

## PROGRAM OF PPAM 2009

<b>SUNDAY, SEPTEMBER 13</b>
9:00 - 10:30 Registration
10:30 - Tutorials (in B-4 building, in parallel)
19:30 Welcome reception (in A-1 building)
<b>MONDAY, SEPTEMBER 14</b>
8:40 Opening (in A-1 building)
9:00 - 10:20 Invited talks
10:20 - 10:50 Coffee break
10:50 - 12:10 Invited talks
Conference moves to B-4 building
12:10 - 14:00 Lunch
14:00 - 15:40 Contributed papers
Track A: MS on GPU Computing
Track B: Parallel Archs and Mobile Comp
Track C: WS on Complex Collective Systems
Track D: Mem Issues on Multicore Platforms
Track E: App of Parallel Comp in Eng
Track F: MS on Interval Analysis
15:40 - 16:00 Coffee break
16:00 - 17:40 Contributed papers
Track A: MS on GPU Computing
Track B: MS on Cell/B.E. Technologies
Track C: WS on Complex Collective Systems
Track D: Mem Issues on Multicore Platforms
Track E: App of Parallel Comp in Eng
Track F: MS on Interval Analysis
18:30 Visiting Panorama Raclawicka
<b>TUESDAY, SEPTEMBER 15</b>
8:30 - 9:10 Invited talks (in parallel)
Track A:
Track B:
9:15 - 10:30 Contributed papers
Track A: MS on GPU Computing
Track B: MS on Cell/B.E. Technologies
Track C: Language-Based Parallel Model
Track D: Parallel Non-Numerical Algorithms
Track E: Applied Maths and Neural Networks
Track F: Perf Eval on Large-Scale Systems

10:30 - 11:00 Coffee break
11:00 - 12:40 Contributed papers
Track A: Tools for Parallel Computing
Track B: MS on Cell/B.E. Technologies
Track C: Applications of Parallel Computing
Track D: Parallel Numerics
Track E: Scheduling for Parallel Computing
Track F: App of Parallel Comp in Eng
12:40 - 13:20 Invited talk
13:20 - 15:00 Poster Session + Lunch
15:00 - 16:20 Invited talks (In parallel)
Track A:
Track B:
16:20 - 16:40 Coffee break
16:40 - 18:45 Contributed papers
Track A: GAMW
Track B: Parallel Computational Biology
Track C: WS on Complex Collective Systems
Track D: Large Scale Computations on Grids
Track E: Novel Data Formats and Algorithms
Track F: Numerical Algorithms
20:00 Conference Dinner in Town Hall
<b>WEDNESDAY, SEPTEMBER 16</b>
9:00 - 10:20 Invited talks
10:20 - 10:45 Coffee break
10:45 - 12:00 Contributed papers
Track A: Tools for Parallel Computing
Track B: Parallel Non-Numerical Algorithms
Track C: Applied Maths and Neural Networks
Track D: Parallel Numerics
Track E: Scheduling for Parallel Computing
Track F: Perf Eval on Large-Scale Systems
12:05 - 12:50 Invited talk
12:50 Closing remarks
13:00 Lunch

**SUNDAY, SEPTEMBER 13**

**9:00 - 10:30 Registration**

**10:30 - Tutorials (in B-4 building, in parallel)**

<b>GPU Programming</b>	Robert Strzodka, Dominik Behr, Dominik Goeddeke
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<b>FPGAs for software acceleration - programming, tools and systems</b>	Magnus Peterson
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<b>Programming the Cell Broadband Engine</b>	IBM
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<b>New Data Structures are Necessary and Sufficient for Dense Linear Algebra Factorization Algorithms</b>	Fred Gustavson, Jerzy Wasniewski
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**19:30 Welcome reception (in A-1 building)**

<b>MONDAY, SEPTEMBER 14</b>	
<b>8:40 Opening (in A-1 building)</b>	
<b>9:00 - 10:20 Invited talks</b>	
<b>Chairperson: Boleslaw Szymanski</b>	
<b>Current Trends in High Performance Computing and Challenges for the Future</b>	Jack Dongarra, University of Tennessee and Oak Ridge National Laboratory
<b>Opportunities and Challenges for Petascale and Exascale Systems</b>	Simon Holland, Intel
<b>10:20 - 10:50 Coffee break</b>	
<b>10:50 - 12:10 Invited talks</b>	
<b>Chairperson: Jack Dongarra</b>	
<b>Solving large sparse linear equations from discretizations of three-dimensional PDEs</b>	Iain Duff, STFC Rutherford Appleton Laboratory and CERFACS Toulouse
<b>Programmable acceleration of data processing intensive workloads</b>	Michael Gschwind, IBM T.J. Watson Research Center
<b>After the opening session, the Conference moves to B-4 building</b>	
<b>12:10 - 14:00 Lunch</b>	
<b>14:00 - 15:40 Contributed papers</b>	
<b>Track A: MS on GPU Computing</b>	
<b>Chairperson: Robert Strzodka</b>	
<b>Finite element numerical integration on GPUs</b>	Przemyslaw Plaszewski, Pawel Maciol, Krzysztof Banas
<b>Reduction to Condensed Forms for Symmetric Eigenvalue Problems on Multi-core Architectures</b>	Paolo Bientinesi, Francisco Igual, Daniel Kressner, Enrique S. Quintana-Orti
<b>On Parallelizing the MRRR Algorithm for Data-Parallel Coprocessors</b>	Christian Lessig, Paolo Bientinesi
<b>A Fast GPU Implementation for Solving Sparse Ill-Posed Linear Equation Systems</b>	Florian Stock, Andreas Koch
<b>Track B: Parallel/Distributed Architectures and Mobile Computing</b>	
<b>Chairperson: Marek Tudruj</b>	
<b>Evaluating Performance of New Quad-Core Intel Xeon 5500 Family Processors for HPC</b>	Pawel Gepner, David L. Fraser, Michal F. Kowalik
<b>Probabilistic Packet Relaying in Wireless Mobile Ad Hoc Networks</b>	Marcin Sereczynski, Pascal Bouvry, Tomasz Ignac
<b>Interval wavelength assignment in all-optical star networks</b>	Robert Janczewski, Anna Malafiejska, Michal Malafiejski
<b>Graphs Partitioning: An Optimal MIMD Queueless Routing For BPC-Permutations on Hypercubes</b>	Jean-Pierre Jung, Ibrahima Sakhó

<b>Track C: WS on Complex Collective Systems</b>	
<b>Chairperson:</b>	<b>Georgios Sirakoulis</b>
<b>Invited talk: Modeling of pedestrian dynamics: Role of empirical results</b>	Armin Seyfried, Juelich Supercomputing Centre
<b>Modeling Stop-and-Go Waves in Pedestrian Dynamics</b>	Andrea Portz, Armin Seyfried
<b>Towards the Calibration of Pedestrian Stream Models</b>	Wolfram Klein, Gerta Koester, Andreas Meister
<b>Artificial Intelligence of virtual people in CA FF pedestrian dynamics model</b>	Ekaterina Kirik, Tat'yana Yurgel'yan, Dmitriy Krouglov
<b>Track D: WS on Memory Issues on Multi- and Manycore Platforms</b>	
<b>Chairperson:</b>	<b>Michael Bader</b>
<b>Towards Cache-Oblivious Multicore Implementations of LU and ILU Decomposition on Dense and Sparse Matrices</b>	Michael Bader
<b>An Implementation of Parallel 3-D FFT with 2-D Decomposition on a Massively Parallel Cluster of Multi-Core Processors</b>	Daisuke Takahashi
<b>An orthogonal matching pursuit algorithm for image denoising on the Cell Broadband Engine</b>	Dominik Bartuschat, Markus Stuermer, Harald Koestler
<b>A Blocking Strategy on Multicore Architectures for Dynamically Adaptive PDE Solvers</b>	Wolfgang Eckhardt, Tobias Weinzierl
<b>Track E: MS on Applications of Parallel Computation in Industry and Engineering</b>	
<b>Chairperson:</b>	<b>Julius Zilinskas</b>
<b>Parallel Numerical Solver for Modelling of Electromagnetic Properties of Thin Conductive Layers</b>	Raimondas Ciegis
<b>Parallelized transient elastic wave propagation in orthotropic structures</b>	Peter Arbenz, Jorg Bryner, Christine Tobler
<b>eulag model for multiscale flows - towards the petascale generation of mesoscale numerical weather prediction (nwp)</b>	Zbigniew Piotrowski, Marcin Kurowski, Bogdan Rosa, Michal Ziemianski
<b>Numerical Health Check of Industrial Simulation Codes from HPC Environments to New Hardware Technologies</b>	Christophe Denis
<b>Track F: MS on Interval Analysis</b>	
<b>Chairperson:</b>	<b>Bartlomiej Kubica</b>
<b>Solving the systems of interval linear equations with use of modified interval dividing procedure</b>	Ludmila Dymova, Mariusz Pilarek, Roman Wyrzykowski
<b>A global optimization method for solving parametric linear systems whose input data are rational functions of interval parameters</b>	Iwona Skalna
<b>Direct method for solving parametric interval linear systems with non-affine dependencies</b>	Iwona Skalna

From Gauging Accuracy of Quantity Estimates to Gauging Accuracy and Resolution of Measuring Physical Fields	Vladik Kreinovich, Irina Perfilieva
15:40 - 16:00 Coffee break	
16:00 - 17:40 Contributed papers	
Track A: MS on GPU Computing	
Chairperson:	<b>Josep R. Herrero</b>
Simulations of the Electrical Activity in the Heart with Graphic Processing Units	Bernardo M. Rocha, Fernando O. Campos, Gernot Plank, Rodrigo W. dos Santos, Manfred Liebmann, Gundolf Haase
Stream Processing on GPUs Using Distributed Multimedia Middleware	Michael Replinger, Philipp Slusallek
A GPU approach to the simulation of spatio-temporal dynamics in ultrasonic resonators	Pedro Alonso, Victor J. Sanchez, Isabel Perez
Fast forward session	
Track B: MS on Cell/B.E. Technologies	
Chairperson:	<b>Roman Wyrzykowski</b>
Monte Carlo Simulations of Spin Glass Systems on the Cell Broadband Engine	Francesco Belletti, Marco Guidetti, Andrea Maiorano, Filippo Mantovani, Sebastiano Schifano, Raffaele Tripiccion
Astronomical period searching on the Cell Broadband Engine	Maciej Cytowski, Maciej Remiszewski, Igor Soszynski
Montgomery Multiplication on the Cell	Joppe Bos, Marcelo Kaihara
Optimizing compiler for Cell/B.E. architecture	Dmitry Tkachev
Track C: WS on Complex Collective Systems	
Chairperson:	<b>Konrad Kulakowski</b>
Frustration and collectivity in spatial networks	Anna Manka-Krason, Krzysztof Kulakowski
Weakness Analysis of a Key Stream Generator Based on Cellular Automata	Frederic Pinel, Pascal Bouvry
Properties of Safe Cellular Automata-based S-Boxes	Mirosław Szaban, Franciszek Seredynski
Evaluating Lava Flow Hazard at Mount Etna (Italy) by a Cellular Automata based Methodology	Maria Vittoria Avolio, Donato D'Ambrosio, Salvatore Di Gregorio, Valeria Lupiano, Rocco Rongo, William Spataro
FPGA Realization of a Cellular Automata based Epidemic Processor	Pavlos Progiias, Emmanouela Vardaki, Georgios Sirakoulis

<b>Track D: WS on Memory Issues on Multi- and Manycore Platforms</b>	
<b>Chairperson:</b>	<b>Michael Bader</b>
<b>Multi-CMP Module System Based on a Look-Ahead Configured Global Network</b>	Eryk Laskowski, Lukasz Masko, Marek Tudruj
<b>Affinity-on-next-touch: an extension to the linux kernel for NUMA architectures</b>	Stefan Lankes, Boris Bierbaum, Thomas Bemmerl
<b>Empirical Analysis of Parallelism Overheads on CMPs</b>	Ami Marowka
<b>Introducing a Performance Model for Bandwidth-Limited Loop Kernels</b>	Jan Treibig, Georg Hager
<b>Track E: MS on Applications of Parallel Computation in Industry and Engineering</b>	
<b>Chairperson:</b>	<b>Raimondas Ciegis</b>
<b>Parallel Topology Optimization of Truss Structure</b>	Aleksandr Igumenov, Julius Zilinskas
<b>A Distributed Multilevel Ant-Colony Approach for Finite Element Mesh Decomposition</b>	Katerina Taskova, Peter Korosec, Jurij Silc
<b>High-Performance Ocean Color Monte Carlo Simulation in the Geo-Info Project</b>	Tamito Kajiyama, Davide D'Alimonte, Jose C. Cunha, Giuseppe Zibordi
<b>Parallel Implementation of a Steady State Thermal and Hydraulic Analysis of Pipe Networks in OpenMP</b>	Mykhaylo Fedorov
<b>Track F: MS on Interval Analysis</b>	
<b>Chairperson:</b>	<b>Vladik Kreinovich</b>
<b>A new method for normalization of interval weights</b>	Pavel Sevastjanov, Pavel Bartosiewicz, Kamil Tkacz
<b>An interval method for seeking the Nash equilibria of non-cooperative games</b>	Bartlomiej Kubica, Adam Wozniak
<b>Toward Definition of Systematic Criteria for the Comparison of Verified Solvers for Initial Value Problems</b>	Ekaterina Auer, Andreas Rauh
<b>Practical Usage of some C++ Libraries for Floating-Point Conversions and Interval Arithmetic</b>	Malgorzata Jankowska
<b>18:30 Visiting Panorama Raclawicka</b>	

<b>TUESDAY, SEPTEMBER 15</b>	
<b>8:30 - 9:10 Invited talks (in parallel)</b>	
<b>Track A:</b>	
<b>Chairperson: Anne C. Elster</b>	
<b>FPGA acceleration for outstanding performance - challenges and opportunities</b>	Magnus Peterson - Synective Labs
<b>Track B:</b>	
<b>Chairperson: Iain Duff</b>	
<b>Why New Data Structures for Matrices are Necessary for Dense Linear Algebra in the new Multi-Core / Many Core Environments</b>	Fred G. Gustavson, IBM T.J. Watson Research Center
<b>9:15 - 10:30 Contributed papers</b>	
<b>Track A: MS on GPU Computing</b>	
<b>Chairperson: Josep R. Herrero</b>	
<b>Fast in-place sorting with CUDA based on bitonic sort</b>	Hagen Peters, Norbert Luttenberger, Schulz-Hildebrandt
<b>Parallel minimax tree searching on GPU</b>	Kamil Rocki
<b>Power Model of Large-Scale Matrix Multiplication on Multi-core CPUs and GPUs Platform</b>	DaQi Ren, Reiji Suda
<b>Track B: MS on Cell/B.E. Technologies</b>	
<b>Chairperson: Inge Gutheil</b>	
<b>The implementation of regional atmospheric model for CBEA-based clusters</b>	Dmitry Mikushin, Viktor Stepanenko
<b>Optimization of FDTD Computations in a Streaming Model Architecture</b>	Adam Smyk, Marek Tudruj
<b>Introducing the Semi-stencil Algorithm</b>	Raul de la Cruz, Mauricio Araya-Polo, Jose Maria Cela
<b>Track C: WS on Language-Based Parallel Programming Model</b>	
<b>Chairperson: Ami Marowka</b>	
<b>On the Definition of Service Abstractions for Parallel Computing</b>	Herve Paulin
<b>A Team Object for Co-Array Fortran</b>	Robert Numrich
<b>Verification of Causality Requirements in Java Memory Model is Undecidable</b>	Matko Botincan, Paola Glavan, Davor Runje
<b>Track D: Parallel/Distributed Non-Numerical Algorithms</b>	
<b>Chairperson: Jure Silc</b>	
<b>A Scalable Parallel Union-Find Algorithm for Distributed Memory Computers</b>	Fredrik Manne, Md. Mostofa Ali Patwary
<b>Parallel Longest Increasing Subsequences in Scalable Time and Memory</b>	Peter Krusche, Alexander Tiskin
<b>Implementing a parallel simulated annealing algorithm</b>	Zbigniew Czech, Wojciech Mikanik, Rafal Skinderowicz

<b>Track E: Applied Mathematics and Neural Networks</b>	
<b>Chairperson: Ondrej Jakl</b>	
Properties of Polynomial Bases Used in a Line-surface Intersection Algorithm	Gun Srijuntongsiri, Stephen Vavasis
Application of Stacked Methods to Part-of-Speech Tagging of Polish	Marcin Kuta, Wojciech Wojcik, Michal Wrzeszcz, Jacek Kitowski
Identification of Contamination Sources and Management of Contamination Risks	Vyacheslav Maksimov, Alexey Kadiyev
<b>Track F: WS on Performance Evaluation of Parallel Applications on Large-Scale Systems</b>	
<b>Chairperson: Jan Kwiatkowski</b>	
Performance debugging of parallel compression on multicore machines	Janusz Borkowski
Deskilling HPL - Using an Evolutionary Algorithm to Automate Cluster Benchmarking	Dominic Dunlop, Sebastien Varrette, Pascal Bouvry
Parallel HAVEGE	Alin Suciu, Tudor Carean and Andre Sez nec
<b>10:30 - 11:00 Coffee break</b>	
<b>11:00 - 12:40 Contributed papers</b>	
<b>Track A: Tools and Environments for Parallel/Distributed Computing</b>	
<b>Chairperson: Bogdan Wiszniewski</b>	
A Flexible Checkpoint/Restart Model in Distributed System	Bouguerra Mohamed Slim, Thierry Gautier, Denis Trystram, Jean-Marc Vincent
A Formal Approach to Replica Consistency in Directory Service	Jerzy Brzezinski, Cezary Sobaniec, Dariusz Wawrzyniak
Vine Toolkit - grid-enabled portal solution for community driven computing workflows with meta-scheduling capabilities	P.Domagalski, P.Dziubecki, P.Kopta, M.Krysinski, T.Kuczynski, K.Kurowski, B.Ludwiczak, J.Nabrzyski, T.Piontek, D.Szejnfeld, D.Tarnawczyk, K.Witkowski, M.Wolniewicz
Request Distribution in Hybrid Processing Environment	Jan Kwiatkowski, Marcin Pawlik, Dariusz Konieczny, Mariusz Fr as
<b>Track B: MS on Cell/B.E. Technologies</b>	
<b>Chairperson: Maciej Remiszewski</b>	
An Exploration of CUDA and CBEA for Einstein@Home	Jens Breitbart and Gaurav Khanna
Cell Software Activities at Forschungszentrum Juelich GmbH	Inge Gutheil, Willi Homberg

Finite element numerical integration on PowerX-Cell processors	Filip Kruzel, Krzysztof Banas
Adaptation of Double Precision Matrix Multiplication to the Cell Broadband Engine Architecture	Krzysztof Rojek, Lukasz Szustak
<b>Track C: Applications of Parallel/Distributed Computing</b>	
<b>Chairperson:</b>	<b>Ladislav Hluchy</b>
Particle model of tumor growth and its parallel implementation	Rafal Wcislo, Witold Dzwinel
GEM - a Platform for Advanced Mathematical Geosimulations	Radim Blaheta, Ondrej Jakl, Roman Kohut, Jiri Stary
Parallel implementation of multidimensional scaling algorithm based on particle dynamics	Piotr Pawliczek, Witold Dzwinel
Vascular Network Modeling - Improved Parallel Implementation on Computing Cluster	Krzysztof Jurczuk, Marek Kretowski, Johanne Bezy-Wendling
<b>Track D: Parallel Numerics</b>	
<b>Chairperson:</b>	<b>Peter Arbenz</b>
Partial Data Replication as a strategy for Parallel Computing of the Multilevel Discrete Wavelet Transform	Liesner Acevedo, Victor M. Garcia, Antonio M. Vidal, Pedro Alonso
On the performance of a new parallel algorithm for large-scale simulations of nonlinear partial differential equations	Angel Rodriguez-Rozas, Juan A. Acebron, Renato Spigler
Hardware implementation of the exponent based computational core for an exchange-correlation potential matrix generation	Maciej Wielgosz, Ernest Jamro, Kazimierz Wiatr
Application Specific Processors for the Autoregressive Signal Analysis	Oleg Maslennikov, Anatolij Sergiyenko, Natalia Maslennikowa, Piotr Ratuszniak, Marcin Wozniak
<b>Track E: WS on Scheduling for Parallel Computing</b>	
<b>Chairperson:</b>	<b>Maciej Drozdowski</b>
Fully Polynomial Time Approximation Schemes for Scheduling Divisible Loads	Joanna Berlinska
Semi-Online Preemptive Scheduling: Study of Special Cases	Tomas Ebenlendr
Fast Multi-objective Reschedule Grid Jobs to Constrained Resources by Heuristics and Evolution	Wilfried Jakob, Alexander Quinte, Wolfgang Suess, Karl-Uwe Stucky
<b>Panel Discussion</b>	
<b>Track F: MS on Applications of Parallel Computation in Industry and Engineering</b>	
<b>Chairperson:</b>	<b>Raimondas Ciegis</b>
Parallel implementation of particle tracking and collision in a turbulent flow	Bogdan Rosa, Lian-Ping Wang

AMG for linear systems in engine flow simulations	Maximilian Emans
Application of Parallel Technologies to Modeling Lithosphere Dynamics and Seismicity	Boris Digas, Lidiya Melnikova, Valerii Rozenberg
A fast IMFS formulation for solving 1D three-phase black-oil equations	Saul Buitrago, Raul Manzanilla
<b>12:40 - 13:20 Invited talk</b>	
<b>Chairperson:</b>	<b>Naga Govindaraju</b>
Introduction to OpenCL	Dominik Behr, AMD
<b>13:20 - 15:00 Poster Session + Lunch</b>	
Fuzzy solution of interval nonlinear equations	Ludmila Dymova
Application of CoSMoS Parallel Design Patterns to a Pedestrian Simulation	Sarah Clayton, Neil Urquhart, Jon Kerridge
Experimenting SCA in Indoor Scenarios: Pedestrian Dynamics during Lecture Hall Evacuation	Sara Manzoni, Vizzari Giuseppe, Andrea Bonomi
A role-based approach to self-healing in autonomous monitoring systems	Wlodzimierz Funika, Piotr Pegiel
Distributed MIND - a new processing model based on mobile interactive documents	Magdalena Godlewska, Bogdan Wiszniewski
Designing execution control in programs with global application states monitoring	Janusz Borkowski, Marek Tudruj
Parallel adaptive finite element package with dynamic load balancing for 3D thermo-mechanical problems	Tomasz Olas, Robert Lesniak, Pawel Gepner
<b>15:00 - 16:20 Invited talks (In parallel)</b>	
<b>Track A:</b>	
<b>Chairperson:</b>	<b>Jacek Kitowski</b>
e-Infrastructures for Science and Industry - Clusters, Grids, and Clouds	Wolfgang Gentzsch, The DEISA Project
An Asynchronous Hybrid Genetic-Simplex Search for Modeling the Milky Way Galaxy	Boleslaw K. Szymanski, Rensselaer Polytechnic Institute, Troy
<b>Track B:</b>	
<b>Chairperson:</b>	<b>Dominik Behr</b>
Mass Market GPGPU with DirectX 11 Compute Shaders	Naga Govindaraju, Microsoft
Real-Time Parallel Computing Using GPUs	Anne C. Elster - NTNU, Trondheim
<b>16:20 - 16:40 Coffee break</b>	

<b>16:40 - 18:45 Contributed papers</b>	
<b>Track A: Grid Applications and Middleware Workshop</b>	
<b>Chairperson:</b>	<b>Ewa Deelman</b>
<b>UNICORE Virtual Organizations System</b>	Piotr Bala, Krzysztof Benedyczak, Marcin Lewandowski, Aleksander Nowinski
<b>Churn Tolerant Virtual Organization File System for Grids</b>	Leif Lindback, Vladimir Vlassov, Shahab Mokarizadeh, Gabriele Violino
<b>Performance Based Matchmaking on Grid</b>	Andrea Clematis, Angelo Corana, Daniele D'Agostino, Antonella Galizia, Alfonso Quarati
<b>Replica Managment for National Data Storage</b>	Darin Nikolow, Renata Slota, Jacek Kitowski
<b>Application of ADMIRE Data Mining and Integration Technologies in Environmental Scenarios</b>	Marek Ciglan, Ondrej Habala, Ladislav Hluchy, Viet Tran
<b>Track B: WS on Parallel Computational Biology</b>	
<b>Chairperson:</b>	<b>Alexandros Stamatakis, Jaroslaw Zola</b>
<b>Parallel Extreme Ray and Pathway Computation</b>	M. Terzer, J. Stelling
<b>Enabling Large Scale Scientific Computations for Expressed Sequence Tag Sequencing over Grid and Cloud Computing Clusters</b>	S. Pallickara, M. Pierce, Q. Dong, C. Kong
<b>Automated Design of Assemblable, Modular, Synthetic Chromosomes</b>	S. Richardson, B. Olson, J. Dymond, R. Burns, S. Chandrasegaran, J. Boeke, A. Shehu, J. Bader
<b>Accuracy and Performance of Single versus Double Precision Arithmetics for Maximum Likelihood Phylogeny Reconstruction</b>	S.A. Berger, A. Stamatakis
<b>GPU Parallelization of Algebraic Dynamic Programming</b>	P. Steffen, R. Giegerich, M. Giraud
<b>Track C: WS on Complex Collective Systems</b>	
<b>Chairperson:</b>	<b>Jaroslaw Was</b>
<b>Invited talk</b>	Michael Schreckenberg
<b>Fuzzy cellular model for on-line traffic simulation</b>	Bartlomiej Placzek
<b>An adaptive time gap car-following model</b>	Antoine Tordeux, Sylvain Lassarre, Michel Roussignol
<b>Two Concurrent Algorithms of Discrete Potential Field Construction</b>	Konrad Kulakowski, Jaroslaw Was
<b>Application of CoSMoS Parallel Design Patterns to a Pedestrian Simulation</b>	Sarah Clayton, Neil Urquhart and Jon Kerridge

Experimenting SCA in Indoor Scenarios: Pedestrian Dynamics during Lecture Hall Evacuation	Sara Manzoni, Vizzari Giuseppe, Andrea Bonomi
<b>Track D: WS on Large Scale Computations on Grids</b>	
<b>Chairperson:</b>	<b>Marcin Paprzycki</b>
HyCube: A DHT routing system based on a hierarchical hypercube geometry	Artur Olszak
Quasirandom approach in the grid application SALUTE	Emanouil Atanassov, Aneta Karaivanova, Todor Gurov
Leveraging Complex Event Processing for Grid Monitoring	Bartosz Balis, Bartosz Kowalewski, Marian Bubak
A Framework for Observing Dynamics of Agent-Based Computations	Jaroslaw Kawecki, Maciej Smolka
Mobile Agents for Management of Native Applications in GRID	Salvatore Venticinquè, Rocco Aversa, Beniamino Di Martino, Renato Donini
<b>Track E: WS on Novel Data Formats and Algorithms for High Performance Computing</b>	
<b>Chairperson:</b>	<b>Jerzy Wasniewski</b>
A Fast Minimal Storage Symmetric Indefinite Matrix Factorization	Jack Dongarra, Jerzy Wasniewski, Fred Gustavson
Dependency-Driven Scheduling of Dense Matrix Factorizations on Shared-Memory Systems	Jakub Kurzak, Hatem Ltaief, Jack J. Dongarra, Rosa M. Badia
A Parallel Non-Square Tiled Algorithm for Solving a Kind of BVP for Second-Order ODEs	Przemyslaw Stpiczynski
An Acceleration of the PCA Extraction Network Using the Pulsyr Reconfigurable Architecture	Andriy Lutsyk, Roman Trobec, Volodymyr Hrytsyk, Artur Bondaruk, Oleksiy Lutsyk, Volodymyr Hrytsyk Junior
Novel Algorithms for In-Place Transposition	Fred G. Gustavson, Lars Karlsson, Bo Kagstrom
An Efficient Algorithm for In-Place Transposition of Matrices Stored in Column or Row Major Format	Fred G. Gustavson, Lars Karlsson, Bo Kagstrom
<b>Track F: Numerical Algorithms</b>	
<b>Chairperson:</b>	<b>Radim Blaheta</b>
A dense matrix structure for reduction of computational cost applicable to a group of IDR(s) methods	Yusuke Onoue, Seiji Fujino
Iterative solution of linear and nonlinear boundary problems using PIES	Eugeniusz Zieniuk, Agnieszka Boltuc
Numerical solution of the time and rigidity dependent three dimensional second order partial differential equation	Anna Wawrzynczak, Michael Alania

A balancing domain decomposition method for a discretization of a plate problem on nonmatching grids	Leszek Marcinkowski
20:00 Conference Dinner in Town Hall	

<b>WEDNESDAY, SEPTEMBER 16</b>	
<b>9:00 - 10:20 Invited talks</b>	
<b>Chairperson: Srinivas Aluru</b>	
Executing Large-Scale Earthquake Science Workflows on Today's Cyberinfrastructure	Ewa Deelman, University of Southern California
From Interval Computations to Constraint-Related Set Computations: Towards Faster Estimation of Statistics and ODEs under Interval and p-Box Uncertainty	Vladik Kreinovich, University of Texas at El Paso
<b>10:20 - 10:45 Coffee break</b>	
<b>10:45 - 12:00 Contributed papers</b>	
<b>Track A: Tools and Environments for Parallel/Distributed Computing</b>	
<b>Chairperson: Robert Numrich</b>	
Automatic Program Parallelization for Multicore Processors	Jan Kwiatkowski, Radoslaw Iwaszyn
Extracting both affine and non-linear synchronization-free slices in program loops	Wlodzimierz Bielecki, Marek Palkowski
Software Security in the Model for Service Oriented Architecture Quality	Grzegorz Kolaczek, Adam Wasilewski
<b>Track B: Parallel/Distributed Non-Numerical Algorithms</b>	
<b>Chairperson: Zbigniew Czech</b>	
Parallel Hybrid Metaheuristics for the Scheduling with Fuzzy Processing Times	Wojciech Bozejko, Michal Czapinski, Mieczyslaw Wodecki
Parallel computing scheme for graph grammar-based syntactic pattern recognition	Mariusz Flasiński, Janusz Jurek, Szymon Mysliński
Extended Cascaded Star Schema for Distributed Spatial Data Warehouse	Marcin Gorawski
<b>Track C: Applied Mathematics and Neural Networks</b>	
<b>Chairperson: Mariusz Flasiński</b>	
Neuro-fuzzy Systems Based on Generalized Parametric Triangular Norms	Marcin Korytkowski, Rafal Scherer
Computationally Efficient Nonlinear Predictive Control Based on State-Space Neural Models	Maciej Lawrynczuk
Relational Type-2 Interval Fuzzy Systems	Rafal Scherer, Janusz Starczewski, Leszek Rutkowski
<b>Track D: Parallel Numerics</b>	
<b>Chairperson: Krzysztof Banas</b>	
Dynamic load balancing for adaptive parallel flow problems	Stanislaw Gepner, Jerzy Majewski, Jacek Rokicki
Graph grammar based Petri nets model of concurrency for self-adaptive hp-Finite Element Method with rectangular elements	Arkadiusz Szymczak, Maciej Paszynski

<b>Track E: WS on Scheduling for Parallel Computing</b>	
<b>Chairperson:</b>	<b>Franciszek Seredynski</b>
<b>Comparison of Program Task Scheduling Algorithms for Dynamic SMP Clusters with Communication on the Fly</b>	Lukasz Masko, Marek Tudruj, Gregory Mounie, Denis Trystram
<b>Study on GEO Metaheuristic for Solving Multiprocessor Scheduling Problem</b>	Piotr Switalski, Franciszek Seredynski
<b>Online Scheduling of Parallel Jobs on Hypercubes: Maximizing the Throughput</b>	Ondrej Zajicek, Jiri Sgall, Tomas Ebenlendr
<b>Track F: WS on Performance Evaluation of Parallel Applications on Large-Scale Systems</b>	
<b>Chairperson:</b>	<b>Leszek Borzemski</b>
<b>Energy Considerations for Divisible Load Processing</b>	Maciej Drozdowski
<b>Parallel Performance Evaluation of MIC(0) Preconditioning Algorithm for Voxel micro-FE Simulation</b>	Ivan Lirkov, Yavor Vutov, Marcin Paprzycki, Maria Ganzha
<b>Monitoring of SLA Parameters within VO for the SOA paradigm</b>	Wlodzimierz Funika, Bartosz Kryza, Renata Slota, Jacek Kitowski, Kornel Skalkowski, Jakub Sendor, Dariusz Krol
<b>12:05 - 12:50 Invited talk</b>	
<b>Chairperson:</b>	<b>Pascal Bouvry</b>
<b>Parallel Assembly of Large Genomes from Paired Short Reads</b>	Srinivas Aluru, Iowa State University
<b>12:50 Closing remarks</b>	
<b>13:00 Lunch</b>	