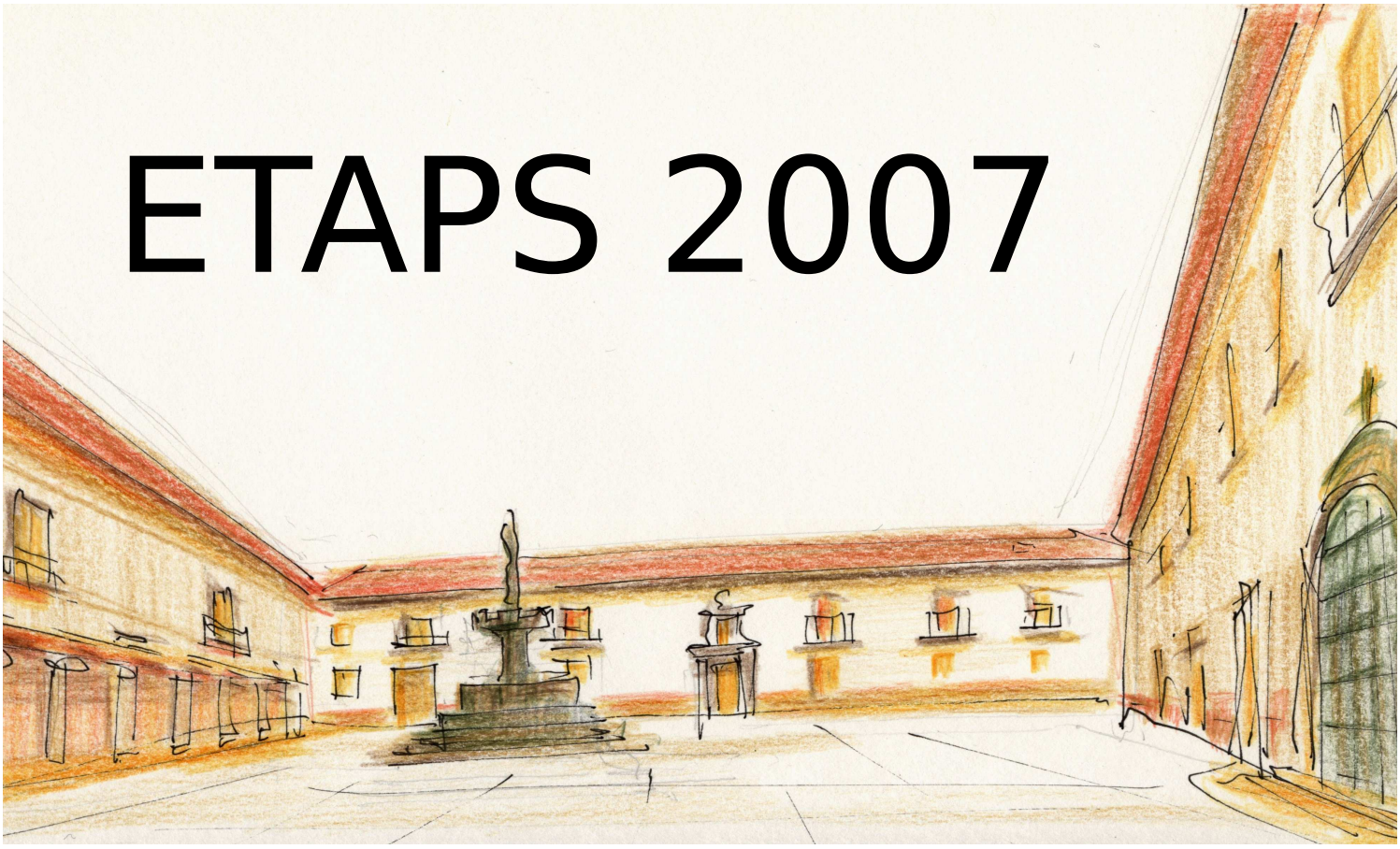
ETAPS 2007



Conference Programme

March 24 - April 1
Braga - Portugal

European Joint Conferences on
Theory And Practice of Software
2007

Steering Committee

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António Nestor Ribeiro (Fundraising)
Joost Visser (Satellite events)

Contents

1 Welcome

Welcome to ETAPS 2007

The European Joint Conferences on Theory and Practice of Software (ETAPS) are the primary European forum for academic and industrial researchers working on topics relating to Software Science. ETAPS, established in 1998, is a confederation of five main annual conferences, accompanied by satellite workshops and other events. ETAPS 2007 in Braga is the tenth event in the series, after Lisbon, Amsterdam, Berlin, Genova, Grenoble, Warsaw, Barcelona, Edinburgh, and Vienna.

Over 9 days, ETAPS 2007 will offer 7 invited talks by distinguished speakers, 5 main conferences, 17 workshops, 3 tutorials, and a significant number of invited talks specific to the satellite events. Overall, the five main conferences received this year around 630 submitted papers, with an acceptance rate of 25%. The high quality and quantity of the submitted papers required the overlapping of four conferences on Wednesday, for the first time in the history of ETAPS.

ETAPS 2007 marks the tenth anniversary of the conference. To celebrate the event, brief talks will be given by some of those who have been involved in ETAPS over the years: Hartmut Ehrig, Reinhard Wilhelm, Don Sannella, José Fiadeiro, and Perdita Stevens. An informal panel will follow.

Welcome to Braga

ETAPS 2007 will be held in Braga, an ancient city in the heart of the green and fertile region known as the Costa Verde in the North of Portugal. It is the capital of the Minho province, and formerly was (as Bracara Augusta) the capital of the Roman province of Gallaecia, and of the Suebic kingdom in Gallaecia.

Braga, which is known for its baroque churches and splendid 18th century houses, is a modern, fast-growing commercial town. The old city, solemn and antique, is animated with academic and cultural life and with its characterful nineteenth-century cafés, a good choice of restaurants serving splendid traditional gastronomy, and a number of lively bars.

1.1 Conferences and Workshops Location

ETAPS 2007 will be held in Braga at two locations. The events from Monday 26th until Friday 30th March will take place in Theatro Circo, located in the city centre. The satellite events at the enclosing weekends (24th/25th and 31th March/1st April) will be held at the University's Campus of Gualtar, 2 Km east of the city centre.

ETAPS Conferences at Theatro Circo

Theatro Circo, the main theater of Braga, is located in the city centre (see map below). The building, designed by the Portuguese architect Moura Coutinho, was built in 1914. Due to its architecture and size it is considered one of the largest and most beautiful theaters of Portugal. In 2004 and 2005, Theatro Circo underwent major renovation and extension. It now includes modern facilities to host music concerts, theatre plays, cinema, and conferences.

ETAPS Satellite Events at Campus of Gualtar

Most of departmental and teaching buildings of Universidade do Minho are located in the Campus of Gualtar in Braga. Campus of Gualtar is located 2 km east of the city centre. The satellite events will be located in the building "Complexo Pedagógico 2" (CP 2, see map below).

Registration Desk

The registration desk will be located:

- from March 26 till March 30 — Entrance hall of Theatro Circo; opening hours: 8:30 - 18:00.
- on March 24, 25 and March 30, April 1 — Entrance hall of the CP2 building at the Gualtar campus; opening hours: 8:30 - 18:00.

Lunch

Lunch is not included in the main conference registration fee. There are several restaurants located in the city centre of Braga that can be easily reached from Theatro Circo. Most of these restaurants serve a very affordable daily meal.

On March 24, 25 and 30 and April 1, lunch is included in the workshops registration fee. The workshop lunches will be served in the University restaurant located in the Campus of Gualtar. The workshop daily fee covers the participants' lunches and coffee-breaks.

Shuttle Service

A shuttle service will be run during ETAPS. On weekends, shuttles will leave towards the university campus at Gualtar, from the following places:

- Train station (S1 in the map, close to the WS Braga SPRU – Student Residence and Hotel da Estação)
- Hotel Turismo (S2 in the map, close to all hotels in the city centre)
- Bom Jesus (Hotel do Elevador)

On weekdays, the shuttle service will run from Bom Jesus only, towards the main conference venue (Theatro Circo).

An organisation representative will be present at each shuttle departure time. The shuttle timetable is as follows:

Friday (23/03)

- 8:30: Hotel Turismo ⟶ Campus of Gualtar
- 18:30: Campus of Gualtar ⟶ city centre

Saturday (24/03)

- 8:15: Train Station ⟶ Campus of Gualtar
- 8:15: Hotel Turismo ⟶ Campus of Gualtar
- 8:15: Bom Jesus ⟶ Campus of Gualtar
- 18:45: Campus of Gualtar ⟶ city centre

Sunday (25/03)

- 8:15: Train Station ⟶ Campus of Gualtar
- 8:15: Hotel Turismo ⟶ Campus of Gualtar
- 8:15: Bom Jesus ⟶ Campus of Gualtar
- 18:45: Campus of Gualtar ⟶ city centre
- 18:45: Campus of Gualtar ⟶ Bom Jesus (dinner)
- 23:00: Bom Jesus ⟶ city centre

Monday (26/03)

- 8:15: Bom Jesus ⟶ Teatro Circo
- 22:00: Teatro Circo ⟶ Bom Jesus

Tuesday (27/03)

- 8:15: Bom Jesus ⟶ Teatro Circo
- 23:00: Teatro Circo ⟶ Bom Jesus

Wednesday (28/03)

- 8:15: Bom Jesus ⟶ Teatro Circo
- 19:00: Teatro Circo ⟶ Banquete

Thursday (29/03)

- 8:15: Bom Jesus ⟶ Teatro Circo
- 22:00: Teatro Circo ⟶ Bom Jesus

Friday (30/03)

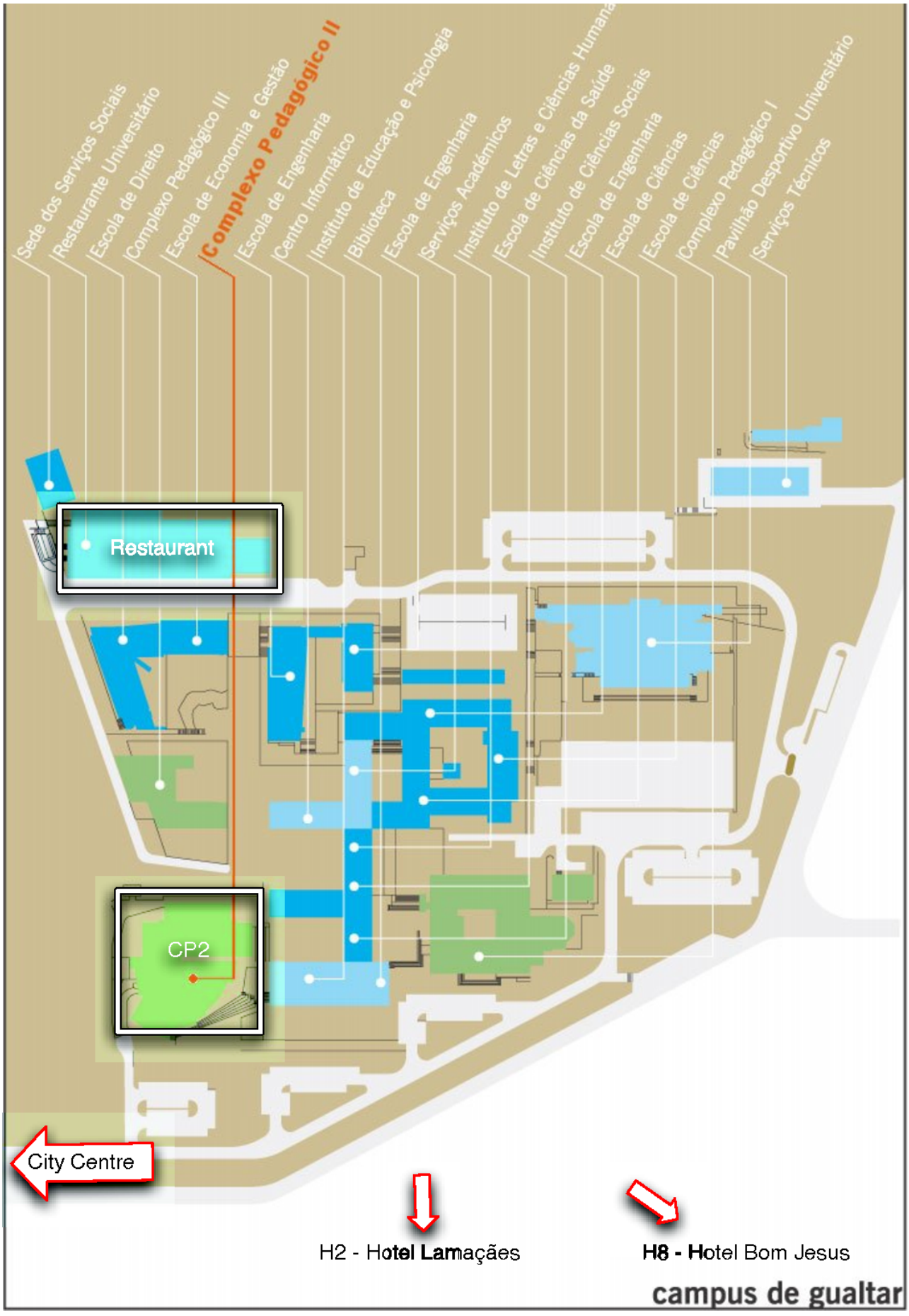
- 8:15: Bom Jesus ⟶ Teatro Circo
- 22:00: Teatro Circo ⟶ Bom Jesus

Saturday (31/03)

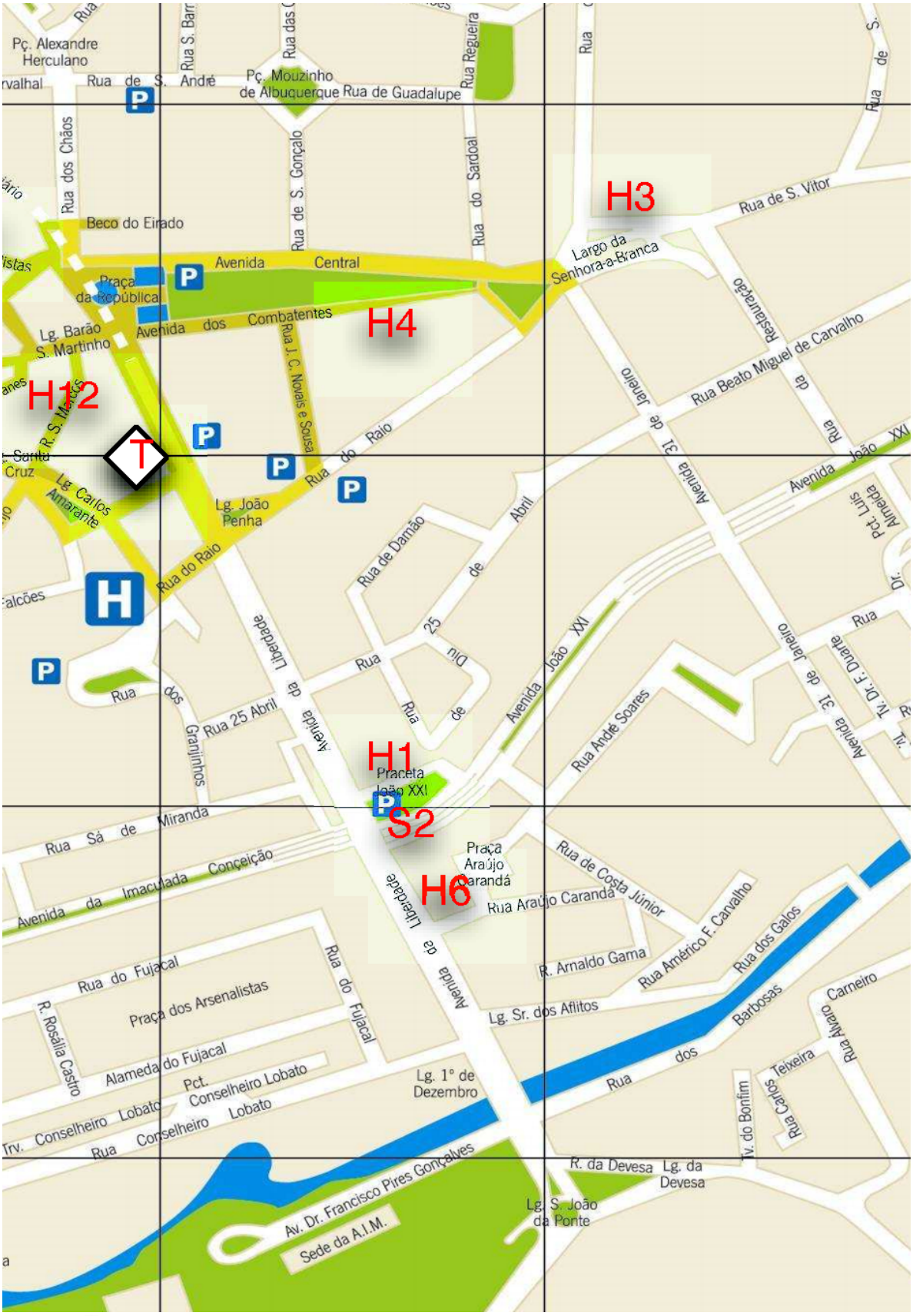
- 8:15: Train Station ⟶ Campus of Gualtar
- 8:15: Hotel Turismo ⟶ Campus of Gualtar
- 8:15: Bom Jesus ⟶ Campus of Gualtar
- 18:45: Campus of Gualtar ⟶ city centre
- 18:45: Campus of Gualtar ⟶ Pousada Bouro (dinner)

Sunday (01/04)

- 8:15: Hotel Turismo ⟶ Campus of Gualtar
- 18:45: Campus of Gualtar ⟶ city centre


Sede dos Serviços Sociais
Restaurante Universitário
Escola de Direito
Complexo Pedagógico III
Escola de Economia e Gestão
Complexo Pedagógico II
Escola de Engenharia
Centro Informático
Instituto de Educação e Psicologia
Biblioteca
Escola de Engenharia
Serviços Académicos
Instituto de Letras e Ciências Humanas
Escola de Ciências da Saúde
Instituto de Ciências Sociais
Escola de Engenharia
Escola de Ciências
Escola de Ciências
Complexo Pedagógico I
Pavilhão Desportivo Universitário
Serviços Técnicos
Restaurant
CP2
City Centre
H2 - Hotel Lamaçães
H8 - Hotel Bom Jesus
campus de gualtar


H9
H11
H7
H5
S1
H10
Praça do Comércio
Tv. do Carmo
Rua do Carmo
Av. V. Nespereira
Túnel Rodoviá
Rua do Ferraz
Rua Alf. Ferreira
Rua de S. Martinho
Avenida António Macedo
Rua da Boavista
Pç. Conde de Agrolongo
Pç. Cons. Torres de Almeida
Rua da Misericórdia
Rua dos Capelistas
Rua Justino Cruz
Rua Eça de Queirós
Jardim de Santa Bárbara
Largo do Paço
Pç. Dr. José F. Salgado
Praça do Município
Rua dos Biscaínhos
Brandão
Rua do Souto
Rua D. Diogo de Sousa
Praça Velha
Lg. da Porta Nova
Rua Andrade Corvo
Campo das Hortas
Av. S. Miguel o Anjo
Rua D. Paio Mendes
Rua S. João
Rossio da Sé
Rua V. de Pindela
Lg. Sr.ª da Boa Luz
Rua Fernando Namora
Pç. Camilo Castelo Branco
Rua Cardoso Avelino
Largo da Estação
Pct Padre Diamantino Martins
Rua Irmãos Robys
Manuel Faria
Rua Coronel Dias Pereira
Rua da Granja
Campo das Carvalheiras
R. G. Pais
R. Conç. Pereira
Afonso Henriques
Rua Frei Caetano
Largo S. Paulo
Rua S. Paulo
Largo S. Tiago
Rua dos Falcões
Rua do Anjo
Rua Jer. Pimentel
Rua do Matadouro
Lg. Paulo Orósio
Rua do Alcaide
Rua de S. Sebastião
Rua da Cruz de Pedra
Rua do Caires
Tv. Laranjeiras
Tv. Caires
Largo do Beco
Rua Dr. Rocha Peixoto
Rua dos Voluntários
Rua Damião de Góis
Rua dos Bombeiros
Rua S. Geraldo
Rua Direita
Rua Comendador Santos da Cunha
Avenida Conde D. Henrique
Rua Diogo Teive
Tv. Diogo Teive
Tv. Condestável
Avenida da Imaculada Conceição
Rua Monsenhor Airosa
Padre Cruz
Peão da Meia Laranja
Praça do Condestável
Pct. do Condestável
Rua Prof. Mota Leite
Rua Manuel Carneiro
Rua Dr. José Vilaça
Rua Santa Justa
Fotógrafo Arcelino
Largo Sta. Justa
R. Padre Luís Portela
R. Padre Martinho da Silva
Porto
BUS



Theatro Circo
Largo do Paço
S1, S2 - Shuttles

H1 - Hotel Turismo
H3 - Albergaria Senhora-a-Branca
H4 - Albergaria Bracara Augusta
H5 - Hotel Residencial D. Sofia
H6 - Hotel Carandá

H7 - Hotel da Estação
H9 - Hotel IBIS Braga
H10 - WS Braga SPRU - Student Residence
H11 - Residencial dos Terceiros
H12 - Residencial S. Marcos

2 Main Conferences

2.1 Conference Description

- **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

CC 2007: 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

URL: `http://cc2007.cs.brown.edu/`

ESOP 2007: 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 Pitsburgh, USA
- Gerard Boudol - INRIA Sophia Antipolis, France
- Giuseppe Castagna - ENS Paris, France
- Patrick Cousot - ENS Paris, France
- Mads Dam - KTH stocholm, 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. Pennsilvania, 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

URL: `http://rap.dsi.unifi.it/esop07/`

FASE 2007: 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)

URL: `http://fase07.di.fc.ul.pt`

FOSSACS 2007: 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, Univerty of Camerino
- Robert van Glabbeek, Stanford Universit
- Andrew D. Gordon, Microsoft Research, Cambridge
- Hendrik Jan Hoogeboom, Leiden University
- Anna Ingolfsdottir, 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

URL: `http://www2.in.tum.de/~seidl/fossacs07/`

TACAS 2007: 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 Laboratory at Pittsburgh, Pittsburgh, Pennsylvania (USA)

- Hubert Garavel – INRIA Rhones-Alpes, Montbonnot Saint-Martin (France)
- Susanne Graf – VERIMAG, Grenoble - Gières (France)
- Orna Grumberg (co-chair) – TECHNION - Israel Institute of Technology, Haifa (Israel)
- John Hatcliff – Kansas State University, Manhattan, Kansas (USA)
- Holger Hermanns – Universität des Saarlandes, Saarbruecken (Germany)
- Michael Huth (co-chair) – Imperial College London, London (UK)
- Daniel Jackson – Massachusetts Institute of Technology, Cambridge, Massachusetts (USA)
- Somesh Jha – The University of Wisconsin at Madison, Madison, Wisconsin (USA)
- Orna Kupferman – Hebrew University, Jerusalem (Israel)
- Marta Kwiatkowska – University of Birmingham, Birmingham, England (UK)
- Kim Larsen – Aalborg University, Aalborg (Denmark)
- Michael Leuschel – Heinrich-Heine-Universität Düsseldorf, Düsseldorf (Germany)
- Andreas Podelski – Max-Planck-Institut für Informatik, Saarbrücken (Germany)
- Tiziana Margaria-Steffen – Universität Potsdam, Potsdam (Germany)
- Tom Melham – Oxford University, Oxford (UK)
- Natarajan Shankar – SRI, Menlo Park, California (USA)
- Bernhard Steffen – Universität Dortmund, Dortmund (Germany)
- Lenore Zuck – University of Illinois, Chicago, Illinois (USA)

Invited Speaker: K. Rustan M. Leino (Microsoft Research, USA)

URL: `http://www.doc.ic.ac.uk/tacas07/`

2.2 Main Conference Programmes

2.2.1 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 (Bosie 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 Califonria, 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 Reasearch 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)

19:00 SOCIAL EVENT (Monday)

Welcome Reception (free admittance)

Largo do Paço (*University Rectorate Building*)

The *Etaps Organization* invites all ETAPS participants to the welcome reception

2.2.2 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 Universit\"at 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 Hirschkoff (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 Psycholgical 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 Reducibiliy 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)

19:00 SOCIAL EVENT (Tuesday)

10th Anniversary Celebration (free admittance)

Theatro Circo

Cocktail/Buffet

Panel on the *History of ETAPS*

Anniversary Cake + Port Wine + Fado Concert

2.2.3 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
  Pavel Krcal (Uppsala Univ.), Wang Yi (Uppsala Univ.), Parosh Abdulla (Uppsala Univ.)
- A Lower Bound on Web Services Composition
  Anca Muscholl (LABRI, Bordeaux), Igor Walukiewiczi (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 Wasowski (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 General 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)

19:00 SOCIAL EVENT (Wednesday)

Conference Banquet (tickets needed)

Paço dos Duques , Guimarães

Shuttle departure from *Theatro Circo*

2.2.4 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 Drossopulou)

- 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 Interation 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 interpreation 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 Luettich (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 Drossopulou)

- 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)

2.2.5 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 Luettgen (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 Drager (Universitat des Saarlandes), Jorg Hoffmann (Digital Enterprise Research Institute, Innsbruck), Berd

Finkbeiner (Universitat des Saarlandes), Henning Dierks (OFFIS, Oldenburg), Andreas Podelski (University of Freiburg), Gerd Behrmann (Aalborg University)

- mCRL Distributed State Space Generation in Practice
  Stefan Blom (Universitat Innsbruck), Jens R. Calame, Bert Lisser (CWI, Amsterdam), Simona Orzan (TU/e, Eindhoven), Jun Pang (Carl von Ossietzky Universitat, 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
- **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

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/`

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/`

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/`

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'at symbol'kcl.ac.uk)

URL: `http://palab.dcs.kcl.ac.uk/fesca/`

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/`

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/`

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`

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/`

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`

MBT

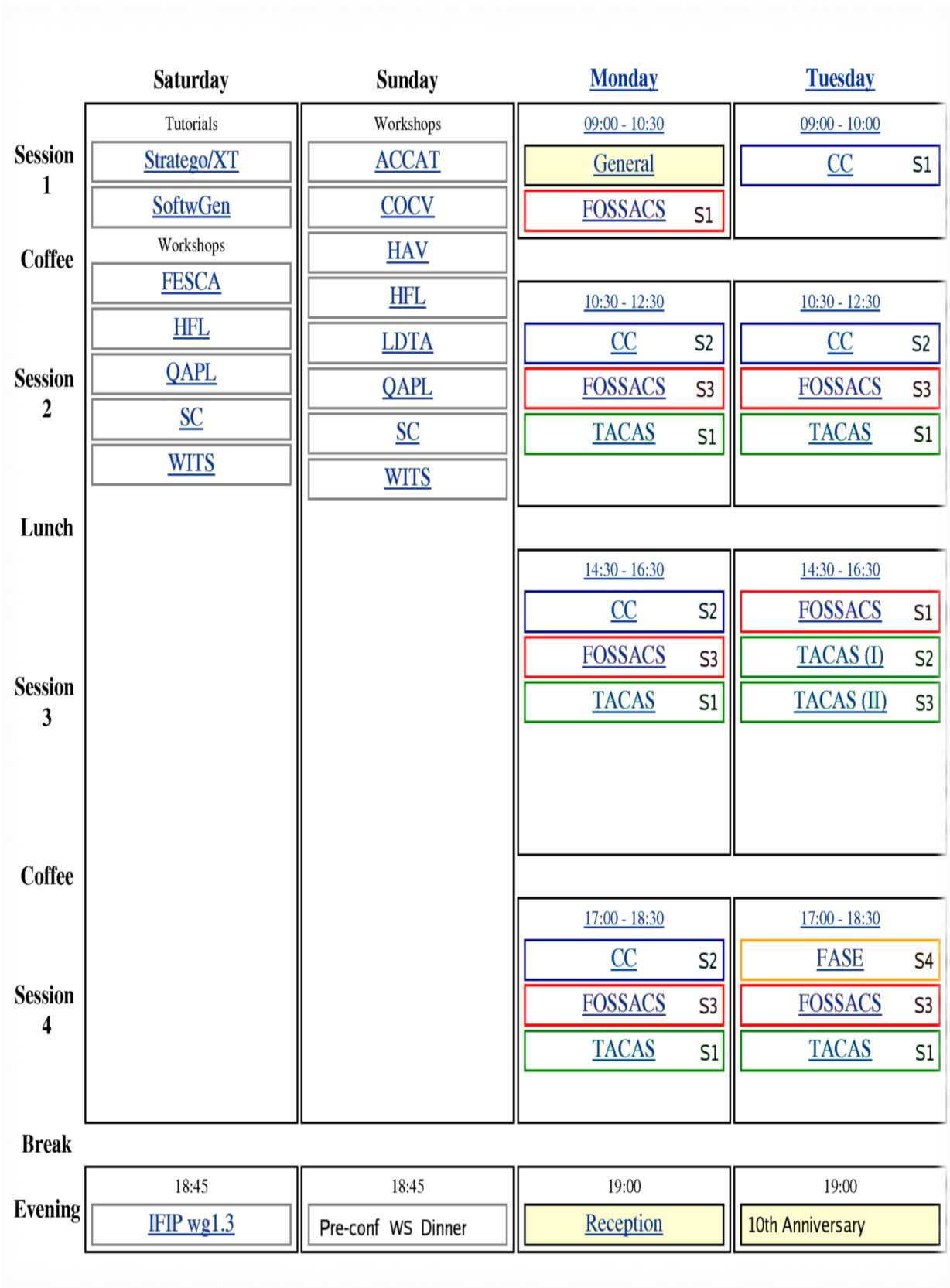
3rd Workshop on Model Based Testing

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.

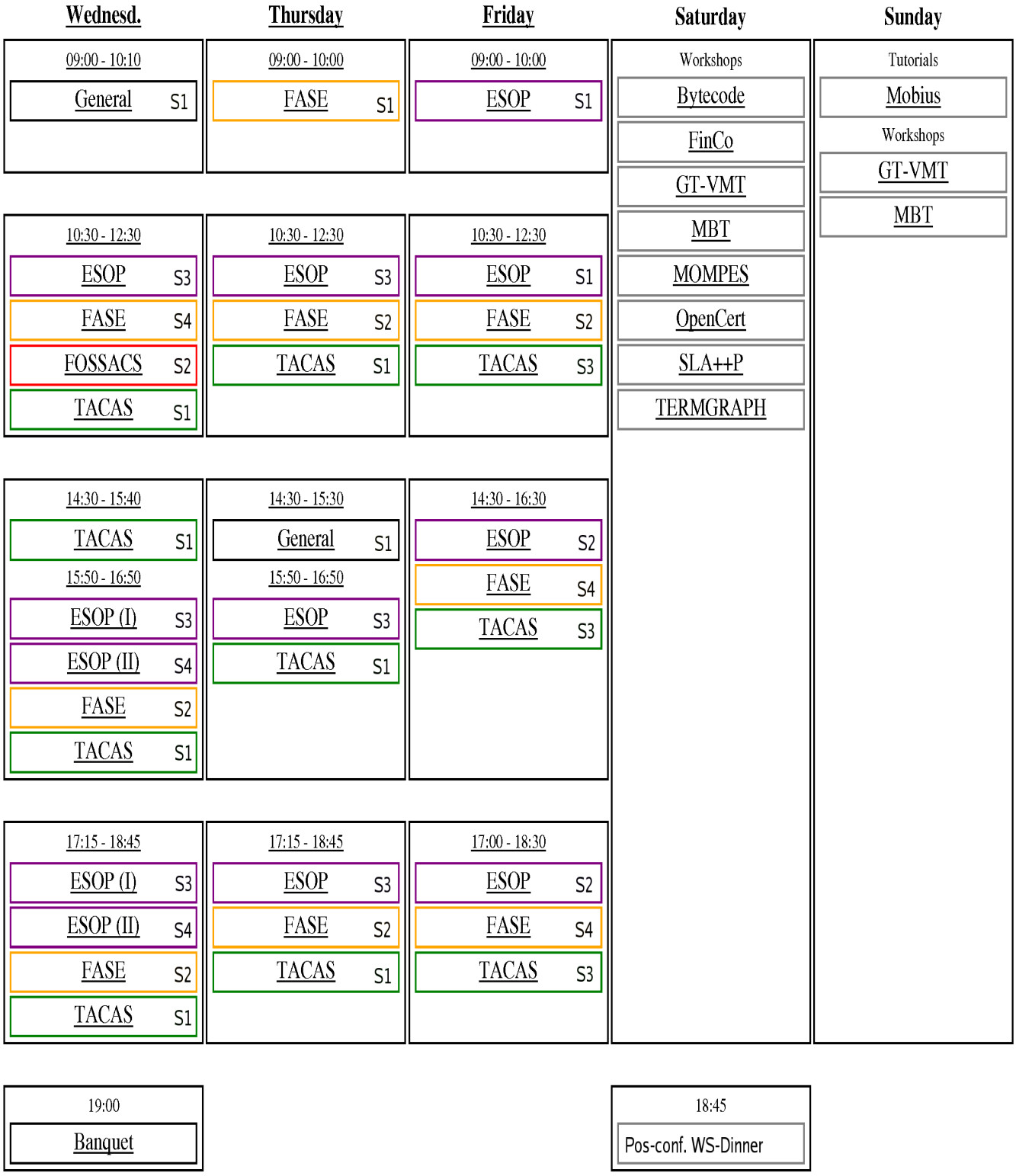
Contact: Bernd Finkbeiner (finkbeiner@cs.uni-sb.de)

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



	Saturday	Sunday	Monday	Tuesday
Session 1	Tutorials Stratego/XT SoftwGen	Workshops ACCAT COCV	09:00 - 10:30 General FOSSACS S1	09:00 - 10:00 CC S1
Coffee	Workshops	HAV		
Session 2	FESCA HFL QAPL SC WITS	HFL LDTA QAPL SC WITS	10:30 - 12:30 CC S2 FOSSACS S3 TACAS S1	10:30 - 12:30 CC S2 FOSSACS S3 TACAS S1
Lunch				
Session 3			14:30 - 16:30 CC S2 FOSSACS S3 TACAS S1	14:30 - 16:30 FOSSACS S1 TACAS (I) S2 TACAS (II) S3
Coffee				
Session 4			17:00 - 18:30 CC S2 FOSSACS S3 TACAS S1	17:00 - 18:30 FASE S4 FOSSACS S3 TACAS S1
Break				
Evening	18:45 IFIP wg1.3	18:45 Pre-conf WS Dinner	19:00 Reception	19:00 10th Anniversary

Where: **S1 – Enabler Wipro Room (Grand Auditorium)**
S2 – Cisco Room (Main Hall)
S3 – Multicert Room (Second Auditorium)
S4 – Unicre Room (Rehearsal Room)


Wednesd.
09:00 - 10:10
General S1
10:30 - 12:30
ESOP S3
FASE S4
FOSSACS S2
TACAS S1
14:30 - 15:40
TACAS S1
15:50 - 16:50
ESOP (I) S3
ESOP (II) S4
FASE S2
TACAS S1
17:15 - 18:45
ESOP (I) S3
ESOP (II) S4
FASE S2
TACAS S1
19:00
Banquet
Thursday
09:00 - 10:00
FASE S1
10:30 - 12:30
ESOP S3
FASE S2
TACAS S1
14:30 - 15:30
General S1
15:50 - 16:50
ESOP S3
TACAS S1
17:15 - 18:45
ESOP S3
FASE S2
TACAS S1
Friday
09:00 - 10:00
ESOP S1
10:30 - 12:30
ESOP S1
FASE S2
TACAS S3
14:30 - 16:30
ESOP S2
FASE S4
TACAS S3
17:00 - 18:30
ESOP S2
FASE S4
TACAS S3
Saturday
Workshops
Bytecode
FinCo
GT-VMT
MBT
MOMPES
OpenCert
SLA++P
TERMGRAPH
18:45
Pos-conf. WS-Dinner
Sunday
Tutorials
Mobius
Workshops
GT-VMT
MBT

MOMPES

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

Model Based Development (MBD) comprises approaches to software development which heaviliy 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`

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/`

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`

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 interess 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`

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/`

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`

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

3.1 Programme of ACCAT

Applied and Computational Category Theory

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

3.2 Programme of Bytecode

Second Workshop on Bytecode Semantics, Verification, Analysis and Transformation

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)

3.3 Programme of COCV

Compiler Optimization meets Compiler Verification

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
  Marìa 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

3.4 Programme of FESCA

Formal Foundations of Embedded Software and Component-Based Software Architectures

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

3.5 Programme of FinCo

Foundations of Interactive Computation

Saturday, March 31, room: CP2-106

09:00 - 10:30 SESSION 1

Welcome
Invited Talk

- Event-driven Design in Practice and Theory
  Bertrand Meyer, ETH Zurich and Eiffel Software

10:30 - 11:00 Coffee Break

11:00 - 12:30 SESSION 2

Specification and Analysis of Interactive Agents

- A Formal Framework for Interactive Agents
  Carolyn L. Talcott (SRI International, USA)
- Observable Behavior of Dynamic Systems: Component-Based Reasoning for Concurrent Objects
  Johan Dovland, Einar Broch Johnsen, and Olaf Owe (Univ. Oslo, Norway)

12:30 - 14:00 Lunch

14:00 - 16:00 SESSION 3

Modeling Interaction

- Interaction in Time and Space
  Gabriel Ciobanu (A.I.Cusa Univ., Romania)
- Validating for Liveness in Hidden Adversary Systems
  Saikat Mukherjee, Srinath Srinivasa, and SatishChandra D. (IIIT Bangalore, India)
- AGAPIA v0.1: A Programming Language for Interactive Systems and its Typing System
  Cezara Dragoi and Gheorghe Stefanescu (Univ. Bucharest, Romania)

16:00 - 16:30 Coffee Break

16:30 - 18:30 SESSION 4

Programming Languages for Interactive Computing

- Programming Languages for Interactive Computing
  Roly Perera

Panel Discussion

- Models and Languages for Interactive Systems
  all speakers

Closing

- Dina Goldin (Brown University, USA)

3.6 Programme of GT-VMT

Sixth International Workshop on Graph Transformation and Visual Modeling Techniques

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 Kastenberg, Iovka Boneva, Arend Rensink

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 Hä"sler
- Graph Based Engineering Systems - A Family Of Software Applications And their Underlying Framewor (Short Talk)
  Gregor Wrobel, Ralf-Erik Ebert, Matthias Ple"sow
- 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 Fu"s, 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

3.7 Programme of HAV

Heap Analysis and Verification

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

3.8 Programme of HFL

Hardware design using Functional Languages

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)

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

3.9 Programme of LDTA

Seventh Workshop on Language Descriptions, Tools and Applications

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 Hamey, 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

3.10 Programme of MBT

3rd Workshop on Model Based Testing

March 31, April 1, room: CP2-102
09:00 - 10:30 SESSION 1

Opening and Welcome

- Bernd Finkbeiner, Yuri Gurevich, Alexander K. Petrenko

Invited Talk

- Finding a Good Order for Applying Adaptive Test Cases Rob Hierons

10:30 - 11:00 Coffee Break
11:00 - 12:30 SESSION 2

- A Global Algorithm for Model-Based Test Suite Generation Anders Hessel and Paul Pettersson
- Can a Model Checker Generate Tests for Non-Deterministic Systems? Sergiy Boroday, Alexandre Petrenko, and Roland Groz

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

- Generating Scenarios by Multi-Object Checking Maik Kollmann and Yuen Man Hon
- Testing Planning Domains (without Model Checkers) Franco Raimondi, Charles Pecheur, and Guillaume Brat

16:00 - 16:30 Coffee Break
16:30 - 17:15 SESSION 4

- Towards the Integration of Visual and Formal Models for GUI Testing Ana C. R. Paiva, João C. P. Faria, and Raul F. A. M. Vidal

17:15 - 18:00 Reserved

Sunday, April 1, room: CP2-102

09:00 - 10:30 SESSION 1

Invited Talk

- Model-Based Testing in the Standardization of Information and Communication Technologies: the ETSI Perspective Antti Huima

10:30 - 11:00 Coffee Breaks
11:00 - 12:30 SESSION 2

- Measuring a Java Test Suite Coverage using JML Specifications Frédéric Dadeau, Yves Ledru, and Lydie du Bousquet

- A Case Study in Matching Test and Proof Coverage Lydie du Bousquet, Yves Ledru, Frédéric Dadeau, and Faryel Allouti

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

- Automated Verification of Completeness and Consistency of Abstract State Machine Specifications using a SAT Solver Martin Ouimet and Kristina Lundqvist
- Handling Model Changes: Regression Testing and Test-Suite Update with Model-Checkers Gordon Fraser, Bernhard K. Aichernig, and Franz Wotawa

16:00 - 16:30 Coffee Break
16:30 - 17:15 Discussion

3.11 Programme of MOMPES

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

Saturday, March 31, room: CP2-108

09:00 - 10:00 SESSION 1

Opening and Welcome Session
Invited Talk

- On the Applicability Scope of Model Driven Engineering
  Jean Bézivin

10:00 - 10:40 SESSION 2

Pervasive Systems

- Towards a Model-Driven Approach for Ontology-Based Context-Aware Application Development: A Case Study
  Nektarios Georgalas, Shumao Ou, Manooch Azmoodeh, Kun Yang
- Tool Support for Model Driven Development of Pervasive Systems
  Carlos Cetina, Estefanía Serral, Javier Muñoz, Vicente Pelechano

10:40 - 11:00 Coffee Break

11:00 - 11:40 SESSION 3

Modelling Approaches

- A Generic Execution Framework for Models of Computation
  Cécile Hardebolle, Frédéric Boulanger, Dominique Marcadet, Guy Vidal-Naquet
- UML Profile for eXtreme Modeling Interactive Systems
  Alberto Rodrigues da Silva, João Saraiva, Rui Silva, Carlos Martins

11:40 - 12:20 SESSION 4

Formal Approaches (Chair: Ridha Khedri)

- Model-Driven Consistency Checking of Behavioural Specifications
  Bas Graaf, Arie van Deursen
- Challenges when using Model Driven Architecture in the Development of Safety Critical Software
  Philippa Conmy, Richard F. Paige

12:30 - 14:30 Lunch

14:30 - 15:15 SESSION 5

Invited Talk

- Executable Use Cases: a Supplement to Model-Driven Development?
  Jens B. Jørgensen

15:15 - 15:55 SESSION 6

Software Product Lines

- Adopting Computational Independent Models for Derivation of Architectural Requirements of Software Product Lines
  Alexandre Bragança, Ricardo J. Machado
- Model-driven Development of Particle System Families
  Michalis Anastasopoulos, András Balogh

15:55 - 16:15 Coffee Break

16:15 - 16:55 SESSION 7

Session on Embedded Systems (Chair: Luís Gomes)

- ModES: Embedded Systems Design Methodology and Tools based on MDE
  Francisco Assis M. do Nascimento, M&aacutercio F. S. Oliveira, Flávio Rech Wagner
- Designing a Unified Process for Embedded Systems
  Elvinia Riccobene, Patrizia Scandurra, Alberto Rosti, Sara Bocchio

16:55 - 17:10 Closing Session

3.12 Programme of OpenCert

Foundations and Techniques for Open Source Software Certification

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

3.13 Programme of QAPL

Fifth Workshop on Quantitative Aspects of Programming Languages

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)

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

3.14 Programme of SC

Workshop on Software Composition

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 (Universitá "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)

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

3.15 Programme of SLA++P

Model-driven High-level Programming of Embedded Systems

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

3.16 Programme of Termgraph

4th International Workshop on Computing with Terms and Graphs

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 Mutiplicative 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

3.17 Programme of WITS

7th International Workshop on Issues in the Theory of Security

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
- Nondeduciblity 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 Challanges and Responses
  Michael Backes, Agostino Cortesi, Riccardo Focardi and Matteo Maffei

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

4 Tutorials

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

4.1 Program Transformation with Stratego/XT

Saturday, March 24, 9:00 – 12:30, room: CP2 106

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)

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

Saturday, March 24, 14:00 – 18:00, 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)

4.3 Mobility, Ubiquity, and Security

Sunday, April 1, full day, 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.

Programme

- 9:00 - 9:45 PCC scenarios and platform (Gilles Barthe)
- 9:45 - 10:30 Type systems I: Secure information flow (David Pichardie)

- 10:30 - 11:00 break

- 11:00 - 11:45 Type systems II: Resource control (David Aspinall)
- 11:45 - 12:30 Type systems III: Ownership (Peter Müller)

- 12:30 - 14:00 lunch break

- 14:00 - 14:45 Mobius logics (Lennart Beringer)
- 14:45 - 15:30 Mobius tool suite (Joe Kiniry)

- 15:30 - 16:00 break

- 16:00 - 16:45 Perspectives (Gilles Barthe)
- 16:45 - 17:30 Discussion (Peter Müller)

- 19:00 Tutorial Dinner (Gilles Barthe)

5 Social Programme

Saturday, March 24: IFIP WG 1.3 Dinner (by invitation)

18:30 Shuttle departure from University Campus, Gualtar

IFIP WG1.3 Dinner at Pousada Santa Maria de Bouro

Sunday, March 25: Joint Workshops Pre-Conference Dinner (tickets needed)

18:45 Shuttle departure from University Campus, Gualtar

Workshops Dinner at Bom Jesus

Monday, March 26: Welcome Reception (free admittance)

19:00 Location: Largo do Paço (city centre)

Welcome Reception at University Rectorate building

Tuesday, March 27: 10th Anniversary Celebration (free admittance)

19:00-20:30 Cocktail/Buffet at Theatro Circo

20:30-22:00 Tales of ETAPS past

There will be very brief talks by five people from among those who have been involved in ETAPS over the years. They will speak in this order:

- Hartmut Ehrig
- Reinhard Wilhelm
- Don Sannella
- Jose Fiadeiro
- Perdita Stevens

Afterwards, there will be an informal panel giving anyone present an opportunity to ask questions of the speakers.

22:00-23:00 Anniversary Cake + 10 years Port Wine + Fado Concert

Wednesday, March 28: Conference Banquet (tickets needed)

19:00 Shuttle departure from Theatro Circo

Conference banquet at Paço dos Duques, Guimarães

Saturday, March 31: Joint Workshops Post-Conference Dinner (tickets needed)

18:45 Shuttle departure from University Campus, Gualtar

Workshops Dinner at Pousada Santa Maria de Bouro, Amares

6 Sponsors

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