

| Saturday, September 26 | |
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| 8:00-9:40 | Registration (West University of Timisoara, ground floor, room 045C) |
| 9:40-10:00 | Opening. Room A02 |
| 10:00-10:50 | Invited talk. Room A02. Chair: Stephen Watt <i>James Davenport – The Sparsity Challenge</i> |
| 10:50-11:00 | Coffee break |
| 11:00-12:40 | Numerical Computing. Room A02. Chair: Stefan Maruster <ul style="list-style-type: none"> • <u>Adrian Petrusel</u>. Multivalued Picard operators and applications • <u>Viorica Muresan</u>. An algorithm for the approximation of the solution of a functional-integral equation • <u>Anton S. Muresan</u>. On a functional-differential equation from price theory • <u>Damian Trif</u>. MATLAB Package for Laguerre Spectral Method • <u>Ioan A. Rus</u>. Ulam-Hyers stability of difference equations |
| 11:00-13:00 | SEE-Grid-SCI Dissemination. Room: 045C. Chair: Gabriel Neagu <ul style="list-style-type: none"> • <u>Boro Jakimovski</u>, Dragan Sahpaski and Goran Velinov. Performance Improvement of Genetic Algorithms by Adaptive Grid Workflows |
| 12:40-14:00 | Lunch break |
| 14:00-15:20 | Symbolic Computation. Room A02. Chair: Dongming Wang <ul style="list-style-type: none"> • <u>Grant Passmore</u> and Leonardo de Moura. Superfluous S-polynomials in Strategy- Independent Grobner Bases • <u>Alberto Zanoni</u>. Toom-Cook 8-way For Long Integers Multiplication • <u>Rafael Grimson</u>. Point Location in arrangements of algebraic hypersurfaces • Amir Hashemi and <u>Mahzad Kalantari</u>. A Hybrid Algorithm for Solving 7 Parameters Transformation |
| 15:20-15:30 | Coffee break |
| 15:30-16:50 | Logic and Programming. Room A02. Chair: Stephen Watt <ul style="list-style-type: none"> • <u>Madalina Erascu</u> and Tudor Jebelean. A Calculus for Imperative Programs: Formalization and Implementation • <u>Eugen-Ioan Goriac</u>, Georgiana Caltais and Dorel Lucanu. Simplification and Generalization in CIRC • <u>Codrut-Lucian Lazar</u>, Ioan Lazar, Bazil Parv, Simona Motogna and Istvan Gergely Czibula. Using a fUML Action Language to construct UML models • <u>Lucian Radu Teodorescu</u>, Alin Suciu and Rodica Potolea. Sparrow: Towards a New Multi-Paradigm Language |
| 15:30-16:50 | Global Computing Workshop. Room: 045C. Chair: Florian Boian <ul style="list-style-type: none"> • Gabriel Ciobanu, <u>Eneia Todoran</u>: Continuation semantics for multiset rewriting: a step towards a denotational semantics for membrane computing • Ana-Maria Mirea, Constantin Teodorescu-Mihai, Doina Preda, Mircea Preda: Improved resources sharing environment • Mugurel Ionut Andreica, Eduard-Marius Dragomir, Nicolae Tapus: Centralized and Decentralized Techniques for the Real-Time Scheduling of Deadline-Constrained Out-of-Order Data Transfers • Bogdan Crainicu: A Local Search Approach for Recovering an Internal State of RC4 Stream Cipher |
| 16:50-17:00 | Coffee break |
| 17:00-18:20 | Symbolic Computation . Room: A02. Chair: Tetsuo Ida <ul style="list-style-type: none"> • <u>Yanli Huang</u> and Dongming Wang. Computing Self-intersection Loci of Parametrized Surfaces Using Regular Systems and Groebner Bases • Ryszard Walentynski. On Computer Algebra Aid to Analytic Integration within Tetragonal Finite Element • <u>Qi Ding</u> and Hongqing Zhang. m-Hilbert Polynomial and Arbitrariness of the General Solution of Partial Differential Equations • Jianping Yu and Yongli Sun. Lagrange Interpolation Method for Implicitizing Parametric Surfaces |
| 17:00-18:20 | Global Computing Workshop. Room: 045C. Chair: Eneia Todoran <ul style="list-style-type: none"> • Cristina Gutiu: Modular Platforms for Enterprise Applications • Ploscar Adina: Passing and returning data to and from a SOAP-based web service • Gheorghe Stefanescu, Monica Tataram: Towards an integration of BPEL in AGAPIA |
| 19:00 | Welcome reception |

| Sunday, September 27 | |
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| 8:00-8:50 | Invited talk. Room A02. Chair: Gabriel Istrate <i>Lefteris. Kirousis – Coloring Random Graphs</i> |
| 8:50-9:00 | Coffee break |
| 9:00-10:20 | Logic and Programming. Room A02. Chair: Tudor Jebelean <ul style="list-style-type: none"> • Stefan Andrei, <u>Gheorghe Grigoras</u>, Martin Rinard and Roland Yap. A Hierarchy of Tractable Subclasses for SAT and Counting SAT Problems • Maxime Dénès, Benjamin Lesage, <u>Yves Bertot</u> and Adrien Richard. Formal proof of theorems on genetic regulatory networks • <u>Alexander Lyaletski</u>. On Herbrand-like Theorems for Cut-free Modal Sequent Logics • <u>Andrew Schumann</u> and Andy Adamatzky. Physarum Spatial Logic |
| 9:00-10:20 | ACSys workshop. Room 045C. Chair: Viorel Negru <ul style="list-style-type: none"> • <u>Mugurel Ionut Andreica</u> and Nicolae Tapus. Algorithmic Solutions for Several Offline Constrained Resource Processing and Data Transfer Multicriteria Optimization Problems • <u>Andrei Olaru</u>, <u>Cristian Gratie</u> and Adina Magda Florea. Context-Aware Emergent Behaviour in a MAS for Information Exchange • <u>Mihnea Scafes</u> and <u>Costin Badica</u>. Service Negotiation Framework for Disaster Management • <u>Cristian Gratie</u> and Adina Magda Florea. Alleviating Urban Traffic Congestion by Means of Adaptive Routing |
| 10:20-10:30 | Coffee break |
| 10:30-11:30 | Advanced Theory of Computing. Room A02. Chair: Lefteris Kirousis <ul style="list-style-type: none"> • <u>Olaf Beyersdorff</u>. On the Existence of Complete Disjoint NP-Pairs • <u>Liliana Cojocaru</u>, Erkki Mäkinen and Ferucio Laurentiu Tiplea. Classes of Szilard Languages in NC1 • Mircea Marin and <u>Adrian Craciun</u>. Factorizations of Regular Hedge Languages |
| 10:30-11:30 | ACSys workshop. Room 045C. Chair: Costin Badica <ul style="list-style-type: none"> • <u>Aritoni Ovidiu</u> and Negru Viorel. Multi-Agent Oriented Architecture for Data-Stream Processing in an Ambient Assisted Living System • <u>Sorin Ilie</u> and <u>Costin Badica</u>. Solving the Traveling Salesman Problem Using Ant Colony Optimization on a Distributed Architecture • <u>Bogdan Alexandru Caprarescu</u> and Dana Petcu. Engineering Biologically-Inspired Multi-Agent Feedback Loops for Autonomic Computing |
| 11:30-11:40 | Coffee break |
| 11:40-12:40 | Numerical Computing Room A02. Chair: Ivan Simecek <ul style="list-style-type: none"> • <u>Nadia Bonchis</u>. The Lucas optimal growth model on finite horizon • <u>Marius Paltanea</u>, Sabin Tabirca, Yin Jie Chen and Mark Tangney. Cancer Prediction Modeling from Volumetric Data • <u>Olariu Emanuel Florentin</u>. Monte Carlo Variance Reduction. Importance Sampling Techniques. |
| 11:40-12:40 | Training GISHEO. Room: 045C. Chair Dana Petcu |
| 12:40-14:00 | Lunch break |
| 14:00-14:50 | Invited talk. Room A02. Chair: Dongming Wang <i>Tetsuo Ida – A Compiler for Origami Construction and Verification</i> |
| 14:50-15:00 | Coffee break |
| 15:00-16:40 | Numerical Computing. Room A02. Chair: Stefan Maruster <ul style="list-style-type: none"> • <u>Ivan Simecek</u>. Sparse Matrix Computations Using the Quadtree Storage Format • <u>Cristian Mihai Cira</u>. Finding the solutions of nonlinear equation systems from an interval • <u>David Edwards</u>. Semi Linear Singularly Perturbed Boundary Value Problem Using Multi-Region FDM: High Precision Calculation • <u>Iuliana Borza</u>, Flavius Turcu and Najim Mohamed. Hybrid modeling of an audio signal based on 1-D Wold decomposition • <u>Rongfen Lin</u>, Hao Jiang and Lizhi Cheng. Solving Nonsmooth Interval Equations with Slopes |
| 15:00-16:40 | Training GISHEO. Room: 045C. Chairs: Marcel Torok and Dorel Micle |
| 16:40-16:50 | Coffee break |
| 16:50-17:50 | Advanced Theory of Computing. Room A02. Chair: Gabriel Istrate <ul style="list-style-type: none"> • Gabriel Ciobanu and <u>Eneia Nicolae Todoran</u>. A Methodology for Parallel and Distributed Languages Development Based on Denotational Semantics • Miklos Bartha and <u>Miklos Kresz</u>. A depth-first algorithm to reduce graphs in linear time • <u>Mugurel Ionut Andreica</u>, Andrei Grigorean and Nicolae Tapus. Algorithms for Identifying Sequence Patterns with Several Types of Occurrence Constraints |
| 16:50-18:20 | Training GISHEO. Room: 045C. Chair: Dana Petcu |
| 19:30 | Conference dinner |

| Monday, September 28 | |
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| 8:00-8:50 | Invited talk. Room A02. Chair: Tudor Jebelean <i>Andrei Voronkov</i> -Finding Loop Invariants Using a Theorem Prover |
| 8:50-9:00 | Coffee break |
| 9:00-10:20 | Parallel Computing Room: A02. Chair: Dana Petcu <ul style="list-style-type: none"> Alina Simion, Dragos Sbirlea, <u>Florin Pop</u> and Valentin Cristea. Dynamic Scheduling Algorithms for Workflow Applications in Grid Environment Marius Ion, <u>Florin Pop</u>, Ciprian Dobre and Valentin Cristea. Dynamic Resources Allocation in Grid Enviroments Simona Caraiman, <u>Alexandru Archip</u> and Vasile Manta. A Grid Enabled Quantum Computer Simulator <u>Denisa Rodila</u>, Victor Bacu and Dorian Gorgan. Semantic Annotation based Service Composition for Grid Workflow Description and Execution |
| 9:00-10:30 | Tutorials on Software Verification and Theorem Proving Room 045C Helmut Veith - Automated Software Analysis (part 1) |
| 10:30-10:40 | Coffee break |
| 10:40-12:40 | Parallel Computing Room: A02. Chairs: Florin Pop and Dana Petcu <ul style="list-style-type: none"> <u>Marc Frincu</u>. Distributed Scheduling Policy in Service Oriented Environments Marieta Nastase, Ciprian Dobre, <u>Florin Pop</u> and Valentin Cristea. Fault Tolerance using a Front-End Service for Large Scale Distributed Systems <u>Mugurel Ionut Andreica</u>, Irina Borozan, Lucian-Ionut Balaceanu and Nicolae Tapus. Fairness and QoS Enhancement Models and Techniques for Peer-to-Peer Content Sharing Systems <u>Alexandru Carstea</u>, Macariu Georgiana, Marc Eduard Frincu and Dana Petcu. Description and Execution of Patterns for Symbolic Computations Virginia Niculescu and <u>Adriana Guran</u>. Bounded Parallelism in PowerList and ParList Theories |
| 10:40-12:10 | Tutorials on Software Verification and Theorem Proving Room 045C Helmut Veith - Automated Software Analysis (part 2) |
| 12:10-14:00 | Lunch break |
| 14:00-15:40 | Artificial Intelligence Room: A02. Chair: Daniela Zaharie <ul style="list-style-type: none"> <u>Mihai Alexandru Ordean</u>, Andrei Saupe, Melania Duma, Mihaela Ordean and Gheorghe Cosmin Silaghi. Enhanced Rule-based Phonetic Transcription for the Romanian Language <u>Istvan Gergely Czibula</u>, Gabriela Czibula and Adriana Mihaela Guran. Dynamic customization of data structures instances using an agent based approach <u>Cioara Tudor</u>, Ionut Anghel, Ioan Salomie and Mihaela Dinsoreanu. A Policy-based Context Aware Self-Management Model <u>Ciprian Pungila</u>. A Bray-Curtis Weighted Automaton for Detecting Malicious Code Through System-Call Analysis <u>Ozten Chelai</u>. A Conceptual Architecture for Context-Aware Systems |
| 14:00-15:30 | Tutorials on Software Verification and Theorem Proving Room 045C Andrei Voronkov – Satisfiability and Theories (part 1) |
| 15:40-15:50 | Coffee break |
| 15:50-17:10 | Artificial Intelligence Room A02. Chair: Daniel Pop <ul style="list-style-type: none"> Ion-Mircea Diaconescu and Gerd Wagner. Beliefes and Communication, the Basis of Collaborative Agents <u>Letitia Velcescu</u> and Laurentiu Vasile. Relational operators in heterogeneous random databases <u>Camelia Vidrighin Bratu</u> and Rodica Potolea. Unified Strategy for Feature Selection and Data Imputation Alexandru-Ciprian Zavoianu and <u>Ciprian-Dorin Craciun</u>. On sensor data simulation |
| 15:50-17:20 | Tutorials on Software Verification and Theorem Proving Room 045C Andrei Voronkov – Satisfiability and Theories (part 2) |
| 17:30 | Trip (Recas wine cellars) / Town tour |

| Tuesday, September 29 | |
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| 8:00-8:50 | Invited talk. Room A02. Chair: Andrei Voronkov <i>Helmut Veith</i> - Embedding Formal Methods into Systems Engineering |
| 8:50-9:00 | Coffee break |
| 9:00-10:20 | Artificial Intelligence Room A02. Chair: Ion Iancu <ul style="list-style-type: none"> • <u>Cristina Bianca Pop</u>, Viorica Rozina Chifu, Ioan Salomie, Mihaela Dinsoreanu, Iulia Vartic and Monica Vlad. Immune-inspired Web Service Composition Framework • D. Dumitrescu, Rodica Ioana Lung and <u>Tudor Dan Mihoc</u>. Approximating and Combining Equilibria in Non-cooperative Games • <u>Nicolaie Popescu-Bodorin</u>. Exploring New Directions in Iris Recognition • <u>Viorica Rozina Chifu</u>, Ioan Salomie, Roland Vachter and Alpar Kover. Matching Semantic Web Services Using Learning Accuracy |
| 9:00-10:30 | Tutorials on Software Verification and Theorem Proving Room 045C Nicolaj Bjorner – SMT Solvers for Testing , Program Analysis and Verification at Microsoft (part 1) |
| 10:30-10:40 | Coffee break |
| 10:40-11:40 | Artificial Intelligence Room: A02. Chair: Camelia Chira <ul style="list-style-type: none"> • <u>Viorica Rozina Chifu</u>, Ioan Salomie, Ioana Harsa and Marius Gherga. Semantic Web Service Composition Method based on Fluent Calculus • <u>Ion Iancu</u> and Mihaela Colhon. Mamdani FLC with various implications • Ciprian Costa. HypergraphDB Framework for Communication Activities |
| 10:40-12:10 | Tutorials on Software Verification and Theorem Proving Room 045C Nicolaj Bjorner – SMT Solvers for Testing , Program Analysis and Verification at Microsoft (part 2) |
| 12:00-14:00 | Lunch break |
| 14:00-15:20 | NCA Workshop. Room: A02. Chair: Daniela Zaharie <ul style="list-style-type: none"> • <u>Elena Bautu</u>, Andrei Bautu and Henri Luchian. Stock Market Trend Forecasting with GEP Ensembles • Camelia Pinte, <u>Camelia Chira</u> and D. Dumitrescu. Results of Ant-Based Models for Solving the Linear Ordering Problem • <u>Andrei Bautu</u> and Henri Luchian. Further Investigations on Using the Tree Bond-based Representation for Ising Spin Glasses • <u>Flavia Zamfirache</u>. Robustness Analysis of Ant-based Scheduling in Heterogeneous Computing Environments |
| 14:00-15:30 | Tutorials on Software Verification and Theorem Proving Room 045C Andrey Rybalchenko – Automated methods for proving program termination and liveness (part 1) |
| 15:30-15:40 | Coffee break |
| 15:40-17:40 | DMC Workshop. Room: A02. Chairs: Costin Boldea and Ion Iancu <ul style="list-style-type: none"> • <u>Ion Iancu</u>. Approximate reasoning with contrary observation and premise • <u>Mihaela Verona Ghindeanu Colhon</u>. Knowledge Transfer and Path-based Reasoning in Hyper-schemas • Claudiu Ionut Popîrlan. Knowledge Bases Management using Mobile Agents • Nicolae Constantinescu. Authentication hierarchy based on blind signature • Mirela Voicu. Study on Romanian Black Sea Resorts. Database and Algorithms for Exploring It • Costin Boldea. Quantum Algorithms for Database Management |
| 15:40-17:10 | Tutorials on Software Verification and Theorem Proving Room 045C Andrey Rybalchenko – Automated methods for proving program termination and liveness (part 2) |
| 17:40 | Closing |