , C. Dorao, H. Jakobsen, <i>Simulation of Natural Gas Conversion Processes Using the Least Squares Spectral Element Method</i>
15:40 - 16:05	<u>P. Bochev</u> , M. Gunzburger, <i>Compatible Least-Squares Methods for the Stokes Equations</i>
Lecture Hall B	
14:00 - 16:05	<i>Contributed Talks</i>
Chairman	M. Paprzycki
14:00 - 14:25	L. Dechevsky, <u>B. Bang</u> , J. Gundersen, A. Lakså, A. Kristoffersen, <i>Solving Non-Linear Systems of Equations on Graphics Processing Units</i>
14:25 - 14:50	L. Dechevsky, <u>J. Gundersen</u> , B. Bang, <i>Computing n-variate Orthogonal Discrete Wavelet Transforms on Graphics Processing Units</i>
14:50 - 15:15	<u>K. Jurková</u> , M. Tůma, <i>Factorization-Based Graph Repartitionings</i>
15:15 - 15:40	I. Angelova, <u>L. Vulkov</u> , <i>A Two-Grid Method on Layer-Adapted Meshes for a Semilinear 2D Reaction-Diffusion Problem</i>
15:40 - 16:05	<u>M. Koleva</u> , L. Vulkov, <i>Two-Grid Decoupling Method for Elliptic Problems on Disjoint Domains</i>
Lecture Hall C	
14:00 - 16:05	<i>Special Session on "Monte Carlo: Methods, Applications, Distributed Computing"</i>
Chairman	V. Mitin
14:00 - 14:25	V. Sverdlov, M. Vasicek, <u>J. Cervenka</u> , T. Grasser, H. Kosina, S. Selberherr, <i>Transport in Nanostructures: A Comparative Analysis Using Monte Carlo Simulation, the Spherical Harmonic Method, and Higher Moments Models</i>
14:25 - 14:50	<u>A. Penzov</u> , I. Dimov, L. Szirmay-Kalos, V. Koylazov, <i>Analysis of the Monte Carlo Image Creation by Uniform Separation</i>
14:50 - 15:15	<u>L. Szirmay-Kalos</u> , B. Tóth, A. Penzov, <i>Gamma Photon Transport Simulation on the GPU</i>
15:15 - 15:40	<u>M. Nedjalkov</u> , P. Schwaha, O. Baumgartner, S. Selberherr, <i>Particle Model of the Scattering-Induced Wigner Function Correction</i>
15:40 - 16:05	<u>I. Shalimova</u> , K. Sabelfeld, <i>Stochastic Analysis of an Elastic Half-Space under Random Displacement Excitations on the Boundary</i>
Coffee Break	

Sunday, June 7, Parallel Sessions	
Lecture Hall A	
<u>16:25 - 18:05</u>	<i>Special Session on “Unconventional Uses of Optimization in Scientific Computing”</i>
Chairman	P. Bochev
16:25 - 16:50	J. Young, M. Haveraaen, <i>The Automatic Construction and Solution of a Partial Differential Equation from the Strong Form</i>
16:50 - 17:15	<u>V. Vesselinov</u> , D. Harp, K. Birdsell, <i>Interactive Estimation of Hydraulic Properties Based on Inversion of Pressure Variations Caused by Transient Forcing Stresses</i>
17:15 - 17:40	C. Baker, <i>Optimization and Eigenvalue Problems</i>
17:40 - 18:05	<u>D. Ridzal</u> , P. Bochev, <i>Robust Algorithms via Optimal Control Reformulation</i>
Lecture Hall B	
<u>16:25 - 18:30</u>	<i>Contributed Talks</i>
Chairman	S. Dimova
16:25 - 16:50	J. Gundersen, <u>A. Kristoffersen</u> , L. Dechevsky, <i>Comparison between the Marching-Cube and the Marching-Simplex Methods</i>
16:50 - 17:15	C. Mészáros, <i>The Computational Aspects of Interior Point Methods in Large-Scale Optimization</i>
17:15 - 17:40	S. Petrova, <i>On Shape Optimization of Acoustically Driven Microfluidic Biochips</i>
17:40 - 18:05	<u>M. ur Rehman</u> , C. Vuik, G. Segal, <i>On Iterative Methods for the Stokes Problem</i>
18:05 - 18:30	G. Bencheva, <i>Comparative Analysis of Solution Methods for Delay Differential Equations in Haematology</i>
Lecture Hall C	
<u>16:25 - 18:05</u>	<i>Special Session on “Grid and Scientific and Engineering Applications”</i>
Chairman	M. Ganzha
16:25 - 16:50	<u>A. Misev</u> , E. Atanassov, <i>User Level Grid Quality of Service</i>
16:50 - 17:15	R. Goranova, <i>Service-Oriented Integration of Grid Applications in Heterogeneous Grids</i>
17:15 - 17:40	E. Atanassov, <u>M. Durchova</u> , <i>Efficient Generation of the Scrambled Halton Sequence Using Hardware-Specific Optimizations</i>
17:40 - 18:05	<u>K. Shterev</u> , S. Stefanov, <i>A Parallelization of Finite Volume Method for Calculation of Gas Microflows by Domain Decomposition Method</i>
19:30	<i>CONFERENCE DINNER</i>

Monday, June 8, Parallel Sessions	
Lecture Hall A	
<u>09:00 - 10:15</u>	<i>Special Session on “Applications of Metaheuristics to Large-Scale Problems”</i>
Chairman	S. Fidanova
09:00 - 09:25	F. Luna, <u>J. Durillo</u> , A. Nebro, E. Alba, <i>A Scatter Search Approach for Solving the Automatic Cell Planning Problem</i>
09:25 - 09:50	<u>D. Simian</u> , F. Stojca, <u>C. Simian</u> , <i>Optimization of Complex SVM Kernel Using a Hybrid Algorithm Based on Wasp Behaviour</i>
09:50 - 10:15	<u>I. Moisiu</u> , A. Olteanu, <i>Some Aspects Regarding the Application of the Ant Colony Optimiser Meta-Heuristic to Scheduling Problems</i>
Lecture Hall B	
<u>09:00 - 10:15</u>	<i>Special Session on “Reliable Numerical Methods for Differential Equations”</i>
Chairman	R. Marinova
09:00 - 09:25	J. Karátson, <i>Discrete Maximum Principles for Some Nonlinear Elliptic Systems</i>
09:25 - 09:50	T. Szabó, <i>On the Discretization Time-Step in the Finite Element Theta-Method of the Two-Dimensional Discrete Heat Equation</i>
09:50 - 10:15	I. Faragó, <u>Á. Havasi</u> , I. Dimov, T. Ostrowsky, <i>Improved-Accuracy Splitting Schemes Enhanced by Richardson Extrapolation and Application in the Air Pollution Modeling</i>
Lecture Hall C	
<u>09:00 - 10:15</u>	<i>Contributed Talks</i>
Chairman	A. Andreev
09:00 - 09:25	L. Dechevsky, J. Gundersen, <u>N. Grip</u> , <i>Wavelet Compression, Data Fitting and Approximation Based on Adaptive Composition of Lorentz-Type Thresholding and Besov-Type Non-Threshold Shrinkage</i>
09:25 - 09:50	I. Georgieva, <u>R. Uluchev</u> , <i>On Interpolation in the Unit Disk Based on Both Radon Projections and Function Values</i>
09:50 - 10:15	A. Lakså, <i>A Method for Sparse-Matrix Computation of Spline Curves and Surfaces</i>
Coffee Break	

Monday, June 8, Parallel Sessions	
Lecture Hall A	
<u>10:35 - 11:25</u>	<i>Special Session on “Applications of Metaheuristics to Large-Scale Problems”</i>
Chairman	I. Moasil
10:35 - 11:00	E. Nikolova, <i>High-performance Heuristics for Optimization in Stochastic Traffic Engineering Problems</i>
11:00 - 11:25	A. Corominas, <u>A. García-Villoria</u> , R. Pastor, <i>A Parametric Multi-Start Algorithm for Solving the Response Time Variability Problem</i>
Lecture Hall B	
<u>10:35 - 11:25</u>	<i>Special Session on “Reliable Numerical Methods for Differential Equations”</i>
Chairman	S. Korotov
10:35 - 11:00	<u>R. Marinova</u> , R. Spiteri, E. Essien, <i>Fully Implicit Methods for 3D Incompressible Fluid Flows Based on Vectorial Operator Splitting Preserving Velocity-Pressure Coupling</i>
11:00 - 11:25	<u>T. Marinov</u> , R. Marinova, <i>Linear Spline Approximation of the Coefficient in Euler-Bernoulli Equation from Over-Posed Data</i>
Lecture Hall C	
<u>10:35 - 11:50</u>	<i>Contributed Talks</i>
Chairman	I. Lirkov
10:35 - 11:00	L. Dechevsky, <i>Generalized Expo-Rational B-splines and Unconditionally Stable Explicit Finite Element Methods for Initial-Value Problems for ODEs</i>
11:00 - 11:25	A. Andreev, <u>M. Racheva</u> , <i>Zienkiewicz-Type Finite Element Applied to Fourth-Order Problems</i>
11:25 - 11:50	<u>A. Andreev</u> , M. Racheva, <i>Acceleration of Convergence for Eigenpairs Approximated by Means of Non-Conforming Finite Element Methods</i>
Lunch Break	
13:00	<i>DEPARTURE</i>