

Room A**Room B****Friday, October 14, 2011****8:00 – 9:00 Registration****9:00 – 9:15** Opening Ceremony**9:15 – 10:15** Görschwin Fey: Assessing System Vulnerability using Formal Verification Techniques**Invited Talk**, chair: Zdeněk Kotásek**10:15 – 10:30 Coffee Break****Theoretical Foundations***Chair: Mojmír Křetínský***10:30 – 10:55** Robert Ganian, Petr Hliněný and Jan Obdržálek. Clique-width: When Hard Does Not Mean Impossible**10:55 – 11:20** Kaspars Balodis, Ilja Kucevalovs and Rusins Freivalds. Frequency prediction of functions**11:20 – 11:45** Madara Augstkalne, Anda Berina and Rusins Freivalds. Frequency computable relations**11:45 – 12:10** Stanislav Böhm. Language equivalence of deterministic real-time one-counter automata is NL-complete**12:10 – 13:30 Lunch****13:30 – 14:30** Peter Bentley: Modelling Complex Systems - Lessons from the Life Sciences**Invited Talk**, chair: Lukáš Sekanina**Parallel and Distributed Computing 1***Chair: Luděk Matyska***14:40 – 15:05** Steven Van Der Vegt and Alfons Laarman. A Parallel Compact Hash Table**15:05 – 15:30** Jiří Matela, Martin Šrom and Petr Holub. Low GPU Occupancy Approach to Fast Arithmetic Coding in JPEG2000**15:30 – 15:55** Petr Pospíchal, Michael O'Neill, Josef Schwarz, Eion Murphy and Jiří Jaroš. Acceleration of Grammatical Evolution Using Graphics Processing Units**15:55 – 16:20 Coffee Break****16:20 – 17:20** Renato Renner: Security in a Quantum World**Invited Talk**, chair: Jan Bouda**Parallel and Distributed Computing 2***Chair: Eva Hladká***17:30 – 17:55** Jiří Barnat, Petr Bauch, Luboš Brim and Milan Češka. Computing Strongly Connected Components in Parallel on CUDA**17:55 – 18:20** Pavol Korček, Lukáš Sekanina and Otto Fučík. A Scalable Cellular Automata based Microscopic Traffic Simulation**18:30 – 19:15** Presentations of the Ceitec, Cerit, and IT4I projects**19:45 Dinner, Beer Party****Coffee Break****Computer System Testing and Repair***Chair: Görschwin Fey*

Pavel Bartoš, Zdeněk Kotásek and Jan Dohnal. Decreasing Test Time by Scan Chain Reorganization

Jiří Balcárek, Petr Fišer and Jan Schmidt. Implicit Techniques for Constrained Test Patterns Generation

Martin Chloupek and Ondřej Novák. Test Pattern Compression Based on Pattern Overlapping and Broadcasting

Jaroslav Borecký, Pavel Vít and Hana Kubátová. Self Repair Architectures Based on Partial Dynamic and Static Reconfiguration

Lunch**Data Processing 1***Chair: Luboš Popelínský*

Radovan Fusek, Karel Mozdren and Milan Surkala. Heat Flooding Image Segmentation

Jakub Zahradník and Miroslav Skrbek. Classification of Spatio-Temporal Data Using Complex-Valued Neural Network

Jakub Mažgut, Martina Paulinyová and Peter Tiňo. Using Dimensionality Reduction Method for Binary Data to Questionnaire Analysis

Coffee Break**Data Processing 2***Chair: Bohuslav Křena*

Jaroslav Bayer, Hana Bydžovská, Jan Géryk, Tomáš Obšivač and Luboš Popelínský. Improving the classification of study-related data through social network analysis

Jozef Janovský. Gerrymandering as Graph Partitioning: A Heuristic Algorithm

Dinner, Beer Party**Saturday, October 15, 2011****9:00 - 10:00** Petr Tůma: Computer Memory: Why We Should Care What Is Under The Hood**Invited Talk**, chair: Ivana Černá**10:00 – 10:20 Coffee Break****Timed, Stochastic, and Hybrid Systems***Chair: Krishnendu Chatterjee***10:20 – 10:45** Jan Krčál and Jan Křetínský. Fixed-delay Events in Generalized Semi-Markov Processes Revisited**Coffee Break****Computer System Design***Chair: Jan Schmidt*

Martin Tomec, Petr Mikušek and Václav Dvořák. A Cascade Decomposition of Application-Specific Systems

10:45 – 11:10	Alexandre David, Daniel Ejsing-Duun, Lisa Fontani, Kim Guldstrand Larsen, Vasile Popescu and Jacob Haubach Smedegrd. Optimal Infinite Runs in One-Clock Priced Timed Automata	Christos Sakellariou and Peter Bentley. Introducing the FPGA-based Hardware Architecture of Systemic Computation (HAoS)
11:10 – 11:35	Boyan Yordanov, Jana Tumova, Calin Belta, Ivana Černá and Jiří Barnat. Formal Analysis of Piecewise Affine Systems through Formula-Guided Refinement	Alina Vasilieva. Uniformly Distributed Quantum Query Algorithms for Multifunctions
11:35 – 12:00	Jiří Barnat, Ivana Černá and Jana Tůmová. Timed Automata Approach to Verification of Systems with Degradation	Zdeněk Vašíček and Lukáš Sekanina. Evolutionary Optimization of Complex Digital Circuits
12:00 -13:15	Lunch	Lunch
13:15 -16:00	Zámek Valtice	Zámek Valtice
16:00 – 17:00	Krishnendu Chatterjee: Games and Probabilistic Systems with Mean-payoff, Energy and Parity Objectives Invited Talk , chair: Antonín Kučera	

	Software Testing and Debugging <i>Chair: Jan Strejček</i>	Formal Languages 1 <i>Chair: Galina Jirásková</i>
17:10 – 17:35	Pavel Jančík, Pavel Pařízek and Jan Kofroň. Advanced Debugging with JPF Inspector	Petr Horáček and Alexander Meduna. Regulated Rewriting in Natural Language Translation
17:35 – 18:00	Zdeněk Letko, Bohuslav Křena, and Tomáš Vojnar. Noise Injection Heuristics for Concurrency Testing	Martin Čermák and Alexander Meduna. n--Accepting Restricted Pushdown Automata Systems
19:00	Dinner, Valticke podzemí	Dinner, Valticke podzemí

Sunday October 16, 2011

9:00 - 10:00	Saddek Bensalem: Rigorous Component-based System Design Using the BIP Framework Invited Talk , chair: Tomáš Vojnar	
10:00 - 10:30	Coffee Break	Coffee Break
	Program analysis <i>Chair: Saddek Bensalem</i>	Formal Languages 2 <i>Chair: Rusins Freivalds</i>
10:30 - 10:55	Jan Obdržálek, Jiří Slabý and Marek Trtík. STANSE: Bug-finding Framework for C Programs	Monika Krausová. Prefix-Free Languages: Closure Properties, Difference, and Left Quotient
10:55 – 11:20	Peter Habermehl, Lukáš Holík, Adam Rogalewicz, Jiří Šimáček and Tomáš Vojnar. Forest Automata for Verification of Heap Manipulation	Jiří Koutný, Zbyněk Křivka and Alexander Meduna. Pumping Properties of Path-Restricted Tree-Controlled Languages
11:20 – 11:45	Kamil Dudka, Petr Peringer and Tomáš Vojnar. Predator: A Practical Tool for Checking Manipulation of Dynamic Data Structures Using Separation Logic	Roland Cmorik and Galina Jirásková. Basic Operations on Binary Suffix-Free Languages
11:45 – 12:10	Jakob Zwirchmayr, Laura Kovacs and Jens Knoop. A Deeper Evaluation of WCET Analysis using Symbolic Loop Bounds	Radomír Polách, Jan Janoušek and Bořivoj Melichar. Regular Tree Expressions and Pushdown Automata
12:10 – 13:30	Lunch	Lunch
	Computer Security <i>Chair: Petr Hanáček</i>	Planning <i>Chair: Radek Kočí</i>
13:30 – 13:55	Roman Žilka, Vashek Matyáš and Libor Kyncl. Four Authorization Protocols for an Electronic Payment System	Ondrej Moriš and Petr Hliněný. Generalized Maneuvers in Route Planning
13:55 – 14:20	Jiří Kůr, Vashek Matyáš, Andriy Stetsko and Petr Švenda. Attack detection vs. privacy - How to find the link or how to hide it?	Petr Hliněný and Ondrej Moriš. Scope-Based Route Planning
14:20 – 14:45	Jan Samek, Ondrej Malačka, František Zbořil and František Zbořil. Decision Making and Recommendation Protocol Based on Trust for Multi-Agent Systems	Pavel Troubil and Hana Rudová. Cycle Avoidance in Integer Programming for Media Streams Planning
14:45 – 15:10	Lukáš Ďurfina, Jakub Křoustek, Petr Zemek, Dušan Kolář, Tomáš Hruška, Karel Masařík and Alexander Meduna. Design of a Retargetable Decompiler for a Static Platform-Independent Malware Analysis	Dalibor Klusáček and Hana Rudová. Efficient Data Representation of Large Job Schedules
15:20 – 15:45	Prizes Announcement, Business Meeting (including information on MEMICS'12), and Closing Ceremony	

16:00 **Departure, Bus to Brno**

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