PROGRAMME GUIDE

http://www.etaps.org
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Programme Guide
ETAPS 2011, Saarbrücken, Germany
26 March – 03 April 2011

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1 Welcome

The European Joint Conferences on Theory and Practice of Software (ETAPS) is the primary European forum for academic and industrial researchers working on topics related to Software Science. ETAPS, established in 1998, is a confederation of five main annual conferences, accompanied by satellite workshops and other events. ETAPS 2011 is the fourteenth event in the series.

Saarbrücken is the capital of the Saarland, the smallest German federal state. This region has moved back and forth between Germany and France in the lively joint history of the two countries.

Saarland University was founded in November 1948 with the support of the French Government and the University of Nancy as a bilingual university combining French and German educational traditions while offering a unique European perspective. The strong European orientation offers a good match to the goals of ETAPS.

Saarbrücken has approximately 190,000 inhabitants and hence is of pleasant size. Picturesque attractions and places of historic interest are scattered around the city, and offer the perfect destination for a hike or a daytrip. The cultural palette attracts visitors from far and wide. Saarbrücken is located at the border to France, and halfway between Paris and Frankfurt on the high-speed railway connecting both in less than four hours.

For more information on the history of Saarbrücken, you can also visit http://www.saarbruecken.de/en/home or its Wikipedia entry at: http://en.wikipedia.org/wiki/Saarbrücken
2 Locations

2.1 Campus
2.2 Rooms for Main Conferences, Workshops and Associated Events
2.3 Registration
The Registration Desk is located in Building E 2.1 during the week and in Building E 1.3 during the weekends. Registration opens at 08:00 each day, the desk is staffed continuously throughout the day.

2.4 Coffee Breaks and Lunches
Coffee is served at various places within the ETAPS premises. Lunch on weekdays is served at the University restaurant, Mensa, and in the restaurant Eule on Campus on weekends. Lunch vouchers are handed out at registration time that entitle each participant for a full meal including drinks.

2.5 Internet Access
At registration time, along with this booklet, you should have received your personal login data, which can be found in the middle of the sheet. Your login has the form etaps### and your password is written just below your login. Feel free to ignore the rest of that document.

This is the procedure to follow for Internet access via Wireless LAN (WLAN), provided you bring your own laptop
- Connect to the wireless network named web-uds.
- Start a web browser. Type in any web address (e.g. http://www.etaps.org). You will be redirected to the main login server of Saarland University.
- Enter your login and password (etaps###, see above). Click „Log In“.
- You should now have internet access.
- Once you are done, please log out again. To do so, open a web browser and type http://log.out into the web address bar.

Note: This establishes an unencrypted connection. We recommend using TLS/SSL or SSH connections if possible. If you are an experienced user you may want to use the Cisco VPN client. There is a detailed description – in German – on the website of the University IT Service Centre at http://www.its.uni-saarland.de/informationen/basisdienste/wlan

Saarland University campus network also supports educational roaming with eduRoam.

2.6 Computing Facilities
There are several computing facilities and laptop stations (monitor, mouse, keyboard, power) within the ETAPS premises in E1.3. For those participants travelling without laptops, our staff happily provide access to workstations for email, internet etc.

2.7 Public Transport
The University Campus is very well connected to Saarbrücken downtown by the local bus system, Saarbahn. Wearing your badge entitles you for unlimited travel inside the entirety of Saarbrücken (by bus, tram or train) during the event.
Both the central station (‘HBF’) and the town hall (‘RATHAUS’) provide frequent connections from/to campus. ‘HBF’ and ‘RATHAUS’ stops are frequently connected by tram, 2 stops.

The main lines that serve the University Campus are 101, 102, 109 and 124. All of them show the word ‘UNI’ or ‘UNIVERSITÄT’. Get off at ‘UNI MENSA’ or ‘UNI BUSTERMINAL’.

### Departure times from ‘RATHAUS’

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### Departure times from Campus

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*08:11, not 08:15, 10:45, 12:45
*not 13:25
*15-17 also ’21,’51

### Departures from ‘HBF’

On weekdays, line 124 departs from ‘HBF’ at ‘16 and ’46 in the morning, and at 08:01 and 08:31. Line 102 serves ‘HBF’ some 10 minutes before ‘RATHAUS’.

### Departures from ‘DJH’

Line 102 serves the youth hostel ‘DJH’ some 5 minutes after ‘RATHAUS’
Line 124 serves the youth hostel ‘DJH’ some 7 minutes after ‘HBF’.

Dedicated busses labelled ‘ETAPS’ depart from ‘RATHAUS’ stop at 08:30 each morning, also serving the youth hostel ‘DJH’, some five minutes later. On the weekends, there will also be additional return services, again labelled ‘ETAPS’ leaving the campus at 18:30.

### 2.8 Parking on Campus

Parking on Campus is very limited and not advisable. It is recommended to use the ‘PARKHAUS OST’ or better to travel by public transport – for free. In case of using the ‘PARKHAUS’ there are free exit tickets (‘AUSFAHRTICKET’) available at the Registration Desk.
3 Main Conferences CC – ESOP – FASE – FOSSACS – TACAS – Descriptions

The *European Joint Conferences on Theory and Practice of Software (ETAPS)* is a confederation of five annual conferences: CC, ESOP, FASE, FOSSACS and TACAS.

**Unified invited speakers.**

While each conference has an invited speaker as detailed below, there are also „unified“ speakers who address topics relevant to the wider ETAPS community. The two unified invited speakers of ETAPS 2011 are Gerard J. Holzmann (NASA) and Ross Anderson (Cambridge). This year, a third ETAPS invited speaker provides a specific focus on security: Michael Backes (Saarbrücken).

**All invited talks are presented in plenary sessions in E2.2**

### 3.1 CC – INTERNATIONAL CONFERENCE ON COMPILER CONSTRUCTION

CC is interested in work on processing programs in the most general sense: analyzing, transforming or executing input that describes how a system operates, including traditional compiler construction as a special case. Topics of interest include, but are not limited to:

- Compilation and interpretation techniques, including program representation and analysis, code generation and code optimization;
- Run-time techniques, including memory management and dynamic and just-in-time compilation;
- Programming tools, from refactoring editors to checkers to compilers to virtual machines to debuggers;
- Techniques for specific domains, such as secure, parallel, distributed, embedded or mobile environments;
- Design of novel language constructs and their implementation.

**Programme Committee:**

Alex Aiken (Stanford Univ., USA), Koen De Bosschere (Univ. Gent, Belgium), Alain Darte (CNRS, Lyon, France), Evelyn Duesterwald (IBM T.J. Watson Research Center, USA), Sabine Glesner (TU Berlin, Germany), Robert Glück (Univ. of Copenhagen, Denmark), David Gregg (TCD, Dublin, Ireland), Sebastian Hack (Saarland Univ., Saarbrücken, Germany), Matthias Hauswirth (Univ. of Lugano, Switzerland), Christoph Kessler (Linköping Univ., Sweden), Jens Knoop (Chair, TU Vienna, Austria), Jens Krinke (King’s College London, UK), Xavier Leroy (INRIA, Paris-Rocquencourt, France), Yanhong Annie Liu (SUNY at Stony Brook, USA), Kathryn McKinley (Univ. of Texas at Austin, USA), Peter Müller (ETH Zurich, Switzerland), Alan Mycroft (Cambridge Univ., UK), Jens Palsberg (UCLA, USA), Markus Schordan (Univ. of Applied Sciences Technikum Wien, Austria), Helmut Seidl (TU Munich, Germany), Jingling Xue (The Univ. of New South Wales, Sydney, Australia)

**CC is held in E2.1/001**

**Invited Speaker:**

Martin Odersky (EPFL, Switzerland)
3.2 ESOP – EUROPEAN SYMPOSIUM ON PROGRAMMING

ESOP is an annual conference devoted to fundamental issues in the specification, design, analysis, and implementation of programming languages and systems. ESOP 2011 is the twentieth edition in this series and seeks contributions on all aspects of programming language research including, but not limited to, the following areas:

- Programming paradigms and styles: functional programming, object-oriented programming, aspect-oriented programming, logic programming, constraint programming, extensible programming languages, domain-specific languages, synchronous and real-time programming languages;
- Methods and tools to write and specify programs and languages: programming techniques, logical foundations, denotational semantics, operational semantics, meta programming, module systems, language-based security;
- Methods and tools for reasoning about programs: type systems, abstract interpretation, program verification, testing;
- Methods and tools for implementation: program transformations, rewriting systems, partial evaluation, experimental evaluations, virtual machines, intermediate languages, run-time environments;
- Concurrency and distribution: process algebras, concurrency theory, parallel programming, service-oriented computing, distributed and mobile languages.

Programme Committee:
Gilles Barthe (Chair, IMDEA Software, Spain), Nick Benton (Microsoft Research, UK), Cristiano Calcagno (Imperial College London and Monoidics Limited, UK), Radhia Cousot (CNRS and École Normale Supérieure, France), Sophia Drossopoulou (Imperial College London, UK), Jean Goubault-Larrecq (ENS Cachan, F), Nicolas Halbwachs (Verimag/CNRS, France), Radha Jagadeesan (DePaul University, USA), Gerwin Klein (NICTA & UNSW, Australia), Viktor Kuncak (EPFL, Switzerland), Julia Lawall (University of Copenhagen, Denmark), Sorin Lerner (UC San Diego, USA), Arnd Poetzsch-Heffter (University of Kaiserslautern, Germany), Frank Piessens (KU Leuven, Belgium), Francois Pottier (INRIA, France), Shaz Qadeer (Microsoft Research, USA), Andrey Rybalchenko (Technische Universität München, Germany), Andrei Sabelfeld (Chalmers, Sweden), Peter Sewell (University of Cambridge, UK), Techio Terauchi (Tohoku University, Japan), Vasco Vasconcelos (University of Lisbon, Portugal), Jan Vitek (Purdue University, USA), David Walker (Princeton University, USA), Stephanie Weirich (University of Pennsylvania, USA), Kwangkeun Yi (Seoul National University, Korea)

ESOP is held in E1.3/002

Invited speaker:
Andrew Appel (Princeton, USA)
3.3 FASE – FUNDAMENTAL APPROACHES TO SOFTWARE ENGINEERING

FASE is concerned with the foundations on which Software Engineering is built. Submissions should focus on novel techniques and the way in which they contribute to making Software Engineering a more mature and soundly based discipline. Contributions that combine the development of conceptual and methodological advances with their formal foundations and tool support are particularly encouraged. We welcome contributions on all such fundamental approaches, including:

- Software Engineering as an engineering discipline, including its interaction with and impact on society;
- Requirements engineering: capture, consistency, and change management of software requirements;
- Software architectures: description and analysis of the architecture of individual systems or classes of applications;
- Specification, design, and implementation of particular classes of systems: adaptive, collaborative, embedded, distributed, mobile, pervasive, or service-oriented applications;
- Software quality: validation and verification of software using theorem proving, model-checking, testing, analysis, refinement methods, metrics or visualisation techniques;
- Model-driven development and model-transformation: design and semantics of semi-formal visual languages, consistency and transformation of models;
- Software processes: support for iterative, agile, and open source development;
- Software evolution: refactoring, reverse and re-engineering, configuration management;
- and architectural change or aspect-orientation.

Programme Committee:
Josh Berdine (Microsoft Research Cambridge, UK), Marsha Chechik (University of Toronto, Canada), Shing-Chi Cheung (Hong Kong University of Science and Technology, China), Claudia Ermel (Technische Universität Berlin, Germany), Jose Luis Fiadeiro (University of Leicester, UK), Dimitra Giannakopoulou (Co-Chair, CMU/NASA Ames, USA), Susanne Graf (VERIMAG, France), Alex Groce (Oregon State University, USA), Klaus Havelund (NASA/JPL, USA), Reiko Heckel (University of Leicester, UK), Mats Heimdahl (University of Minnesota, USA), Paola Inverardi (Università dell’Aquila, Italy), Valerie Issarny (INRIA Paris-Rocquencourt, France), Joost-Pieter Katoen (RWTH Aachen University, Germany), Juan de Lara (Universidad Autónoma de Madrid, Spain), Jeff Magee (Imperial College London, UK), Tom Maibaum (McMaster University, Canada), Tiziana Margaria (Universität Potsdam, Germany), Leonardo Mariani (University of Milano Bicocca, Italy), Fernando Orejas (Co-Chair, Universitat Politècnica de Catalunya, Spain), Corina Pasareanu (CMU/NASA Ames, USA), Gabriele Taentzer (Philipps-Universität Marburg, Germany), Daniel Varro (Budapest University of Technology and Economics, Hungary), Kapil Vaswani (Microsoft Research, India), Willem Visser (Stellenbosch University, South Africa), Martin Wirsing (Ludwig-Maximilians-Universität München, Germany), Andrea Zisman (City University London, UK)

FASE is held in E2.1/001

Invited speaker:
Marta Kwiatkowska (Oxford, UK)
3.4 FOSSACS – FOUNDATIONS OF SOFTWARE SCIENCE AND COMPUTATION STRUCTURES

FOSSACS seeks original papers on foundational research with a clear significance for software science. The conference invites submissions on theories and methods to support the analysis, integration, synthesis, transformation, and verification of programs and software systems.

The specific topics covered by the conference include, but are not limited to, the following:

- Automata and language theory;
- Behavioural equivalences;
- Categorical models;
- Infinite state systems;
- Modal, spatial, and temporal logics;
- Models of concurrent, reactive, distributed, hybrid, and mobile systems;
- Process algebras and calculi;
- Semantics of programming languages;
- Software specification and refinement;
- Type systems and type theory;
- Fundamentals of security;
- Semi-structured data;
- Program correctness and verification.

Programme Committee:
Amal Ahmed (University of Indiana), David Basin (ETH Zurich), Krishnendu Chatterjee (IST Austria), Giorgio Ghelli (University of Pisa), Daniel Hirschkoff (ENS Lyon), Martin Hofmann (University of Munich, Chair), Marieke Huisman (University of Twente), Petr Jancar (University of Ostrava), Andrew Kennedy (Microsoft Research Cambridge), Barbara König (University of Duisburg-Essen), Martin Lange (University of Kassel), François Laroussinie (LIAFA, Paris), Markus Lohrey (University of Leipzig), Heiko Mantel (TU Darmstadt), Marino Miculan (University of Udine), Andrzej Murawski (University of Oxford), Peter O’Hearn (Queen Mary, University of London), Dirk Pattinson (Imperial College London), Olivier Serre (LIAFA, Paris), Natarajan Shankar (SRI International, Menlo Park), Thomas Streicher (TU Darmstadt), Igor Walukiewicz (University of Bordeaux), Nobuko Yoshida (Imperial College London), Greta Yorsh (IBM T.J. Watson Research Center)

FOSSACS is held in E1.3/003
with a parallel session in E1.3/002 on Wednesday afternoon

Invited Speaker:
Prakash Panangaden (McGill, Canada)
3.5 TACAS – TOOLS AND ALGORITHMS FOR THE CONSTRUCTION AND ANALYSIS OF SYSTEMS

TACAS is a forum for researchers, developers and users interested in rigorously based tools and algorithms for the construction and analysis of systems. The conference serves to bridge the gaps between different communities that share common interests in, and techniques for, tool development and its algorithmic foundations. The research areas covered by such communities include but are not limited to formal methods, software and hardware verification, static analysis, programming languages, software engineering, real-time systems, communications protocols, and biological systems. The TACAS forum provides a venue for such communities at which common problems, heuristics, algorithms, data structures and methodologies can be discussed and explored. In doing so, TACAS aims to support researchers in their quest to improve the utility, reliability, flexibility and efficiency of tools and algorithms for building systems.

Tool descriptions and case studies with a conceptual message, as well as theoretical papers with clear relevance for tool construction are all encouraged. The specific topics covered by the conference include, but are not limited to, the following:

- Specification and verification techniques for finite and infinite-state systems;
- Software and hardware verification;
- Theorem-proving and model-checking;
- System construction and transformation techniques;
- Static and run-time analysis;
- Abstraction techniques for modeling and validation
- Compositional and refinement-based methodologies;
- Testing and test-case generation;
- Analytical techniques for safety, security, or dependability;
- Analytical techniques for real-time, hybrid, or stochastic systems;
- Integration of formal methods and static analysis in high-level hardware design or software environments;
- Tool environments and tool architectures SAT and SMT solvers;
- Applications and case studies.

Programme Committee:
Parosh A. Abdulla (Co-Chair, Uppsala University, Sweden), Nikolaj Bjorner (Microsoft Research, USA), Ahmed Bouajjani (University of Paris 7, France), Patricia Bouyer-Decitre (ENS Cachan, France), Alessandro Cimatti (Tool Chair, IRST, Italy), Rance Cleaveland (University of Maryland, USA), Thierry Coquand (Chalmers University, Sweden), Giorgio Delzanno (Genoa University, Italy), Javier Esparza (TU München, Germany), Orna Grumberg (Technion, Israel), Peter Habermehl (University of Paris 7, France), Reiner Haehnle (Chalmers University, Sweden), Naoki Kobayashi (Tohoku University, Japan), Kim G. Larsen (Aalborg University, Denmark), K. Rustan M. Leino (Co-Chair, Microsoft Research, USA), Rupak Majumdar (UCLA, USA), Panagiotis Manolios (Northeastern University, USA), Richard Mayr (University of Edinburgh, UK), Doron Peled (Bar Ilan University, Israel), Anna Philippou (University of...
Cyprus), C. R. Ramakrishnan (Stony Brook, USA), Xavier Rival (INRIA / ENS, Paris, France), Natasha Sharygina (University of Lugano, Switzerland), Armando Solar-Lezama (MIT, USA), Bernhard Steffen (TU Dortmund, Germany), Tomas Vojnar (Brno University of Technology, Czech Republic), Verena Wolf (Saarland University, Germany), Lenore Zuck (University of Illinois in Chicago, USA)

**TACAS is held in E1.3/001**

**Invited Speaker:**
Andreas Podelski (Freiburg, Germany)
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<td>Sun 3</td>
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<td>09:00-10:30            GA LoP VI</td>
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**Program Overview**

- **Opening:**
  - Martin Odersky
  - Gerard Holzmairn
  - Ross Anderson

- **COFFEE BREAK**
  - Sun: 10:45-11:15 for GaloP VI
  - Sat: 11:00-11:30 for HAS

- **10:30-11:00 Coffee Break**
  - Sun: 11:00-11:30 for HAS

- **11:00-12:30**
  - GaloP VI
  - LGTA BYTECODE ACCT WGT
  - Rocks COCC IWIGP
  - LGTA BYTECODE ACCT WGT
  - Rocks COCC IWIGP

- **12:30-14:00 Lunch**
  - Sun: 12:45-14:00 for GaloP VI
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<tr>
<th>Time</th>
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<tr>
<td>14:00-16:00</td>
<td>GaLoP VI ROCKS LDTA</td>
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<td>14:00-16:00</td>
<td>GaLoP VI ROCKS LDTA WGT IWIGP COCV BYTECODE ACCAT</td>
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<tr>
<td>14:00-15:00</td>
<td>Andreas Podelski 15:15-16:15 FOSSACS-A FOSSACS-B TACAS FASE</td>
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<td>14:00-15:00</td>
<td>Michael Backes 15:15-16:15 ESOP TOSCA</td>
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<td>14:00-16:00</td>
<td>FASE FESCA HAS QAPL</td>
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<td>14:00-16:00</td>
<td>DICE FESCA HAS QAPL</td>
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<td>16:00-16:30</td>
<td>Coffee Break (Sat, Sun: 15:45-16:30 for GaLoP VI)</td>
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<td>16:30-18:00</td>
<td>GaLoP VI ROCKS LDTA</td>
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<td>iWIGP COCV BYTECODE ACCAT</td>
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<td>WGT GaLoP VI</td>
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<td>TACAS ESOP FASE</td>
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<td>ESOP TOSCA</td>
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<td>FASE TOSCA</td>
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<td>16:30-18:15</td>
<td>SAPL</td>
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<td>16:30-18:15</td>
<td>GT-VMT+ TERMGRAPH</td>
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<td>16:30-18:15</td>
<td>SVARM</td>
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<td>16:30-18:15</td>
<td>PLACES</td>
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<td>19:30</td>
<td>Workshop Dinner at 'Zum Stiefei', downtown</td>
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<td>19:30</td>
<td>Reception at the 'Schloss', downtown</td>
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<td>18:30</td>
<td>Steering Committee</td>
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<td>20:00</td>
<td>Banquet Buses leave 18:20-18:30 from campus</td>
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<td>18:30</td>
<td>Steering Committee</td>
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<td>19:30</td>
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<td>March 28, 2011</td>
<td>Monday 09:00–10:30</td>
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<tr>
<td>09:00–09:30</td>
<td>Opening</td>
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<tr>
<td>09:30–10:30</td>
<td>Invited Talk: Prakash Panangaden, (McGill, Canada)</td>
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<td>10:30–11:00</td>
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<td>Monday 11:00–12:30</td>
<td>CC JIT Compilation and Code Generation in E2.1/001</td>
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<td>TACAS Memory Models and Consistency in E1.3/001</td>
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<td>FOSSACS Coalgebra and Computability in E1.3/003</td>
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<td>Dynamic Elimination of Overflow Tests in a Trace Compiler</td>
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<td>Rodriguo Soi¹, Christophe Ghillon¹, Fernando Magno Quintão Pereira¹, Mariza A.S. Bigonha¹</td>
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<td>¹Universidade Federal de Minas Gerais (UFMG), Belo Horizonte, Brazil, ²STMicorelectronics Grenoble, France</td>
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<td>Sound and Complete Monitoring of Sequential Consistency for Relaxed Memory Models</td>
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<td>Jacob Burnim¹, Koushik Sen¹, Christos Stergiou¹</td>
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<td>Coalgebraic Walks, in Quantum and Turing Computation</td>
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<td>Bart Jacobs¹</td>
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<td>Staged Static Techniques to Efficiently Implement Array Copy Semantics in a MATLAB JIT Compiler</td>
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<td>Nurudeen Lameed¹, Laurie Hendren¹</td>
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<td>Compositionality Entails Sequentializability</td>
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<td>Pranav Garg¹, Madhusudan Parthasarathy¹</td>
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<td>Similarity quotients as final coalgebras</td>
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<td>Paul Blain Levy¹</td>
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<td>SSA-based Register Allocation with PBQP</td>
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<td>Sebastian Buchwald¹, Andreas Zwinkau¹, Thomas Bersch¹</td>
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<td>Litmus: Running Tests Against Hardware (Tool)</td>
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<td>Jade Alglave¹, Luc Maranget¹, Susmit Sarkar², Peter Sewell²</td>
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<td>What Do Reversible Programs Compute?</td>
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<td>Holger Bock Axelsen¹, Robert Glück¹</td>
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<td>¹University of Copenhagen, Denmark</td>
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<td><strong>Probabilistic Points-to Analysis for Java</strong></td>
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<td>Qi Zhang1, Jianjun Zhao1, Yuting Chen1</td>
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<td>1Jiao Tong University, Shanghai, China</td>
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<td><strong>Faster Alias Set Analysis Using Summaries</strong></td>
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<td>Nomair Naeem1, Ondrej Lhoták1</td>
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<td><strong>JPure: A Modular Purity System for Java</strong></td>
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<td>David J. Pearce1</td>
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<td>1Victoria University of Wellington, New Zealand</td>
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<td><strong>Efficient Tainted Flow Analysis</strong></td>
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<td>Andrei Rimsa1, Marcelo d’Amorim2, Fernando Magno Quintão Pereira2</td>
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<td>2Universidade Federal de Pernambuco (UFPE), Recife, Brazil</td>
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<td><strong>Holger Bock Axelsen</strong>¹</td>
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<td>¹University of Copenhagen, Denmark</td>
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<td>Interpreter Instruction Scheduling</td>
<td><strong>Stefan Brunthaler</strong>¹</td>
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<td>¹University of Technology, Vienna, Austria</td>
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<td>Efficient CTMC Model Checking of Linear Real-Time Objectives</td>
<td><strong>Benoit Barbot</strong>⁴, <strong>Taolue Chen</strong>², <strong>Tingting Han</strong>⁴, <strong>Joost-Pieter Katoen</strong>³, <strong>Alexandru Mereacre</strong>³</td>
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<td><strong>Benoit Barbot</strong>³, <strong>Taolue Chen</strong>², <strong>Tingting Han</strong>⁴, <strong>Joost-Pieter Katoen</strong>³, <strong>Alexandru Mereacre</strong>³</td>
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### March 29, 2011
Tuesday
9:00–10:00 in E2.2
Invited Talk: Martin Odersky

10:00–10:30 Coffee break

#### Tuesday 10:30–12:30

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<td>Automata I in E1.3/003</td>
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<th>Efficient Interpolant Generation in Satisfiability Modulo Linear Integer Arithmetic</th>
<th>Alternation Elimination for Automata over Nested Words</th>
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<td>Jonathan Rodríguez¹, Ondrej Lhoták¹</td>
<td>Alberto Griggio¹, Thi Thieu Hoa Lê², Roberto Sebastiani²</td>
<td>Christian Dax¹, Felix Klaedtke³</td>
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<td>¹University of Waterloo, Canada</td>
<td>²FBK-IRST, Italy</td>
<td>³ETH Zurich, Switzerland</td>
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<td>James Jenista¹, Yong hun Eom¹, Brian Demsky¹</td>
<td>Tino Teige¹, Martin Fränzle¹</td>
<td>Udi Boker¹, Orna Kupferman¹</td>
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<th>Data Layout Transformation for Stencil Computations on Short-Vector SIMD Architectures</th>
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<td>Thomas Henretty¹, Kevin Stock¹, Louis-Noël Pouchet¹, Franz Franchetti², J. Ramanujam², P. Sadayappan¹</td>
<td>Divya Gopinath¹, Zubair Malik¹, Sarfraz Khurshid¹</td>
<td>Shulamit Halamish¹, Orna Kupferman¹</td>
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<td>¹The Ohio State University, Columbus, USA, ²Carnegie Mellon University, Pittsburgh, USA, ³Louisiana State University, Baton Rouge, USA</td>
<td>¹UT Austin, USA</td>
<td>¹Hebrew University of Jerusalem, Israel</td>
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<td><strong>Subregion Analysis and Bounds Check Elimination for High Level Arrays</strong></td>
<td>Mackale Joyner¹, Zoran Budimlic², Vivek Sarkar²</td>
<td>¹Texas Instruments, Dallas, USA ²Rice University, Houston, USA</td>
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<td><strong>Optimal Base Encodings for Pseudo-Boolean Constraints</strong></td>
<td>Michael Codish¹, Yoav Fekete², Carsten Fuhs², Peter Schneider-Kamp³</td>
<td>¹Ben-Gurion University, Israel ²RWTH Aachen, Germany, ³University of Southern Denmark, Denmark</td>
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<tr>
<td><strong>Regularity and context-freeness over word rewriting systems</strong></td>
<td>Didier Caucal⁴, Trong Hieu Dinh²</td>
<td>⁴CNRS, Palaiseau, France, ²Institut d’’electronique et d’informatique Gaspard-Monge, France</td>
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<td><strong>15:15-16:15</strong></td>
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<td>Task and Data Distribution in E2.1/001</td>
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<td>Learning in E1.3/001</td>
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<td><strong>Practical Loop Transformations for Tensor Contraction Expressions on Multi-Level Memory Hierarchies</strong></td>
<td>Wenjing Ma¹, Shriram Krishnamoorthy², Gagan Agrawal²</td>
<td>¹The Ohio State University, Columbus, USA, ²Pacific Northwest National Lab, Richland, USA</td>
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<td><strong>Predicate Generation for Learning-Based Quantifier-Free Loop Invariant Inference</strong></td>
<td>Yungbum Jung¹, Wonchan Lee¹, Bow-Yaw Wang², Kwangkeun Yi³</td>
<td>¹Seoul National University, South Korea, ²Academia Sinica, Taiwan</td>
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<td><strong>Quantitative Robustness Analysis of Flat Timed Automata</strong></td>
<td>Rem Jaubert¹, Pierre-Alain Reynier³</td>
<td>¹Université Aix-Marseille and CNRS, France</td>
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<td>16:00-16:30 Coffee break</td>
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<td><strong>A Static Task Partitioning Approach for Heterogeneous Systems Using OpenCL</strong></td>
<td>Dominik Grewe¹, Michael O’Boyle¹</td>
<td>¹The University of Edinburgh, UK</td>
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<td><strong>Next Generation Learnlib (Tool)</strong></td>
<td>Maik Merten¹, Bernhard Steffen³, Falk Howar¹, Tiziana Margaria²</td>
<td>¹TU Dortmund, Germany, ²University of Potsdam, Germany</td>
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<td><strong>A game approach to determinize timed automata</strong></td>
<td>Nathalie Bertrand⁴, Amelie Stainer¹, Thierry Jéron¹, Moez Krichen²</td>
<td>¹INRIA Rennes, France, ²Sfax University, Tunisia</td>
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<td><strong>Automata II in E1.3/003</strong></td>
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<td><strong>Applying CEGAR to the Petri Net State Equation</strong></td>
<td><strong>A Practical Linear Time Algorithm for Trivial Automata</strong></td>
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<td><em>Karsten Wolf</em>, <em>Harro Wimmel</em></td>
<td><strong>Model Checking of Higher-Order Recursion Schemes</strong></td>
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<td>¹University of Rostock, Germany</td>
<td><em>Naoki Kobayashi</em></td>
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<td><em>A Practical Linear Time Algorithm for Trivial Automata</em>*</td>
<td>¹Tohoku University, Japan</td>
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<td><strong>Biased Model Checking using Flows</strong></td>
<td><strong>Church Synthesis Problem for Noisy Input</strong></td>
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<td><em>Muralidhar Talupur</em>, <em>Hyojung Han</em></td>
<td><em>Yaron Velner</em>, <em>Alexander Rabinovich</em></td>
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<td><strong>S-TALIRO: A Tool for Temporal Logic Falsification for Hybrid Systems (Tool)</strong></td>
<td><strong>Probabilistic Modal μ-Calculus with Independent Product</strong></td>
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<td><em>Yashwanth Annapureddy</em>, <em>Che Liu</em>, <em>Georgios Fainekos</em>, <em>Sriram Sankaranarayanan</em></td>
<td><em>Matteo Mio</em></td>
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<td>TACAS Games and Automata in E1.3/001</td>
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<td>GAVS+: An Open Platform for the Research of Algorithmic Game Solving (Tool)</td>
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<td>An interface theory for service-oriented design</td>
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<td>Improving Strategies via SMT Solving</td>
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<td>A Step-indexed Kripke Model of Hidden State via Recursive Properties on Recursively Defined Metric Spaces</td>
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<td>Büchi Store: An Open Repository of Büchi Automata (Tool)</td>
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<td>rt-inconsistency: a new property for real time requirements</td>
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<td>Transfer Function Synthesis without Quantifier Elimination</td>
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<td>A Modified GoI Interpretation for a Linear Functional Programming Language and its Adequacy</td>
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- TACAS
  - Games and Automata in E1.3/001

- FASE
  - Verification in E2.1/001

- ESOP
  - Abstract Interpretation in E1.3/002

- FOSSACS
  - Semantics in E1.3/003

- GAVS+:
  - An Open Platform for the Research of Algorithmic Game Solving (Tool)
  - Chih-Hong Cheng¹, Alois Knoll¹, Christian Bukl², Michael Luttenberger²
  - ¹TU München, Germany, ²Fortiss GmbH, Germany
  - José Luiz Fiadeiro¹, Antónia Lopes²
  - ¹University of Leicester, UK, ²University of Lisbon, Portugal
  - Thomas Martin Gwaltzà¹, David Monnia¹
  - ¹CNRS/VERIMAG, France

- Büchi Store:
  - An Open Repository of Büchi Automata (Tool)
  - Yih-Kuen Tsay¹, Ming-Hsien Tsai¹, Jinn-Shu Chang¹, Yi-Wen Chang¹
  - ¹National Taiwan University, Taiwan
  - rt-inconsistency: a new property for real time requirements
  - Transfer Function Synthesis without Quantifier Elimination
  - A Modified GoI Interpretation for a Linear Functional Programming Language and its Adequacy
  - Amalinda Post¹, Jochen Hoenicke², Andreas Podelski²
  - ¹Robert Bosch GmbH, Germany, ²University of Freiburg, Germany
  - Joerg Brauer¹, Andy King²
  - ¹RWTH Aachen University, Germany, ²University of Kent, UK
  - Naohiko Hoshino¹
  - ¹Kyoto University, Japan

¹Robert Bosch GmbH, Germany
²University of Freiburg, Germany
### QUASY: Quantitative Synthesis Tool (Tool)

Krishnendu Chatterjee¹, Thomas Henzinger¹, Barbara Jobstmann², Rohit Singh³

¹IST Austria, ²CNRS/VERIMAG, France ³IIT Bombay, India

### Automatic flow analysis for event-B

Jens Bendisposto¹, Michael Leuschel¹

¹University of Düsseldorf, Germany

### Generalizing the Template Polyhedral Domain

Michael Colon¹, Srikant Sankaranarayanan²

¹Naval Research Laboratories, USA, ²University of Colorado Boulder, USA

### Estimation of the length of interactions in arena game semantics

Pierre Claireambault¹

¹University of Bath, UK

### Unbeast: Symbolic Bounded Synthesis (Tool)

Rüdiger Ehlers¹

¹Saarland University, Germany

### Semantic quality attributes for big-step modeling languages

Shahram Esmaeilsabzali¹, Nancy Day⁴

¹University of Waterloo, Canada ⁴Heriot-Watt University Edinburgh, UK

### Linear Absolute Value Relation Analysis

Liqian Chen¹, Antoine Miné², Ji Wang⁴, Patrick Cousot⁶

¹National Laboratory for Parallel and Distributed Processing, China, ²New York University, USA and École Normale Supérieure, France

### Synchronous Game Semantics via Round Abstraction

Dan Ghica¹, Mohamed Nabih Menaa³

¹University of Birmingham, UK ³Illinois Institute of Technology, USA

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**12:30-14:00 Lunch**

**Wednesday 14:00–15:00 in E2.2**

Invited Talk: Andrew Appel

15:15–16:15

**TACAS**

- Verification I in E1.3/001

**FASE**

- Specification and Modelling in E2.1/001

**FOSSACS – A**

- Security in E1.3/002

**FOSSACS – B**

- Binding in E1.3/003

**Abstractions and Pattern Databases: The Quest for Succinctness and Accuracy**

- Sebastian Kupferschmid⁴, Martin Wehrle¹

  ¹University of Freiburg, Germany ⁴Heriot-Watt University Edinburgh, UK

### Formalizing and operationalizing industrial standards

- Dominik Dietrich¹, Lutz Schröder¹, Evaryst Schulz²

  ¹DFKI Bremen, Germany, ²University of Bremen, Germany

### Asymptotic information leakage under one-try attacks

- Michele Boreale³, Francesca Pampaloni³, Michela Paolini¹

  ³Università di Firenze, Italy ¹Università di Firenze, Italy

### Freshness and name-restriction in sets of traces with names

- Murdoch Gabbay¹, Vincenzo Ciancia²

  ¹Heriot-Watt University Edinburgh, UK, ²Institute for Logic, Language and Computation (ILLC), University of Amsterdam, The Netherlands
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<th>Modelling non-linear crowd dynamics in Bio-PEPA</th>
<th>A Trace-Based View on Operating Guidelines</th>
<th>Polymorphic Abstract Syntax via Grothen-dieck Construction</th>
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<td>Harsh Raju Chamarthi¹, Peter C. Dillinger¹, Panagiotis Manolios¹, Daron Vroon¹</td>
<td>Mieke Massink¹, Diego Latella¹, Andrea Braccialí¹, Jane Hillston²</td>
<td>Christian Stahl¹’, Walter Vogler²</td>
<td>Makoto Hamana¹</td>
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<td>¹Northeastern University, USA</td>
<td>¹ISTI-CNR Pisa, Italy</td>
<td>¹TU Eindhoven, The Netherlands</td>
<td>¹Gumma University, Japan</td>
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| 16:15–16:45 Coffee break |

| Wednesday 16:45–18:15 |

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<th>On Probabilistic Parallel Programs with Process Creation and Synchronisation</th>
<th>Smart reduction</th>
<th>Secure the Clones: Static Enforcement of Policies for Secure Object Copying</th>
<th>HTML Validation of Context-Free Languages</th>
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<tr>
<td>Stefan Kiefer¹, Dominik Wojtczak¹</td>
<td>Pepijn Crouzen¹, Frederic Lang²</td>
<td>Thomas Jensen¹, Florent Kirchner³, David Pichardie³</td>
<td>Anders Møler¹, Mathias Schwarz¹</td>
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<tr>
<td>¹University of Oxford, UK</td>
<td>¹Saarland University, Germany, ²LIG &amp; INRIA Grenoble / VASY, France</td>
<td>¹INRIA Rennes, France</td>
<td>¹University Aarhus, Denmark</td>
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<td>Mark Timmer¹, Mariëlle Stoelinga¹, Jaco van de Poël³</td>
<td>Johan Oudinet¹, Alain Denise¹, Marie-Claude Gaudel¹, Richard Lassaigné², Sylvain Peyronnet³</td>
<td>Cédric Fournet¹, Jérémy Planul²</td>
<td>Giorgio Delzanno¹, Arnaud Sangnier³, Gianluigi Zavattaro³</td>
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<tr>
<td>¹University of Twente, The Netherlands</td>
<td>¹LRI, Univ. Paris-Sud and CNRS, France, ²Équipe de Logique, Univ. Paris VII, France</td>
<td>¹Microsoft Research, UK, ²INRIA-MSR, France</td>
<td>¹DISI, Università di Genova, Italy, ²LIAFA, Université Paris Diderot, Paris VII, France, ³University of Bologna, Italy</td>
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<tr>
<td>Model Repair for Probabilistic Systems</td>
<td>Ezio Bartocci¹, Radu Grosu¹, Panagiotis Katsaros², CR Ramakrishnan¹, Scott Smolka¹</td>
<td>¹Stony Brook University New York, USA, ²Aristotle University of Thessaloniki, Greece</td>
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<tr>
<td>Model checking Büchi push-down systems</td>
<td>Juncao Li¹, Fei Xie¹, Thomas Ball², Vladimir Levin³</td>
<td>¹Portland State University, USA, ²Microsoft Research, USA, ³Microsoft Corporation, USA</td>
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<tr>
<td>From Exponential to Polynomial-time Security Typing via Principal Types</td>
<td>Sebastian Hunt¹, David Sands²</td>
<td>¹City University London, UK, ²Chalmers University of Technology, Sweden</td>
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<tr>
<td>The reduced product of abstract domains and the combination of decision procedures</td>
<td>Patrick Cousot¹ ², Radhia Cousot² ³, Laurent Mauborgne⁴</td>
<td>¹New York University, USA, ²École normale supérieure, Paris, France, ³CNRS Paris, France, ⁴IMDEA, Madrid, Spain</td>
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## March 31, 2011

**Thursday**

9:00–10:00 in E2.2
Invited Talk: Ross Anderson

10:00–10:30 Coffee break

### Thursday 10:30–12:30

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<tr>
<th>ESOP</th>
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<tbody>
<tr>
<td>Verification of Higher-order Languages in E1.3/002</td>
<td>Model Driven Engineering in E2.1/001</td>
<td>Verification II in E1.3/001</td>
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<tr>
<th>Polymorphic Manifest Contracts</th>
<th>Modeling with plausibility checking: inspecting favorable and critical signs for consistency between control flow and functional behavior</th>
<th>Boosting Lazy Abstraction for SystemC with Partial Order Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>João Belo¹, Michael Greenberg¹, Atsushi Igarashi², Benjamin Pierce¹</td>
<td>Claudia Ermel¹, Jürgen Gaff¹, Leen Lambers², Gabriele Taentzer²</td>
<td>Alessandro Cimatti³, Iman Narasamdya¹, Marco Roveri³</td>
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<tr>
<td>¹University of Pennsylvania, USA</td>
<td>²TU-Berlin, Germany, ³HPI Potsdam, Germany, ²Philipps-Universität Marburg, Germany</td>
<td>¹FBK-irst, Italy</td>
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<tr>
<th>Proving Isolation Properties for Software Transactional Memory</th>
<th>Models within models: taming model complexity using the sub-model lattice</th>
<th>Modelling and Verification of Web Services Business Activity Protocol</th>
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<tr>
<td>Annette Bieniusa¹, Peter Thiemann¹</td>
<td>Pierre Kelsen¹, Qin Ma¹, Christian Glodt¹</td>
<td>Saleem Vighio¹, Jiri Srba¹, Anders P. Ravn¹</td>
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<tr>
<td>¹University of Freiburg, Germany</td>
<td>¹University of Luxembourg</td>
<td>¹Aalborg Univeristy, Denmark</td>
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<tr>
<th>Algorithmic nominal game semantics</th>
<th>Type-safe evolution of spreadsheets</th>
<th>CADP 2010: A Toolbox for the Construction and Analysis of Distributed Processes</th>
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<tr>
<td>Andrzej Murawski², Nikos Tzevelekos¹</td>
<td>Jácome Cunha¹, Joost Visser¹, Tiago Alves¹, João Saraiva¹</td>
<td>Hubert Garavel¹, Frédéric Lang¹, Radu Mateescu¹, Wendelin Serwe¹</td>
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<td>¹University of Oxford, UK</td>
<td>¹Universidade do Minho, Portugal</td>
<td>¹INRIA, France</td>
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1 University of Pennsylvania, USA
2 Kyoto University, Japan
3 TU-Berlin, Germany, HPI Potsdam, Germany, Philipps-Universität Marburg, Germany
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<tr>
<th>Title</th>
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<tbody>
<tr>
<td>General Bindings and Alpha-Equivalence in Nominal Isabelle</td>
<td>Christian Urban¹, Cezary Kaliszyk¹</td>
<td>TU München, Germany</td>
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<tr>
<td>A formal resolution strategy for operation-based conflicts in model versioning using graph modifications</td>
<td>Hartmut Ehrig¹, Claudia Ermel¹, Gabriele Taentzer¹</td>
<td>TU-Berlin, Germany</td>
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<td>Philipps-Universität Marburg, Germany</td>
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<tr>
<td>GameTime: A Toolkit for Timing Analysis of Software (Tool)</td>
<td>Sanjit A. Seshia¹, Jonathan Kotker³</td>
<td>University of California, Berkeley, USA</td>
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### Main Conferences

#### Thursday 14:00–15:00 in E2.2
Invited Talk: Michael Backes

#### 15:15–16:15

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<td>Software Development for QoS in E2.1/001</td>
<td>in E1.4/24</td>
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<tr>
<td>The relationship between Separation Logic and Implicit Dynamic Frames</td>
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<td>Matthew Parkinson¹, Alexander Summers²</td>
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<td>Barrier in Concurrent Separation Logic</td>
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<td>Aquinas Hobor¹, Cristian Gherghina¹</td>
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**GameTime: A Toolkit for Timing Analysis of Software (Tool)**

Sanjit A. Seshia¹, Jonathan Kotker³
University of California, Berkeley, USA

12:30–14:00 Lunch

16:15–16:45 Coffee break
|--------------|-----------------------------------------------|---------------------------------------------------|-------------------|
| Thursday 16:45–18:15 | **Measure transformer semantics for Bayesian machine learning**
Johannes Borgstrom¹,
Andrew D Gordon¹,
Michael Greenberg²,
James Margetson¹,
Jurgen Van Gael³ |
|               | Theoretical aspects of compositional symbolic execution
Dries Vanoverberghe¹,
Frank Piessens¹ |
|               | **Semantics of Concurrent Revisions**
Sebastian Burckhardt¹,
Daan Leijen¹ |
|               | Testing container classes: random or systematic?
Rohan Sharma¹,
Milos Gligoric¹,
Andrea Arcuri²,
Gordon Fraser³,
Darko Marinov³ |
|               | **A new method for dependent parsing**
Yitzhak Mandelbaum¹,
Trevor Jim¹ |
|               | Seamless testing for models and code
Andreas Holzer¹,
Visar Januzaj²,
Stefan Kugele³,
Boris Langer¹,
Christian Schallhart⁶,
Michael Tautschnig¹,
Helmut Veith¹ |

¹Microsoft Research, UK
²University of Pennsylvania, USA
³Microsoft FUSE Labs, UK
⁴Katholieke Universiteit Leuven, The Netherlands
⁵Microsoft Research, USA
⁶University of Illinois at Urbana-Champaign, USA,
⁷Saarland University, Germany,
⁸Simula Research Laboratory, Norway
⁹AT&T Labs, USA
¹⁰Vienna University of Technology, Austria,
¹¹TU Darmstadt, Germany,
¹²TU München, Germany,
¹³Diehl Aerospace GmbH, Germany,
¹⁴Oxford University, UK
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<tr>
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<td>Testing in Practice in E2.1/007</td>
<td>Concurrency in E1.3/002</td>
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<td>Events</td>
<td>Retrofitting unit tests for parameterized unit testing</td>
<td>Type-based Access Control in Data-Centric Systems</td>
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<td>¹North Carolina State University, USA, ²Microsoft Research, USA</td>
<td>¹FCT – New University of Lisbon, Portugal, ²Outsystems SA</td>
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<td>Evolving a test oracle in black-box testing</td>
<td>Typing Copyless Message Passing</td>
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<td><em>Farn Wang</em>¹, <em>Jung-Hsuan Wu</em>¹, <em>Chung-Hao Huang</em>¹</td>
<td><em>Viviana Bono</em>¹, <em>Chiara Messa</em>¹, <em>Luca Padovani</em>¹</td>
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<td>¹National Taiwan University, Taiwan</td>
<td>¹Università di Torino, Italy</td>
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<td>Automatic driver generation for analysis of web applications</td>
<td>A Testing Theory for a Higher-Order Cryptographic Language</td>
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<td><em>Oksana Tkachuk</em>¹</td>
<td><em>Vasileios Koutavas</em>¹, <em>Matthew Hennessy</em>¹</td>
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<td>¹Fujitsu Laboratories of America, USA</td>
<td>¹Trinity College, Dublin, Ireland</td>
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<td>12:30–14:00</td>
<td>Lunch</td>
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| Friday 14:00–16:00 | **FASE**  
Code Development and Analysis in E2.1/007  
Incremental Code Clone Detection and Elimination for Erlang Programs  
Analyzing Software Updates: Should You Build a Dynamic Updating Infrastructure?  
Flow-Augmented Call Graph: A New Foundation for Taming API Complexity |
|               | **ESOP**  
Program analysis in E1.3/002  
Typing Local Control and State Using Flow Analysis  
Precise Interprocedural Analysis in the Presence of Pointers to the Stack  
Static Analysis of Run-Time Errors in Embedded Critical Parallel C Programs |
|               | **SVARM**  
QAPL in E1.3/003  
TOSCA in E1.4/24  
SVARM in E1.3/001 |

1. University of Leicester, UK
2. Interdisciplinary Research Institute and University of Lille 1, Lille, France
3. Computer Science Laboratory, Lille, France
4. INRIA, France
5. University of Bologna, Italy
6. University of Kent, UK
7. Brown University, USA
8. Iowa State University, USA
9. INRIA Grenoble, France
10. The Chinese University of Hong Kong
11. ENS, France
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<tr>
<td>A music-inspired approach for design defects detection</td>
<td>Marouane Kessentini¹, Houari Sahraoui¹, Mounir Boukadoum¹, Manuel Wimmer²</td>
<td>University of Montreal, Canada,</td>
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<td>Austria University of Technology,</td>
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<td>Dataflow Analysis for Data race-Free Programs</td>
<td>Arnab De¹, Deepak D’Souza¹, Rupesh Nasre¹</td>
<td>Indian Institute of Science,</td>
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<td>Bangalore, India</td>
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<td>16:00–16:30 Coffee break</td>
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<td>Friday 16:30–18:00</td>
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<td>FASE Empirical Studies in E2.1/007</td>
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<td>QAPL in E1.3/003</td>
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<td>TOSCA in E1.4/24</td>
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<tr>
<td>An Empirical Study on Evolution of API Documentation</td>
<td>Lin Shi², Hao Zhong¹, Tao Xie², Mingshu Li³</td>
<td>Chinese Academy of Sciences, China,</td>
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<td>An Empirical Study of Long-Lived Code Clones</td>
<td>Dongxiang Cai¹, Miryung Kim²</td>
<td>Hong Kong University of Science</td>
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<td>University of Texas, Austin, USA</td>
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<td>Where the truth lies: AOP and its impact on software modularity</td>
<td>Adam Przybylekn¹</td>
<td>University of Gdansk, Poland</td>
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</tbody>
</table>
6 Associated Event TOSCA – Theory of Security and Applications


TOSCA is held in E1.4/24

Thursday, March 31

14:00–15:00
Plenary Invited Talk: Michael Backes

Small break

Session: Protocols and Algebra
Chair: Catuscia Palamidessi

15:15
Florent Jacquemard, Étienne Lozes, Ralf Treinen and Jules Villard.
*Multiple Congruence Relations, First-Order Theories on Terms, and the Frames of the Applied Pi-Calculus*

15:45
Sreekanth Malladi.
*Soundness of removing cancellation identities in protocol analysis under Exclusive-OR*

16:15–16:45
Coffee break

Session: Abstraction Layers
Chair: Sebastian Mödersheim

16:45
Invited Talk: Ueli Maurer, Mathematical Proofs in Cryptography and Information Security

17:45
Moez Ben MBarka, Francine Krief and Olivier Ly. Modeling Long
*Term Signature Validation for Resolution of Dispute*

Friday, April 1

09:00–10:00
Plenary Invited Talk: Marta Kwiatkowska

10:00–10:30
Coffee Break
Session: Protocol Composition and Construction
Chair: Pierpaolo Degano

10:30
Invited Talk: Veronique Cortier, Secure composition of protocols

11:30
Joshua Guttmann.
*Security Goals and Protocol Transformations*

12:00
Michael Backes, Matteo Maffei, Kim Pecina and Raphael M. Reischuk.
*G2C: Cryptographic Protocols From Goal-Driven Specifications*

12:30–14:00
Lunch

Session: Information Hiding
Chair: Joshua Guttmann

14:00
Invited Talk: David Sands. TBA

15:00
Morten Dahl, Stephanie Delaune and Graham Steel.
*Formal Analysis of Privacy for Anonymous Location Based Services*

15:30
Marieke Huisman and Henri-Charles Blondeel.
*Model-checking Secure Information Flow for Multi-Threaded Programs*

16:00–16:30
Coffee Break

Session: Applications
Chair: Catherine Meadows

16:30

17:30
Zhengqin Luo, Tamara Rezk and Manuel Serrano.
*Automated Code Injection Prevention for Web Applications*

18:00
Joeri de Ruiter and Erik Poll.
*Formal analysis of the EMV protocol suite.*
7 Pre-Conference Workshops

7.1 ACCAT – Applied and Computational Category Theory

ACCAT is held in E1.3/328

Sunday, March 27

09:15–10:30
SESSION 1

09:15
J. Pfalzgraf Memorial

09:30
Algebraic Characterization of Planning Arrows inside a Consistent Projective Quaternary Structure. O. Bartheye (CREC St-Cyr)

10:00
States and exceptions considered as dual effects. D. Duval, LJK (Université de Grenoble)

10:30–11:00
Coffee

11:00–12:30
SESSION 2

11:00
Categorical Framework for Computer Science (Extended Talk)
H. Ehrig (Technische Universität Berlin)

12:00
Borrowed contexts for attributed graphs
F. Orejas (Universitat Politècnica de Catalunya)

12:30–14:00
Lunch

14:00–16:00
SESSION 3

14:00
Model Transformation Based on Triple Graph Grammars with Interfaces
F. Hermann (Technische Universität Berlin)

14:30
A Category for Triple Graphs with Flexible Correspondences
L. Lambers (Hasso-Plattner-Institut für Softwaresystemtechnik GmbH)
15:00
*A Semantics Construction Kit based on the Resource Description Framework*
B. Braatz (Université du Luxembourg)

15:30
*Towards Categorical Deletion and Division Operations.* T. Soboll (Universität Salzburg)

16:00–16:30
Coffee

16:30–17:30
SESSION 4

16:30
*Generalized Sketches and Presheaf Topoi.* U. Wolter (University of Bergen)

17:00
*On Graph Transformation in Span and Co-Span Categories*
M. Löwe, Fachhochschule für die Wirtschaft Hannover

7.2 BYTECODE – Sixth Workshop on Bytecode Semantics, Verification, Analysis and Transformation

BYTECODE is held in E1.3/107

Sunday, March 27

09:15–10:30
SESSION 1

09:15
Welcome

09:30
Invited Talk: *VeriFast: A Powerful, Fast, Sound, Predictable Verifier for C and Java*
Bart Jacobs (Katholieke Universiteit Leuven)

10:30–11:00
Coffee

11:00–12:30
SESSION 2

11:00
*Complete and Platform-independent Calling Context Profiling for the Java Virtual Machine*
Aibek Sarimbekov¹, Philippe Moret¹, Walter Binder¹, Andreas Sewe², and Mira Mezini²
  (¹University of Lugano, ²Technische Universität Darmstadt)
11:30
*Implementing Whiley on the JVM*
David Pearce and James Noble (Victoria University of Wellington)

12:00
*Treegraph-based instruction scheduling for stack-based virtual machines*
Jiin Park¹, Jinhyung Park¹, Wonjoon Song¹, Sungwook Yoon¹, Bernd Burgstaller¹, and Bernhard Scholz² (¹Yonsei University, ²University of Sydney)

12:30–14:30
Lunch

14:30–16:00
SESSION 3

14:30
*Handling non-linear operations in the value analysis of COSTA*
Diego Esteban Alonso Blas, Puri Arenas, and Samir Genaim (Complutense University of Madrid)

15:00
*Static Resource Analysis for Java Bytecode Using Amortisation and Separation Logic*
Kenneth MacKenzie and Damon Fenacci (University of Edinburgh)

15:30
*LCT: An Open Source Concolic Testing Tool For Java Programs*
Kari KähkönenTuomas Launiaienen, Olli Saarikivi, Janne Kauttio, Keijo Heljanko, and Ilkka Niemelä (Aalto University)

16:00–16:30
Coffee

16:30–17:30
SESSION 4

16:30
Invited Talk: *Bytecode at Microsoft Research.*
Todd Mytkowicz (Microsoft Research)
7.3 COCV – 10th International Workshop on Compiler Optimization
Meets Compiler Verification
COCV is held in E1.1/U12

Sunday, March 27
09:30–10:30
SESSION 1

09:30
Opening

09:45
Topic: A first step towards Translation Validation of Compiler Back-Ends
Wolf Zimmermann (University of Halle, Germany)

10:30–11:00
Coffee

11:00–11:45
SESSION 2

11:00
Topic: Using Dataflow Analysis for Detecting Dataflow Errors in Business Processes
Thomas Heinze (University of Jena, Germany)

12:30–14:00
Lunch

14:00–15:30
SESSION 3

14:00
Model Topic: Perspective for compiler certification in avionics
Xavier Rival (Ecole Normale Superieur, Paris, France)

14:45
Topic: Future Trends in Compiler Verification
Jens Knoop (Vienna University of Technology, Austria)

16:00–16:30
Coffee

16:30–17:30
SESSION 4

16:30
Discussion and Closing

Pre-Conference Workshops
7.4 GaLoP VI – Games for Logic and Programming Languages

GaLoP VI is held in E1.3/111

Saturday, March 26

09:00–10:30
SESSION 1

09:00
Welcome

09:30
Invited Talk: Compiling the Geometry of Interaction
I. Mackie (University of Sussex)

10:30–11:00
Coffee

11:00–12:30
SESSION 2

11:00
A categorical Geometry of Interaction for additives
N. Hoshino and S. Katsumata (Kyoto University)

11:45
Towards a system-level semantics
D.R. Ghica (University of Birmingham)

12:30–14:00
Lunch

14:00–15:45
SESSION 3

14:00
Invited Talk: Learning game semantics through dynamic games
S.P. Chin (Johns Hopkins University)

15:00
Synchronous game semantics via round abstraction
M. N. Menaa (University of Birmingham)

15:45–16:30
Coffee

16:30–18:00
SESSION 4
16:30
*The computational Pi calculus*
J. Laird (University of Bath)

17:15
*Topological characterization of finite and countable nondeterminism using infinite traces*
P.B. Levy (University of Birmingham)

---

**Sunday, March 27**

09:00–10:45
**SESSION 5**

09:00
Invited Talk: *Independence Logic*
J. Väänänen (University of Helsinki)

10:00
*A game semantics approach to disjunctive logic programs*
T. Tsouanas (Ecole normale supérieur, Lyon)

10:45–11:15
Coffee

11:15–12:45
**SESSION 6**

11:15
*Characterization of bi-intuitionistic validity through resource games*
D. Galmiche and D. Mery (Université Henri Poincaré Nancy 1)

12:00
*On proof-nets, game semantics and the complexity of normalization*
U. Dal Lago (University of Bologna) and O. Laurent (Ecole normale supérieur, Lyon)

12:45–14:00
Lunch

14:00–15:45
**SESSION 7**

14:00
Invited Talk: *Modeling Information Flow in Natural Language: composing and playing!*
M. Sadrzadeh (University of Oxford)
A game-theoretic study of uniqueness relation between types and lambda terms
P. Bourreau and S. Salvati (INRIA)

Coffee

SESSION 8

Discussion

7.5 iWIGP – International Workshop on Interactions, Games and Protocols

iWIGP is held in E1.3/15

Sunday, March 27

SESSION 1

Welcome

Invited Talk: Linear and Branching System Metrics
Mariëlle Stoelinga (University of Twente, the Netherlands)

Coffee

SESSION 2

Invited Talk: Invariant Inference for Many-Object Systems
Viktor Kuncak (École Polytechnique Fédérale de Lausanne, Suisse)

Synthesizing Systems with Optimal Average-Case Behavior for Ratio Objectives
Christian von Essen and Barbara Jobstmann (CNRS Grenoble, France)

Lunch
14:00-16:00
SESSION 3

14:00
Invited Talk: *TBA*. Kim Larsen (Aalborg University, Denmark)

15:00
*Experimental aspects of synthesis*
Rüdiger Ehlers (Saarland University, Germany)

15:30
*Synchronizing Objectives for Markov Decision Processes*
Laurent Doyen (LSV, ENS Cachan & CNRS, France), Thierry Massart and Mahsa Shirmohammadi (Université Libre de Bruxelles, Belgium)

16:00-16:30
Coffee

16:30-17:30
SESSION 4

16:30
*LTL Fragment for GR(1)-Synthesis*
Klaus Schneider and Andreas Morgenstern (University of Kaiserslautern, Germany)

17:00
Memory Reduction via Delayed Simulation
Marcus Gelderie and Michael Holtmann (RWTH Aachen University, Germany)

7.6 LDTA – Eleventh Workshop on Language Descriptions, Tools and Applications

LDTA is held in E1.3/14

Saturday, March 26

09:00–10:30
SESSION 1

09:00
*Welcome to LDTA 2011*
Claus Brabrand (IT University of Copenhagen, Denmark) & Eric Van Wyk (University of Minnesota, USA)

09:15
Invited Talk: *Getting a Grip on Tasks that Coordinate Tasks*
Rinus Plasmeijer (Radboud University Nijmegen, The Netherlands)
10:30–11:00
Coffee

11:00–12:30
SESSION 2 – Types and Transformations

11:00
From Type Checking by Recursive Descent to Type Checking with an Abstract Machine
Ilya Sergey (Katholieke Universiteit Leuven, Belgium) and Dave Clarke (Katholieke Universiteit Leuven, Belgium)

11:30
More Precise Typing of Rewrite Strategies
Azamat Mametjanov (University of Nebraska at Omaha, USA), Victor Winter (University of Nebraska at Omaha, USA) and Ralf Lämmel (University of Koblenz-Landau, Germany)

12:00
Higher-order Transformations with Nested Concrete Syntax
Rob Economopoulos (ECS, University of Southampton, UK) and Bernd Fischer (ECS, University of Southampton, UK)

12:30–14:00
Lunch

14:00–16:00
SESSION 3 – LDTA 2011 Tool Challenge Kick-off

14:00
LDTA 2011 Tool Challenge Kick-off
Claus Brabrand (IT University of Copenhagen, Denmark) & Eric Van Wyk (University of Minnesota, USA)

14:30
TOOL CHALLENGE: Participant presentations

16:00–16:30
Coffee

16:30–18:00
TOOL CHALLENGE

16:30
TOOL CHALLENGE: Participant presentations
Sunday, March 27

09:00–10:30
SESSION 4 – Semantics and Grammar Analysis

09:00
Stepwise Evaluation of Attribute Grammars
Arie Middelkoop (Universiteit Utrecht, The Netherlands), Atze Dijkstra (Universiteit Utrecht, The Netherlands) and Doaitse Swierstra (Universiteit Utrecht, The Netherlands)

09:30
Exploiting algebra/coalgebra duality for program fusion extensions
Facundo Dominguez (Universidad de la República, Uruguay) and Alberto Pardo (Universidad de la República, Uruguay)

10:00
Yield grammar analysis in the Bellman’s GAP compiler
Robert Giegerich (Universität Bielefeld, Germany) and Georg Sauthoff (Universität Bielefeld, Germany)

10:30–11:00
Coffee

11:00–12:30
SESSION 5 – Parsing

11:00
Delayed semantic actions in a dependent parser
Yitzhak Mandelbaum (AT&T Labs-Research, USA) and Trevor Jim (AT&T Labs-Research, USA)

11:30
LDT: a language definition technique
Adrian Johnstone (Royal Holloway, University of London, UK), Elizabeth Scott (Royal Holloway, University of London, UK) and Mark van den Brand (Technische Universität Eindhoven, Netherlands)

12:00
Parsing Reflective Grammars
Paul Stansifer (Northeastern University, USA) and Mitchell Wand (Northeastern University, USA)

12:30–14:00
Lunch

14:00–15:00
SESSION 6 – Tool Demonstrations

14:00
Building Semantic Editors using JastAdd
Emma Söderberg (Lund University, Sweden) and Görel Hedin (Lund University, Sweden)
14:30
*VLex: Visualizing a Lexical Analyzer Generator*
Alisdair Jorgensen (ECS, University of Southampton, UK), Giorgios Economopoulos (ECS, University of Southampton, UK) and Bernd Fischer (ECS, University of Southampton, UK)

15:00–16:00
TOOL CHALLENGE

15:00
TOOL CHALLENGE: Participant presentations

16:00–16:30
Coffee

16:30–18:00
TOOL CHALLENGE

16:30
TOOL CHALLENGE: Participant presentations

7.7 ROCKS – Rigorous dependability analysis using model checking techniques for stochastic systems

ROCKS is held in E1.3/16

Saturday, March 26

9:15–10:30
SESSION 1 QUASIMODO

09:15
Opening

09:30
*HYDAC controller synthesis*
Kim Larsen (Aalborg University)

10:00
*Multi-core Update on LTSmins*
Jaco van de Pol (University of Twente)

10:30–11:00
Coffee

11:00–12:30
SESSION 2

11:00
Numerical approximation of rare event probabilities in Markov chains
Linar Mikeev (Saarland University)
11:30
*Symbolic multilevel algorithm – from sequential to parallel*
Johann Schuster (University of the Armed Forces Munich)

12:00
*Efficient Simulation Through Hybrid Models Using Phase-type Distributions*
Philipp Reinecke and Katinka Wolter (Free University of Berlin)

12:30–14:00
Lunch

14:00–16:00
SESSION 3

14:00
*Ten Years of Performance Evaluation for Concurrent Systems using CADP*
Nicolas Coste (STMicroelectronics), Hubert Garavel, Frédéric Lang, Radu Mateescu, and Wendelin Serwe (INRIA), Holger Hermanns (Saarland University)

14:30
*A stochastic extension of mCRL2 (work in progress)*
Jan Friso Groote (Eindhoven University of Technology), Jan Lanik (Masaryk University)

15:00
*Composing Systems while Preserving Probabilities*
Sonja Georgievska and Suzana Andova (Eindhoven University of Technology)

15:30
*Challenges in the Modelling and Quantitative Analysis of Safety-Critical Automotive Systems*
Matthias Kuntz and Bernd Reh (TRW), Florian Leitner-Fischer and Stefan Leue (University of Konstanz)

16:00–16:30
Coffee

16:30–17:30
SESSION 4

16:30
*On software verification for embedded sensor nodes*
Doina Bucur (INCAS)

17:00
*Verification of Confidentiality of Multi-threaded Programs*
Ngo Minh Tri (University of Twente)
Sunday, March 27

09:30–10:30
SESSION 5

09:30
Pairwise interaction model for gossip protocols
Rena Bakhshi, Daniela Gavidia, Wan Fokkink and Maarten Van Steen (Free University Amsterdam)

09:30
Mean-field analysis of Botnet clustering behavior: A Stuxnet case study
Anja Kolesnichenko (University of Twente)

10:30–11:00
Coffee

11:00–12:30
SESSION 6

11:00
Modelling non-linear crowd dynamics in Bio-PEPA – Abstract
Mieke Massink and Diego Latella (ISTI, Pisa), Andrea Bracciali (University of Stirling), Jane Hillston (University of Edinburgh)

11:30
Modeling biological signaling pathways with timed automata
Stefano Schivo (University of Twente)

12:00
Parameter Identification for Markov Models of Biochemical Reactions
David Spieler (Saarland University)

12:30–14:00
Lunch

14:00–16:00
SESSION 7

14:00
SMT-based Counterexample Generation for Discrete-Time Markov Chains
Bettina Braitling, Ralf Wimmer and Bernd Becker (University Freiburg), Nils Jansen and Erika Abraham (RWTH Aachen University)

14:30
Hierarchical Counter-examples for DTMCs
Nils Jansen, Erika Abraham, Jens Katelaan and Joost-Pieter Katoen (RWTH Aachen University), Ralf Wimmer and Bernd Becker (University Freiburg)
15:00
Improvements in Reduction Techniques for Quantitative Model Checking
Frank Ciesinski (Technical University Dresden)

15:30
Weighted Lumpability on Markov Chains
Arpit Sharma and Joost-Pieter Katoen (RWTH Aachen University)

16:00–16:30
Coffee

7.8 WGT – 3rd Workshop on Generative Technologies
WGT is held in E1.3/528

Sunday, March 27

09:00–10:30
SESSION 1

09:00
Pairwise Generic Executable Semantics for D-Clean
Viktória Zsók, Pieter Koopman, and Rinus Plasmeijer

09:45
New approaches in functional programming using algebras and coalgebras
Viliam Slodicka and Pavol Macko

10:30–11:00
Coffee

11:00–12:30
SESSION 2

11:00
A More Efficient and Type-Safe Version of FastFlow
Zalán Szőgyi and Norbert Pataki

11:45
Towards a Multicore C++ Standard Template Library
Zalán Szőgyi, Márk Török, and Norbert Pataki

12:30–14:30
Lunch
14:30–16:00
SESSION 3

14:30
Keynote Talk: The state of the art in (external) DSLs
Markus Völter

16:00–16:30
Coffee

16:30–18:00
SESSION 4

16:30
Automated Generation of Platform-Variant Applications from Platform-Independent Models via Templates
Nuno Amalio, Christian Glodt, Frederico Pinto, and Pierre Kelsen

17:00
Nested Lambda Expressions with Let Expressions in C++ Template Metaprograms
Ábel Sinkovics
8 Post-Conference Workshops – Programme

8.1 DICE – 2nd International Workshop on Developments in Implicit Computational complexity

DICE is held in E1.3/107

Saturday, April 2

09:00–10:30
SESSION 1

09:00
Welcome

09:30
Invited Talk: Ramification and computational complexity
Daniel Leivant

10:30–11:00
Coffee

11:00–12:30
SESSION 2

11:00
Evaluation in Resource lambda Calculus
Maurizio Dominici and Simona Ronchi della Rocca

11:45
A type system for PSPACE derived from light linear logic
Lucien Capdevielle

12:30–14:00
Lunch

14:00–16:00
SESSION 3

14:00
Invited Talk: Certification of Polynomial Memory Bounds
Ricardo Pena

15:00
Complexity Analysis of Size-Change Terminating Programs (Extended Abstract)
Amir Ben-Amram and Michael Vainer
15:30
Realizability Models for Cost-Preserving Compiler Correctness (Extended Abstract)
Marco Gaboardi.

16:00–16:30
Coffee

16:30–18:00
SESSION 4

16:30
Equivalence between the mwp and Quasi-Interpretation analysis
Jean-Yves Moyen and Ryma Metnani

17:15
Sublogarithmic uniform Boolean proof nets
Clément Aubert

Sunday, April 3

09:30–10:30
SESSION 5

09:30
Invited Talk: Multivariate Amortized Resource Analysis (joint work with Jan Hoffmann and Klaus Aehlig)
Martin Hofmann

10:30–11:00
Coffee

11:00–12:30
SESSION 6

11:00
Implicit complexity for coinductive data: a characterization of corecurrence
Daniel Leivant and Ramyaa Ramyaa

11:45
Another characterization of provably recursive functions
Evgeny Makarov

12:30–14:00
Lunch

14:00–16:00
SESSION 7

Post-Conference Workshops
14:00
Light forcing, Krivine’s classical realizability and the timeout effect (Extended Abstract)
Aloïs Brunel

14:30
On the Complexity of Process Behaviours (Extended Abstract)
Tobias Heindel

15:00
On Elementary Linear Logic and polynomial time (Extended Abstract)
atrick Baillot

15:30
Induction schemes for complexity classes in applicative theories (Extended Abstract)
Jesse Alama, Patrícia Engrácia, Reinhard Kahle and Isabel Oitavem

16:00–16:30
Coffee

8.2 FESCA – 8th International Workshop on Formal Engineering Approaches to Software Components and Architectures

FESCA is held in E1.3/111

Saturday, April 2

09:00–10:30
SESSION 1

09:00
Workshop opening

09:20
Invited Talk: Interface Coherence of Reactive Software Components: Solutions and Challenges
Rolf Hennicker (Ludwig-Maximilians-Universität München)

10:30–11:00
Coffee

11:00–12:30
SESSION 2

11:00
Enhanced Type-based Component Compatibility Using Deployment Context Information
Premek Brada (University of West Bohemia)
11:30
Combining Proof and Model-checking to Validate Reconfigurable Architectures
Arnaud Lanoix (Nantes University), Julien Dormoy and Olga Kouchnarenko
(University of Franche-Comté, Besançon)

12:00
Performance Certification of Software Components
Erik Burger and Ralf Reussner (Karlsruhe Institute of Technology)

12:30–14:00
Lunch

14:00–16:00
SESSION 3

14:00
Reputation-based reliability prediction of service compositions
Galina Besova, Heike Wehrheim (University of Paderborn) and Annika Wagner
(Fulda University of Applied Sciences)

14:30
ENT: A Generic Meta-Model for the Description of Component-Based Applications
Jaroslav Šnajberk and Premek Brada (University of West Bohemia)

15:00
Tutorial: Model-driven Performance Engineering with the Palladio Component Model
(Part I. – Foundations and approach)
Michael Hauck (FZI Research Center for Information Technology, Karlsruhe)

16:00–16:30
Coffee

16:30–17:30
SESSION 4

16:30
Tutorial: Model-driven Performance Engineering with the Palladio Component Model
(Part II. – Tool set demonstration)
Michael Hauck (FZI Research Center for Information Technology, Karlsruhe)

17:15
Workshop closing
8.3 GT-VMT – 10th International Workshop on Graph Transformation and Visual Modeling Techniques

GT-VMT is held in E1.3/16 except joint sessions

Saturday, April 2

09:15–10:30
JOINT SESSION WITH TERMGRAPH
Joint session in E1.3/002

09:15
Welcome

09:30
Invited Talk (joint with TERMGRAPH): On the Observable Behavior of Graph Transformation Systems
Reiko Heckel (University of Leicester, UK)

10:30–11:00
Coffee

11:00–12:30
SESSION 1: Model Transformation and Synchronization

11:00
Propagation of Constraints along Model Transformations Based on Triple Graph Grammars
Hartmut Ehrig, Frank Hermann, Hanna Schölzel (TU Berlin, Germany), and Christoph Brandt (Université du Luxembourg)

11:30
On the Relation of Meta-Modeling and Typed Graphs
Yngve Lamo, Florian Mantz (Høgskolen i Bergen, Norway), and Gabriele Taentzer (Philipps-Universität Marburg, Germany)

12:00
Automated Model Synchronization: A Case Study on UML with Maude
Artur Boronat (University of Leicester, UK) and José Meseguer (University of Illinois at Urbana-Champaign, USA)

12:30–14:00
Lunch

14:00–15:00
JOINT SESSION WITH TERMGRAPH
Joint session in E1.3/002

Post-Conference Workshops
14:00
Invited Speaker (joint with TERMGRAPH): Nominal Graphs
Maribel Fernandez (King's College London, UK)

15:00–16:00
SESSION 2: Software Evolution and Verification

15:00
Distributed Port Automata
Christian Krause (Hasso Plattner Institute, Germany)

15:30
Towards a Maude Tool for Model Checking Temporal Graph Properties
Alberto Lluch Lafuente and Andrea Vandin (IMT Institute for Advanced Studies Lucca, Italy)

16:00–16:30
Coffee

16:30–17:30
SESSION 3: Visual Languages

16:30
A Visual Language for Temporal Specifications Based on Spider Diagrams
Paolo Bottoni (Università di Roma, Italy) and Andrew Fish (University of Brighton, UK)

17:15
Exploring (Meta-)Model Snapshots by Combining Visual and Textual Techniques
Martin Gogolla, Lars Hamann, Jie Xu, and Jun Zhang (University of Bremen, Germany)

Sunday, April 3

09:30
Invited Talk: Graph Transformation and Software Engineering: Success Stories and Lost Chances
Mauro Pezzè (University of Milan Bicocca, Italy)

10:30–11:00
Coffee

11:00–12:30
SESSION 4: Framework Expressiveness

11:00
Treewidth, Pathwidth and Cospans Decompositions
Christoph Blume, Harrie Jan Sander Bruggink, Martin Friedrich, and Barbara König (Universität Duisburg-Essen, Germany)
11:30
*Categorical Abstract Rewriting and Functoriality of Graph Transformation*
Dominique Duval, Rachid Echahed, and Frédéric Prost (Université de Grenoble, France)

12:00
*Decidability and Expressiveness of Finitely Representable Recognizable Graph Languages*
Harrie Jan Sander Bruggink and Mathias Hülsbusch (Universität Duisburg-Essen, Germany)

8.4 HAS – Hybrid Autonomous Systems

HAS is held in E1.1/U12

Saturday, April 2

08:45–09:00
Workshop opening

08:45
*Autonomy – the quest for models and methods beyond hybrid systems*
Martin Fränzle (Oldenburg University, Germany)

09:00–10:00
Keynote 1

09:00
*Verifying Autonomous Stochastic Hybrid Systems Against Automata Objectives*
Joost-Pieter Katoen (RWTH Aachen, Germany)

10:00–11:00
SESSIO N 1: Verification of hybrid systems

10:00
*Reachability Analysis of Linear Systems with Stepwise Constant Inputs*
Paul Hänsch, Hilal Diab, Ibtissem Ben Makhlof, and Stefan Kowalewski (RWTH Aachen, Germany)

10:30
*Incremental Computation of Succinct Abstractions For Non-linear Hybrid Systems*
Stefan Ratschan and Tomas Dzetkulić (Czech Academy of Sciences, Prague, Czech Republic)

11:00–11:30
Coffee

11:30–12:30
SESSIO N 2: Verification of probabilistic hybrid systems

Post-Conference Workshops
11:30
*Probabilistic Bisimulations: A System Theoretical Perspective*
Alessandro Abate (TU Delft, The Netherlands)

12:00
*Safety Verification for Probabilistic and Stochastic Hybrid Systems*
Ernst-Moritz Hahn (Universität des Saarlandes, Saarbrücken, Germany)

12:30–14:00
Lunch

14:00–15:00
Keynote 2

14:00
*Development of safe autonomous systems: a perspective*
Holger Voos (University of Luxembourg)

15:00–16:00
SESSION 3: Description techniques beyond hybrid automata

15:00
*Timed Game Control of the Inverted Pendulum*
Christoffer Sloth, Rafael Wisniewski, Kim Guldstrand Larsen, and Alexandre David (Aalborg University, Denmark)

15:30
*Verifying Autonomic Systems with Port Graph Calculus*
Oana Andrei (University of Glasgow, UK)

16:00–16:30
Coffee

16:30–17:30
Keynote 3

16:30
*Next Generation Space Exploration Missions*
Mike Hinchey (Lero—the Irish Software Engineering Research Centre, Ireland)

17:30–18:40
SESSION 4: Safety and autonomy in partially known environments

17:30
*Hybrid Automata as a Modelling Approach in the Behavioural Sciences*
Matthias Borgstede, Jens-Wolfhard Schicke, Frank Eggert, and Ursula Goltz (TU Braunschweig, Germany)
18:00
Safety and Precision of Spatial Context Models for Autonomous Systems
Tobe Toben (OFFIS e.V., Oldenburg, Germany) and Jan Rakow (Oldenburg University, Germany)

18:30
Closing and wrap-up
Antonios Tsourdos (Cranfield University, UK)

8.5 PLACES – Programming Language Approaches to Concurrency and Communication-centric Software

PLACES is held in E1.3/14

Saturday, April 2

09:15–10:30
SESSION 1

09:15
Opening

09:30
Invited Talk: Charting the course to a many core future: HW, SW and the parallel programming problem
Timothy G Mattson (Intel Corporation)

10:30–11:00
Coffee

11:00–12:30
SESSION 2

11:00
A G-Local Pi-Calculus
Chiara Bodei, Viet Dung Dinh and Gian Luigi Ferrari (Dipartimento di Informatica, Università di Pisa, Italy)

11:30
Reasoning about Explicit Resource Management
Adrian Francalanza (University of Malta, Malta), Edsko De Vries (Trinity College Dublin, Ireland) and Matthew Hennessy (Trinity College Dublin, Ireland)

12:00
The Timed, Compensable Conversation Calculus
Hugo A. López (IT University of Copenhagen, Denmark) and Jorge A. Pérez (New University of Lisbon, Portugal)
12:30–14:30
Lunch

14:30–16:00
SESSION 3

14:30
*CPC: Programming with a massive number of lightweight threads*
Gabriel Kerneis and Juliusz Chroboczek (Laboratoire PPS, Université Paris 7, France)

15:00
*Lightweight Dynamic Task Creation and Scheduling on the Intel Single Chip Cloud (SCC) Processor*
Deepak Majeti (Rice University, United States of America)

15:30
Static analysis and refactoring towards Erlang multicore programming
Melinda Tóth, István Bozó, Zoltán Horváth and Attila Erdődi (Eötvös Loránd University, Hungary)

16:00–16:30
Coffee

16:30–18:00
SESSION 4

16:30
*Resource Access with Variably Typed Return*
Gabrielle Anderson and Julian Rathke (University of Southampton, United Kingdom)

17:00
*Getting the Goods with Concurrent bondi*
Thomas Given-Wilson and Barry Jay (University of Technology, Sydney, Australia)

17:30
*Tasking Event-B: An Extension to Event-B for Generating Concurrent Code*
Andrew Edmunds and Michael Butler (University of Southampton, United Kingdom)
8.6 QAPL – 9th Workshop on Quantitative Aspects of Programming
Languages and Systems

QAPL is held in E1.3/003

Friday, April 1

14:15–15:30
SESSION 1

14:15
Welcome

14:30
Invited Talk: Equivalences for Partially Observable Markov Decision Processes
Prakash Panangaden (McGill University, Canada)

15:30–16:00
SESSION 2: Verification

15:30
On-the-fly Uniformization of Time-Inhomogeneous Infinite Markov Population Models
Aleksandr Andreychenko, Pepijn Crouzen, Linar Mikeev
and Verena Wolf (Saarland University, Germany)

16:00–16:30
Coffee

16:30–17:30
SESSION 2 (continued): Verification

16:30
QuantUM: Quantitative Safety Analysis of UML Models
Florian Leitner-Fischer and Stefan Leue (University of Konstanz, Germany)

17:00
Admissible adversaries in PRISM for probabilistic security analysis (abstract)
Kiraga Alain Freddy and John Mullins (École Polytechnique de Montréal, Canada)

Saturday, April 2

09:30–10:30
SESSION 3

09:30
Invited speaker: Decorating and Model Checking Stochastic Reo Connectors
Erik de Vink (Technische Universiteit Eindhoven, the Netherlands)
10:30–11:00
Coffee

11:00–12:30
SESSION 4: Time

11:00
Two-Player Reachability-Price Games on Single-Clock Timed Automata
Michal Rutkowski (University of Warwick, UK)

11:30
Time Delays in Membrane Systems and Petri Nets
Bogdan Aman and Gabriel Ciobanu (A.I.Cuza University of Iasi, Romania)

12:00
Abstracting from Exponentially Timed Internal Actions (abstract)
Marco Bernardo (Università di Urbino, Italy)

12:30–14:00
Lunch

14:00–16:00
SESSION 5: Process Algebras and Types

14:00
Real Reward Testing for Probabilistic Processes (Extended Abstract)
Yuxin Deng (Shanghai Jiao Tong University, China), Rob van Glabbeek (National ICT Australia, Australia), Matthew Hennessy (Trinity College Dublin, Ireland) and Carroll Morgan (University of New South Wales, Australia)

14:30
A Stochastic Broadcast Pi-Calculus
Lei Song (IT University of Copenhagen, Denmark), Flemming Nielson (Technical University of Denmark, Denmark) and Bo Friis Nielsen (Technical University of Denmark, Denmark)

15:00
Improvements for Free
Daniel Seidel and Janis Voigtländer (Rheinische Friedrich-Wilhelms-Universität Bonn, Germany)

15:30
Subject reduction in a Curry-style polymorphic type system with a vectorial structure (abstract)
Pablo Arrighi (École Normale Supérieure de Lyon, France), Alejandro Diaz-Caro (Université de Grenoble, France) and Benoît Valiron (Université Paris 13, France)

16:00–16:30
Coffee

Post-Conference Workshops
Sunday, April 3

09:30–10:30
SESSION 6: Hybrid Systems

09:30
Analysis of Non-Linear Probabilistic Hybrid Systems
Joseé Desharnais (Université Laval, Canada) and Joseph Assouramou (Université Laval, Canada)

10:00
HYPE with stochastic events
Luca Bortolussi (University of Trieste, Italy), Vashti Galpin (University of Edinburgh, UK)
and Jane Hillston (University of Edinburgh, UK)

10:30–11:00
Coffee

11:00–12:15
SESSION 7: Distances

11:00
Distances for Weighted Transition Systems: Games and Properties
Uli Fahrborg (IRISA/INRA Rennes Cedex, France), Claus Thrane (Aalborg University, Denmark)
and Kim G. Larsen (Aalborg University, Denmark)

11:30
Computing Distances between Probabilistic Automata
Joseé Desharnais (Université Laval, Canada), Mathieu Tracol (Université Paris-Sud, France)
and Abir Zhioua (Université Laval, Canada)

12:00
Closing

12:15
End of workshop

Post-Conference Workshops
8.7 SVARM – Workshop on Synthesis, Verification, and Analysis of Rich Models

SVARM is held in E1.3/001

Friday, April 1

13:55–16:00
SESSION 1

13.55
Welcome

14:00
Invited Talk: Quantitative reactive models
Tom Henzinger (IST Austria)

15:00
Reasoning about explicit resource management in message passing concurrency
Adrian Francalanza (University of Malta)

15:20
Quantitative verification of adaptive IT systems
Radu Calinescu (University of Oxford, UK)

15:40
Provably correct compilation of an abstract behavioral modeling language
Reiner Hähnle (Chalmers University of Technology, Sweden)

16:00–16:30
Coffee

16:30–17:10
SESSION 2

16:30
Separation logic for OO programs in Coq
Lars Birkedal (IT University of Copenhagen, Denmark)

16:50
Link between interactive and automated theorem provers
Jasmin Blanchette (TU München, Germany)

17:10–18:00
Business Meeting
Saturday, April 2

09:00–10:20
SESSION 3

09:00
Craig interpolation for integer arithmetic, uninterpreted functions, and the theory of arrays
Philipp Ruemmer (Uppsala University, Sweden)

09:20
SMT-based symbolic model checking of administrative access control policies
Alessandro Armando (Università di Genova, Italy)

09:40
Synthesis of memory fences
Eran Yahav (Technion - Israel Institute of Technology, Israel)

10:00
Lazy abstraction for size-change termination
Peter Schneide-Kamp (University of Southern Denmark)

10:30–11:00
Coffee

11:00–12:30
SESSION 4

11:00
From constructive to inductive proofs of termination
Aliaksei Tsitovich (University of Lugano, Switzerland)

11:20
Cooperation between SAT, SMT provers and Coq
Chantal Keller (INRIA, Rocquencourt-Paris, France)

11:40
On model checking networks of pushdown systems
Tayssir Touili (LIAFA, Paris, France)

12.00
Open mike for short research presentations

12:30–14:00
Lunch

14:00–16:00
SESSION 5

Post-Conference Workshops

65
14:00
Invited Talk: S2E: A Platform for In-Vivo Multi-Path Analysis of Software Systems
George Candea (EPFL, Switzerland)

15:00
Numerical Transition Systems Competition
Radu Iosif (VERIMAG, France)

16:00–16:30
Coffee

16:30–17:30
SESSION 6

16:30
Two new tool prototypes for shape analysis
Tomáš Vojnar (Brno University of Technology, Czech Republic)

16:50
Deductive Temporal Verification of Parametrized Concurrent Systems
Alejandro Sánchez (IMDEA-Software, Spain)

17:10
Verified efficient unsatisfiability proof checking for SAT
Filip Maric (Faculty of Mathematics, Belgrade, Serbia)

Sunday, April 3

09:00–10:20
SESSION 7

09:00
Invited talk: Systematic Software Testing Using Test Abstractions
Darko Marinov (University of Illinois at Urbana-Champaign)

10:00
Efficient model checking of PSL safety properties
Tuomas Launiainen (Aalto University, Finland)

10:30–11:00
Coffee

11:00–12:20
SESSION 8
11:00  
On Rich Models Issues for Trust Management and Qualitative Algebra  
Denis Trček (Jožef Stefan Institute, Slovenia)  

11:20  
Synthesizing Systems with Optimal Average-Case Behavior for Ratio Objectives  
Christian von Essen (RWTH Aachen, Germany)  

11:40  
Verifying Design Patterns using Symbolic Model Checking  
Alexis Marechal (Université de Genève, Switzerland)  

12:00  
Numerical constraint solving based on linear relaxations  
Stefan Ratschan (Academy of Sciences of the Czech Republic)  

12:30–14:00  
Lunch  

14:00–16:00  
SESSION 9  

14:00  
Analysis and Verification of Higher Order Functional Programs: An Automata Theoretic Approach  
Ruslán Garza (Max Planck Institute for Software Systems, Germany)  

14:20  
Static Analysis of x86 Executables  
Johannes Kinder (TU Darmstadt, Germany / EPFL, Switzerland)  

14:40  
Software Synthesis using Automated Reasoning  
Ruzica Piskac (EPFL, Switzerland)  

15:00  
Verification for control  
Rupak Majumdar (Max Planck Institute for Software Systems, Germany)  

16:00–16:30  
Coffee  

16:30–18:00  
SESSION 10  

16:30  
Open Discussions on Future Collaboration Steps  

Post-Conference Workshops
8.8 TERMGRAPH – 6th International Workshop on Computing
with Terms and Graphs

TERMGRAPH is held in E1.3/15 except joint sessions

Saturday, April 2

09:15–10:30
SESSION 1
Joint session in E1.3/002

09:15
Welcome

09:30
Invited Talk (joint with GT-VMT): On the Observable Behavior of Graph Transformation Systems
Reiko Heckel (University of Leicester)

10:30–11:00
Coffee

11:00–12:30
SESSION 2

11:00
Invited Talk: From Infinitary Term Rewriting to Cyclic Term Graph Rewriting and back
Patrick Bahr (University of Copenhagen)

12:00
Term Graph Rewriting and Parallel Term Rewriting
Andrea Corradini (University of Pisa) and Frank Drewes (Umea University).

12:30–14:00
Lunch

14:00–15:00
SESSION 3
Joint session in E1.3/002

14:00
Invited Speaker (joint with TERMGRAPH): Nominal Graphs
Maribel Fernandez (King’s College London)

15:00–16:00
SESSION 4

15:00
Graph transformations for topology-based geometric modeling
Th. Bellet, A. Arnould (University of Poitiers) and P. Le Gall (Ecole Centrale Paris)
15:30
Dependently-Typed Formalisation of Typed Term Graphs
Wolfram Kahl (McMaster University)

16:00-16:30
Coffee

16:30-18:00
SESSION 5

16:30
PORGY: Strategy-Driven Interactive Transformation of Graphs
O. Andrei, M. Fernandez, H. Kirchner, G. Melançon, O. Namet and B. Pinaud
(Bordeaux and London)

17:00
A new graphical calculus of proofs
Sandra Alves, Maribel Fernandez and Ian Mackie (King's college London)

17:30
Repetitive Reduction Patterns in Lambda Calculus with letrec
Jan Rochel and Clemens Grabmayer (Utrecht University)

18.00
Closing

Post-Conference Workshops
9 Social Events

Alongside ETAPS 2011 there are four social events offered: Pre- and post-conference workshop dinners on Saturday before (March 26) and after (April 2) the conference week, a Reception on Monday, March 28, and the Main Conference Banquet on Wednesday March 30. While the workshop dinners are only for those who have purchased tickets, the reception is open to everyone. New this year: The banquet is included for everyone who is registered for the main conferences, except students, or who has bought a separate dinner ticket. Availability of additional tickets should be checked at the Registration Desk if desired.

**Saturday, March 26: Pre-Conference Workshop Dinner**

The pre-conference workshop dinner takes place in the Restaurant „Der Stiefel“ which is located in the south-west corner of Sankt Johanner Markt, more precisely at Am Stiefel 2. Dinner starts at 19:30.

**Monday, March 28: Reception at Schloss Saarbrücken**

You are invited to the 18th century Saarbrücken castle, the Schloss. This historic landmark is located on the left bank of the river Saar in the center of the town. It combines Baroque style with a modern steel skeleton architecture by Gottfried Böhm. Today the Schloss is the head office of Saarbrücken’s regional administration.

Reception starts at 19:30. From Sankt Johanner Markt, walk towards and cross the river Saar on the stone bridge Alte Brücke, another historic landmark. Then walk up to the Schloss.

**Wednesday, March 30: Banquet at Völklinger Hütte**

The Main Conference Banquet takes place in the Völklingen Ironworks. This UNESCO World Heritage Site is a historic steel plant on the banks of the river Saar, in operation from 1883 to 1986. It nowadays serves as a large museum. The Ferrodrome is an interactive science center focusing on the making of iron. Visitors can tour the former production areas. Dinner will be served in the large Blower Hall, inside the current exhibition „The Celts. Druids. Princes. Warriors.“ displaying a total of 1650 exhibits.

Busses to Völklingen leave from campus at 18:20-18:30, thus right after the last sessions of the Wednesday programme. The Banquet starts at 20:00, after touring the site. If you want to go to the site on your own, get your entrance ticket at the Registration Desk. The Völklingen Ironworks is just three easy minutes from Völklingen Railway Station on well sign-posted walkways.

**Saturday April 2: Post-Conference Workshop Dinner**

The post-conference workshop dinner takes place in the Restaurant „Der Stiefel“ which is located in the south-west corner of Sankt Johanner Markt, more precisely at Am Stiefel 2. Dinner starts at 19:30.
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