SYNASC 2012 Program

Wednesday, September 26

8:00-9:10	**Registration** (West University of Timisoara, ground floor, room 045C)
9:10-9:30	**Opening.** Room A02
9:30-10:20	**Invited talk.** Room A02. Chair: Viorel Negru *Sascha Ossowski – " Agreement Technologies -- Enabling distributed intelligent systems in open environments"*
10:20-10:40	Coffee break

10:40-12:00	**Artificial Intelligence.** Room A02. Chair: Sascha Ossowski (20 minutes/paper) - Andrey Tsyganov, ReFaM: a Software Tool for Minimizing Nondeterministic Finite Automata. - Genţiana Ioana Laţiu, Octavian Augustin Creţ, Lucia Văcariu , New Performance Estimation Formula for Evolutionary Testing of Switch-Case Constructs. - Doru Todinca and Daniel Butoianu, VHDL framework for modeling fuzzy automata. - Ciprian Oprisa, Adrian Colesa and Iosif Ignat, A Metric for Evaluating the Usability of File Systems.	**MICAS Workshop**. Room 045C. Chair: Elisabetta Di Nitto (20 minutes/paper) - Jean Moschetta and Giuliano Casale, OFBench: an Enterprise Application Benchmark for Cloud Resource Management Studies - Sebastien Mosser, Franck Fleurey, Brice Morin, Franck Chauvel, Arnor Solberg and Iokanaan Goutier, SENSAPP as a Reference Platform to Support Cloud Experiments: From the Internet of Things to the Internet of Services. - Francesco D'Andria , Stefano Bocconi , Jesus Gorronogoitia Cruz, James Ahtes and Dimitris Zeginis, Cloud4SOA: Multi-Cloud Application Management Across PaaS Offerings. - Massimiliano Rak and Giuseppe Aversano, Benchmarks in the Cloud: The mOSAIC Benchmarking Framework.	**IAFP Workshop**. Room 032. Chairs: Stefan Maruster (15 minutes/paper) - Ioan A. Rus, Picard nonself operators and applications. - Adrian Petrusel, Remarks on Krasnoselskii type iteration for multivalued operators. - Erdal Karapinar, Generalized $\alpha-\psi$ contractive type mappings and related fixed point theorems with applications - Madalina Pacurar and Vasile Berinde, Some fixed point theorems for contractive type mappings defined on product spaces. - Marin Borcut, Tripled fixed point theorems for operators which verify the contraction-type condition Chatterjea in partially ordered metric spaces.
12:00-13:00	Lunch break		
13:00-14:40	Artificial Intelligence. Room A02. Chair: Andrey Tsyganov (20 minutes/paper) - Delia Mitrea, Sergiu Nedevschi and Radu Badea, The role of the multiresolution textural features in improving the characterization and recognition of the liver tumors, based on ultrasound images. - Andrei Sorin Sabau, Variable Density Based Genetic Clustering. - Liviu P. Dinu and Radu Ionescu, Clustering Methods based on Rank Distance with Applications on DNA. - Mihaela Breaban, Henri Luchian and Dan Simovici, A Genetic Clustering Algorithm by Monomial Projection Pursuit. - Andrei Olariu, Clustering to improve microblog stream summarization.	**MICAS Workshop**. Room 045C. Chair: Dana Petcu (20 minutes/paper) - Joaquin Guillen, Javier Miranda, Juan Manuel Murillo and Carlos Canal, Developing Cross-Cloud Migratable Applications through the Use of Adaptation. - Filippo Lorenzo Ferraris, Davide Franceschelli, Mario Pio Gioiosa, Donato Lucia, Danilo Ardagna, Elisabetta Di Nitto and Tabassum Sharif, Evaluating the Auto Scaling Performance of Flexiscale and Amazon EC2 Clouds. - Simone Benefico, Eva Gjeci, Ricardo Gonzalez Gomarosca, Eros Lever, Santo Lombardo, Danilo Ardagna and Elisabetta Di Nitto, Evaluation of the CAP Properties on Amazon	**IAFP Workshop**. Room 032. Chair: Vasile Berinde (15 minutes/paper) - Ioan A. Rus, Impact of convergent iterative algorithms on the theory of fixed point equations with nonself operators. - Adrian Petrusel, Vectorial approach to fixed point equations and inclusions. - Laura Maruster and Stefan Maruster, On the parallel variant of Broyden method - Liviu Cadariu, Fixed point theorems for the Hyers-Ulam stability of functional equations. - Ioana Timis, New stability results of Picard iteration for

		SimpleDB and Windows Azure Table Storage • Daniel Tovarnak and Tomas Pitner, Towards Multi-Tenant and Interoperable Monitoring of Virtual Machines in Cloud. • Santo Lombardo, Elisabetta Di Nitto and Danilo Ardagna, Issues in handling complex data structures with NoSQL databases.	contractive type mappings. • Alexandru Darius Filip, Iterative approximation of common fixed points in Kasahara spaces
14:40-15:00	Coffee break		
15:00-17:20	**Artificial Intelligence.** Room A02. Chair: Daniela Zaharie (20 minutes/paper) • Mihnea Donciu, Madalina Ionita, Mihai Dascalu and Stefan Trausan-Matu, Ant Colony Optimisation for Automatically Populating Ontologies with Individuals. • Vinicius Almendra and Denis Enachescu, A fraudster in a haystack: crafting a classifier for non-delivery fraud prediction at online auction sites. • Dragos Gavrilut, Razvan Benchea and Cristina Vatamanu, Practical optimizations for perceptron algorithms in large malware datasets. • Dragos Gavrilut, Razvan Benchea and Cristina Vatamanu, Optimized zero false positives perceptron training for malware detection. • Reka Nagy, Mihai Suciu and D Dumitrescu, Exploring Lorenz Dominance. • Liviu P. Dinu and Radu Ionescu, A Rank-based Approach of Cosine Similarity with Applications in Automatic Classification. • Frantisek Darena, Jan Zizka and Karel Burda, Grouping Customer Opinions Written in Natural Language Using Unsupervised Machine Learning.	**MICAS Workshop.** Room 045C. Chair: Giuliano Casale (20 minutes/paper) • Marc Frincu and Adrian Spataru, Minimizing Resource Rent Loss while Maximizing User Availability in Cloud Applications through Online Switching of the Scaling Method. • Victor Ion Munteanu, Florin Fortis and Viorel Negru, Service lifecycle in the cloud environment. • Roxana Marcela Farcasescu, Trust Model Engines in cloud computing. • Peter Matthews, Measurement of Services. • Harald Kuhn and Anke Gericke, Challenges in Porting Legacy Applications to the Cloud. A Case Study. • Craig Sheridan and Tabassum Sharif, Cloud Computing, Flexiant and OPTIMIS. • George Suciu, A Case Study of Open Source Cloud Platforms.	**IAFP Workshop.** Room 032. Chair: Liviu Cadariu (15 minutes/paper) • Andrei Horvat-Marc, A fixed point theorem in cone metric spaces. • Florin Bojor, Some extensions of Banach G-contractions • Mihaela Petric, Some fixed poind theorems for cyclical contractive type mappings • Monica Lauran, Existence results for some integral equations using the technique of nonexpansive operators. • Dorel Mihet and Claudia Zaharia, Probabilistic contractions and stability of functional equations • Oana Bumbariu, On some Algorithm for Accelerating Numerical Iterative Methods. • Lavinia Moleriu, Radu Moleriu and Daniela Zaharie, Stability analysis and its impact on the parameters estimation for a logistic growth model.
17:30	**Special session.** • In honour of Professors Bruno Buchberger and Stefan Maruster • 10 years of activity at IeAT		
19.30-21:00	**Welcome reception**		

Thursday, September 27

9:00-9:50	**Invited talk.** Room A02. Chair: Laura Kovacs *Michael Kohlhase - "The Flexiformalist Program"*		
9:50-10:10	Coffee break		
10:10-12:10	**Numeric Computing** Room: A02. Chair: Adrian Petrusel (20 minutes/paper) • Vasile Berinde, Stefan Maruster and Ion Rus, An abstract point of view on iterative approximation of fixed points of nonself operators. • Mariusz Felisiak and Daniel Simson, On computing mesh root systems and the isotropy group for simply-laced Dynkin diagrams. • Remus Daniel Ene, Vasile Marinca, Romeo Negrea and Bogdan Caruntu, Optimal homotopy asymptotic method for solving of a nonlinear problem in elasticity. • Stefan Maruster, Viorel Negru and Liviu Scai, Experimental study on parallel methods for solving systems of equations. • Militaru Romulus, On the efficient numerical processing of the initial-value problems. • Constantin Bota and Bogdan Caruntu, ϵ- approximate polynomial solutions for the generalized pantograph delay differential equation.	**MPI Tutorial (1).** *James Davenport* Room 045C	**MICAS Workshop.** Room A11. Chair: Emil Slusanschi • mOSAIC demo • SEED demo
12:10-13:30	Lunch break		
13:30-14:20	**Invited talk.** Room A02. Chair: Michael Kohlhase *Tetsuo Ida - "Interactive vs. automated proofs in computational origami"*		
14:20-14:40	Coffee break		
14:40-16:00	**Symbolic Computation** Room: A02. Chair: Tetsuo Ida (20 minutes/paper) • Stanislaw Kasjan and Andrzej Mroz, Experiences in symbolic computations for matrix problems. • Tateaki Sasaki, Proposal of Singularization of Approximately Singular Polynomial Systems. • Laura Kovacs, Bela Palancz and Levente Kovacs, Solving Robust Glucose-Insulin Control by Dixon Resultant Computations. • Adrian Turcanu and Florentin Ipate, Computational properties of two P systems solving the 3-colouring problem.	**MPI Tutorial (2).** *James Davenport* Room 045C	
16:00-16:20	Coffee break		
16:20-18:00	**Symbolic Computation & Logic and Programming** Room: A02. Chairs: Stephen Watt, Tudor Jebelean (20 minutes/paper) • Quratul-Ain Mahesar and Volker Sorge, Algebraic Theory Exploration: A Comparison of Technologies. • Emanuel Florentin Olariu, A Model Reference Type Algorithm Using Importance Resampling. • Clare Dixon, Boris Konev, Renate A. Schmidt and Dmitry Tishkovsky, Labelled Tableaux for Temporal Logic with Cardinality Constraints. • Temur Kutsia and Mircea Marin, Solving, Reasoning, and Programming in Common Logic. • Ratnik Gandhi and Samaresh Chatterji, Symbolic computation of Equilibria of a Subclass of Finite Normal Form Games.	**MPI Tutorial (3).** *James Davenport* Room 045C	
18:30-21:00	**Trip to Recas + conference dinner**		

Friday, September 28		
9:00-9:50	**Invited talk.** Room A02. Chair: Tudor Jebelean *Sumit Gulwani - "Synthesis from Examples"*	
9:50-10:10	Coffee break	
10:10-12:10	**Logic and Programming & Symbolic Computation.** Room: A02. Chair: Sumit Gulwani (20 minutes/paper) - Madalina Erascu and Tudor Jebelean, Automated Certification of a Logic-Based Verification Method for Imperative Loops. - Stefan Andrei, Albert Cheng, Vlad Radulescu and Timothy McNicholl, Toward an optimal power-aware scheduling technique. - Isabela Dramnesc and Tudor Jebelean, Automated Synthesis of Some Algorithms on Finite Sets. - Daniel Ionut Vicol and Andrei Arusoaie, Automating Abstract Systax Tree construction for Context Free Grammars. - Denis Bogdanas, Label-Based Programming Language Semantics in K Framework with SDF. - James H. Davenport, Program Verification in the presence of C, log etc.	**WoHS workshop.** Room: 045C. Chair: Emil Slusanschi (40 minutes/invited talk; 20 minutes/ paper) - Krzysztof Kurowski (invited talk): Application tools and QosCosGrid services new user communities – lessons learned from national and European e-Infrastructures projects - Alessandro Marani, Marzia Rivi and Paola Cristofori (invited talk): Generation of Catalogues of PL n-manifolds: Computational Aspects on HPC Systems. - Jerome Frisch, Ruiping Gao, Ralf-Peter Mundani, Chien Ming Wang and Ernst Rank, Towards Interactive Steering of a Very Large Floating Structure Code by Using HPC Parallelisation Strategies. - Ioan Lucian Muntean, Ioan Radu Peter and Marius Joldos, Dynamics Analysis of Parallel Simulations of the Spike Response Model.
12:10-13:30	Lunch break	
13:30-14:20	**Invited talk.** Room A02. Chair: Bruno Buchberger *Paul Tarau –"Arithmetic with Free Algebras and Hereditarily Finite Sets: a Natural Bridge between Numeric and Symbolic Computations"*	
14:20-14:40	Coffee break	
14:40-16:40	**Distributed Computing.** Room: A02. Chair: Bogdan Aman (20 minutes/paper) - Gabriel Ciobanu and Eneia Nicolae Todoran, Relating Two Metric Semantics for Parallel Rewriting of Multisets. - Daniel Pletea, Florin Pop and Valentin Cristea, Speculative Genetic Scheduling Method for Hadoop Environments. - Adrian Colesa and Ioan Stan, Improving The Responsiveness of Replicated Virtualized Services in Case of Overloaded Replicas Connectivity. - Carlo Bellettini, Matteo Camilli, Lorenzo Capra and Mattia Monga, Symbolic State Space Exploration of RT Systems in the Cloud. - Adrian Mocanu and Nicolae Tapus, A fault-tolerant distributed solution for the parallel Gaussian reduction of huge arrays. - Andrei Sucila and Mihai Cimpoesu, A Distributed Solver for Dense Linear Feasibility Systems.	**Tutorial :** **Computing with numbers and symbols in a bio-inspired framework: Membrane Computing.** *Gheorghe Paun* Room:045C
16:40-17:00	Coffee break	
17:00-19:00	**Distributed Computing.** Room: A02. Chair: Florin Pop (20 minutes/paper) - Bogdan Aman, Gabriel Ciobanu and G. Michele Pinna, Timed Catalytic Petri Nets. - Ciprian Paduraru, A New Online Load Balancing Algorithm in Distributed Systems.	**ACSys workshop.** Room 045C. Chair: Sascha Ossowski (20 minutes/paper) - Victor Ion Munteanu , Cristina Mindruta and Florin Fortis, Service brokering in cloud governance. - Gabriel Iuhasz, Monica Tirea **NCA workshop.** Room 032. Chair: Gheorghe Paun (20 minutes/paper) - Mihaela Breaban, Dan Simovici and Henri Luchian, Nonlinear Feature Extraction in a Logarithmic Space with Evolutionary Algorithms.

	• Kinga Marton, Peter Toth and Alin Suciu, Unpredictable Random Number Generator based on the Performance Data Helper Interface. • Ciobanu (Defta) Costinela-Luminita, Ciobanu (Iacob) Nicoleta Magdalena, Methods for Securing Routing Protocols in Ad-Hoc Networks. • Cristian Bancu, Monica Dagadita, Mihai Dascalu, Ciprian Dobre and Stefan Trausan-Matu, Adina Magda Florea, ARSYS - Article Recommender System.	and Viorel Negru, Neural Network Predictions of Stock Price Fluctuations. • Andrei Mocanu, Sorin Ilie and Costin Badica, Ubiquitous Multi-agent Environmental Hazard Management System. • Serban Radu, Eugenia Kalisz and Adina Magda Florea, Agents negotiation profiles for automatic transactions in open environments.	• Bianca Mogos and Andrei Horia Mogos, A Kernel Based Clustering Algorithm using Particle Swarm Optimization and Discriminant Functions. • George Anescu, Particle Swarm Clustering Optimization (PSCO), a novel Swarm Intelligence approach to Global Optimization. • Andrey Tsyganov and Oleg Bulychov, HeO: a Parallel Metaheuristic Optimization Framework Based on Metaprogramming and Design Patterns. • D Dumitrescu, Mihai Suciu, Noemi Gasko and Rodica Ioana Lung, Suboptimality and infra equilibria.
19.00-21:00	**Synasc 2012 PC informal meeting**		

Saturday, September 29

8:30-10:00	**Invited talks.** Room A02. Chair: Andrei Voronkov *Stephen Watt and Solomon Marcus - "What is an Equation?"*
10:00-10:20	Coffee break

10:20-12:00	**Advances in the Theory of Computing & Logic and Programming** Room: A02. Chairs: Gabriel Istrate, Laura Kovacs (20 minutes/paper) • Andrei Alexandru and Gabriel Ciobanu, Nominal Fusion Calculus. • Tomer Kotek, Johann Makowsky and Elena V. Ravve, A computational framework for the study of partition functions and graph polynomials. • Marcin Gasiorek, Daniel Simson and Katarzyna Zajac, On Coxeter spectral study of posets and a digraph isomorphism problem. • Ivan Simecek, Daniel Langr and Pavel Tvrdik, Minimal Quadtree Format for Compression of Sparse Matrices Storage. • Paul Tarau and Brenda Luderman, Boolean Evaluation with a Pairing and Unpairing Function.	**WoHS workshop.** Room: 045C. Chair: Ioan Lucian Muntean (20 minutes/paper) • Alexandra Popescu, Giordano Cantu, Wolfram Miller and Daniel Vizman, High performance computing on modeling grain formation in multicrystalline silicon growth. • Ana Claudia Sima and Emil Slusanschi, Optimizing Parallel CFD Simulations of 2D Compressible Flows. • Claudiu Biris, Parallel Input/Output of Large Scale Numerical Simulations in Modern Optics and Nanotechnology. • [HOST project interventions]: Jorge Sevilla Cedillo – HPC in Earth Observation Alexander Agathos – GPU performance in image processing	**Tutorial:** **Programming Language Design and Analysis using the K Framework** *Dorel Lucanu,* *Traian Florin Serbanuta* Room: 032.

12:00-13:00	Lunch break
13:00-14:20	**Industry session.** Room A02. Chair: Viorel Negru *Florin Mănăilă – IBM Platform HPC*
14:20-14:40	Coffee break

14:40-16:40	**Turing Day Workshop (1).** Room A02 Chair: Gabriel Istrate	**Tutorial:** **Globus for Administrators and Users** (1). *Ioan Lucian Muntean* *Marius Joldoș* Room: 045C

16:40-17:00	Coffee break

17:00-19:00	**Turing Day Workshop (2).** Room A02 Chair: Gabriel Istrate	**Tutorial:** **Globus for Administrators and Users** (2). *Ioan Lucian Muntean* *Marius Joldoș* Room: 045C

19:00	Closing