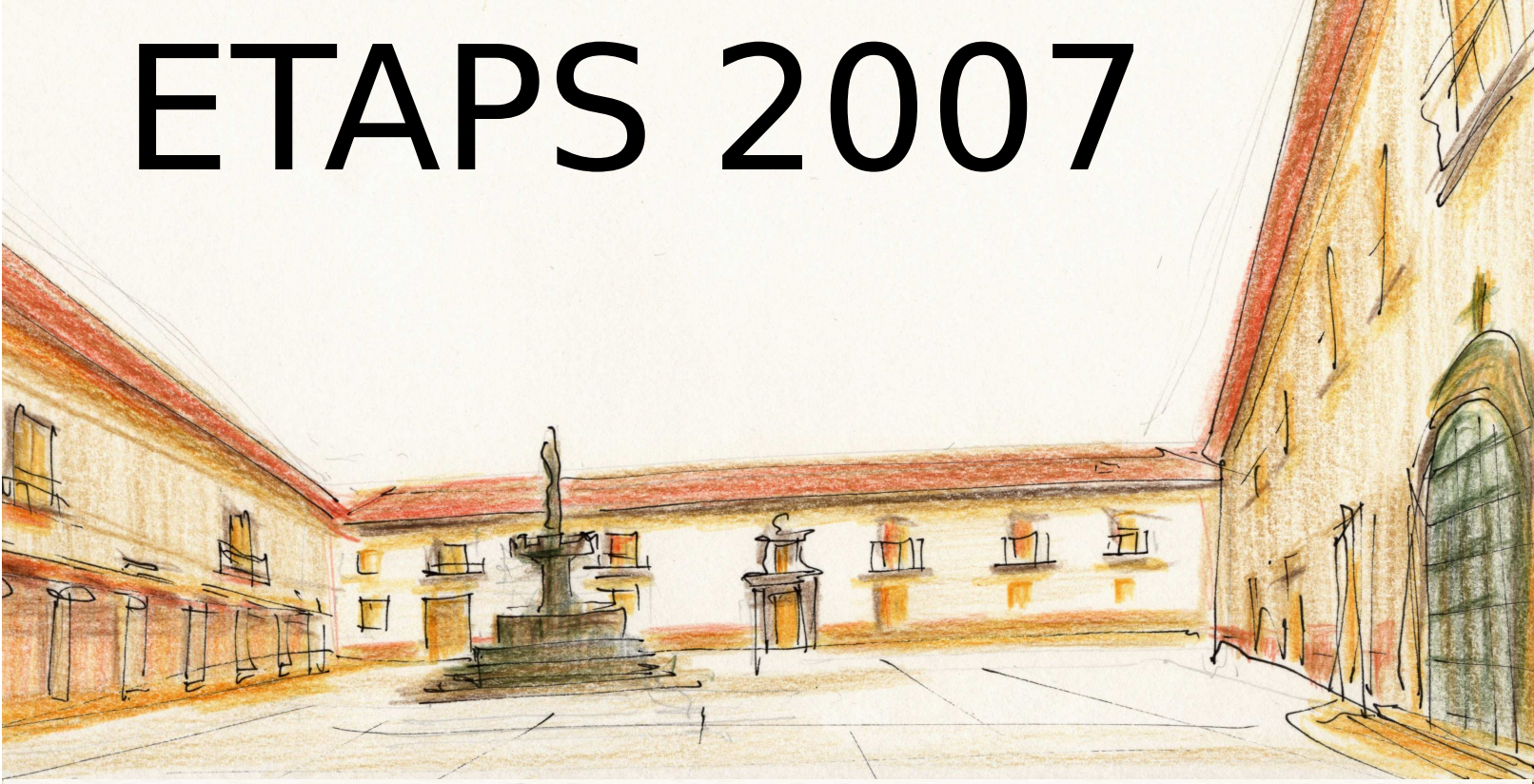


ETAPS 2007



Conference Programme



March 24 - April 1
Braga - Portugal

Steering Committee

Perdita Stevens, Edinburgh (Chair)
Luca Aceto, Aalborg and Reykjavík
Rastislav Bodik, Berkeley
Maura Cerioli, Genova
Matt Dwyer, Lincoln
Hartmut Ehrig, Berlin
José Luiz Fiadeiro, Leicester
Marie-Claude Gaudel, Paris
Roberto Gorrieri, Bologna
Reiko Heckel, Leicester
Michael Huth, London
Joost-Pieter Katoen, Aachen
Paul Klint, Amsterdam
Jens Knoop, Vienna
Shriram Krishnamurthi, Brown
Kim Larsen, Aalborg
Tiziana Margaria, Potsdam
Ugo Montanari, Pisa
Rocco de Nicola, Firenze
Hanne Riis Nielson, Copenhagen
Jens Palsberg, Indiana
Don Sannella, Edinburgh
João Saraiva, Braga
Vladimiro Sassone, Southampton
Helmut Seidl, Munique
Peter Sestoft, Copenhagen
Andreas Zeller, Saarbrücken
Lenore Zuck, Chicago

Organizing Committee

João Alexandre Saraiva (Chair)
Joost Visser (Satellite events)
Luis Soares Barbosa (Satellite events)
José Nuno Oliveira
Pedro Rangel Henriques
José João Almeida
António Nestor Ribeiro
Jorge Sousa Pinto
José Bacelar Almeida (Website)
Victor Francisco Fonte (Website)

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Welcome

Welcome to Braga

Braga, capital of the Minho province, is an ancient city in the heart of the green and fertile region known as the Costa Verde. The region is known for its attractiveness in terms of climate, gastronomy, prices, and culture. The region is served by the Oporto international airport, providing direct flights to many major European cities. Braga is known for its barroque churches and splendid 18th century houses. The old city is solemn and antique, but animated with commercial activity and academic life.

Welcome to ETAPS 2007

1 Etaps Locations

2 Main Conferences

- **CC 2007** , International Conference on Compiler Construction
- **ESOP 2007** , European Symposium on Programming
- **FASE 2007** , Fundamental Approaches to Software Engineering
- **FOSSACS 2007** , Foundations of Software Science and Computation Structures
- **TACAS 2007** , Tools and Algorithms for the Construction and Analysis of Systems

2.1 CC

2.1.1 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

- Eric Allen, Sun Microsystems, Inc.
- Emery Berger, University of Massachusetts Amherst
- Rastislav Bodik, University of California, Berkeley
- William Cook, University of Texas at Austin
- Chen Ding, University of Rochester
- Sabine Glesner, Technical University of Berlin
- Dan Grossman, University of Washington
- Rajiv Gupta, University of Arizona
- Andrew Kennedy, Microsoft Research Cambridge
- Shriram Krishnamurthi, Brown University (co-chair)
- Christian Lengauer, University of Passau
- Cristina Videira Lopes, University of California, Irvine
- Todd Millstein, University of California, Los Angeles
- Martin Odersky, Ecole Polytechnique Fédérale de Lausanne (co-chair)
- G. Ramalingam, IBM Research
- Vijay Saraswat, IBM TJ Watson Research Center
- Zhong Shao, Yale University
- Yannis Smaragdakis, Georgia Tech
- Gregor Snelting, University of Passau
- Joost Visser, Universidade do Minho
- Reinhard Wilhelm, Saarland University

Invited Speaker

Don Batory, University of Texas at Austin

Conference Page

<http://cc2007.cs.brown.edu/>

2.2 ESOP

2.2.1 European Symposium on Programming,

ESOP is an annual conference devoted to fundamental issues in the specification, analysis, and implementation of programming languages and systems. This includes:

- Design of programming languages and calculi and their formal properties
- Techniques, methods, and tools for their implementation
- Exploitation of programming styles within different programming paradigms
- Automatic and manual methods for generating and reasoning about programs
- The design and invention of systems and tools to assist in exploitation of the languages

Contributions bridging the gap between theory and practice are particularly welcome. Topics traditionally covered by ESOP include programming paradigms and their integration, semantics, calculi of computation, security and privacy, advanced type systems, program analysis, program transformation, and practical algorithms based on theoretical developments.

Programme Committee

- Steve Brookes - CMU Pittsburgh, USA
- Gerard Boudol - INRIA Sophia Antipolis, France
- Giuseppe Castagna - ENS Paris, France
- Patrick Cousot - ENS Paris, France
- Mads Dam - KTH stockholm, Sweden
- Pierpaolo Degano - U. Pisa, Italy
- Rocco De Nicola (Chair) - U. Firenze, Italy
- Sophia Drossopoulou - Imperial College, UK
- Cedric Fournet - Microsoft Cambridge, UK
- Stefania Gnesi - ISTI CNR, Italy
- Joshua Guttman - MITRE, USA
- Chris Hankin - Imperial College, UK
- Matthew Hennessy - U. Sussex, UK
- Alan Jeffrey - Bell Labs, USA
- John Mitchell - Stanford U., USA
- Fleming Nielson - IMM Copenhagen, DK
- Catuscia Palamidessi - INRIA Paris, France

- Benjamin Pierce - U. Pennsylvania, USA
- Andrei Sabelfeld - Chalmers, Sweden
- Don Sannella - U. Edinburgh, UK
- Bernhard Steffen - U. Dortmund, Germany
- Walid Taha - Rice U., USA
- Jan Vitek - Purdue U., USA
- Martin Wirsing - LMU Munich, Germany
- Xavier Leroy - INRIA Paris, France
- Gianluigi Zavattaro - U. Bologna, Italy

Invited Speaker

Andrew Pitts - Cambridge University, UK

Conference Page

<http://rap.dsi.unifi.it/esop07/>

2.3 FASE

2.3.1 Fundamental Approaches to Software Engineering

The information society is increasingly reliant on software at all levels. Hence, the ability to produce software of high quality at low cost is crucial to technological and social progress. An intrinsic characteristic of software that integrates with real-world processes is the need to evolve in order to adjust to new or changing requirements. Maintaining quality while embracing change is one of the main challenges of software engineering.

Software engineers have at their disposal theories, languages, methods, and tools that derive from both the systematic research of the academic community and the experience of practitioners. It is one of the roles of software engineering as a scientific discipline to foster feedback between academia and industry by proposing new solutions and evaluating the effectiveness of those solutions in practical contexts.

Submissions to FASE may address either novel proposed solutions or the evaluation of solutions, but they must clearly identify: the problem being solved, the proposed solution and its relationship to existing solutions, and, in the case of evaluations, the context in which the evaluation was conducted. Contributions that combine the development of conceptual and methodological advances with their formal foundations and tool support are particularly encouraged.

A non-exclusive list of topics of interest is given below.

- 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

- Implementation concepts and technologies: distributed, mobile, and embedded applications, service-oriented architectures and Web Services
- Software processes: support for iterative, agile, and open source development
- Model-driven development: design and semantics of semi-formal visual languages, consistency and transformation of models
- Software evolution: refactoring, reverse and re-engineering, configuration management and architectural change, or aspect-orientation
- Software quality: validation and verification of software using theorem proving, testing, analysis, metrics or visualization techniques
- Application of formal methods to software development

Programme Committee

- Luciano Baresi, Politecnico di Milano
- Yolande Berbers, Katholieke Universiteit Leuven
- Carlos Canal, University of Málaga
- Myra Cohen, University of Nebraska
- Ivica Crnkovic, Mälardalen University
- Arie van Deursen, Delft University of Technology
- Juergen Dingel, Queen's University
- Matt Dwyer, University of Nebraska (co-chair)
- Harald Gall, University of Zurich
- Holger Giese, University of Paderborn
- Martin Grosse-Rhode, Fraunhofer-ISST
- Anthony Hall, independent consultant
- Reiko Heckel, University of Leicester
- Patrick Heymans, University of Namur
- Paola Inverardi, University of L'Aquila
- Valerie Issarny, INRIA-Rocquencourt
- Natalia Juristo, Universidad Politecnica de Madrid
- Kai Koskimies, Tampere University of Technology
- Patricia Lago, Vrije Universiteit

- Antónia Lopes, University of Lisbon (co-chair)
- Mieke Massink, CNR-Institute of Information Science and Technology
- Carlo Montangero, University of Pisa
- Barbara Paech, University of Heidelberg
- Leila Ribeiro, Federal University of Rio Grande do Sul
- Robby, Kansas State University
- Catalin Roman, Washington University
- Sebastian Uchitel, Imperial College London and University of Buenos Aires
- Jianjun Zhao, Shanghai Jiao Tong University

Invited Speaker

Jan Bosch (Nokia, Finland)

Conference Page

<http://fase07.di.fc.ul.pt>

2.4 FOSSACS

2.4.1 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. Topics covered include, but are not limited to:

- Algebraic models,
- Automata and language theory,
- Behavioural equivalences,
- Categorical models,
- Computation processes over discrete and continuous data,
- Infinite state systems
- Computation structures,
- Logics of programs,
- Modal, spatial, and temporal logics,
- Models of concurrent, reactive, distributed, 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

- Martin Abadi, University of California at Santa Cruz and Microsoft Research
- Michael Benedikt, Bell Laboratories
- Ahmed Bouajjani, Université Paris 7
- Cristiano Calcagno, Imperial College London
- Didier Caucal, IRISA-CNRS, Rennes
- Flavio Corradini, University of Camerino
- Robert van Glabbeek, Stanford University
- Andrew D. Gordon, Microsoft Research, Cambridge
- Hendrik Jan Hooft, Leiden University
- Anna Ingólfsdóttir, Aalborg University
- Florent Jacquemard LSV, ENS de Cachan
- Werner Kuich, TU Wien
- Kamal Lodaya, Institute of Mathematical Sciences, Chennai
- Antoine Miné, ENS Rue d'Ulm, Paris
- Damian Niwinski, Warsaw University
- David A. Schmitt, University of Kansas
- Stefan Schwoon, Universität Stuttgart
- Helmut Seidl, TU München (chair)
- Scott A. Smolka, State University of New York at Stony Brook
- P.S. Thiagarajan, National University of Singapore
- Sophie Tison, Université des Sciences et Technologies de Lille
- Heiko Vogler, TU Dresden
- Christoph Weidenbach, Max-Planck-Institut für Informatik, Saarbrücke

Invited Speaker

Radha Jagadeesan, DePaul University

Conference Page

<http://www2.in.tum.de/~seidl/fossacs07/>

2.5 TACAS

2.5.1 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 secure, real-time, hybrid, critical, biological or dependable systems
- Integration of formal methods and static analysis in high-level hardware design or software environments
- Tool environments and tool architectures
- SAT solvers
- Applications and case studies

As TACAS addresses a heterogeneous audience, potential authors are strongly encouraged to write about their ideas and findings in general and jargon-independent, rather than in application- and domain-specific, terms. Authors reporting on tools or case studies are strongly encouraged to indicate how their experimental results can be reproduced and confirmed independently.

Programme Committee

Christel Baier

Universität Bonn, Bonn (Germany)

Armin Biere

Johannes Kepler Universität, Linz (Austria)

Jonathan Billington

University of South Australia, Mawson Lakes (Australia)

Ed Brinksma

ESI and University of Twente (The Netherlands)

Rance Cleaveland

University of Maryland & Fraunhofer USA Inc, College Park, Maryland (USA)

Byron Cook (tool chair)

Microsoft Research, Cambridge (UK)

Dennis Dams

Lucent Technologies, Murray Hill, New Jersey (USA)

Marsha Chechik

University of Toronto, Toronto (Canada)

Francois Fages

INRIA Rocquencourt, Le Chesnay Cedex (France)

Kathi Fisler

Worcester Polytechnic Institute, Worcester, Massachusetts (USA)

Limor Fix

Intel Research Labor

Hubert Garavel

INRIA Rhones-Alpes

Susanne Graf

VERIMAG, Grenoble

Orna Grumberg (co-

TECHNION - Israel

John Hatcliff

Kansas State Univer

Holger Hermanns

Universität des Saarl

Michael Huth (co-cha

Imperial College Lon

Daniel Jackson

Massachusetts Instit

Somesh Jha

The University of W

Invited Speaker

K. Rustan M. Leino (Microsoft Research, USA)

Conference Page

<http://www.doc.ic.ac.uk/tacas07/>

2.6 Programme of Main Conferences at ETAPS 2007

2.6.1 Programme of Monday, March 26

09:00 - 10:30 SESSION 1 (Monday)

Welcome

FOSSACS - Invited Talk (Chair: Helmut Seidl)

Formal foundations for Aspects

Radha Jagadeesan (DePaul University, USA)

10:30 - 11:00 Coffee

11:00 - 12:30 SESSION 2 (Monday)

CC - Architecture (Chair: Martin Odersky)

New Algorithms for SIMD Alignment

Liza Fireman (Technion), Erez Petrank (Microsoft Research), Ayal Zaks (IBM Haifa Research Laboratory)

Preprocessing Strategy for Effective Modulo Scheduling on Multi-Issue Digital Signal Processors

Doosan Cho (Seoul National University), Ravi Ayyagari (Boise State University), Gang-Ryung Uh (Boise State University), Yunheung Paek (Seoul National University)

Compiler Directed Power Optimization for Partitioned Memory Architectures

K. Shyam, R. Govindarajan (Indian Institute of Science)

FOSSACS - Games and Mu Calculus (Chair: Helmut Seidl)

Optimal Strategy Synthesis in Stochastic Müller Games

Krishnendu Chatterjee (Univ. of California, Berkeley)

Generalized Parity Games

Nir Piterman (EPFL Switzerland), Krishnendu Chatterjee (Univ. of California, Berkeley), Thomas A. Henzinger (EPFL Switzerland)

Enriched mu-Calculi Module Checking

Aniello Murano (Univ. di Napoli), Alessandro Ferrante (Univ. di Salerno)

TACAS - Software Verification (Chair: Natasha Sharygina)

Shape Analysis by Graph Decomposition

Roman Manevich (Tel Aviv University), Joshua Berdine, Byron Cook (Microsoft Research Cambridge), Ganesan Ramalingam (Microsoft Research India), and Mooly Sagiv (Tel Aviv University)

A reachability predicate for analyzing low-level software

Shaunak Chatterjee (Indian Institute of Technology at Kharagpur), Shuvendu K. Lahiri, Shaz Qadeer (Microsoft Research), and Zvonimir Rakamaric (University of British Columbia)

Generating Representation Invariants of Structurally Complex Data

Muhammad Zubair Malik, Aman Pervaiz, and Sarfraz Khurshid (University of Texas at Austin)

12:30 - 14:30 Lunch

14:30 - 16:30 SESSION 3 (Monday)

CC - Garbage Collection and Program Analysis (Chair: Reinhard Wilhelm)

Using Prefetching to Improve Reference-Counting Garbage Collectors

Harel Paz (IBM Haifa Research Laboratory), Erez Petrank (Microsoft Research)

Accurate Garbage Collection in Uncooperative Environments with Lazy Pointer Stacks

Jason Baker, Antonio Cunei, Filip Pizlo, Jan Vitek (Purdue University)

Correcting the Dynamic Call Graph Using Control-Flow Constraints

Byeongcheol Lee, Kevin Resnick, Michael D. Bond, Kathryn S. McKinley (University of Texas at Austin)

Obfuscating Java: the Most Pain for the Least Gain

Michael Batchelder, Laurie Hendren (McGill University)

FOSSACS - Logic (Chair: Hubert Comon)

The Complexity of Generalized Satisfiability for Linear Temporal Logic

Thomas Schneider (Univ. Jena), Henning Schnoor (Univ. Hannover), Ilka Schnoor (Univ. Hannover), Michael Bauland (Univ. Hannover), Heribert Vollmer (Univ. Hannover)

PDL with intersection and converse is 2EXP-complete

Markus Lohrey (Univ. Stuttgart), Carsten Lutz (TU Dresden), Stefan Göller (Univ. Stuttgart)

On the Expressiveness and Complexity of ATL

Nicolas Markey (ENS Cachan), Ghassan Oreiby (ENS Cachan), Francois Laroussinie (ENS Cachan)

Formalising the pi-calculus using Nominal Logic

Jesper Bengtson (Uppsala Univ.), Joachim Parrow (Uppsala Univ.)

TACAS - Probabilistic Model Checking and Markov Chains (Chair: Holger Hermanns)

Multi-Objective Model Checking of Markov Decision Processes

Kousha Etessami (University of Edinburgh), Marta Kwiatkowska (Birmingham University), Moshe Y. Vardi (Rice University), and Mihalis Yannakakis (Columbia University)

PReMo: an analyzer for Probabilistic Recursive Models

Dominik Wojtczak and Kousha Etessami (University of Edinburgh)

Counterexamples in Probabilistic Model Checking

Tingting Han and Joost-Pieter Katoen (RWTH Aachen and University of Twente)

Bisimulation minimisation mostly speeds up probabilistic model checking

Joost-Pieter Katoen (RWTH Aachen and University of Twente), Tim Kemna (University of Twente), Ivan Zapreev (RWTH Aachen and University of Twente), and David N. Jansen (University of Twente)

16:30 - 17:00 Coffee

17:00 - 18:30 SESSION 4 (Monday)

CC - Register Allocation (Chair: Ganesan Ramalingam)

A Fast Cutting-Plane Algorithm for Optimal Coalescing

Daniel Grund (Saarland University), Sebastian Hack (University of Karlsruhe)

Register Allocation and Optimal Spill code Scheduling in Software Pipelined Loops using 0-1 Integer Linear Programming Formulation

Santosh G. Nagarakatte, R. Govindarajan (Indian Institute of Science)

Extended Linear Scan: an Alternate Foundation for Global Register Allocation

Vivek Sarkar (IBM T.J. Watson Research Center), Rajkishore Barik (IBM India Research Laboratory)

FOSSACS - Formal Languages and Complexity (Chair: Igor Walukiewicz)

Symbolic Reachability Analysis for Higher-Order Pushdown Systems

Matthew Hague (Oxford Univ.), Luke Ong (Oxford Univ.)

Complexity Results on Balanced Context-Free Languages

Akihiko Tozawa (IBM Research, Tokyo), Yasuhiko Minamide (Univ. of Tsukuba)

An Effective Algorithm for The Membership Problem for Extended Regular Expressions

Grigore Rosu (Univ. of Illinois, Urbana)

TACAS - Static Analysis (Chair: Tiziana Margaria)

Causal Concurrent Dataflow Analysis for Concurrent Programs

Azadeh Farzan and P. Madhusudan (University of Illinois at Urbana-Champaign)

Type-dependency Analysis and Program Transformation for Symbolic Execution

Saswat Anand, Alessandro Orso, and Mary Jean Harrold (Georgia Institute of Technology)

JPF-SE: A Symbolic Execution Extension to Java PathFinder

Saswat Anand (Georgia Institute of Technology), Corina S. Pasareanu, and Willem Visser (NASA Ames Research Center)

2.6.2 Programme of Tuesday, March 27

09:00 - 10:00 SESSION 1 (Tuesday)

CC - Invited Talk (Chair: Shriram Krishnamurthi)

On the Convergence of Program Refactoring, Program Synthesis, and Model Driven Development

Don Batory (U. Austin, USA)

10:00 - 10:30 Coffee

10:30 - 12:30 SESSION 2 (Tuesday)

CC - Program Analysis (Chair: Shriram Krishnamurthi)

A Practical Escape and Effect Analysis for Building Lightweight Method Summaries

Sigmund Cherem, Radu Rugina (Cornell University)

Layout Transformations for Heap Objects Using Static Access Patterns

Jinseong Jeon, Keoncheol Shin, Hwansoo Han (Korea Advanced Institute of Science and Technology)

A New Elimination-Based Data Flow Analysis Framework

Bernhard Scholz (University of Sydney), Johann Blieberger (Technische Universität Wien)

A declarative framework for analysis and optimization components

Henry Falconer, Paul H. J. Kelly, David M. Ingram, Michael R. Mellor, Tony Field, Olav Beckmann (Imperial College)

FOSSACS - Process Calculi (Chair: Pierpaolo Degano)

A Distribution Law for CCS and a New Congruence Result for the Pi-calculus

Daniel Hirschhoff (ENS Lyon), Damien Pous (ENS Lyon)

Semantic barbs and biorthogonality

Pawel Sobocinski (Univ. of Cambridge), Vladimiro Sassone (Univ. of Southampton), Julian Rathke (Univ. of Sussex)

Logical Characterizations of Bisimulations for Discrete Probabilistic Systems

Augusto Parma (Univ. di Verona), Roberto Segala (Univ. di Verona)

Approximating a Behavioural Pseudometric without Discount for Probabilistic Systems

Franck van Breugel (York Univ.), James Worrell (Oxford Univ.), Babita Sharma (York Univ.)

TACAS - Markov Chains and Real-Time Systems (Chair: Joost-Pieter Katoen)

A Symbolic Algorithm for Optimal Markov Chain Lumping

Salem Derisavi (Carleton University at Ottawa)

Flow Faster: Efficient Decision Algorithms for Probabilistic Simulations

Lijun Zhang, Holger Hermanns (Saarland University), Friedrich Eisenbrand (University of Paderborn), and David N. Jansen (University of Twente)

Model Checking Probabilistic Timed Automata with One or Two Clocks

Marcin Jurdzinski (University of Warwick), Francois Laroussinie (ENS Cachan), and Jeremy Sproston (Universita di Torino)

Adaptor synthesis for real-time components

Massimo Tivoli (University of L'Aquila), Pascal Fradet, Alain Girault, Gregor Goessler (INRIA Rhone-Alpes)

12:30 - 14:30 Lunch

14:30 - 16:30 SESSION 3 (Tuesday)

FOSSACS - Verification and Program Analysis (Chair: Cristiano Calcagno)

Logical Reasoning for Higher-Order Functions with Local State

Nobuko Yoshida (Imperial College London), Kohei Honda (Queen Mary), and Martin Berger (Imperial College London)

Types and Effects for Resource Usage Analysis

Massimo Bartoletti (Univ. di Pisa), Gian Luigi Ferrari (Univ. di Pisa), Pierpaolo Degano (Univ. di Pisa), Roberto Zunino (Univ. di Pisa)

Relational Parametricity and Separation Logic

Hongseok Yang (Univ. of London), Lars Birkedal (IT Univ. of Copenhagen)

Polynomial Constraints for Sets with Cardinality Bounds

Bruno Marnette (ENS Cachan), Martin Rinard (MIT, Cambridge, USA), Viktor Kuncak (MIT, Cambridge, USA)

TACAS (I) - Timed Automata and Duration Calculus (Chair: Joel Ouaknine)

Deciding an Interval Logic with Accumulated Durations

Martin Fraenzle (Universitat Oldenburg) and Michael R. Hansen (Technical University of Denmark)

From Time Petri Nets to Timed Automata: an Untimed Approach

Davide D'Aprile, Susanna Donatelli (Universita di Torino), Arnaud Sangnier (LSV-ENS Cachan), and Jeremy Sproston (Universita di Torino)

Complexity in Simplicity: Flexible Agent-based State Space Exploration

Jacob Illum Rasmussen, Gerd Behrmann, and Kim G. Larsen (Aalborg University)

On Sampling Abstraction of Continuous Time Logic with Durations

Paritosh K. Pandya (Tata Institute of Fundamental Research), Shankara Narayanan Krishna, and Kuntal Loya (Indian Institute of Technology at Bombay)

TACAS (II) - Assume-Guarantee Reasoning (Chair: Moshe Vardi)

Assume Guarantee Synthesis

Krishnendu Chatterjee (University of California, Berkeley) and Thomas A. Henzinger (EPFL)

Optimized L* for Assume-Guarantee Reasoning

Sagar Chaki (Software Engineering Institute) and Ofer Strichman (The Technion, Haifa)

Refining Interface Alphabets for Compositional Verification

Mihaela Gheorghiu (University of Toronto), Dimitra Giannakopoulou, and Corina S. Pasareanu NASA Ames Research Center)

MAVEN: Modular Aspect Verification

Max Goldman and Shmuel Katz (The Technion, Haifa)

16:30 - 17:00 Coffee

17:00 - 18:30 SESSION 4 (Tuesday)

FASE - Evolution and Agents (Chair: Matt Dwyer)

EQ-Mine: Predicting Short-Term Defects for Software Evolution

Jacek Ratzinger (Vienna University of Technology, Austria), Martin Pinzger (University of Zurich, Switzerland), and Harald C. Gall (University of Zurich, Switzerland)

An Approach to Software Evolution Based on Semantic Change

Romain Robbes (University of Lugano, Switzerland), Michele Lanza (University of Lugano, Switzerland), and Mircea Lungu (University of Lugano, Switzerland)

A Simulation-Oriented Formalization for a Psychological Theory

Paulo Salem da Silva (University of São Paulo, Brazil), Ana C. V. de Melo (University of São Paulo, Brazil)

FOSSACS - Calculi (Chair: Antoine Mine)

The Rewriting Calculus as a Combinatory Reduction System

Clara Bertolissi (Univ. de Provence), Claude Kirchner (INRIA/LORIA, Nancy)

Iterator Types

Ian Mackie (King's College, London), Sandra Alves (Univ. of Porto), Maribel Fernandez (King's College, London), Mario Florido (Univ. of Porto)

On the Stability by Union of Reducibility Candidates

Colin Riba (INPL/LORIA, Nancy)

TACAS - Biological Systems (Chair: Radha Jagadeesan)

Model Checking Liveness Properties of Genetic Regulatory Networks

Gregory Batt and Calin Belta (Boston University), and Ron Weiss (Princeton University)

Checking Pedigree Consistency with SAT

Panagiotis Manolios, Marc Galceran Oms, and Sergi Oliva Valls (Georgia Institute of Technology, Atlanta)

Don't Care Modeling: A logical framework for developing predictive system models

Hillel Kugler (New York University), Amir Pnueli (New York University and the Weizmann Institute of Science), Michael Stern (Yale University), and E. Jane Albert Hubbard (New York University)

2.6.3 Programme of Wednesday, March 28

09:00 - 10:10 SESSION 1 (Wednesday)

Unifying Invited Talk (Chair: Perdita Stevens)

There and Back Again: Lessons Learned on the Way to the Market

Rance Cleaveland (University of Maryland/Fraunhofer USA Center for Experimental Software Engineering and Reactive Systems Inc., USA)

10:10 - 10:30 Coffee

10:30 - 12:30 SESSION 2 (Wednesday)

ESOP - Models and Languages for Web Services (Chair: Matthew Hennessy)

Structured Communication-Centred Programming for Web Services

Marco Carbone (Imperial College London), Kohei Honda (Queen Mary, University of London) and Nobuko Yoshida (Imperial College London).

CC-Pi: A Constraint-Based Language for Specifying Service Level Agreements

Maria Grazia Buscemi (IMT Lucca) and Ugo Montanari (University of Pisa).

A Calculus for Orchestration of Web Services

Alessandro Lapadula (University of Florence), Rosario Pugliese (University of Florence) and Francesco Tiezzi (University of Florence).

A Concurrent Calculus with Atomic Transactions

Lucia Acciai (Laboratoire d'Informatique Fondamentale, Marseille), Silvano Dal Zilio (Laboratoire d'Informatique Fondamentale, Marseille) and Michele Boreale (University of Florence).

FASE - Model Driven Development (Chair: Maura Cerioli)

Integrating performance and reliability analysis in a Non-Functional MDA framework

Vittorio Cortellessa (Universita degli Studi di L'Aquila, Italy) Antinisca Di Marco (Universita degli Studi di L'Aquila, Italy), and Paola Inverardi (Universita degli Studi di L'Aquila, Italy)

Information Preserving Bidirectional Model Transformations

Hartmut Ehrig (Technical University Berlin, Germany), Karsten Ehrig (University of Leicester, U.K.), Claudia Ermel (Technical University Berlin, Germany), Frank Hermann (Technical University Berlin, Germany), Gabriele Taentzer (Technical University Berlin, Germany)

Activity-Driven Synthesis of State Machines

Rolf Hennicker (Ludwig-Maximilians-Universitat Munchen, Germany), Alexander Knapp (Ludwig-Maximilians-Universitat Munchen, Germany)

Flexible and Extensible Notations for Modeling

Jimin Gao (University of Minnesota, USA), Mats Heimdahl (University of Minnesota, USA), Eric Van Wyk (University of Minnesota, USA)

FOSSACS - Automata (Chair: Markus Mueller-Olm)

Tree Automata with Memory, Visibility and Structural Constraints

Hubert Comon (ENS Cachan), Florent Jacquemard (INRIA/ENS Cachan), Nicolas Perrin (ENS Lyon)

Model-Checking One-Clock Priced Timed Automata

Patricia Bouyer (ENS Cachan), Nicolas Markey (ENS Cachan), Kim G. Larsen (Aalborg Univ.)

Sampled Universality of Timed Automata

Sampled Universality of Timed Automata, Pavel Krcal (Uppsala Univ.), Wang Yi (Uppsala Univ.), Parosh Abdulla (Uppsala Univ.)

A Lower Bound on Web Services Composition

Anca Muscholl (LABRI, Bordeaux), Igor Walukiewicz (LABRI, Bordeaux)

FACAS - Abstraction Refinement (Chair: Shmuel Katz)

Deciding Bit-Vector Arithmetic with Abstraction

Randal E. Bryant (Carnegie Mellon University), Daniel Kroening (ETH Zuerich), Joel Ouaknine (Oxford University), Sanjit A. Seshia (University of California, Berkeley), Ofer Strichman (The Technion, Haifa), and Bryan Brady (University of California, Berkeley)

Abstraction Refinement of Linear Programs with Arrays

Alessandro Armando (Universita di Genova), Massimo Benerecetti (Universita di Napoli), and
Jacopo Mantovani (Universita di Genova)

Property-Driven Partitioning for Abstraction Refinement

Roberto Sebastiani (Universita di Trento), Stefano Tonetta (University of Lugano), and Moshe
Y. Vardi (Rice University)

Combining Abstraction Refinement and SAT-based Model Checking

Nina Amla and Kenneth McMillan (Cadence Design Systems)

12:30 - 14:30 Lunch

14:30 - 15:40 SESSION 3A (Wednesday)

TACAS - Invited Talk (Chair: Rance Cleaveland)

Verifying object-oriented software: lessons and challenges

K. Rustan M. Leino (Microsoft Research, Redmond, USA)

15:40 - 15:50 Break

15:50 - 16:50 SESSION 3B (Wednesday)

ESOP - Verification (Chair: Pierpaolo Degano)

Modal I/O Automata for Interface and Product Line Theories

Kim G. Larsen (Aalborg University), Ulrik Nyman (Aalborg University) and Andrzej Wa-
sowski (IT University of Copenhagen)

Using history invariants to verify observers

Rustan Leino (Microsoft Research) and Wolfram Schulte (Microsoft Research)

ESOP - Term Rewriting (Chair: Don Sannella)

On the implementation of construction functions for non-free concrete data types

Frederic Blanqui (INRIA), Therese Hardin (Universite Paris 6) and Pierre Weis (INRIA)

Anti-Pattern Matching

Claude Kirchner (INRIA-LORIA Nancy), Radu Kopetz (INRIA-LORIA Nancy) and Pierre-
Etienne Moreau (INRIA-LORIA Nancy)

FASE - Tool Demonstrations (Chair: José Nuno Oliveira)

Declared Type Generalization Checker: An Eclipse Plug-In for Programming with More Gen-
eral Types

Markus Bach (University of Hagen, Germany)

Florian Forster (University of Hagen, Germany)

Friedrich Steimann (University of Hagen, Germany)

S2A: A Compiler for Multi-Modal UML Sequence Diagrams

David Harel (The Weizmann Institute of Science, Israel), Asaf Kleinbort (The Weizmann Institute of Science, Israel), Shahar Maoz (The Weizmann Institute of Science, Israel)

TACAS - Message Sequence Charts (Chair: Nina Amla)

Detecting Races in Ensembles of Message Sequence Charts

Edith Elkind (University of Liverpool), Blaise Genest (CNRS/IRISA), and Doron Peled (Bar Ilan University)

Replaying Play in and Play out: Synthesis of Design Models from Scenarios by Learning

Benedikt Bollig (LSV CNRS Cachan), Joost-Pieter Katoen, Carsten Kern (RWTH Aachen University), and Martin Leucker (TU Munich)

16:50 - 17:15 Coffee

17:15 - 18:45 SESSION 4 (Wednesday)

ESOP - Language Based Security (Chair: Joshua Guttman)

A Certified Lightweight Non-Interference Java Bytecode Verifier

Gilles Barthe (INRIA Sophia Antipolis), David Pichardie (INRIA/IRISA) and Tamara Rezk (INRIA Sophia Antipolis)

Controlling the What and Where of Declassification in Language-Based Security

Heiko Mantel (RWTH Aachen University) and Alexander Reinhard (RWTH Aachen University)

Cost Analysis of Java Bytecode

Elvira Albert (Complutense University of Madrid), Puri Arenas (Complutense University of Madrid), Samir Genaim (Technical University of Madrid), German Puebla (Technical University of Madrid) and Damiano Zanardini (Technical University of Madrid)

ESOP - Logics and Correctness Proofs (Chair: Walid Taha)

On the Relationship Between Concurrent Separation Logic and Assume-Guarantee Reasoning

Xinyu Feng (Yale University), Rodrigo Ferreira (Yale University) and Zhong Shao (Yale University)

Abstract Predicates and Mutable ADTs in Hoare Type Theory

Aleksandar Nanevski (Harvard University), Amal Ahmed (Toyota Technological Institute, Chicago), Greg Morrisett (Harvard University) and Lars Birkedal (IT University, Copenhagen)

A Proof-producing Compiler for a Subset of Higher Order Logic

Guodong Li (University of Utah) and Konrad Slind (University of Utah)

FASE - Distributed Systems (Chair: Holger Giese)

Scenario-Driven Dynamic Analysis of Distributed Architectures

George Edwards (University of Southern California, USA), Sam Malek (University of Southern California, USA), Nenad Medvidovic (University of Southern California, USA)

Enforcing Architecture and Deployment Constraints of Distributed Component-based Software

Chouki Tibermacine (University of South Brittany, France), Didier Hoareau (University of South Brittany, France), Reda Kadri (Alkante/University of South Brittany, France)

A Family of Distributed Deadlock Avoidance Protocols and their Reachable State Spaces

César Sanchez (Stanford University, USA), Henny B. Sipma (Stanford University, USA), Zohar Manna (Stanford University, USA)

TACAS - Automata-Based Model Checking (Chair: Daniel Kroening)

Improved algorithms for the automata based approach to model-checking

Laurent Doyen (EPFL) and Jean-Francois Raskin (Universitat Libre de Bruxelles)

GOAL: A Graphical Tool for Manipulating Buechi Automata and Temporal Formulae

Yih-Kuen Tsay, Yu-Fang Chen, Ming-Hsien Tsai, Kang-Nien Wu, and Wen-Chin Chan (National Taiwan University)

Faster Algorithms for Finitary Games

Florian Horn (LIAFA, Universite Paris 7)

2.6.4 Programme of Thursday, March 29

09:00 - 10:00 SESSION 1 (Thursday)

FASE - Invited Talk (Chair: Matt Dwyer)

Software Product Families: Towards Compositionality

Jan Bosch (Nokia, Finland)

10:00 - 10:30 Coffee

10:30 - 12:30 SESSION 2 (Thursday)

ESOP - Static Analysis and Abstract Interpretation I (Chair: Sophia Drossopoulou)

Modular Shape Analysis for Dynamically Encapsulated Programs

Noam Rinetzky (Tel Aviv University), Arnd Poetzsch-Heffter (Universitat Kaiserslautern), Ganesan Ramalingam (Microsoft Research), Mooly Sagiv (Tel Aviv University) and Eran Yahav (IBM T.J. Watson Research Center)

Static Analysis by Policy Iteration on Relational Domains

Stephane Gaubert (INRIA), Eric Goubault (CEA/Saclay), Ankur Taly (IIT Bombay) and Sarah Zennou (CEA/Saclay)

Computing Procedure Summaries for Interprocedural Analysis

Sumit Gulwani (Microsoft Research) and Ashish Tiwari (SRI International)

Small witnesses for abstract interpretation based proofs

Frédéric Besson (Irisa/Inria), Thomas Jensen (Irisa/CNRS) and Tiphaine Turpin (Irisa/Université de Rennes 1)

FASE - Specification (Chair: Marsha Chechik)

Precise Specification of Use Case Scenarios

Jon Whittle (George Mason University, USA)

Joint Structural and Temporal Property Specification using Timed Story Sequence Diagrams

Florian Klein (University of Paderborn, Germany), Holger Giese (University of Paderborn, Germany)

SDL Profiles - Formal Semantics and Tool Support

Rüdiger Grammes (University of Kaiserslautern, Germany), Reinhard Gotzhein (University of Kaiserslautern, Germany)

Preliminary design of BML: A Behavioural Interface Specification Language for java bytecode

Lilian Burdy (INRIA Sophia Antipolis, France), Marieke Huisman (INRIA Sophia Antipolis, France), Mariele Pavlova (INRIA Sophia Antipolis, France)

TACAS - Specification Languages (Chair: Marsha Chechik)

Planned and Traversable Play-Out: A Flexible Method for Executing Scenario-Based Programs

David Harel and Itai Segall (The Weizmann Institute of Science)

MoToR: The MoDeST Tool Environment

Henrik Bohnenkamp (RWTH Aachen University), Holger Hermanns (Saarland University), and Joost-Pieter Katoen (RWTH Aachen University and University of Twente)

Syntactic Optimizations for PSL Verification

Alessandro Cimatti, Marco Roveri (ITC-irst Trento), and Stefano Tonetta (University of Lugano)

The Heterogeneous Tool Set

Till Mossakowski, Christian Maeder (DFKI Lab and University of Bremen), and Klaus Luetich (SFB/TR 8 and University of Bremen)

12:30 - 14:30 Lunch

14:30 - 15:40 SESSION 3A (Thursday)

Unifying Invited Talk (Chair: João Saraiva)

Contract-Driven Development

Bertrand Meyer (ETH Zürich, Switzerland)

15:40 - 15:50 Break

15:50 - 16:50 SESSION 3B (Thursday)

ESOP - Static Analysis and Abstract Interpretation II (Chair: Sophia Drossopoulou)

Interprocedurally analyzing linear inequality relations

Hemut Seidl (Lehrstuhl Seidl, TUM) , Andrea Flexeder (TU Munich) and Michael Petter. (TU Munich)

Precise Fixpoint Computation Through Strategy Iteration

Thomas Gawlitza (Lehrstuhl Seidl, TUM) and Hemut Seidl (Lehrstuhl Seidl, TUM)

TACAS - Security (Chair: Michael Huth)

Searching for Shapes in Cryptographic Protocols

Shaddin F. Doghmi, Joshua D. Guttman, and F. Javier Thayer (The MITRE Corporation)

Automatic Analysis of the Security of XOR-based Key Management Schemes

Veronique Cortier (Loria and CNRS and INRIA), Gavin Keighren, and Graham Steel (University of Edinburgh)

16:50 - 17:15 Coffee

17:15 - 18:45 SESSION 4 (Thursday)

ESOP - Semantic Theories for OO Languages (Chair: Gerard Boudol)

A Complete Guide to the Future

Frank S. de Boer (CWI), Dave Clarke (CWI) and Einar Broch Johnsen (University of Oslo)

The Java Memory Model: Operationally, Denotationally, Axiomatically

Pietro Cenciarelli (University of Rome - “La Sapienza”), Alexander Knapp (Ludwig-Maximilians University Munich) and Eleonora Sibilio (University of Rome - “La Sapienza”)

Immutable Objects for a Java-like Language

Christian Haack (Radboud Universiteit, Nijmegen), Erik Poll (Radboud Universiteit, Nijmegen), Jan Schaefer (TU Kaiserslautern) and Aleksy Schubert (Radboud Universiteit, Nijmegen)

FASE - Services (Chair: José Fiadeiro)

A Service Composition Construct to Support Iterative Development

Roy Gronmo (SINTEF, Norway), Michael C. Jaeger (Technical University Berlin, Germany), Andreas Wombacher (University Twente, The Netherlands)

Correlation Patterns in Service-Oriented Architectures

Alistair Barros (SAP Research Centre, Australia), Gero Decker (University of Potsdam, Germany), Marlon Dumas (Queensland University of Technology, Australia), Franz Weber (SAP AG, Germany)

Dynamic Characterization of Web Application Interfaces

Marc Fisher II (University of Nebraska-Lincoln, USA), Sebastian Elbaum (University of Nebraska-Lincoln, USA), Gregg Rothermel (University of Nebraska-Lincoln, USA)

TACAS - Software and Hardware Verification (Chair: Orna Grumberg)

State of the Union: Type Inference via Craig Interpolation

Ranjit Jhala (UC San Diego), Rupak Majumdar, and Ru-Gang Xu (UC Los Angeles)

Hoare Logic for Realistically Modelled Machine Code

Magnus O. Myreen and Michael J. C. Gordon (University of Cambridge)

VCEGAR: Verilog CounterExample Guided Abstraction Refinement

Himanshu Jain (Carnegie Mellon University), Daniel Kroening (ETH Zuerich), Natasha Sharygina (Carnegie Mellon University and University of Lugano), and Edmund Clarke (Carnegie Mellon University)

2.6.5 Programme of Friday, March 30

09:00 - 10:00 SESSION 1 (Friday)

ESOP - Invited Talk (Chair: Rocco De Nicola)

Techniques for Contextual Equivalence in Higher-Order, Typed Languages

Andrew Pitts (University of Cambridge, UK)

10:00 - 10:30 Coffee

10:30 - 12:30 SESSION 2 (Friday)

ESOP - Process Algebraic Techniques (Chair: Rocco De Nicola)

Scalar Outcomes Suffice for Finitary Probabilistic Testing

Yuxin Deng (University of New South Wales), Rob van Glabbeek (National ICT Australia),
Carroll Morgan (University of New South Wales) and Chenyi Zhang (National ICT Australia)

Probabilistic Anonymity via Coalgebraic Simulations

Ichiro Hasuo (Radboud University Nijmegen) and Yoshinobu Kawabe (NTT Corporation)

Proving Distributed Algorithm Correctness using Fault Tolerance Bisimulations

Adrian Francalanza (Imperial College) and Matthew Hennessy (University of Sussex)

A core calculus for a comparative analysis of bio-inspired calculi

Cristian Versari (University of Bologna)

FASE - Testing (Chair: Reiko Heckel)

A Prioritization Approach for Software Test Cases Based on Bayesian Networks

Siavash Mirarab (University of Waterloo, Canada), Ladan Tahvildari (University of Waterloo, Canada)

Redundancy Based Test-Suite Reduction

Gordon Fraser (Graz University of Technology, Austria), Franz Wotawa (Graz University of Technology, Austria)

Testing Scenario-Based Models

Hillel Kugler (New York University, USA), Michael J. Stern (Yale University, USA), E. Jane Albert Hubbard (New York University, USA)

Integration Testing in Software Product Line Engineering: A Model-based Technique

Sacha Reis (University of Duisburg-Essen, Germany), Andreas Metzger (University of Duisburg-Essen, Germany), Klaus Pohl (Lero, Ireland and University of Limerick, Ireland and University of Duisburg-Essen, Germany)

TACAS - Decision Procedures and Theorem Provers (Chair: Parosh Abdulla)

Alloy Analyzer+PVS in the Analysis and Verification of Alloy Specifications

Marcelo F. Frias, Carlos G. Lopez Pombo, and Mariano M. Moscato (Universidad de Buenos Aires and CONICET)

Combined Satisfiability Modulo Parametric Theories

Sava Krstic, Amit Goel, Jim Grundy (Intel Corporation), and Cesare Tinelli (The University of Iowa)

A Groebner Basis Approach to CNF-formulae Preprocessing

Christopher Condrat and Priyank Kalla (University of Utah)

Kodkod: A Relational Model Finder

Emina Torlak and Daniel Jackson (Massachusetts Institute of Technology)

12:30 - 14:30 Lunch

14:30 - 16:30 SESSION 3 (Friday)

ESOP - Applicative Programming (Chair: Matthew Hennessy)

A Rewriting Semantics for Type Inference

George Kuan (University of Chicago), David MacQueen (University of Chicago) and Robert Bruce Findler (University of Chicago)

Principal Type Schemes for Modular Programs

Derek Dreyer (Toyota Technological Institute at Chicago) and Matthias Blume (Toyota Technological Institute at Chicago)

A Consistent Semantics of Self-Adjusting Computation

Umut Acar (Toyota Technological Institute at Chicago), Matthias Blume (Toyota Technological Institute at Chicago) and Jacob Donham (Carnegie Mellon University)

Multi-Language Synchronization

Robert Ennals (Intel Research, Berkeley) and David Gay (Intel Research, Berkeley)

FASE - Analysis (Chair: Tom Maibaum)

Practical reasoning about invocations and implementations of pure methods

Ádám Darvas (ETH Zurich, Switzerland), K. Rustan M. Leino (Microsoft Research, USA)

Finding Environment Guarantees

Marsha Chechik (University of Toronto, Canada), Mihaela Gheorghiu (University of Toronto, Canada), Arie Gurfinkel (University of Toronto, Canada)

Ensuring Consistency within Distributed Graph Transformation Systems

Ulrike Ranger (RWTH Aachen University, Germany), Thorsten Hermes (RWTH Aachen University, Germany)

Maintaining Consistency in Layered Architectures of Mobile Ad-hoc Networks

Julia Padberg (Technical University Berlin, Germany), Kathrin Hoffmann (Technical University Berlin, Germany), Hartmut Ehrig (Technical University Berlin, Germany), Tony Modica (Technical University Berlin, Germany), Enrico Biermann (Technical University Berlin, Germany), Claudia Ermel (Technical University Berlin, Germany)

TACAS - Model Checking (Chair: Orna Grumberg)

Bounded Reachability Checking of Asynchronous Systems Using Decision Diagrams

Jinqing Yu, Gianfranco Ciardo (University of California, Riverside), and Gerald Luetzgen (University of York)

Model Checking of Tree Logics with Path Equivalences

Rajeev Alur, Pavol Cerny, and Swarat Chaudhuri (University of Pennsylvania)

Uppaal/DMC - Abstraction-based Heuristics for Directed Model Checking

Sebastian Kupferschmid (University of Freiburg), Klaus Dräger (Universität des Saarlandes), Jörg Hoffmann (Digital Enterprise Research Institute, Innsbruck), Bernd Finkbeiner (Universität des Saarlandes), Henning Dierks (OFFIS, Oldenburg), Andreas Podelski (University of Freiburg), Gerd Behrmann (Aalborg University)

mCRL Distributed State Space Generation in Practice

Stefan Blom (Universität Innsbruck), Jens R. Calame, Bert Lisser (CWI, Amsterdam), Simona Orzan (TU/e, Eindhoven), Jun Pang (Carl von Ossietzky Universität, Oldenburg), Jaco van de Pol (CWI, Amsterdam and TU/e, Eindhoven), Mohammad Torabi Dashti, and Anton J. Wijs (CWI, Amsterdam)

16:30 - 17:00 Coffee

17:00 - 18:30 SESSION 4 (Friday)

ESOP - Types for Systems Properties (Chair: Walid Taha)

Type-Based Analysis of Deadlock for a Concurrent Calculus with Interrupts

Kohei Suenaga (University of Tokyo) and Naoki Kobayashi (Tohoku University)

Type Reconstruction for an Undecidable System of Refinement Types

Kenneth Knowles (University of California, Santa Cruz) and Cormac Flanagan (University of California, Santa Cruz)

Dependent Types for Low-Level Programming

Jeremy Condit (University of California, Berkeley), Matthew Harren (University of California, Berkeley), Zachary Anderson (University of California, Berkeley), David Gay (Intel Research, Berkeley) and George C. Necula (University of California, Berkeley)

FASE - Design (Chair: Antónia Lopes)

Towards Normal Design for Safety-Critical Systems

Derek Mannering (General Dynamics, UK), Jon G. Hall (The Open University, UK), Lucia Rapanotti (The Open University, UK)

A Clustering-based Approach for Tracing Object-Oriented Design to Requirement

Xin Zhou (IBM China Research Lab, China), Hui Yu (Peking University, China)

Measuring and Characterizing Crosscutting in Aspect-Based Programs: Basic Metrics and Case Studies

Roberto E. Lopez-Herrejon (University of Oxford, England), Sven Apel (University of Magdeburg, Germany)

TACAS - Infinite-State Systems (Chair: Michael Huth)

A Generic Framework for Reasoning about Dynamic Networks of Infinite-State Processes

Ahmed Bouajjani, Yan Jurski, and Mihaela Sighireanu (LIAFA, University of Paris 7)

Unfolding Concurrent Well-Structured Transition Systems

Frederic Herbreteau, Gregoire Sutre, and The Quang Tran (LaBRI, Bordeaux)

Regular Model Checking without Transducers (On Efficient Verification of Parameterized Systems)

Parosh Aziz Abdulla (Uppsala University), Giorgio Delzanno (Universita di Genova), Noomene Ben Henda, and Ahmed Rezine (Uppsala University)

3 Workshops

- **ACCAT** , Applied and Computational Category Theory
- **AVIS (*cancelled*)** , Sixth International Workshop on Automated Verification of Infinite-State Systems
- **Bytecode** - Bytecode Semantics, Verification, Analysis and Transformation
- **COCV** , Sixth Workshop on Compiler Optimization Meets Compiler Verification
- **FESCA** , Formal Foundations of Embedded Software and Component-Based Software Architectures
- **FinCo** , Foundations of Interactive Computation
- **GT-VMT** , Sixth International Workshop on Graph Transformation and Visual Modeling Techniques
- **HAV** , Heap Analysis and Verification
- **HFL** , Hardware design using Functional Languages
- **LDTA** , Seventh Workshop on Language Descriptions, Tools and Applications
- **MBT** , Third Workshop on Model Based Testing

- **MOMPES** , Model-based Methodologies for Pervasive and Embedded Software
- **OpenCert** , Foundations and Techniques for Open Source Software Certification
- **QAPL** , Fifth Workshop on Quantitative Aspects of Programming Languages
- **SC** , Software Composition
- **SLA++P** , Model-driven High-level Programming of Embedded Systems
- **TERMGRAPH** , Fourth International Workshop on Computing with Terms and Graphs
- **WITS** , Seventh Workshop on Issues in the Theory of Security

3.0.6 ACCAT

Applied and Computational Category Theory

Category Theory is a well-known powerful mathematical modeling language with a wide area of applications in mathematics and computer science, including especially the semantical foundations of topics in software science and development. Since about 30 years there have been workshops including these topics. More recently, the ACCAT group established by Jochen Pfalzgraf at Linz and Salzburg has begun to study interesting applications of category theory in Geometry, Neurobiology, Cognitive Sciences, and Artificial Intelligence. It is the intention of this ACCAT workshop to bring together leading researchers in these areas with those in Software Science and Development in order to transfer categorical concepts and theories in both directions.

Contact: Ulrike Prange (uprange@cs.tu-berlin.de)

URL: <http://tfs.cs.tu-berlin.de/workshops/accat2007/>

3.0.7 AVIS (*cancelled*)

Sixth International Workshop on Automated Verification of Infinite-State Systems

This satellite event has been cancelled.

AVIS is a forum for researchers interested in the application of formal methods for the automatic verification of large practical systems. Model checking, which has found wide application on hardware descriptions, does not scale to practical software systems due to state explosion. For such systems, theorem proving – a process requiring manual effort and mathematical sophistication to use – has so far been the only viable alternative.

More recently, hybrid techniques have been developed that combine the ease-of-use of model checkers with the power of theorem provers, yielding tools that are less sensitive to the size of the state space (which may be infinite.) AVIS provides a forum for those who are interested in this emerging area of research that has a bright future.

Contact: Ramesh Bharadwaj (ramesh@itd.nrl.navy.mil)

URL: <http://chacs.nrl.navy.mil/AVIS07>

3.0.8 ByteCode

Second Workshop on Bytecode Semantics, Verification, Analysis and Transformation

Bytecode, such as produced by e.g. Java and .NET compilers, has become an important topic of interest, both for industry and academia. The industrial interest stems from the fact that bytecode is typically used for the Internet and mobile devices (smartcards, phones, etc.), where security is a major issue. Moreover, bytecode is device-independent and allows dynamic loading of classes, which provides an extra challenge for the application of formal methods. In addition, the unstructuredness of the code and the pervasive presence of the operand stack also provide extra challenges for the analysis of bytecode. This workshop will focus on the latest developments in the semantics, verification, analysis, and transformation of bytecode. Both new theoretical results and tool demonstrations are welcome.

Contact: Fausto Spoto (fausto.spoto@univr.it)

URL: <http://www.sci.univr.it/~spoto/Bytecode07/>

3.0.9 COCV

Sixth International Workshop on Compiler Optimization Meets Compiler Verification

COCV provides a forum for researchers and practitioners working on optimizing and verifying compilation, and on related fields such as translation validation, certifying compilation and embedded systems with a special emphasis on hardware verification, formal synthesis methods, correctness aspects in HW/SW co-design, formal verification of hardware/software systems, and practical and industrial applications of formal techniques for exchanging their latest findings, and for plumbing the mutual impact of these fields on each other. By encouraging discussions and co-operations across different, yet related fields, the workshop strives for bridging the gap between the communities, and for stimulating synergies and cross-fertilizations among them.

Contact: Sabine Glesner (glesner@cs.tu-berlin.de)

URL: <http://pes.cs.tu-berlin.de/cocv2007/>

3.0.10 FESCA

Formal Foundations of Embedded Software and Component-Based Software Architectures

The aim of this workshop is to bring together researchers from academia and industry interested in formal modeling approaches as well as associated analysis and reasoning techniques with practical benefits for embedded software and component-based software engineering.

Recent years has seen the emergence of formal and informal techniques and technologies for the specification and implementation of component-based software architectures. Formal methods have sometimes not kept up with the increasing complexity of software. For instance, a range of new middleware platforms have been developed in both enterprise and embedded systems industries. FESCA aims to address the open question of how formal methods can be applied effectively to these new contexts.

Contact: Iman Poernomo (iman.poernomo@symbol.kcl.ac.uk)

URL: <http://palab.dcs.kcl.ac.uk/fesca/>

3.0.11 FinCo

Foundations of Interactive Computation

Since the 1960's, computation has become increasingly interactive. Concurrent, distributed, reactive, embedded, component-oriented, agent-oriented and service-oriented systems all fundamentally depend on interaction. However, a satisfactory formal foundation of interactive computation, analogous to one that recursive functions, Turing Machines, and lambda-calculus provide for algorithms, is still lacking. Furthermore, the implications of treating interaction as a first-class concept in the process of software design and construction remain to be fully understood.

Following the success of FInCo 2005, our goals are to work towards developing a unified conceptual and formal framework for understanding the principles of interaction, establishing language- and domain-independent models for it, and improving the development of software applications and systems through the application of interactive principles and models.

Contact: Dina Goldin (finco07@cs.brown.edu)

URL: <http://www.cs.brown.edu/sites/finco07/>

3.0.12 GT-VMT

Sixth International Workshop on Graph Transformation and Visual Modeling Techniques

GT-VMT 2007 is the sixth workshop of a series that serves as a forum for all researchers and practitioners interested in the use of graph-based notation, techniques and tools for the specification, modeling, validation, manipulation and verification of complex systems. Due to the variety of languages and methods used in different domains, the aim of the workshop is to promote engineering approaches that starting from high-level specifications and robust formalizations allow for the design and the implementation of such visual modeling techniques, hence providing effective tool support at the semantic level (e.g., for model analysis, transformation, and consistency management). This year's workshop will have an additional focus on application of graph transformation and visual modeling techniques in engineering, biology, and medicine.

Contact: Karsten Ehrig (karsten@mcs.le.ac.uk)

URL: <http://www.cs.le.ac.uk/events/GTVMT07/>

3.0.13 HAV

Heap Analysis and Verification

Accurate and efficient expression, discovery, and verification of the structure of program heap memory is an active research area. Many problems remain open, and therefore many programs remain unverified. We are seeing advances however: Among these are exciting new techniques for analysis and verification of concurrently accessed heap memory, new techniques for interprocedural and modular analysis and verification, and great strides increasing the range of practically applicable analysis and verification techniques. The aim of this workshop is to bring together researchers to exchange and develop new ideas in all aspects of formal analysis and verification for heaps. Submissions are invited from across the full spectrum of basic theoretical work through to applied practical work.

Contact: Josh Berdine (jjb@microsoft.com)

URL: <http://www.cs.tau.ac.il/~msagiv/hav.html>

3.0.14 HFL

Hardware design using Functional Languages

More abstract representations and verification techniques are needed to keep up with the ever-increasing complexity of modern hardware designs. We face challenging research problems, many of them related to language design and to ways of modelling circuits at various levels of abstraction.

This workshop will bring together researchers in modern functional languages, hardware description languages, high-level modelling and validation, and formal design environments. It aims to present the state of the art, and to spark debate about how to proceed.

To achieve the necessary breakthroughs, we must ensure that academics and industrial researchers continue to work together to solve the real challenge of hardware design and verification. A major aim of this workshop is to open the necessary communication channels.

Contact: Andy Martin (hfl07@hflworkshop.org)

URL: <http://hfl07.hflworkshop.org/>

3.0.15 LDTA

Seventh Workshop on Language Descriptions, Tools and Applications

The LDTA workshops bring together academic and industrial researchers interested in the field of formal language definitions and language technologies, with an emphasis on tools developed for or with these language definitions. This active research area includes basic approaches such as the analysis, transformation, and generation of programs, the formal analysis of language properties, and the automatic generation of language processing tools.

Several specification formalisms like attribute grammars, action semantics, operational semantics, and algebraic approaches have been developed over the years. A goal of LDTA is to increase the use of such formalisms through demonstrations of their practical utility in, among others, the following application domains: component models and modeling languages, re-engineering and re-factoring, aspect-oriented and domain-specific languages, XML processing, visualization and graph transformation, and programming environments, such as Eclipse.

Contact: Eric Van Wyk (evw@cs.umn.edu)

URL: <http://www.di.uminho.pt/ldta07>

3.0.16 MBT

3rd Workshop on Model Based Testing

The workshop is devoted to model-based testing of both software and hardware. Model-based testing uses models that describe the behavior of the system under consideration to guide such efforts as test selection and test results evaluation.

Model-based testing has gained attention with the popularization of models in software/hardware design and development. Of particular importance are formal models with precise semantics, such as state-based formalisms. Testing with such models allows one to measure the degree of the product's conformance with the model.

Techniques to support model-based testing are drawn from diverse areas, like formal verification, model checking, control and data flow analysis, grammar analysis, and Markov decision processes.

The intent of this workshop is to discuss the state of the art in theory, application, tools, and industrialization of model-based testing.

Contact: Bernd Finkbeiner (finkbeiner@cs.uni-sb.de)

URL: <http://react.cs.uni-sb.de/mbt2007/>

3.0.17 MOMPES

4th International Workshop on Model-based Methodologies for Pervasive and Embedded Software

Model Based Development (MBD) comprises approaches to software development which heavily rely on modeling and the systematic transition from models to executable code. One of these approaches is the OMG's Model Driven Architecture (MDA), which is based on the separation between the specification of a system and its implementation using specific platforms. This workshop focuses on the scientific and practical aspects related with the adoption of MDA and other MBD methodologies (notation, process, methods, and tools) for supporting the construction of computer-based systems, and more specifically, pervasive and embedded software.

Contact: João M. Fernandes (mompes@di.uminho.pt)

URL: <http://www.di.uminho.pt/mompes>

3.0.18 OpenCert

Foundations and Techniques for Open Source Software Certification

The aim of this workshop is to bring together researchers from academia and industry who are interested in developing techniques for the quality assessment of Open Source Software (OSS), leading to the definition of a complete certification process.

The workshop will focus on formal methods and model-based techniques, emphasising on those aspects which are specific to OSS, such as unconventional development, rapid evolution of the code, and huge amount of legacy code.

Contributions to the workshop are expected to present foundations, methods, tools and case studies that integrate techniques from different areas such as certification, security, reverse engineering, and formal modeling and verification, in order to overcome the challenges in the quality assessment of OSS.

Contact: Luis Barbosa (opencert07@di.uminho.pt)

URL: <http://opencert.iist.unu.edu/>

3.0.19 QAPL

5th Workshop on Quantitative Aspects of Programming Languages

Quantitative aspects of computation are important and sometimes essential in characterising the behaviour and determining the properties of systems. They are related to the use of physical quantities (e.g. time, bandwidth) as well as mathematical quantities (e.g. probabilities) which play a central role in defining models (architectures, protocols, languages, etc.) and methodologies for analysis and verification.

The aim of this workshop is to discuss the explicit role of real-time aspects, probabilities, resource consumption, performance parameters, etc. in the design as well the analysis of such systems. The topics covered are transversal to all areas of Computer Science including Languages, Protocols, Architectures, Security, Semantics, Analysis, etc. Particular relevance will be given to the emerging areas of Quantum Computation and Bioinformatics.

Contact: Alessandro Aldini and Franck van Breugel (qapl07@cse.yorku.ca)

URL: <http://www.cse.yorku.ca/qapl07>

3.0.20 SC

Workshop on Software Composition

The goal of SC 2007 is to develop a better understanding of how we build and maintain large software systems, and thereby to build the body of knowledge and experience in software composition. The sixth SC symposium will bring together the research and industrial communities to address the challenges of the component-based approach to software development. Suggested topics of interest related to component systems include:

- Composition and adaptation techniques
- Composition issues in industrial-strength systems
- Composition languages, calculi and type systems
- Composition of active documents
- Compositional web service design and implementation
- Dynamic composition and reconfiguration
- Pervasive computing environments
- Semantics-based composition and analysis
- The role of Aspect-Oriented Software Development in composition
- Verification, validation and testing techniques

Contact: Judith Bishop (jbishop@cs.up.ac.za)

URL: <http://ssel.vub.ac.be/sc2007>

3.0.21 SLA++P

Model-driven High-level Programming of Embedded Systems

SLA++P is dedicated to synchronous languages and the model-driven high-level programming of reactive and embedded systems. Firmly grounded in clean mathematical semantics, synchronous languages are receiving increasing attention in industry ever since they emerged in the 80s. Lustre, Esterel, Signal are now widely and successfully used to program real-time and safety critical applications of commercial scale. At the same time, model-based programming is making its way in other fields of software engineering, often involving cycle-based synchronous paradigms. SLA++P extends the former SLAP workshop series on Synchronous Languages, Applications, and Programming but is not limited to synchronous approaches. It is open to other engineering design techniques with strong semantical foundations to go from high-level description to provable executable code.

Contact: Michael Mendler (michael.mendler@wiai.uni-bamberg.de)

URL: <http://web.uni-bamberg.de/wiai/gdi/SLAP07/>

3.0.22 TERMGRAPH

4th International Workshop on Computing with Terms and Graphs

The advantage of computing with graphs rather than terms is that common subexpressions can be shared, improving the efficiency of computations in space and time. Sharing is ubiquitous in implementations of programming languages: many functional, logic, object-oriented and concurrent calculi are implemented using term graphs. Research in term and graph rewriting ranges from theoretical questions to practical implementation issues. Different research areas include: the modelling of first- and higher-order term rewriting by (acyclic or cyclic) graph rewriting, the use of graphical frameworks such as interaction nets and sharing graphs (optimal reduction), rewrite calculi for the semantics and analysis of functional programs, graph reduction implementations of programming languages, graphical calculi modelling concurrent and mobile computations, object-oriented systems, graphs as a model of biological or chemical abstract machines, and automated reasoning and symbolic computation systems working on shared structures.

Contact: Ian Mackie (ian.mackie@kcl.ac.uk)

URL: <http://www.termgraph.org.uk>

3.0.23 WITS

7th International Workshop on Issues in the Theory of Security

WITS is the official workshop organized by the IFIP WG 1.7 on “Theoretical Foundations of Security Analysis and Design”, established to promote the investigation on the theoretical foundations of security, discovering and promoting new areas of application of theoretical techniques in computer security and supporting the systematic use of formal techniques in the development of security related applications. The members of WG hold their annual workshop as an open event to which all researchers working on the theory of computer security are invited. This is the seventh meeting of the series, and is organized in cooperation with ACM SIGPLAN (to be confirmed) and the working group FoMSESS of the German Computer Society (GI). There will be proceedings published as “Issues in the Theory of Security”.

Contact: Riccardo Focardi (<http://www.dsi.unive.it/~focardi/>)

URL: http://www.dsi.unive.it/IFIPWG1_7/wits2007.html

FURTHER INFORMATION AND ENQUIRIES

<http://www.di.uminho.pt/etaps07>

etaps07@di.uminho.pt

Luis Barbosa

Joost Visser

ETAPS 2007 Satellite Events Co-chairs

lsb@di.uminho.pt, joost.visser@di.uminho.pt

3.1 Programme of ACCAT at ETAPS 2007

3.1.1 (Applied and Computational Category Theory)

3.1.2 Sunday, March 25, room: CP2-103

09:00 - 10:15 SESSION 1

Introduction

Generalized Sketches - A Universal Pattern for Diagrammatic Specification

Uwe Wolter

Dynamics and Cohesion in Finite Toposes

William Lawvere

10:15 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

Normalized Coalgebras for Dynamic Bisimilarity

Ugo Montanari

Structured Co-spans: Algebraic Modelling of Interaction Protocols

José Fiadeiro

Iterative Algebras

Jiri Adamek

12:30 - 14:00 Lunch

15:00 - 16:00 SESSION 3

A Categorical Model of Computation for Graph Transformation: True Concurrency and Logic

Reiko Heckel

Adhesive High-Level Replacement Systems with Negative Application Conditions

Leen Lambers

Composing DPO Transformations with Borrowed Context

Paolo Baldan

Algebraic High-Level Systems as Weak Adhesive HLR Categories

Ulrike Prange

16:00 - 16:30 Coffee Break

16:30 - 18:00 SESSION 4

Categories in the Design of Aldor

Stephen Watt

(tba)

Vladimiro Sassone

(tba)

Jochen Pfalzgraf

18:45 SOCIAL EVENT

Joint Workshops Pre-Conference Dinner

Dinner at Bom Jesus (*Shuttle departure from Campus Gualtar*)

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- Main Conferences: Complete Programme, CC, ESOP, FASE, FOSSACS, TACAS
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- Tutorials: Stratego/XT, SoftwGen Mobius

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3.2 Programme of Bytecode at ETAPS 2007

3.2.1 (Second Workshop on Bytecode Semantics, Verification, Analysis and Transformation)

3.2.2 Saturday, March 31, room: CP2-103

09:00 - 10:30 SESSION 1

Session Chair: Marieke Huisman

Invited Talk: Modular verification of object invariants in Spec#

Peter Müller (ETH Zurich)

Type Systems for optimising Stack-based Code

Tarmo Uustalu and Ando Saabas (Tallinn University of Technology, Estonia)

10:30 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

Proving Resource Consumption of Low-level and Programs using Automated Theorem Provers

Jaroslav Sevcik (University of Edinburgh, UK)

Formal Translation of Bytecode into BoogiePL

Hermann Lehner and Peter Müller (ETH, Zurich, Switzerland)

Bytecode Rewriting in Tom

Emilie Balland, Pierre-Etienne Moreau and Antoine Reilles (Loria, France)

12:30 - 14:00 Lunch

14:00 - 16:00 SESSION 3

Session Chair: Peter Müller

Translate One, Analyze Many: Leveraging the Microsoft Intermediate Language and Source Code Transformation for Model Checking

Jesse McGeachie and Juergen Dingel (Queen's University, Canada)

Practical Assessment of Cost Analysis for Java Bytecode

Samir Genaim, Puri Arenas, Damiano Zanardini, German Puebla and Elvira Albet (Universidad Politécnica de Madrid, Universidad Complutense de Madrid, Spain)

MMC: the Mono Model Checker

Theo Ruys and Niels H.M. Aan de Brugh (University of Twente, The Netherlands)

Improving the Decompilation of Java Bytecode to Prolog by Partial Evaluation

Miguel Gomez-Zamalloa, Elvira Albert and German Puebla (Universidad Politécnica de Madrid, Universidad Complutense de Madrid, Spain)

16:00 - 16:30 Coffee Break

16:30 - 17:30 SESSION 4

Session Chair: Fausto Spoto

Computing SSA Form with Matrices

Quan Nguyen and Bernhard Scholz (University of New South Wales, University of Sydney, Australia)

An Efficient, Parametric Fixpoint Algorithm for Incremental Analysis of Java Bytecode

Mario Méndez, Jorge Navas and Manuel Hermenegildo (University of New Mexico, USA)

18:45 SOCIAL EVENT

Joint Workshops Post-Conference Dinner

Dinner at Pousada Santa Maria de Bouro (*Shuttle departure from Campus Gualtar*)

Further ETAPS 2007 Programme Information:

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- Tutorials: Stratego/XT, SoftwGen Mobius

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3.3 Programme of COCV at ETAPS 2007

3.3.1 (Compiler Optimization meets Compiler Verification)

3.3.2 Sunday, March 25, room: CP2-108

09:00 - 10:30 SESSION 1

Opening

Jens Knoop, Vienna University of Technology

Invited Talk

High-Level vs. RTL Equivalence Checking: Why the Next Big Success of Formal Verification Needs COCV

Alan Hu, University of British Columbia, Canada

10:30 - 11:00 Coffee Break

11:00 - 12:00 SESSION 2

Specify, Compile, Run: Hardware from PSL

Bloem, Galler, Jobstmann, Piterman, Pnueli, Weiglhofer (Graz University of Technology, Austria; EPFL Lausanne, Switzerland; Weizmann Institute, Israel)

12:30 - 14:00 Lunch

14:00 - 16:00 SESSION 3

Distilling Programs for Verification

Geoff Hamilton (Dublin City University, Ireland)

On-the-Fly Data Flow Analysis based on Verification Technology

María del Mar Gallardo, Christophe Joubert and Pedro Merino (University of Málaga, Spain)

16:00 - 16:30 Coffee Break

16:30 - 18:00 SESSION 4

Generating Java Compiler Optimizers Using Bidirectional CTL

Ling Fang and Masataka Sassa (Tokyo Institute of Technology, Japan)

A Certifying Code Generation Phase

Jan Olaf Blech and Arnd Poetzsch-Heffter (University of Kaiserslautern, Germany)

16:30 - 18:00 Closure

18:45 SOCIAL EVENT

Joint Workshops Pre-Conference Dinner

Dinner at Bom Jesus (*Shuttle departure from Campus Gualtar*)

Further ETAPS 2007 Programme Information:

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- Tutorials: Stratego/XT, SoftwGen Mobius

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3.4 Programme of FESCA at ETAPS 2007

3.4.1 (Formal Foundations of Embedded Software and Component-Based Software Architectures)

3.4.2 Saturday, March 24, room: CP2-108

09:00 - 10:30 SESSION 1

Introductory Remarks

Invited Talk

SENSORIA: Semantic-based Development of Service-Oriented Systems

Martin Wirsing (LMU)

10:30 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

Formal models for component-based assembly

A True-Concurrent Interpretation of Behavioural Scenarios

Sotiris Moschoyiannis, Paul Krause and Michael Shields

Trustworthy interface compliancy: data model adaptation using B refinement

Samuel Colin, Arnaud Lanoix, Jeanine Souquieres

Towards Component Verification in the Generic Component Framework

Julia Padberg, Hartmut Ehrig, Fernando Orejas

12:30 - 14:00 Lunch

14:00 - 16:00 SESSION 3

Behavioural models

DeSpec: Modeling the Windows Driver Environment

Tomas Matousek and Pavel Jezek

WCET Analysis of Data Dependent, Component Oriented, Embedded Software Systems

Peter Szulman

Composing Modal Properties of Programs with Procedures

Marieke Huisman, Dilian Gurov

16:00 - 16:30 Coffee Break

16:30 - 17:30 SESSION 4

Contractual runtime verification

A Formal Semantics for a Quality of Service Contract Language

Fabricio Chalub, Alexandre Sztajnberg

Executable Contracts for Incremental Prototypes of Embedded Systems

Lionel Morel and Louis Mandel

17:30 Concluding Remarks

3.4.3 Sunday, March 25

18:45 SOCIAL EVENT

Joint Workshops Pre-Conference Dinner

Dinner at Bom Jesus (*Shuttle departure from Campus Gualtar*)

Further ETAPS 2007 Programme Information:

- Programme Overview
- Main Conferences: Complete Programme, CC, ESOP, FASE, FOSSACS, TACAS
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- Tutorials: Stratego/XT, SoftwGen Mobius

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3.5 Programme of GT-VMT at ETAPS 2007

3.5.1 (Sixth International Workshop on Graph Transformation and Visual Modeling Techniques)

3.5.2 Saturday, March 31, room: CP2-101

09:00 - 10:30 SESSION 1

Opening

Invited Talk

Membrane Computing [and Graph Transformation]

Gheorghe Paun (Romanian Academy and Sevilla University, Spain)

10:30 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

Verification and Model Transformation

Rule-Level Verification of Business Process Transformations using CSP

Dénes Bisztray, Reiko Heckel

Bisimulation Verification for the DPO Approach with Borrowed Contexts

Guilherme Rangel, Barbara König, Hartmut Ehrig

Transforming Collaborative Service Specifications into Efficiently Executable State Machines

Frank Alexander Kraemer, Peter Herrmann

12:30 - 14:15 Lunch

14:15 - 16:00 SESSION 3

Pattern Matching

Ensuring Containment Constraints in Graph-based Model Transformation Approaches (Short Talk)

Christian Köhler, Holger Lewin, Gabriele Taentzer

Generic Search Plans for Matching Advanced Graph Patterns

Ákos Horváth, Gergely Varró, Dániel Varró

A Query Language With the Star Operator

Johan Lindqvist, Torbjörn Lundkvist, Ivan Porres

Triple Patterns: Compact Specifications for the Generation of Operational Triple Graph Grammar Rules

Juan de Lara, Esther Guerra, Paolo Bottoni

16:00 - 16:30 Coffee Break

16:30 - 18:00 SESSION 4

Graph Transformation Language Operations

A Subgraph Operator for Graph Transformation Languages

Daniel Balasubramanian, Anantha Narayanan, Sandeep Neema, Feng Shi, Ryan Thibodeaux, Gabor Karsai

Adding Recursion to Graph Transformation

Esther Guerra, Juan de Lara

Visual Programming with Recursion Patterns in Interaction Nets

Ian Mackie, Jorge Sousa Pinto, Miguel Vilaça

Simulating Multi-graph Transformations Using Simple Graphs (Short Talk)

Frank Hermann, Harmen Kastenbergh, Iovka Boneva, Arend Rensink

18:45 SOCIAL EVENT

Joint Workshops Post-Conference Dinner

Dinner at Pousada Santa Maria de Bouro (*Shuttle departure from Campus Gualtar*)

3.5.3 Sunday, April 1, room: CP2-101

09:00 - 10:30 SESSION 1

Invited Talk

(to be announced)

10:30 - 11:00 Coffee Breaks

11:00 - 12:30 SESSION 2

Application of Graph Transformations

Evaluating Workflow Definition Language Revisions with Graph-Based Tools

René Wörzberger, Markus Heller, Frank Härsler

Graph Based Engineering Systems - A Family Of Software Applications And their Underlying Framework (Short Talk)

Gregor Wrobel, Ralf-Erik Ebert, Matthias Plešow

Imposing Hierarchy on a Graph (Short Talk)

Brendan Sheehan, Benoit Gaudin, Aaron Quigley

The Jury is still out: A Comparison of AGG, Fujaba, and PROGRES (Short Talk)

Ulrike Ranger, Christian Fuß, Christof Mosler, Erhard Schultchen

12:30 - 14:15 Lunch

14:15 - 16:00 SESSION 3

Working Groups

Building of Working Groups

Discussion in Working Groups

General Discussion of the Results

Closing

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- Tutorials: Stratego/XT, SoftwGen Mobius

3.6 Programme of HAV at ETAPS 2007

3.6.1 (Heap Analysis and Verification)

3.6.2 Sunday, March 25, room: CP2-104

09:00 - 10:30 SESSION 1

Footprint Analysis: A Shape Analysis that Discovers Preconditions (Invited Lecture)

Hongseok Yang

Proof Systems for Inductive Reasoning in the Logic of Bunched Implications

James Brotherston

10:30 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

A Logic of Reachable Patterns (Invited Lecture)

Greta Yorsh

Verifying Complex Properties using Symbolic Shape Analysis

Thomas Wies, Viktor Kuncak, Karen Zee, Martin Rinard and Andreas Podelski

12:30 - 14:00 Lunch

14:00 - 16:00 SESSION 3

Alias Control with Universe Types (Invited Lecture)

Peter Müller

Inferring Local (Non-)Aliasing and Strings for Memory Safety

Yannick Moy and Claude Marché

Reasoning about Sequences of Memory States

Brochenin Rémi, Demri Stéphane and Lozes Étienne

16:00 - 16:30 Coffee Break

16:30 - 18:00 SESSION 4

Liveness of Heap Data for Functional Programs

Amey Karkare, Uday Khedker and Amitabha Sanyal

Separation Analysis for Deductive Verification

Thierry Hubert and Claude Marché

Verifying Concurrent List-Manipulating Programs by LTL Model Checking

Stefan Rieger, Thomas Noll and Joost-Pieter Katoen

Towards Regional Logic (Invited Lecture)

David Naumann

18:45 SOCIAL EVENT

Joint Workshops Pre-Conference Dinner

Dinner at Bom Jesus (*Shuttle departure from Campus Gualtar*)

Further ETAPS 2007 Programme Information:

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3.7 Programme of HFL at ETAPS 2007

3.7.1 (Hardware design using Functional Languages)

3.7.2 Saturday, March 24, room: CP2-110

09:00 - 10:30 SESSION 1

Introducing Scheduling Primitives and Derived Interfaces in Bluespec

Arvind, Nirav Dave, and Michael Pellauer (MIT)

Declarative Programming Techniques for Many-Core Architectures

Satnam Singh (Microsoft Research Cambridge)

10:30 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

Searching for prefix networks to fit in a context using a lazy functional programming language

Mary Sheeran (Chalmers)

The E Language

Robert S. Boyer and Warren A. Hunt, Jr. (University of Texas)

12:30 - 14:30 Lunch and time for discussion

14:30 - 16:00 SESSION 3

A framework for designing hardware in Ocaml

Andrew K. Martin and Ahmed Gheith (IBM)

High-Level Micro-Architectural Transformations and Cycle-Accurate High-Level Models

Carl-Johan H. Seger (Intel)

16:00 - 16:30 Coffee Break

16:30 - 18:00 SESSION 4

Functional Programming for Hardware Definition, Verification and Modelling

Nathan Chong and Samin Ishtiaq (ARM)

Program Transformation for Functional Circuit Descriptions

Manfred Schmidt-Schau's and David Sabel (Johann Wolfgang Goethe-Universit'st)

3.7.3 Sunday, March 25, room: CP2-110

09:00 - 10:30 SESSION 1

Embedded Hardware Description Languages: Exploring the Design Space

Koen Claessen (Chalmers) and Gordon Pace (University of Malta)

Lightweight Relational Programming for Wired

Matthew Naylor (University of York), Emil Axelsson (Chalmers), and Colin Runciman (University of York)

10:30 - 11:45 Coffee Break and Demos

11:45 - 12:30 SESSION 2

Towards Automatically Compiling Efficient FPGA Hardware

Jean Baptiste Note and Jean Vuillemin (Ecole Normale Supérieure Paris)

12:30 - 14:30 Lunch and time for discussion

14:30 - 16:00 SESSION 3

Design Principles for Hardware Description

Tim Sheard (Portland State University)

Hardware descriptions as two-level computations

Walid Taha, Yousra Alkabani, Cherif Andraos, Jennifer Gillenwater, Gregory Malecha and Angela Yun Zhu (Rice University) and Jim Grundy and John O'Leary (Intel)

15:15 - 16:30 Coffee, demos, planning of next workshop

18:45 SOCIAL EVENT

Joint Workshops Pre-Conference Dinner

Dinner at Bom Jesus (*Shuttle departure from Campus Gualtar*)

Further ETAPS 2007 Programme Information:

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- Tutorials: Stratego/XT, SoftwGen Mobius

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3.8 Programme of LDTA at ETAPS 2007

3.8.1 (Seventh Workshop on Language Descriptions, Tools and Applications)

3.8.2 Sunday, March 25, room: CP2-111

09:00 - 10:30 SESSION 1

Welcome and Introduction

Invited Talk

Collaboration-Based Composition of Languages

Uwe A'smann

Research Talk

Language Parametric Module Management

Paul Klint, Taeke Kooiker, Jurgen Vinju

10:30 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

Research Talk

Fusing a Transformation Language with an Open Compiler

Karl Trygve Kalleberg, Eelco Visser

Experience Report

Implementing a Domain-Specific Language using Stratego/XT

Leonard Hamay, Shirley Goldrei

Tool Demonstration

Spoofax: An Interactive Development Environment for Program Transformation with Stratego/XT

Karl Trygve Kalleberg, Eelco Visser

12:30 - 14:00 Lunch

14:00 - 16:00 SESSION 3

Research Talk

SPPF-Style Parsing From Earley Recognisers

Elizabeth Scott

Experience Report

An Experimental Ambiguity Detection Tool

Sylvain Schmitz

Research Talk

Grammar Engineering Support for Precedence Rule Recovery and Compatibility Checking

Eric Bouwers, Martin Bravenboer, Eelco Visser

Tool Demonstration

SdfMetz: Extraction of Metrics and Graphs From Syntax Definitions

Tiago Alves, Joost Visser

16:00 - 16:30 Coffee Break

16:30 - 18:15 SESSION 4

Research Talk

Silver: an Extensible Attribute Grammar System

Eric Van Wyk, Derek Bodin, Jimin Gao, Lijesh Krishnan

Experience Report

Development of a Modelica Compiler using JastAdd

Johan Åkesson, Torbjörn Ekman, Görel Hedin

Tool Demonstration

A Domain-Specific Language Debugging Framework Demonstration

Hui Wu, Jeff Gray, Marjan Mernik

Discussion and Closing

18:45 SOCIAL EVENT

Joint Workshops Pre-Conference Dinner

Dinner at Bom Jesus (*Shuttle departure from Campus Gualtar*)

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- Tutorials: Stratego/XT, SoftwGen Mobius

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3.9 Programme of OpenCert at ETAPS 2007

3.9.1 (Foundations and Techniques for Open Source Software Certification)

3.9.2 Saturday, March 31, room: CP2-110

09:00 - 10:30 SESSION 1

Aspects of OSS Certification

B. Aichernig, TU Graz, Austria

Towards a Quality Model for OSS

S.A. Shaikh & A. Cerone, UNU-IIST, Macao

10:30 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

A System to Understand Programs Written in C Language by Code Annotation

M. Beron, B. Henriques, Univ. of Minho; M. Varanda, Polytechnic Inst. Braganca, Portugal;
R. Uzal, Univ. of San Luis, Argentina

Slicing Techniques and Program Calculi in OSS Certification

N. Rodrigues, L. Barbosa, J.N. Oliveira Univ. Minho, Portugal

12:30 - 14:00 Lunch

14:00 - 15:30 SESSION 3

Linux Certification

A.K. Petrenko, ISPRAS, Russia

OSS Operating Systems for Critical Avionics Infrastructure: A survey on quality and security certification

D. von Oheimb, Siemens, Germany

15:30 - 16:00 Coffee Break

16:00 - 18:30 SESSION 4

Position Talk on the OSS Certification Process

P.T. Breuer & S. Pickin, Univ. Carlos III Madrid, Spain

A Perspective on OSS Certification

J. Visser, SIG, The Netherlands

Short Position Statements and Discussion

18:45 SOCIAL EVENT

Joint Workshops Post-Conference Dinner

Dinner at Pousada Santa Maria de Bouro (*Shuttle departure from Campus Gualtar*)

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3.10 Programme of QAPL at ETAPS 2007

3.10.1 (Fifth Workshop on Quantitative Aspects of Programming Languages)

3.10.2 Saturday, March 24, room: CP2-105

10:55 - 12:30 SESSION 1

Welcome

Invited Talk

Nondeterminism in Quantitative Analysis of Probabilistic Systems

Roberto Segala (University of Verona, Italy)

Paper Presentation:

Keeping Secrets in Resource Aware Components

Tom Chothia (CWI, The Netherlands), Jun Pang (University of Oldenburg, Germany) and
Mohammad Torabi Dashti (CWI, The Netherlands)

12:30 - 14:30 Lunch

14:30 - 16:00 SESSION 2

Invited Talk

Artificial Biochemistry

Luca Cardelli (Microsoft Research, UK)

Paper Presentation:

Stochastic Concurrent Constraint Programming and Differential Equations

Luca Bortolussi (University of Trieste, Italy) and Alberto Policriti (University of Udine, Italy)

16:00 - 16:30 Coffee Break

16:30 - 18:00 SESSION 3

Paper Presentations:

On Probabilistic Techniques for Data Flow Analysis

Alessandra Di Pierro, Chris Hankin and Herbert Wiklicky (Imperial College London, UK)

Probabilistic Pi-Calculus and Event Structures

Daniele Varacca (University of Paris 7, France) and Nobuko Yoshida (Imperial College London, UK)

Probabilistic Barbed Congruence

Yuxin Deng (Shanghai Jiao Tong University, China) and Wenjie Du (Shanghai Normal University, China)

3.10.3 Sunday, March 25, room: CP2-105

09:30 - 10:30 SESSION 1

Invited Talk

Approximate Reasoning for Time and Probabilities

Radha Jagadeesan (DePaul University, USA)

10:30 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

Paper Presentations:

Modelling Multicast QoS Routing by using Best-Tree Search in And-or Graphs and Soft Constraint Logic Programming

Stefano Bistarelli (University of Pescara, Italy), Ugo Montanari (University of Pisa, Italy),
Francesca Rossi (University of Padova, Italy) and Francesco Santini (IMT Lucca, Italy)

Exogenous Probabilistic Computation Tree Logic

Pedro Baltazar, Paulo Mateus (University of Lisbon, Portugal), Rajagopal Nagarajan and
Nikolaos Papanikolaou (University of Warwick, UK)

12:30 - 14:30 Lunch

14:30 - 16:00 SESSION 3

Paper Presentations:

Stochastic Modelling of Communication Protocols from Source Code

Michael Smith (University of Edinburgh, UK)

PEPA Queues: Capturing customer behaviour in queueing networks

Ashok Argent-Katwala and Jeremy Bradley (Imperial College London, UK)

A structural approach for modelling performance of systems using skeletons

Gagarine Yaikhom, Murray Cole, Stephen Gilmore and Jane Hillston (University of Edinburgh,
UK)

16:00 - 16:30 Coffee Break

16:30 - 17:30 SESSION 4

Short Paper Presentations:

Distributed Liveness and Timers for Mobile Processes

Martin Berger and Nobuko Yoshida (Imperial College London, UK)

Stochastic Ambient Logic

Maria Grazia Vigliotti (Imperial College London, UK)

17:30 Steering Committee Meeting

18:45 SOCIAL EVENT

Joint Workshops Pre-Conference Dinner

Dinner at Bom Jesus (*Shuttle departure from Campus Gualtar*)

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3.11 Programme of SC at ETAPS 2007

3.11.1 (Workshop on Software Composition)

3.11.2 Saturday, March 24, room: CP2-101

09:00 - 10:30 SESSION 1

Welcome

Invited Talk

Composition by Anonymous Third Parties

Farhad Arbab (CWI and Leiden University, NL)

10:30 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

Composition Contracts

Defining Component Protocols with Service Composition: Illustration with the Kmelia Model

Pascal André, Gilles Ardourel, and Christian Attiogbé (University Of Nantes, F)

Composite Contract Enforcement in Hierarchical Component Systems

Philippe Collet (University of Nice, F), Jacques Malenfant (University Paris 6, F), Alain Ozanne, and Nicolas Rivierre (France Telecom R&D, F)

Towards a Unifying Theory for Choreography Conformance and Contract Compliance

Mario Bravetti and Gianluigi Zavattaro (University of Bologna, I)

12:30 - 14:00 Lunch

14:00 - 16:00 SESSION 3

Composition Design & Analysis

A Process-Algebraic Approach to Workflow Specification and Refinement

Peter Wong and Jeremy Gibbons (University of Oxford, UK)

Generic Feature-Based Software Composition

Tijs Van der Storm (CWI, NL)

Composition Management Interfaces for a predictable assembly

Xabier Aretxandieta, Goiuria Sagardui (University of Mondragon, E), and Franck Barbier (Pau University, F)}

Error propagation analysis in composition of software services

Vittorio Cortellessa (Universita' dell'Aquila, I) and Pasqualina Potena (Università "G. D'Annunzio", I)

16:00 - 16:30 Coffee Break

16:30 - 18:00 SESSION 4

Dynamic Composition

Dynamically Adaptable Applications with iPOJO Service Components

Clement Escoffier and Richard Hall (Grenoble University, F)

Dynamic Contextual Service Ranking

Andre Bottaro (France Telecom, F) and Richard Hall (Grenoble University, F)

A Rapid Adaptive Algorithm for Finding Replacement Service Locally during Dynamic Service Composition

Xingzhi Feng, Quanyuan Wu, Yan Jia, Bin Zhou, and Yi Ren (National University of Defense Technology, China)

3.11.3 Sunday, March 25, room: CP2-101

09:30 - 10:30 SESSION 1

Short Papers

Measuring Reactability of Persistent Computing Systems

Takumi Endo, Yuichi Goto, and Jingde Cheng (Saitama University, Japan)

Requirements for applying aspect-oriented techniques in webservice composition languages

Mathieu Braem and Niels Joncheere (Vrije Universiteit Brussel, B)

Synthesizing Communication Middleware from Explicit Connectors in Component Based Distributed Architectures

Dietmar Schreiner and Karl Göschka (Vienna University of Technology, A)

Streamlining Feature-Oriented Designs

Martin Kuhlemann, Sven Apel, and Thomas Leich (University of Magdeburg, D)

Requirements for Reusable Aspect Deployment

Bruno De Fraine and Mathieu Braem (Vrije Universiteit Brussel, B)

10:30 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

Aspect-Oriented Programming

Aspect-Oriented Programming: Selecting and Exposing Object Paths

Mohammed Al-Mansari, Stefan Hanenberg, and Rainer Unland (University of Duisburg-Essen, D)

Debugging Aspect-Enabled Programs

Marc Eaddy, Alfred Aho (Columbia University, USA), Weiping Hu, Paddy McDonald, and Julian Burger (Microsoft Corporation, USA)

Unification of Static and Dynamic AOP for Evolution in Embedded Software Systems

Wasif Gilani and Fabian Scheler (Erlangen University, D)

12:30 - 14:00 Lunch

14:00 - 16:00 SESSION 3

Structural Composition

Patterns of Component Evolution

Rajesh Vasa (Swinburne University of Technology, AUS), Markus Lumpe (Iowa State University, USA), and Jean-Guy Schneider (Swinburne University of Technology, AUS)

An Approach for Structural Pattern Composition

Imed Hammouda and Kai Koskimies (Tampere University of Technology, FI)

Composite Connectors for Composing Software Components

Kung-Kiu Lau, Ling Ling, Vladyslav Ukis, and Perla Velasco (The University of Manchester, UK)

16:00 - 16:30 Coffee Break

16:30 - 17:00 SESSION 4

Concluding Discussion and Remarks

18:45 SOCIAL EVENT

Joint Workshops Pre-Conference Dinner

Dinner at Bom Jesus (*Shuttle departure from Campus Gualtar*)

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3.12 Programme of SLA++P at ETAPS 2007

3.12.1 (Model-driven High-level Programming of Embedded Systems)

3.12.2 Saturday, March 31, room: CP2-105

09:00 - 10:30 SESSION 1

Welcome and Opening

(Invited Talk)

Dr. Steven Miller, Senior Principal Engineer in the Advanced Technology Center of Rockwell Collins, USA

A Model Checking Approach to Protocol Conversion

R.Sinha, P.S.Roop, S.Basu

10:30 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

Worst Case Reaction Time Analysis of Concurrent Reactive Programs

M.Boldt, C.Traulsen, R.von Hanxleden

Executable Specifications for Real-Time Distributed Systems

A.Ray, R.Cleaveland

(Short discussion) SYNCHRON'07 and SLAP'08

12:30 - 14:00 Lunch

14:00 - 15:30 SESSION 3

Gotos in Esterel

O.Tardieu, S.A.Edwards

Specifying and executing reactive scenarios with Lutin

P.Raymond, Y.Roux, E.Jahier

Modifying Contracts with Larissa Aspects

D.Stauch

15:30 - 16:00 Coffee Break

16:00 - 18:30 SESSION 4

Lustre as a System Modeling Language: Lussensor, a Case-Study with Sensor Networks

F.Maraninchi, L.Samper, K.Baradon, A.Vasseur Madrid, Spain

Mutation analysis for LUSTRE programs

L.du Bousquet

Extending Lustre with Timeout Automata

J.Gao, M.Whalen, E.Van Wyk

18:45 SOCIAL EVENT

Joint Workshops Post-Conference Dinner

Dinner at Pousada Santa Maria de Bouro (*Shuttle departure from Campus Gualtar*)

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3.13 Programme of Termgraph at ETAPS 2007

3.13.1 (4th International Workshop on Computing with Terms and Graphs)

3.13.2 Saturday, March 31, room: CP2-104

09:20 - 10:30 SESSION 1

Welcome

An Algebra for Directed Bigraphs

D. Grohmann and M. Miculan

Modeling and Verifying Graph Transformations in Proof Assistants

M. Strecker

10:30 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

Intensional properties of polygraphs

G. Bonfante and Y. Guiraud

Term-graph rewriting in TOM with relative positions

E. Balland and P. Brauner

Deduction Graphs with Universal Quantification

H. Geuvers and I. Loeb

12:30 - 14:00 Lunch

14:00 - 16:00 SESSION 3

Rewritings for Polarized Multiplicative and Exponential Proof Structures

C. Fouquere and V. Mogbil

Hard Combinators

D. Bechet and S. Lippi

Universal Boolean Systems

D. Bechet and S. Lippi

Interaction Nets with Nested Pattern Matching

S. Sato and A. Hussan

Sub-lambda-calculi, classified

F-R. Sinot

16:00 - 16:30 Coffee Break

18:45 SOCIAL EVENT

Joint Workshops Post-Conference Dinner

Dinner at Pousada Santa Maria de Bouro (*Shuttle departure from Campus Gualtar*)

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- Tutorials: Stratego/XT, SoftwGen Mobius

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3.14 Programme of WITS at ETAPS 2007

3.14.1 (7th International Workshop on Issues in the Theory of Security)

3.14.2 Saturday, March 24, room: CP2-102

09:00 - 10:30 SESSION 1

Welcome

Riccardo Focardi (University of Venice)

Invited Talk

On the use of formal models for proving cryptographic security notions

Véronique Cortier

10:30 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

Computational Security

Computationally Sound Analysis of Protocols using Bilinear Pairings

Laurent Mazare

On the Role of Scheduling in Simulation-Based Security

Ran Canetti, Ling Cheung, Nancy Lynch and Olivier Pereira

Inductive Trace Properties Imply Computational Security

Arnab Roy, Anupam Datta, Ante Derek and John Mitchell

12:30 - 14:00 Lunch

15:00 - 16:00 SESSION 3

Information Flow

On information flow and refinement-closure

Gavin Lowe

Nondeducibility on strategies in the temporal logic of knowledge

Catalin Dima and Constantin Enea

16:00 - 16:30 Coffee Break

16:30 - 17:30 SESSION 4

Static Analysis of Authentication

Detecting Replay Attacks by Freshness Annotations

Han Gao, Pierpaolo Degano, Chiara Bodei and Hanne Riis Nielson

A Calculus of Challenges and Responses

Michael Backes, Agostino Cortesi, Riccardo Focardi and Matteo Maffei

3.14.3 Sunday, March 25, room: CP2-102

09:30 - 10:30 SESSION 1

Invited Talk

Certified access control on mobile interactive devices

Thomas Jensen (Saitama University, Japan)

10:30 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

New Models for Security Protocols

On the Specification of Secure Channels

Christopher Dilloway and Gavin Lowe

Causality-based Abstraction of Multiplicity in Security Protocols

Michael Backes, Agostino Cortesi and Matteo Maffei

Skeletons and the Shapes of Bundles

Joshua Guttman, Shaddin Doghmi and F. Javier Thayer

12:30 - 14:00 Lunch

15:00 - 16:00 SESSION 3

Protocol Verification

Verifying an implementation of SSH

Erik Poll and Aleksy Schubert

Partial Order Reduction for Branching Security Protocols

Wan Fokkink, Mohammad Torabi Dashti and Anton Wijs

16:00 - 16:30 Coffee Break

16:30 - 17:30 IFIP WG 1.7 Business Meeting

18:45 SOCIAL EVENT

Joint Workshops Pre-Conference Dinner

Dinner at Bom Jesus (*Shuttle departure from Campus Gualtar*)

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- Tutorials: Stratego/XT, SoftwGen Mobius

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4 Tutorials

- **Program Transformation with Stratego/XT** ,
- **Beyond the Generators: Practical Techniques for Real-World Software Generation**
- **Mobility, Ubiquity, and Security**

4.0.4 Program Transformation with Stratego/XT

Saturday, March 24, room: DI 1.09

This tutorial gives an overview of techniques for program transformation, illustrated through the Stratego/XT program transformation system. We explain the general architecture of transformation systems, and how Stratego/XT is used to assemble such systems from components. We introduce a set of ready made components for Java transformation, and show how to program custom transformation components using Stratego. In particular, we show how to express local transformations using rewrite rules and strategies and how context-sensitive transformations can be expressed easily using dynamic rewrite rules. All techniques and language features are illustrated with implementations of transformations on Java programs, that show how to apply all introduced techniques in practice. **Speakers:**

- Martin Bravenboer (Utrecht University)
- Eelco Visser (Delft University of Technology)

4.0.5 Beyond the Generators: Practical Techniques for Real-World Software Generation

Saturday, March 24, room: CP2 106

Most of the available literature on software generation concentrates on how to build generators that transform specifications into code. Little is said about the following important peripheral issues:

- justification: how to convince people that generation is worth it
- debugging: how to understand what the generated code is doing
- structuring: how to describe multi-language generator specifications
- manufacturing: how to formally describe the generation process

This tutorial presents practical techniques for addressing these issues based on almost twenty years of experience with a complex, multi-language generation system. **Speakers:**

- Anthony M. Sloane (Macquarie University)

4.0.6 Mobility, Ubiquity, and Security

Sunday, April 1, room: CP2 103

The European project Mobius develops the technology for establishing trust and security for Java-enabled global computers such as mobile telephone networks. Mobius uses the Proof-Carrying Code (PCC) paradigm to provide static guarantees for security and functional properties of code. Certificates can be produced and checked using various enabling technologies such as advanced type systems and logic-based reasoning. This tutorial will introduce participants to both the central security architecture of Mobius as well as type systems, logics, and tools that enable static verification of Java source and bytecode. **Speakers:**

- Gilles Barthe (INRIA)
- David Pichardie (IRISA)

- David Aspinall (Univ. of Edinburgh)
- Peter Müller (ETH Zurich)
- Lennart Beringer (LMU Munich)
- Joe Kiniry (UC Dublin)

Brochure: MobiusTutorial.pdf

5 Social Programme

6 All events day by day

7 Sponsors