**Welcome to ETAPS 2003**

The European Joint Conferences on Theory and Practice of Software (ETAPS) is the primary European forum for academic and industrial researchers working on topics relating to Software Science. ETAPS is a confederation of five main annual conferences, accompanied by satellite workshops and other events. After ETAPS 1998 in Lisbon, ETAPS 1999 in Amsterdam, ETAPS 2000 in Berlin, ETAPS 2001 in Genova, and ETAPS 2002 in Grenoble, ETAPS 2003 is the sixth joint conference in this series. The conference is organized by Warsaw University in cooperation with the Foundation for Information Technology Development.

Welcome to Warsaw

ETAPS 2003 will be held in Warsaw (Warszawa), the capital of Poland. Warsaw is Poland's largest city and its main economic, cultural and educational centre. The city spans the Wisła (Vistula River), with the main tourist sites — and the location of ETAPS 2003 — on the left bank. The charming Old Town, cobbled streets, baroque palaces, historic churches, monuments and beautiful parks contrast here with the city centre's 235-meter high Palace of Culture and Science, recent skyscrapers and their panoramic views. Warsaw is a cultural centre of opera, theatre and all kinds of music (Chopin's birthplace is nearby!). Its many museums exhibit impressive collections of art and history. One can also find here an extensive restaurant, club and entertainment scene. In a nutshell: Warsaw offers more than enough to make conference participation and perhaps a longer visit attractive not only scientifically.

Event Locations

ETAPS 2003 main conferences are held in the Academy of Music on 7–11 April, while the satellite events take place on 5–6 and 12–13 April at the Ochota Campus of Warsaw University in the buildings of: Faculty of Biology, Heavy Ion Laboratory, and Faculty of Mathematics, Informatics and Mechanics. Here is a map of the Ochota Campus:
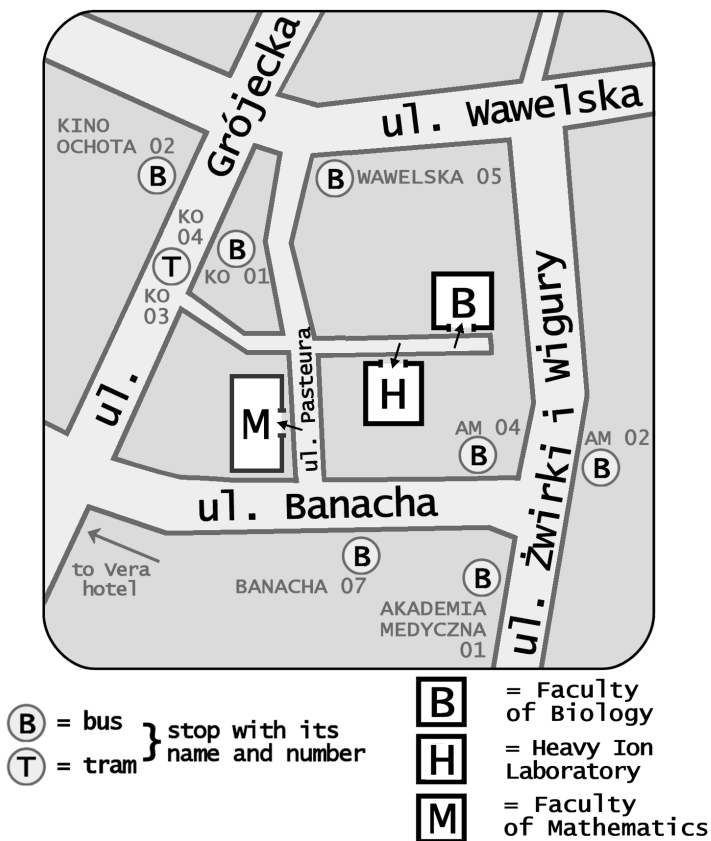
Registration

On 5–6 and 12–13 April, the registration desk is located on the 1st floor of M .
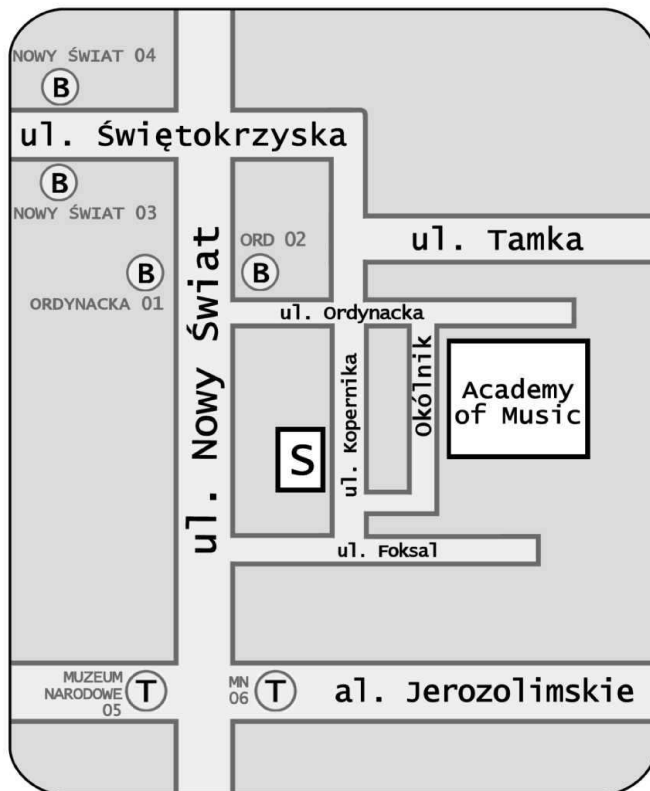The opening hours are 8.00–19.00.

Coffee and lunch breaks

Coffee and lunch breaks are organized in the buildings M and B .

Computer rooms

Computer rooms are located in the Computer Laboratory on the 1st floor of M .
Ethernet connection for laptops is available in the computer rooms.

Here is a map of the surroundings of the Academy of Music. The building of the Academy is indicated by the lighter rectangle.

Registration

Since 7 to 11 April, the registration is on the ground floor of the building of Academy of Music. The opening hours are 8.00 – 19.00 on 5–6 and 12–13 April.

Coffee and lunch breaks

Coffee is served in the building of Academy of Music. Lunches are not provided.

Computer rooms

Computer rooms are located in the library and the cafeteria in the building of Academy of Music. Ethernet connection for laptops is available in the computer rooms (courtesy of JTT Computer).

Academy of Music:

Invited lectures of Main Conferences

    All invited lectures take place in the Concert Hall.

Main Conferences

- **CC**: Melcer Chamber Music Hall
- **ESOP**: Melcer Chamber Music Hall
- **FASE**: Szymanowski Lecture Theatre, except Wednesday 9th — Concert Hall
- **FOSSACS**: Szymanowski Lecture Theatre
- **TACAS**: Concert Hall

Ochota Campus:

Workshops

- **SE-WMT**: Room 5440, building ⬛ M
- **AVIS**: Room 103B, building ⬛ B
- **CMCS**: Hall 9B, building ⬛ B
- **COCV**: Room 9B, building ⬛ B
- **FAMAS**: Room 102B, building ⬛ B
- **Feyerabend**: Room 5790, building ⬛ M
- **FICS**: Room 2180, building ⬛ M
- **LDTA**: Room 103B, building ⬛ B
- **RSKD**: Room 5440, building ⬛ M
- **SC**: Room 5820, building ⬛ M
- **TACoS**: Room 4420, building ⬛ M
- **UniGra**: Room B, building ⬛ H
- **USE**: Room 4420, building ⬛ M
- **WITS**: Room A, building ⬛ H
- **WOOD**: Room 4420, building ⬛ M

Tutorials

- **Tutorial 1 — Foundations of Constraint Programming**:
  Room 5870, building ⬛ M
- **Tutorial 2 — Querying and Transforming XML Documents Using Tree Automata**:
  Room 5840, building ⬛ M
- **Tutorial 3 — Multi-Media Instruction in Safe and Secure Systems**:
  Room 5870, building ⬛ M
- **Tutorial 4 — Advanced Compilation Techniques for the Itanium Processor Family**:
  Room 5840, building ⬛ M
- **Tutorial 5 — Formal Development of Critical Systems with UML**:
  Room 5820, building ⬛ M
- **Tutorial 6 — An inside Look at Rotor, Microsoft's "Shared Source" Implementation of the Common Language Infrastructure**:
  Room 5810, building ⬛ M
- **Tutorial 7 — Theory and Practice of Co-Verification Process: UniTesk Story**:
  Room 5840, building ⬛ M

Main Conferences

CC: International Conference on Compiler Construction
Program Committee: Uwe Aßmann (Sweden), Isabelle Attali (France), Judith Bishop (South Africa), Mark van den Brand (The Netherlands), Peter Dickman (GB), Evelyn Duesterwald (USA), Tibor Gyimothy (Hungary), Görel Hedin (**chair**, Sweden), Nigel Horspool (Canada), Uwe Kastens (Germany), Oege de Moor (GB), Mooly Sagiv (Israel), Vivek Sarkar (USA), Pierluigi San Pietro (Italy), Reinhard Wilhelm (Germany), Jan Vitek (USA), Jingling Xue (Australia)

ESOP: European Symposium on Programming
Program Committee: Patrick Cousot (France), Pierpaolo Degano (**chair**, Italy), Mariangiola Dezani-Ciancaglini (Italy), Cédric Fournet (GB), Joshua Guttman (USA), John Hughes (Sweden), John Mitchell (USA), Alan Mycroft (GB), Hanne Riis Nielson (Denmark), Oscar Nierstrasz (Switzerland), Catuscia Palamidessi (USA), David Schmidt (USA), Helmut Seidl (Germany), Perdita Stevens (GB)

FASE: Fundamental Approaches to Software Engineering
Program Committee: Luciano Baresi (Italy), Andrea Corradini (Italy), Hartmut Ehrig (Germany), José Luis Fiadeiro (Portugal), Istvan Forgács (Hungary), Marie-Claude Gaudel (France), Heinrich Hußmann (Germany), Mehdi Jazayery (Austria), Leon Osterweil (USA), Mauro Pezzè (**chair**, Italy), Gianna Reggio (Italy), Andreas Schuerr (Germany), Richard Taylor (USA), Roel Wieringa (The Netherlands)

FOSSACS: Foundations of Software Science and Computation Structures
Program Committee: Witold Charatonik (Germany and Poland), Adriana Compagnoni (USA), Vincent Danos (France), Andrew Gordon (**chair**, GB), Roberto Gorrieri (Italy), Marta Kwiatkowska (GB), Eugenio Moggi (Italy), Uwe Nestmann (Switzerland), Mogens Nielsen (Denmark), Flemming Nielson (Denmark), Francesco Parisi-Presicce (Italy), Dusko Pavlovic (USA), François Pottier (France), P.S. Thiagarajan (Singapore), Igor Walukiewicz (France), Pierre Wolper (Belgium)

TACAS: Tools and Algorithms for the Construction and Analysis of Systems
Program Committee: Rajeev Alur (USA), Albert Benveniste (France), Ahmed Bouajjani (France), Rance Cleaveland (USA), Werner Damm (Germany), Luca de Alfaro (USA), Alessandro Fantechi (Italy), Alain Finkel (France), Hubert Garavel (**co-chair**, France), Patrice Godefroid (USA), Susanne Graf (France), Jan Friso Groote (The Netherlands), Orna Grumberg (Israel), John Hatcliff (**co-chair**, USA), Kurt Jensen (tool chair, Denmark), Bengt Jonsson (Sweden), Joost-Pieter Katoen (The Netherlands), Kim Larsen (Denmark), Doron Peled (USA), Sriram K. Rajamani (USA), John Rushby (USA), Steve Schneider (GB), Gregor Snelting (Germany), Bernhard Steffen (Germany), Willem Visser (USA)

Workshops

SE-WMT — Structured Programming: The Hard Core of Software Engineering
Organizer: Jan Madey (Poland)

AVIS — Second International Workshop on Automated Verification of Infinite-State Systems
Organizer: Ramesh Bharadwaj (USA)

CMCS — Coalgebraic Methods in Computer Science
Program Committee: Jiři Adámek (Germany), Corina Cirstea (GB), H. Peter Gumm (**chair**, Germany),
Bart Jacobs (The Netherlands), Alexander Kurz (GB), Marina Lenisa (Italy), Ugo Montanari (Italy),
Larry Moss (USA), Ataru T. Nakagawa (Japan), Horst Reichel (Germany), Grigore Rosu (USA),
Jan Rutten (The Netherlands), James Worrell (USA)
Organizer: H. Peter Gumm (Germany)

COCV — Compiler Optimization Meets Compiler Verification
Program Committee: Michael Franz (USA), Jens Knoop (Germany), Peter Lee (USA),
Erik Meijer (USA), Oege de Moor (GB), Robert Morgan (USA), Mary Lou Soffa (USA),
Wolf Zimmermann (Germany)
Organizers: Jens Knoop and Wolf Zimmermann (Germany)

FAMAS — Formal Approaches to Multi-Agent Systems
Program Committee: Barbara Dunin-Kȩplicz (Poland), Rineke Verbrugge (The Netherlands),
Michael Luck (GB), Wojciech Penczek (Poland), Amal El Fallah-Seghrouchni (France),
Carles Sierra (Spain), Wiebe van der Hoek (GB), Michael Wooldridge (GB), David Robertson (GB)
Organizers: Barbara Dunin-Kȩplicz (Poland) and Rineke Verbrugge (The Netherlands)

Feyerabend — Feyerabend — Redefining Computing
Program Committee: Pascal Costanza (Germany), Wolfgang De Meuter (Belgium),
Martine Devos (USA), Dave Thomas (Canada)
Organizer: Pascal Costanza (Germany)

FICS — Fixed Points in Computer Science
Program Committee: Jiři Adámek (Germany), Roberto Amadio (France), Roland Backhouse (GB),
Stephen Bloom (USA), Julian Bradfield (GB), Anuj Dawar (GB), Rocco De Nicola (Italy),
Zoltan Ésik (**co-chair**, Hungary), Irène Guessarian (France), Michael Mislove (USA),
Igor Walukiewicz (**co-chair**, France)
Organizers: Zoltan Ésik (Hungary) and Igor Walukiewicz (France)

LDTA — Third Workshop on Language Descriptions, Tools and Applications
Program Committee: Don Batory (USA), Barrett R. Bryant (**co-chair**, USA), Uwe Glaesser (Canada),
Katsuhiko Gondow (Japan), Uwe Kastens (Germany), Paul Klint (The Netherlands),
Jan Madey (Poland), Marjan Mernik (Slovenia), Thomas Noll (Germany), Oege de Moor (England),
Peter D. Mosses (Denmark), Joao Saraiva (**co-chair**, Portugal), Eelco Visser (The Netherlands)
Organizers: Isabelle Attali (France), Mark van den Brand (The Netherlands),
Pierre-Etienne Moreau (France)

RSKD — International Workshop on Rough Sets in Knowledge Discovery and Soft Computing
Program Committee: James Alpigini (USA), Malcolm Beynon (GB), Hans Dieter Burkhard (Germany),
Andrzej Czyżewski (Poland), Patrick Doherty (Sweden), Ivo Duentsch (Canada),

Maria C. Fernandez (Spain), Jerzy Grzymała-Busse (USA), Masahiro Inuiguchi (Japan),
Jouni Jarvinen (Finland), Jan Komorowski (Sweden), Jacek Koronacki (Poland),
Bożena Kostek (Poland), Tsau Young Lin (USA), Ernestina Menasalvas-Ruiz (Spain),
Mikhail Moshkov (Russia), Tetsuya Murai (Japan), Hung Son Nguyen (Poland),
Sinh Hoa Nguyen (Poland), Ewa Orłowska (Poland), Sankar Pal (India), Witold Pedrycz (Canada),
James F. Peters (Canada), Lech Polkowski (Poland), Sheela Ramanna (Canada), Z.W. Raś (USA),
Roman Słowiński (Poland), Jerzy Stefanowski (Poland), Jarosław Stepaniuk (Poland),
Zbigniew Suraj (Poland), Andrzej Szałas (Poland), Marcin Szczuka (Poland), Dominik Ślęzak (Poland),
Roman Świniarski (USA), Shusaku Tsumoto (Japan), Guoyin Wang (China),
Jakub Wróblewski (Poland), Yiyu Yao (Canada), Ning Zhong (Japan), Wojciech Ziarko (Canada)
Organizer: Marcin Szczuka (Poland)

SC — Software Composition
Program Committee: Uwe Aßmann (Sweden), Elke Pulvermueller (Germany), Isabelle Borne (France),
Noury Bouraqadi (France), Pierre Cointe (France), Zoltan Laslo (Hungary), Welf Loewe (Sweden),
M. Awais Rashid (GB), Benedikt Schulz (Germany), Mario Suedholdt (France),
Bedir Tekinerdogan (The Netherlands), Arnd Poetzsch-Heffter (Germany)
Organizers: Uwe Aßmann (Sweden), Elke Pulvermueller (Germany), and Isabelle Borne,
Noury Bouraqadi, Pierre Cointe (France)

TACoS — Test and Analysis of Component Based Systems
Program Committee: Mauro Pezzè (Italy), Marco Di Natale (Italy), Gerhard Fohler (Sweden),
Alessandro Fantechi (Italy), Frank van der Linden (The Netherlands), Angelo Morzenti (Italy),
Elie Najm (France), Paolo Prinetto (Italy), Michal Young (USA), Alex Orailoglu (USA),
Chantal Robach (France)
Organizer: Mauro Pezzè (Italy)

UniGra — Uniform Approaches to Graphical Process Specification Techniques
Program Committee: Hartmut Ehrig (**(co-chair)**, Germany), Roswitha Bardohl (**(co-chair)**, Germany),
Luciano Baresi (Italy), Paolo Bottoni (Italy), Claudia Ermel (Germany), Reiko Heckel (Germany),
Dirk Janssens (Belgium), Hans-Jörg Kreowski (Germany), Fernando Orejas (Spain),
Julia Padberg (Germany), Grzegorz Rozenberg (The Netherlands)
Organizers: Hartmut Ehrig, Roswitha Bardohl (Germany)

USE — Workshop on Unanticipated Software Evolution
Program Committee: Pascal Costanza (Germany), Mikhail Dmitriev (USA), Erik Ernst (Denmark),
Babak Esfandiari (Canada), José Luis Fiadeiro (Portugal), Robert Filman (USA), David Garlan (USA),
Peter Grogono (Canada), Michael Hicks (USA), Robert Hirschfeld (Germany),
Günter Kniesel (Germany), Ralf Lämmel (The Netherlands), Tom Mens (Belgium),
Bernard Pagurek (Canada), Frantisek Plasil (Czech Republik), Vaclav Rajlich (USA),
Arend Rensink (The Netherlands), Salah Sadou (France), Clemens Szyperski (USA)
Organizers: Günter Kniesel, Pascal Costanza (Germany), and José Luiz Fiadeiro (Portugal)

WITS — 2003 IFIP WG 1.7, ACM SIGPLAN and GI FoMSESS Workshop on Issues in the Theory of Security
Program Committee: David Basin (Germany), Pierpaolo Degano (Italy), Riccardo Focardi (Italy),
Dieter Gollmann (GB), Li Gong USA), Roberto Gorrieri (**chair**, Italy), Joshua Guttman (USA),
Chris Hankin (GB), Jan Jürjens (Germany), Gavin Lowe (GB), Cathy Meadows (USA),
Jon Millen (USA), Peter Ryan (GB), Thomas Santen (Germany), Steve Schneider (GB)
Organizer: Roberto Gorrieri (Italy)

WOOD — Workshop on Object-Oriented Developments
Program Committee: Viviana Bono (**co-chair**, Italy), Michele Bugliesi (**co-chair**, Italy), Giuseppe Castagna (France), Adriana Compagnoni (USA), Kathleen Fisher (USA), Matthew Flatt (USA), Julian Rathke (GB), Christopher Stone (USA)
Organizer: Viviana Bono (Italy)

Tutorials

Tutorial 1 — Foundations of Constraint Programming
Roman Barták (Czech Republic)

Tutorial 2 — Querying and Transforming XML Documents Using Tree Automata
Alexandru Berlea, Helmut Seidl (Germany)

Tutorial 3 — Multi-Media Instruction in Safe and Secure Systems
Bernd Krieg-Brückner, Markus Roggenbach, Christoph Luth, Dieter Hutter, Erica Melis, Arnd Poetzsch-Heffter, Martin Wirsing (Germany)

Tutorial 4 — Advanced Compilation Techniques for the Itanium Processor Family
Gerolf F. Hoflehner, Dattraya Kulkarni (USA)

Tutorial 5 — Formal Development of Critical Systems with UML
Jan Jürjens (Germany)

Tutorial 6 — An inside Look at Rotor, Microsoft's "Shared Source" Implementation of the Common Language Infrastructure
Yahya H. Mirza (USA)

Tutorial 7 — Theory and Practice of Co-Verification Process: UniTesk Story
Alexander Petrenko, Victor Kuliamin (Russia)

CC

CC is concerned with recent developments in compiler construction, programming language implementation, and language design. It emphasizes practical and efficient methods and tools for all phases of compilation and for all language paradigms. Topics of interest include, but are not limited to:

- compilation and interpretation techniques, including parsing, type checking, static analysis, code generation, and code optimization;
- run-time issues, incl. memory management, dynamic compilation, dynamic linking and loading;
- language constructs and their implementation;
- modularization constructs and techniques for separate compilation;
- implementation of domain specific languages; and
- tools for compiler construction or language support, including debuggers, profilers, refactoring tools, etc.

ESOP

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;
- studies of their formal properties;
- techniques, methods and tools for their implementation;
- exploitation of programming styles within different programming paradigms;
- automatic and manual methods for reasoning about programs; and
- the design and invention of systems and tools to assist in exploitation of the languages.

The contributions of this issue aim at bridging the gap between theory and practice in topics traditionally covered by ESOP. These include: programming paradigms and their integration, semantics, calculi of computation, security, advanced type systems, program analysis, program transformation, and practical algorithms based on theoretical developments.

FASE

Large scale Information and Communication Infrastructures are of growing concern to industry and public organizations. They are expected to exist indefinitely long, are supposed to be flexibly adjustable to new requirements and are hence demanded to encompass evolvable software systems. Quality is increasingly important in classic as well as new application domains. This poses new challenges to software engineering research and practice: new software structuring and scaling concepts are needed for heterogeneous software federations that consist of numerous autonomously developed, communicating and inter-operating systems; new software development processes are needed to enable the continuous improvement and extension of heterogeneous software federations. New quality assurance methods are needed to guarantee acceptable standards of increasingly complex software applications.

Different component paradigms are under discussion now, a large number of specification and modeling language are proposed and an increasing number of software development tools and environments are made available to cope with the problems. At the same time research on new theories, concepts and techniques is under way that aims at the development of their precise and (mathematically) formal foundation.

The Conference on Fundamental Approaches to Software Engineering (FASE) aims at presenting novel results and discussing new trends in both theories for supporting software engineering and experiences of application of theories for improving software engineering practice.

FOSSACS

FOSSACS presents original papers on foundational research with a clear significance for software science. Of central interest are theories and methods to support the analysis, integration, synthesis, transformation, and verification of programs and software systems.

Topics covered include:
- algebraic models;
- automata and language theory;
- behavioural equivalences;
- categorical models;
- computation processes over discrete and continuous data;
- 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;
- transition systems; and
- type systems and type theory.

TACAS

TACAS is a forum for researchers, developers, and users interested in rigorously based tools for the construction and analysis of systems. The conference serves to bridge the gaps between different communities — including but not limited to those devoted to formal methods, software and hardware verification, static analysis, programming languages, software engineering, real-time systems, and communications protocols — that have traditionally had little interaction but share common interests in, and techniques for, tool development. In particular, by providing a venue for the discussion of common problems, heuristics, algorithms, data structures and methodologies, TACAS aims to support researchers in their quest to improve the utility, reliability, flexibility, and efficiency of tools for building systems.

TACAS seeks theoretical papers with a clear link to tool construction, papers describing relevant algorithms and practical aspects of their implementation, papers giving descriptions of tools and associated methodologies, and case studies with a conceptual message.

The specific topics covered by the conference include, but are not limited to, the following:
- specification and verification techniques;
- theorem-proving and model-checking;
- system construction and transformation techniques;
- static and run-time analysis;
- compositional and refinement-based methodologies;
- testing and test-case generation;
- analytical techniques for real-time, hybrid and safety-critical systems;
- tool environments and tool architectures; and
- applications and case studies.

As TACAS addresses a heterogeneous audience, potential authors are strongly encouraged to write about their ideas in general and jargon-independent, rather than 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.

Monday, 7th of April

9.00 – 9.30   PRELUDE AND WELCOME

9.30 – 10.30   FIRST MORNING SESSION

FOSSACS   Invited Lecture

Generic Theories and Theories of Genericity

Samson Abramsky (Oxford University, GB)

10.30 – 11.00   COFFEE

11.00 – 12.30   SECOND MORNING SESSION

FOSSACS   Probabilistic Models

An Intrinsic Characterization of Approximate Probabilistic Bisimilarity

Franck van Breugel (York University, CDN), Michael Mislove (Tulane University, USA), Joël Ouaknine (Carnegie Mellon University, USA), James Worrell (Tulane University, USA).

The Converse of a Stochastic Relation

Ernst-Erich Doberkat (University of Dortmund, D).

Parameterized Verification by Probabilistic Abstraction

Tamarah Arons, Amir Pnueli (Weizmann Institute of Science, IL), Lenore Zuck (New York University, USA).

CC   Register Allocation

Combined Code Motion and Register Allocation using the Value State Dependence Graph

Neil Johnson, Alan Mycroft (University of Cambridge, GB).

Early Control of Register Pressure for Software Pipelined Loops

Sid-Ahmed-Ali Touati, Christine Eisenbeis (INRIA Rocquencourt, F).

Register Allocation by Optimal Graph Coloring

Christian Andersson (Lund Institute of Technology, S).

TACAS   Bounded Model Checking and SAT-based Methods

Automatic Abstraction without Counterexamples

Kenneth McMillan, Nina Amla (Cadence Design Systems, USA).

Bounded Model Checking for Past LTL

Marco Benedetti, Alessandro Cimatti (Istituto per la Ricerca Scientifica e Tecnologica, I).

Experimental Analysis of Different Techniques for Bounded Model Checking

Nina Amla, Robert Kurshan, Ken McMillan, Ricardo Medel (Cadence Design Systems, and Cadence Berkeley Labs, and Stevens Institute of Technology, USA).

12.30 – 14.30   LUNCH BREAK

14.30 – 16.00   FIRST AFTERNOON SESSION

FOSSACS   Process Calculi

Towards a Behavioural Theory of Access and Mobility Control in Distributed Systems

Matthew Hennessy, Massimo Merro, Julian Rathke (University of Sussex, GB).

When Ambients Cannot be Opened

Iovka Boneva, Jean-Marc Talbot (Lab. d'Informatique Fondamentale de Lille, F).

Genericity and the Pi-Calculus
Martin Berger, Kohei Honda (Queen Mary, University of London, GB), Nobuko Yoshida (Imperial College, GB).

CC   Language Constructs and their Implementation

A Compilation and Optimization Model for Aspect-Oriented Programs
Hidehiko Masuhara (University of Tokyo, J), Gregor Kiczales (Intentional Software Incorporate and University of British Columbia, CDN), Chris Dutchyn (University of British Columbia, CDN).

A Pattern Matching Compiler for Multiple Target Languages
Pierre-Etienne Moreau, Christophe Ringeissen (LORIA-INRIA, F) Marian Vittek (Institute of Informatics, Mlynska Dolina, SK).

A New One-Pass Transformation into Monadic Normal Form
Olivier Danvy (University of Aarhus, DK).

TACAS μ-Calculus and Temporal Logics

On the Universal and Existential Fragments of the μ-Calculus
Thomas A. Henzinger, Orna Kupferman, Rupak Majumdar (University of California, USA, and Hebrew University, IL).

Aborts vs Resets in Linear Temporal Logic
Roy Armoni, Doron Bustan, Orna Kupferman, Moshe Y. Vardi (Inter Israel Development Center, IL, and Rice University, USA, and Hebrew University, IL).

A Generic On-the-Fly Solver for Alternation-Free Boolean Equation Systems
Radu Mateescu (INRIA Rhone-Alpes, F).

16.00 – 16.30   COFFEE

16.30 – 18.30   SECOND AFTERNOON SESSION

FOSSACS   Categorical Models

Deriving Bisimulation Congruences: 2-Categories vs Precategories
Vladimiro Sassone (University of Sussex, GB), Paweł Sobociński (University of Aarhus, DK).

Abstraction in Reasoning about Higraph-based Systems
John Power, Konstantinos Tourlas (University of Edinburgh, GB).

Categories of Containers
Michael Abbott (Leicester University, GB), Thorsten Altenkirch (Nottingham University, GB), Neil Ghani (Leicester University, GB).

CC   Type Analysis

Run-Time Type Checking for Binary Programs
Michael Burrows (Microsoft Corporation, USA), Stephen N. Freund (Williams College, USA), Janet L. Wiener (HP Labs, USA).

Precision in Practice: A Type-Preserving Java Compiler
Christopher League (Long Island University, USA), Zhong Shao, Valery Trifonov (Yale University, USA).

Tool Demo   **The MAGICA Type Inference Engine for MATLAB**
Pramod G. Joisha, Prithviray Banerjee (Northwestern University, USA).

TACAS   Verification of Parameterized Systems

Decidability of Invariant Validation for Paramaterized Systems
Pascal Fontaine, Pascal Gribomont (University of Liege, B).

Verification and Improvement of the Sliding Window Protocol
Dmitri Chkliaev, Jozef Hooman, Erik de Vink (Eindhoven University of Technology, NL, and University of Nijmegen, NL).
Simple Representative Instantiations for Multicast Protocols
Javier Esparza, Monika Maidl (University of Edinburgh, GB).
Rapid Parameterized Model Checking of Snoopy Cache Coherence Protocols
Allen Emerson, Vineet Kahlon (University of Texas, USA).

20.00 – 23.00   RECEPTION

Tuesday, 8th of April

9.00 – 10.00   FIRST MORNING SESSION

CC   Invited Lecture
Dimensions of Precision in Flow Analysis of OOPLs
Barbara Ryder (Rutgers University, USA).

10.00 – 10.30   COFFEE

10.30 – 12.30   SECOND MORNING SESSION

FOSSACS   Syntax and Semantics of Programming Languages
Multi-Level Meta-Reasoning with Higher-Order Abstract Syntax
Alberto Momigliano, Simon Ambler (University of Leicester, GB).
A Normalisation Result for Higher-Order Calculi with Explicit Substitutions
Eduardo Bonelli (Universidad Nacional de La Plata, RA, and Stevens Institute of Technology, USA).
A Game Semantics of Linearly Used Continuations
James Laird (University of Sussex, GB).
A Monadic Multi-stage Metalanguage
Eugenio Moggi, Sonia Fagorzi (University of Genova, I).

CC   Java
Polyglot: An Extensible Compiler Framework for Java
Nathaniel Nystrom, Michael R. Clarkson, Andrew C. Myers (Cornell University, USA).
Scaling Java Points-to Analysis Using Spark
Ondřej Lhoták, Laurie Hendren (McGill University, CDN).
Effective Inline-Threaded Interpretation of Java Bytecode Using Preparation Sequences
Etienne Gagnon, Laurie Hendren (Université du Québec à Montréal and McGill University, CDN).
Integrating Generations with Advanced Reference Counting Garbage Collectors
Hezi Azatchi (IBM Haifa, IL), Erez Petrank (Technion, IL).

TACAS   Abstractions and Counter-examples
Proof-like Counter-Examples
Arie Gurfinkel, Marsha Chechik (University of Toronto, CDN).
Multiple-Counterexample Guided Iterative Abstraction Refinement: An Industrial Evaluation
Marcelo Glusman, Gila Kamhi, Sela Mador-Haim, Ranan Fraer, Moshe Y. Vardi (The Technion, IL, and Intel Corporation, IL, and Rice University, USA).

Verification of Hybrid Systems Based on Counterexample-Guided Abstraction Refinement

Edmund Clarke, Ansgar Fehnker, Zhi Han, Bruce Krogh, Olaf Stursberg, Michael Theobald (Carnegie Mellon University, USA, and Universitat Dortmund, D).

Counter-example Guided Predicate Abstraction of Hybrid Systems

Rajeev Alur, Thao Dang, Franjo Ivancic (University of Pennsylvania, USA, and CNRS, Verimag, F).

12.30 – 14.30   LUNCH BREAK

14.30 – 16.30   FIRST AFTERNOON SESSION

FOSSACS   From Trees to Types

Counting and Equality Constraints for Multitree Automata
Denis Lugiez (CNRS and Université de Provence, F).

Manipulating Trees with Hidden Labels
Luca Cardelli (Microsoft Research, GB), Philippa Gardner (Imperial College, GB), Giorgio Ghelli (Università di Pisa, I).

Type Assignment for Intersections and Unions in Call-by-Value Languages
Joshua Dunfield, Frank Pfenning (Carnegie Mellon University, USA).

Generalized Iteration and Coiteration for Higher-Order Nested Datatypes
Andreas Abel (University of Munich, D), Ralph Matthes (Université de Paris VII, F and University of Munich, D), Tarmo Uustalu (Tallinn Technical University, EST).

CC   Pot Pourri

The Interprocedural Express-lane Transformation
David Melski (GrammaTech Inc., USA), Thomas Reps (University of Wisconsin, USA).

Automatic Detection of Uninitialized Variables
Thi Viet Nga Nguyen, François Irigoin, Corinne Ancourt, Fabien Coelho (Ecole des Mines de Paris, F).

Generalised Regular Parsers
Adrian Johnstone, Elizabeth Scott (University of London, GB).

Rapid and Robust Compiler Construction Using Template-Based Metacompilation
C. van Reeuwijk (Delft University of Technology, NL).

TACAS   Real-Time and Scheduling

Schedulability Analysis Using Two Clocks
Elena Fersman, Leonid Mokrushin, Paul Pettersson, Wang Yi (Uppsala University, S).

On Optimal Scheduling under Uncertainty
Yasmina Abdeddaim, Eugene Asarin, Oded Maler (VERIMAG, F).

Static Guard Analysis in Timed Automata Verification
Gerd Behrmann, Patricia Bouyer, Emmanuel Fleury, Kim G. Larsen (Aalborg University, DK, and ENS de Cachan, F).

Tool Demo   **Moby/DC — A Tool for Model-Checking Parametric Real-Time Specifications**
Henning Dierks, Josef Tapken (University of Oldenburg, D).

Tool Demo   **VERICS: A Tool for Verifying Timed Automata and Estelle Specifications**
Piotr Dembiński, Agata Janowska, Paweł Janowski, Wojciech Penczek, Agata Półrola, Maciej Szreter, Bożena Woźna, Andrzej Zbrzeźny (Institute of Comp. Science PAS, PL).

16.30 – 17.00   COFFEE

17.00 – 18.00 SECOND AFTERNOON SESSION

Microsoft Lecture

Programming Language Support for Data and XML

Erik Meijer (Microsoft Corporation, USA).

Wednesday, 9th of April

9.00 – 10.00 FIRST MORNING SESSION

ETAPS Invited Lecture

The Verifying Compiler: Still a Grand Challenge for Computing Research

Tony Hoare (Microsoft Research, GB)

10.00 – 10.30 COFFEE

10.30 – 12.30 SECOND MORNING SESSION

FOSSACS Logic and Verification

Cones and Foci for Protocol Verification Revisited

Wan Fokkink (CWI and Vrije Universiteit Amsterdam, NL), Jun Pang (CWI, NL).

Compositional Circular Assume-Guarantee Rules Cannot Be Sound and Complete

Patrick Maier (Max-Planck-Institut für Informatik, D).

The Two-Variable Guarded Fragment with Transitive Guards is 2EXPTIME-Hard

Emanuel Kieroński (University of Wrocław, PL).

Verification of Cryptographic Protocols: Tagging Enforces Termination

Bruno Blanchet (ENS Paris, F, and Max-Planck-Institut für Informatik, D), Andreas Podelski (Max-Planck-Institut für Informatik, D).

CC Optimization

Address Register Assignment for Reducing Code Size

M. Kandemir, M. J. Irwin, G. Chen (Pennsylvania State University, USA), J. Ramanujam (Louisiana State University, USA).

Offset Assignment Showdown: Evaluation of DSP Address Code Optimization Algorithms

Rainer Leupers (RWTH Aachen, D).

Integrating High-Level Optimizations in a Production Compiler: Design and Implementation Experience

Somnath Ghosh, Abhay Kanhere, Rakesh Krishnaiyer, Dattatraya Kulkarni, Wei Li, Chu-Cheow Lim, John Ng (Intel Corporation, USA).

Improving Data Locality by Chunking

Cédric Bastoul (Université de Versailles Saint Quentin, F), Paul Feautrier (École Normale Supérieure de Lyon, F).

FASE Software Components

An Ontology for Software Component Matching

Claus Pahl (Dublin City University, IRL).

A Description Language for Composable Components

Ioana Sora, Pierre Verbaeten, Yolande Berbers (Katholieke Universiteit Leuven, B).

A Logic Basis for the Specification of Reconfigurable Component-Based Systems
Nazareno Aguirre, Tom Maibaum (King's College, London, GB).
An Overall System Design Approach Doing Object-Oriented Modeling to Code-Generation for Embedded Electronic Systems
Clemens Reichmann (University of Karlsruhe, D), Markus Kühl (Research Center for Information Technology, Karlsruhe, D), Klaus D. Müller-Glaser (University of Karlsruhe, D).

12.30 – 14.30   LUNCH BREAK

14.30 – 15.30   FIRST AFTERNOON SESSION
ETAPS   Invited Lecture
Computer Security from a Programming Language and Static Analysis Perspective
Xavier Leroy (INRIA and Trusted Logic, F).

15.45 – 16.45   SECOND AFTERNOON SESSION
TACAS   Security and Cryptography
A New Knowledge Representation Strategy for Cryptographic Protocol Analysis
Ivan Cibrario Bertolotti, Luca Durante, Riccardo Sisto, Adriano Valenzano (Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni, I, and Politecnico di Torino, I).
Pattern-based Abstraction for Verifying Secrecy in Protocols
Liana Bozga, Lakhnech Yassine, Michael Perin (Verimag, F).
FOSSACS   Probabilistic Lossy Channels
Verification of Probabilistic Systems with Faulty Communication
Parosh Aziz Abdulla (Uppsala University, S), Alexander Rabinovich (Tel Aviv University, IL).
Model Checking Lossy Channels Systems is Probably Decidable
Nathalie Bertrand, Philippe Schnoebelen (ENS Cachan and CNRS, F).
ESOP   Techniques and Methods
A Tail-Recursive Semantics for Stack Inspections
John Clements, Matthias Felleisen (Northeastern University, USA).
Flexible Models for Dynamic Linking
Sophia Drossopoulou (Imperial College, GB), Giovanni Lagorio (University of Genova, I), Susan Eisenbach (Imperial College, GB).

16.45 – 17.15   COFFEE

17.15 – 18.45   THIRD AFTERNOON SESSION
FOSSACS   Recursion
Ambiguous Classes in the Games μ-Calculus Hierarchy
André Arnold, Luigi Santocanale (Université de Bordeaux, F).
On the Structure of Inductive Reasoning: Circular and Tree-Shaped Proofs in the μ-Calculus
Christoph Sprenger (Swedish Institute of Computer Science, S), Mads Dam (Royal Institute of Technology, S).
Computability over an Arbitrary Structure. Sequential and Parallel Polynomial Time
Olivier Bournez (LORIA, F), Felipe Cucker (City University of Hong Kong, HK), Paulin Jacobé de Naurois (LORIA, F), Jean-Yves Marion (LORIA, F).

FASE	Mobile Computing

Composing Specifications of Event Based Applications?
Pascal Fenkam, Harald Gall, Mehdi Jazayeri (Technical University of Vienna, A).

A Spatio-Temporal Logic for the Specification and Refinement of Mobile Systems
Stephan Merz (INRIA Lorraine, F), Martin Wirsing, Julia Zappe (Universität München, D).

Spatial Security Policies for Mobile Agents in a Sentient Computing Environment
David Scott, Alastair Beresford, Alan Mycroft (University of Cambridge, GB).

ESOP	Logic Programming

Automated Correction of Functional Logic Programs
Maria Alpuente (Univ. Politecnica de Valencia, E), Demis Ballis (Università di Udine, I), Francisco Correa (Univ. Eafit, CO), Moreno Falaschi (Università di Udine, I).

Approximate Pruning in Tabled Logic Programming
Luis F. Castro, David S. Warren (SUNY at Stony Brook, USA).

Goal-Independent Suspension Analysis of Logic Programs with Dynamic Scheduling
Samir Genaim (Ben-Gurion University of the Negev, IL), Andy King (University of Kent at Canterbury, GB).

20.00 – 23.00   ETAPS DINNER

Thursday, 10th of April

9.00 – 10.00   FIRST MORNING SESSION

ESOP	Invited Lecture

What Makes a Cryptographic Protocol Secure? The Evolution of Requirements Specification in Formal Cryptographic Protocol Analysis
Catherine Meadows (Naval Research Laboratory, USA).

10.00 – 10.30   COFFEE

10.30 – 12.30   SECOND MORNING SESSION

TACAS	Modules and Compositional Verification

Compositional Analysis for Verification of Parameterized Systems
Samik Basu, C.R. Ramakrishnan (SUNY at Stony Brook, USA).

Learning Assumptions for Compositional Verification
Jamieson M. Cobleigh, Dimitra Giannakopoulou, Corina S. Pasareanu (University of Massachusets, USA, and NASA Ames Research Center, USA).

Automated Module Composition
Stavros Tripakis (VERIMAG, F).

Modular Strategies for Recursive Game Graphs
Rajeev Alur, Salvatore La Torre, P. Madhusudan (University of Pennsylvania, USA, and University of Salerno, I).

FASE	Aspect and Object Oriented Programming

Towards UML-based Formal Specifications of Component Based Real-Time Software
Vieri Del Bianco, Luigi Lavazza (Politecnico di Milano and CEFRIEL, I), Marco Mauri, Giuseppe Occorso (Politecnico di Milano, I).

Modelling Recursive Calls with UML State Diagrams
Jennifer Tenzer, Perdita Stevens (University of Edinburgh, GB).
Pipa: A Behavioral Interface Specification Language for AspectJ
Jianjun Zhao (Fukuoka Institute of Technology, Japan), Martin Rinard (Massachusetts Institute of Technology, USA).
Tool Demo **PacoSuite & JAsCo: A Visual Component Composition Environment with Advanced Aspect Separation Features**
Wim Vanderperren, Davy Suvée, Bart Wydaeghe (Vrije Universiteit Brussel, B).

ESOP	Security 1

Security Properties: Two Agents Are Sufficient
Hubert Comon-Lundh and Veronique Cortier (LSV, ENS Cachan and CNRS, F).
A Simple Language for Real-time Cryptographic Protocol Analysis
Roberto Gorrieri, Enrico Locatelli (University of Bologna, I), Fabio Martinelli (IIT-CNR, I).
Rule Formats for Non Interference
Simone Tini (Universita dell'Insubria, I).
On the Secure Implementation of Security Protocols
Pablo Giambiagi, Mads Dam (Swedish Institute of Computer Science, S).

12.30 – 13.30 EASST GENERAL ASSEMBLY

12.30 – 14.30 LUNCH BREAK

14.30 – 15.30 FIRST AFTERNOON SESSION

TACAS	Invited Lecture

What Are We Trying to Prove? Lessons from our Experiences with Proof-Carrying Code
Peter Lee (Carnegie Mellon University, USA).

15.45 – 16.45 SECOND AFTERNOON SESSION

TACAS	Symbolic State Spaces and Decision Diagrams

Saturation Unbound
Gianfranco Ciardo, Robert Marmorstein, Radu Siminiceanu (College of William and Mary, USA)
Construction of Efficient BDDs for Bounded Arithmetic Constraints
Constantinos Bartzis, Tevfik Bultan (University of California, USA).

FASE	Distributed and Web Applications

Model-Based Development of Web Applications Using Graphical Reaction Rules
Reiko Heckel, Marc Lohmann (University of Paderborn, D).
Modular Analysis of Dataflow Process Networks
Yan Jin, Robert Esser, Charles Lakos (Adelaide University, USA), Jörn W. Janneck (University of California at Berkeley, USA).

ESOP	Security 2

Handling Encryption in an Analysis for Secure Information Flow
Peeter Laud (Tartu University and Cybernetica AS, EST).
Using Controller Synthesis to Build Property-Enforcing Layers
Karine Altisen (VERIMAG/INPG, F), Aurelie Clodic (LAAS/CNRS, F), Florence Maraninchi (VERIMAG/INPG, F), Eric Rutten (INRIA Rhone-Alpes, F).

16.45 – 17.15 COFFEE

17.15 – 18.45   THIRD AFTERNOON SESSION

TACAS   Performance and Mobility

Modeling and Analysis of Power-Aware Systems
Kyriakos Christou, Insup Lee, Anna Philippou, Oleg Sokolsky (University of Pennsylvania, USA, and University of Cyprus, CY).

Tool Demo   **A Set of Performance and Dependability Analysis Components for CADP**
Holger Hermanns, Christophe Joubert (INRIA Rhone-Alpes, Montbonnot Saint-Martin, F).

Tool Demo   **The Integrated CWB-NC/PIOA Tool for Functional Verification and Performance Analysis of Concurrent Systems**
Dezhuang Zhang, Rance Cleaveland, Eugene Stark (State University of New York at Stony Brook, USA).

Tool Demo   **BANANA: A Tool for Boundary Ambients Nesting ANAlysis**
Chiara Braghin, Agostino Cortesi, Stefano Filippone, Riccardo Focardi, Flaminia L. Luccio, Carla Piazza (University de Venezia, I).

FASE   Sofware Measurements

Foundations of a Weak Measurement-Theoretic Approach to Software Measurement
Sandro Morasca (Università degli Studi dell'Insubria, I).

An Information-Based View of Representational Coupling in Object-Oriented Systems
Pierre Kelsen (Luxembourg University of Applied Sciences, L).

ESOP   Program Correctness

Automatic Software Model Checking using CLP
Cormac Flanagan (Systems Research Center, Hewlett Packard, USA).

Verifying Temporal Heap Properties Specified via Evolution Logic
Eran Yahav (Tel Aviv University, IL), Thomas Reps (University of Wisconsin, USA), Mooly Sagiv (Tel Aviv University, IL), Reinhard Wilhelm (Universitat des Saarlandes, D).

Correctness of Data Representations Involving Heap Data Structures
Uday Reddy (University of Birmingham, GB), Hongseok Yang (Korean Advanced Institute of Science and Technology, Korea).

Friday, 11th of April

9.00 – 10.00   FIRST MORNING SESSION

FASE   Invited Lecture

Symbiosis of Static Analysis and Program Testing
Michal Young (Oregon University, USA).

10.00 – 10.30   COFFEE

10.30 – 12.30   SECOND MORNING SESSION

TACAS   State Space Reductions

State Class Constructions for Branching Analysis of Time Petri Nets
Bernard Berthomieu, Francois Vernadat (LAAS-CNRS, F).

Branching Processes of High-Level Petri Nets
Victor Khomenko, Maciej Koutny (University of Newcastle, GB).
Using Petri Net Invariants in State Space Construction
Karsten Schmidt (Humboldt-Universität zu Berlin, D).
Optimistic Synchronization-Based State-Space Reduction
Scott Stoller, Ernie Cohen (State University of New York at Stony Brook, USA, and Cambridge, GB).

FASE Formal Verification

A Temporal Approach to Specification and Verification of Pointer Data-Structures
Marcin Kubica (Warsaw University, PL).
A Program Logic for Handling JAVACARD's Transaction Mechanism
Bernhard Beckert (Universität Karlsruhe, D), Wojciech Mostowski (Chalmers University of Technology, S).
Monad Independent Computational Reasoning in HasCasl
Lutz Schröder, Till Mossakowski (University of Bremen, D).
Visual Specifications of Policies and their Verification
Manuel Koch (Frei Universität Berlin, D), Francesco Parisi-Presicce (Università di Roma, I, and George Mason University, USA).

ESOP Types

Modeling Web Interactions
Paul Graunke (Northeastern University, USA), Robert Bruce Findler (University of Chicago, USA), Shriram Krishnamurthi (Brown University, USA), Matthias Felleisen (Northeastern University, USA).
Type Inference for a Distributed Pi-Calculus
Cedric Lhoussaine (University of Sussex, GB).
Type-Safe Update Programming
Martin Erwig, Deling Ren (Oregon State University, USA).
Type Error Slicing in Implicitly Typed, Higher-Order Languages
Christian Haack, J. B. Wells (Heriot-Watt University, GB).

12.30 – 14.30 LUNCH BREAK

14.30 – 16.00 FIRST AFTERNOON SESSION

TACAS Constraint-Solving and Decision Procedures

Checking Properties of Heap-Manipulating Procedures with a Constraint Solver
Mandana Vaziri, Daniel Jackson (Massachusetts Institute of Technology, USA).
Online Proof-Producing Decision Procedure for Mixed-Integer Linear Arithmetic
Sergey Berezin, Vijay Ganesh, David L. Dill (Stanford University, USA).
Strategies for Combining Decision Procedures
Sylvain Conchon, Sava Krstic (Oregon Health, and Sciences University, USA).

FASE Model Checking

Automatic Model Driven Animation of SCR Specifications
Angelo Gargantini, Elvinia Riccobene (Università di Catania, I).
Probe Mechanism for Object-Oriented Software Testing
Anita Goel, (University of Delhi, IND), S. C. Gupta (National Informatics Center, IND), S. K. Wasan (Jamia Millia Islamia, IND).
Model Checking Software via Abstraction of Loop Transitions
Natasha Sharygina (Carnegie Mellon University, USA), James C. Browne (The University of Texas, USA).

ESOP   Techniques and Applications

Core Formal Molecular Biology
Vincent Danos (CNRS University of Paris 7, F), Cosimo Laneve (University of Bologna, I).

Requirements on the Execution of Kahn Process Networks
Marc Geilen, Twan Basten (Eindhoven University of Technology, NL).

Tagging, Encoding, and Jones Optimality
Olivier Danvy (University of Aarhus, DK), Pablo E. Martínez López (UNLP, AR).

16.00 – 16.30   COFFEE

16.30 – 18.30   SECOND AFTERNOON SESSION

TACAS   Testing and Verification

Generalized Symbolic Execution for Model Checking and Testing
Sarfraz Khurshid, Corina Pasareanu, and Willem Visser (Massachusets Institute of Technology, USA, and NASA Ames Research Center, USA).

Code-based Test Generation for Validation of Functional Processor Descriptions
Fabrice Barray, Philippe Codognet, Daniel Diaz, Henri Michel (ST-Microelectronics, F, and University of Paris, F).

Tool Demo   State Space Visualization
Jan Friso Groote, Frank van Ham (Technische Universiteit Eindhoven, NL).

Tool Demo   Automatic Test Generation with AGATHA
Céline Bigot, Alain Faivre, Jean-Pierre Gallois, Arnaud Lapitre, David Lugato, Jean-Yves Pierron, Nicolas Rapin (CEA — SACLAY, DRT/LIST/DTSI/SLA, Gif-sur-Yvette, F).

Tool Demo   LTSA-MSC: Tool Support for Behaviour Model Elaboration Using Implied Scenarios
Sebastian Uchitel, Robert Chatley, Jeff Kramer, Jeff Magee (Imperial College, GB).

FASE   Model Integrations and Extensions

Integration of Formal Data Types within State Diagrams
Christian Attiogbe, Pascal Poizat, Gwen Salaiin (Universite de Nantes, F).

Xere: Towards a Natural Interoperability between XML and ER Diagrams
G. Della Penna, A. Di Marco, B. Intrigila, I. Melatti, A. Pierantonio (Università degli Studi dell'Aquila, I).

Detecting Implied Scenarios Analyzing Non-Local Branching Choices
Henry Muccini (Università degli Studi dell'Aquila, I).

Capturing Overlapping, Triggered and Preemptive Collaborations Using MSCs
Ingolf H. Krüger (University of California, San Diego, USA).

ESOP   Reasoning

The Rely-Guarantee Method in Isabelle/HOL
Leonor Prensa Nieto (INRIA Sophia Antipolis, F).

Building Certified Libraries for PCC: Dynamic Storage Allocation
Dachuan Yu, Nadeem Hamid, Zhong Shao (Yale University, USA).

Finite Differencing of Logical Formulas for Static Analysis
Thomas Reps (University of Wisconsin, USA), Mooly Sagiv (Tel-Aviv University, IL), Alexey Loginov (University of Wisconsin, USA).

Register Allocation by Proof Transformation.
Atsushi Ohori (Japan Advanced Institute of Science and Technology, J).

18.30 – 18.45   CLOSING SESSION

Main Program at Glance

Main Program at Glance

SE-WMT

Structured Programming: The Hard Core of Software Engineering,
Special Event to Honour Professor W.M. Turski's 65th Birthday
Organizer: Jan Madey (Warsaw University, Poland)

Sunday, 6th of April

9.15 – 10.15	First Morning Session — Opening Session
10.15 – 10.45	Coffee
10.45 – 12.45	Second Morning Session　　　　　*Chair : Brian Randell and Tom Maibaum*

Why Software Writing Is Difficult and Will Remain So
Michael Jackson
Abstraction — the Hard Core of Software Engineering
Dewayne Perry
Towards a Theory of Software Evolution
Manny Lehman
Structured Programming: A Minor Part of Software Engineering
Dave Parnas

12.45 – 14.00	Lunch
14.00 – 16.00	First Afternoon Session　　　　　*Chair : Tom Maibaum and Brian Randell*

EBNF: A Case Study of Simplicity
Niklaus Wirth
A Calculus of Compensations for Long Running Transactions
Tony Hoare
Operational Semantics Revisited
Cliff Jones
Control Systems vs Reactive Systems
Michel Sintzoff

16.00 – 16.30	Coffee

AVIS

Second International Workshop on Automated Verification of Infinite-State Systems
Organizer: Ramesh Bharadwaj (Center for High Assurance Computer Systems, Naval Research Laboratory, USA)

Saturday, 12th of April

8.45 – 9.00	Welcome (R. Bharadwaj)
9.00 – 10.30	First Morning Session — Software Model Checking

Control-flow in Software Model Checking — An Automata-Theoretic Approach
Javier Esparza (Universität Stuttgart, D)
Software Model Checking of Safety and Liveness Properties
Andreas Podelski and Andrey Rybalchenko (Max-Planck-Institut-für-Informatik, D)

10.30 – 11.00	Coffee
11.00 – 13.00	Second Morning Session — Symbolic Methods

Verification of Embedded Systems with BDD-like Data Structures
Farn Wang (Academia Sinica, TWN)

A Symbolic Representation of Unbounded Queue Contents by a Finite Union of DFAs
Suman Roy (Satyam Computer Services Ltd., IN)
Fatalis: Real-Time Processes as Linear Logic Specifications
Jean-Pierre Jouannaud et al. (LIX, École Polytechnique, F)

13.00 – 14.30	Lunch

14.30 – 16.00	First Afternoon Session — Practical Applications

From Requirements Specification to Code Verification: A Functional Approach
Jan Madey (Warsaw University, PL)
Property Preserving Abstraction for Software Verification — A Case Study
Thomas Firley and Ursula Goltz (Technical University of Braunschweig, D)

16.00 – 16.30	Coffee

16.30 – 18.00	Second Afternoon Session — Security Protocols

An Equivalence on Terms for Security Protocols
R. Ramanujam and S.P.Suresh (The Institute of Mathematical Sciences, IN)

Second Afternoon Session — Refinement
In-place Refinement for Effect Checking
Viktor Kuncak and K. Rustan M. Leino (Massachusetts Institute of Technology and Microsoft Research, USA)
Formal Refinement Verification Method of Real-Time Systems with Discrete Probability Distributions
Satoshi Yamane (Kanazawa University, JP)

CMCS

Coalgebraic Methods in Computer Science
Organizer: H. Peter Gumm (Universität Marburg, Germany)

Saturday, 5th of April

9.10 – 10.30	First Morning Session

On a Description of Terminal Coalgebras and Iterative Theories
Jiři Adámek
Logical Construction of Final Coalgebras
Luigi Santocanale

10.30 – 11.00	Coffee

11.00 – 12.40	Second Morning Session

Invited Lecture
Comonoids in chu_2: a Large Cartesian Closed Sibling of Topological Spaces
Vaughan Pratt
Stone Coalgebras
Clemens Kupke, Alexander Kurz, Yde Venema

12.40 – 14.00	Lunch

14.00 – 16.00	First Afternoon Session

Modal Logics for Observation Equivalences
Jan Rothe, Dragan Masulovic

Simulations in Coalgebra
Jesse Hughes, Bart Jacobs
A Hierarchy of Probabilistic System Types
Falk Bartels, Ana Sokolova, Erik de Vink

16.00 – 16.30	Coffee
16.30 – 18.30	Second Afternoon Session

A Note on Expressivity and Compositionality in Logics for Coalgebras
Corina Cirstea
Coalgebraic Semantics for Positive Modal Logic
Alessandra Palmigiano
Coalgebraic Semantics for Epistemic Programs
Alexandru Baltag

Sunday, 6th of April

9.10 – 10.30	First Morning Session

Computable Functions on Final Coalgebras
Dirk Pattinson
Generalized Coiteration Schemata
Daniela Cancila, Furio Honsell, Marina Lenisa

10.30 – 11.00	Coffee
11.00 – 12.40	Second Morning Session
	Invited Lecture

Equational Properties of Fixed Points
Zoltan Ésik
Substitution in Non-well-founded Syntax with Variable Binding
Ralph Matthes, Tarmo Uustalu

12.40 – 14.00	Lunch
14.00 – 16.00	First Afternoon Session

CoCASL at Work — Modelling Process Algebra
Till Mossakowski, Markus Roggenbach, Lutz Schröder
State-based Components Made Generic
L. S. Barbosa, J. N. Oliveira
Inductive Behavioral Proofs by Unhiding
Grigore Rosu

16.00 – 16.30	Coffee
16.30 – 18.30	Second Afternoon Session

A Coalgebraic Approach to Kleene Algebra with Tests
Hubie Chen, Riccardo Pucella
Coinduction in Control of Partially Observed Discrete-Event Systems
Jan Komenda
Towards a Theory of Mathematical Operational Semantics
John Power

COCV

Compiler Optimization Meets Compiler Verification

Organizers: Jens Knoop (FernUniversität Hagen and Universität Dortmund, Germany) and Wolf Zimmermann (Universität Halle-Wittenberg, Germany)

Saturday, 12th of April

9.00 – 9.05	Welcome and Opening (Jens Knoop)
9.05 – 10.15	First Morning Session
	A Functional Perspective on SSA Optimisation Algorithms
	Manuel M. T. Chakravarty, Gabriele Keller, Patryk Zadarnowski (University of New South Wales, Sydney, Australia)
	Code Annotation for Safe and Efficient Dynamic Object Resolution
	Andreas Hartmann, Wolfram Amme (Friedrich-Schiller-Universität Jena, Germany), Jeffery von Ronne, Michael Franz (University of California, Irvine, USA)
10.15 – 10.45	Coffee
10.45 – 12.30	Second Morning Session
	The Compiler as a Validation and Evaluation Tool
	Gerolf Hoflehner, Dan Lavery, David Sehr (Intel Compiler Lab, Santa Clara, USA)
	Extracting a Formally Verified, Fully Executable Compiler from a Proof Assistant
	Stefan Berghofer, Martin Strecker (Technische Universität München, Germany)
	On the Recognition of Algorithm Templates
	Christophe Alias, Denis Barthou (PRiSM, University of Versailles Saint-Quentin, France)
12.30 – 14.00	Lunch
14.00 – 15.30	First Afternoon Session — Invited Keynote Speech and Tool Demonstration
	Chair : Jens Knoop
	Translation and Optimization in the Verification of Real-Time Systems
	Ernst-Rüdiger Olderog (University of Oldenburg, Germany)
	Moby/RT: A Tool for Specification and Verification of Real-Time Systems
	Henning Dierks (University of Oldenburg, Germany)
15.30 – 16.00	Coffee
16.00 – 17.10	Second Afternoon Session *Chair : Wolf Zimmermann*
	Classifying and Formally Verifying Integer Constant Folding
	Sabine Glesner, Jan Olaf Blech (Universität Karlsruhe, Germany)
	A Java Card CAP Converter in PVS
	Thomas Genet, Thomas Jensen, Vikash Kodati, David Pichardie (IRISA, Rennes, France)
	Closing

FAMAS

Formal Approaches to Multi-Agent Systems

Organizers: Barbara Dunin-Kęplicz (Warsaw University, Poland), Rineke Verbrugge (University of Groningen, The Netherlands)

Saturday, 12th of April

9.00 – 10.30	Invited Lectures
	Bounded versus Unbounded Model Checking for Interpreted Systems
	W. Penczek
	Coalition Formation: Towards Feasible Solutions
	O. Shehory
10.30 – 11.00	Coffee
11.00 – 12.30	Second Morning Session — Teamwork
	Rational Teams: Logical Aspects of MAS
	H. Aldewereld, W. van der Hoek and J-J. Meyer
	A Tuning Machine for Collective Commitments
	B. Dunin-Kęplicz and R. Verbrugge
	Modeling Multi-Agent Plans with Hybrid Automata
	I. Degirmenciyan-Cartault, F. Marc and A. El Fallah-Seghrouchni
12.30 – 14.00	Lunch
14.00 – 16.10	First Afternoon Session — Verification and Dynamical Aspects
	A Framework for the Formal Analysis of MAS
	R. Bharadwaj
	Some Remarks on Alternating Temporal Epistemic Logic
	W. Jamroga
	Formal Comment on W. Jamroga's Paper
	W. van der Hoek
	Knowledge-based Asynchronous Programming Inspired by a Hardware Leader Election Problem
	H.W. de Haan, W. Hesselink and G. Renardel de Lavalette
	Change in Non-flat MAS
	M. Wolski
16.10 – 16.30	Tea
16.30 – 18.00	Second Afternoon Session — Communication and Mental States
	On Mutual Understanding among Communicating Agents
	P. Doherty, W. Łukaszewicz and A. Szałas
	A Complete Axiomatization of Multi-Agent Logic
	M. Kacprzak
	Logic Based Semantics for an Agent Communication Language
	M. Alberti, A. Ciampolini, M. Gavanelli, E. Lamma, P. Mello and P. Torroni

Feyerabend

Feyerabend - Redefining Computing
Organizer: Pascal Costanza (University of Bonn, Germany)

The workshop will be a flow of discussions and activities starting at 9 a.m. on **12th April**. We will try to funnel the brainstorm sessions into thoughts about possible notions of computation, both new and old. The goal is to collect diverse contributions for a reconsideration of existing technology. Coffee breaks 10.30 – 11.00 and 16.00 – 16.30; lunch break 12.30 – 14.00.

FICS

Fixed Points in Computer Science
Organizers: Zoltan Ésik (University of Szeged, Hungary), Igor Walukiewicz (Bordeaux University, France)

Saturday, 12th of April

9.30 – 10.30	Invited Lecture
	Monadic Datalog on Trees
	Martin Grohe
10.30 – 11.00	Break
11.00 – 12.30	Morning Session
	Primitive Recursion for Rank-2 Inductive Types
	A. Abel and R. Matthes
	On Ambiguous Classes in the μ-Calculus Hierarchy of Tree Languages
	A. Arnold and L. Santocanale
	A Fixpoint Logic for Labeled Markov Processes
	V. Danos and J. Desharnais
12.30 – 14.00	Lunch
14.00 – 15.00	Invited Lecture
	Useful Decidable Fragments of the First Order Logic
	Leszek Pacholski
15.00 – 15.30	Break
15.30 – 17.30	Afternoon Session
	Coproducts of Ideal Monads
	N. Ghani and T. Uustalu
	An Abstract Monadic Semantics for Value Recursion
	E. Moggi and A. Sabry
	An Alternative Characterization for Complete Iterativeness
	T. Uustalu and V. Vene
	Operational Congruence Bisimilarity Logical Relation, and a First Order Mu-Logic, for the Object Calculus S-lambda
	L. Dominguez

Sunday, 13th of April

9.30 – 10.30	Invited Lecture
	Inflationary and Deflationary Fixed Points
	Erich Grädel

10.30 – 11.00	Break

11.00 – 12.30	Morning Session

Monadic Fusion of Functional Programs
C. Jürgensen

Invited Lecture
Hierarchies in μ-Calculus
Damian Niwiński

LDTA

Third Workshop on Language Descriptions, Tools and Applications
Organizers: Isabelle Attali (INRIA Sophia Antipolis, France), Mark van den Brand (CWI Amsterdam, The Netherlands), Pierre-Etienne Moreau (Loria Nancy, France)

Sunday, 6th of April

9.00 – 9.05	Welcome	

9.05 – 10.30	First Morning Session	*Chair : Barrett Bryant*

A Framework for Datatype Transformation
Jan Kort and Ralf Lämmel

Invited Lecture
An Abstract and Reusable Programming Language Architecture
Hassan Aït Kaci

10.30 – 11.00	Coffee	

11.00 – 12.30	Second Morning Session	*Chair : João Saraiva*

Refactoring: Current Research and Future Trends
Tom Mens, Serge Demeyer, Bart Du Bois, Hans Stenten, and Pieter Van Gorp
Coverage-driven Automated Compiler Test Suite Generation
A. Kalinov, A. Kossatchev, A. Petrenko, M. Posypkin, and V. Shishkov
A Formally Verified Register Allocation Framework
Kent Lee

12.30 – 14.00	Lunch	

14.00 – 16.00	First Afternoon Session	*Chair : Marjan Mernik*

Circular Reference Attributed Grammars — Their Evaluation and Applications
Eva Magnusson and Gorel Hedin
Aspects as Modular Language Extensions
Eric Van Wyk
Generalized Parsing and Term Rewriting: Semantics Driven Disambiguation
M. G. J. van den Brand, A. S. Klusener, L. Moonen, and J. J. Vinju
The metafront System: Extensible Parsing and Transformation
Claus Brabrand, Michael I. Schwartzbach, and Mads Vanggaard

16.00 – 16.30	Coffee	

16.30 – 18.30	Second Afternoon Session	*Chair : Thomas Noll*

Exploiting XPG for Visual Languages: Definition, Analysis and Development
G. Costagliola, V. Deufemia, F. Ferrucci, and C. Gravino

Mixing Two Bibliography Style Languages
Jean-Michel Hufflen
CoordMaude: Simplifying Formal Coordination Specifications of Cooperation Environment
Marisol Sanchez-Alonso, Juan M. Murillo, and Juan Hernandez

18.00 – 18.30   Discussion and Closing by Barrett Bryant and João Saraiva

RSKD

International Workshop on Rough Sets in Knowledge Discovery and Soft Computing
Organizer: Marcin S. Szczuka (Warsaw University, Poland)

Saturday, 12th of April

9.00 – 10.30   First Morning Session
Opening Address
Probability, Truth and Flow Graph
Zdzisław Pawlak (University of Information Technology and Management, Warsaw, Poland)
Statistical Independence as Linear Independence
Shusaku Tsumoto (Department of Medical Informatics, Shimane Medical University, School of Medicine, Izumo City, Shimane, Japan)
A Rough Set Approach to Estimating the Game Value and the Shapley Value from Data
Lech Polkowski (Polish-Japanese Institute of Information Technology, Warsaw, Poland), Bolesław Araszkiewicz (Department of Mathematics and Computer Science, Univ. of Warmia and Mazury, Olsztyn, Poland)

10.30 – 11.00   Coffee

11.00 – 12.30   Second Morning Session
An Algebraic Approach to Shadowed Sets
Gianpiero Cattaneo, Davide Ciucci (Dipartimento Di Informatica, Sistemistica e Comunicazione, Università di Milano — Bicocca, Milano, Italy)
Incremental Induction of Decision Rules from Dominance-based Rough Approximations
Jerzy Błaszczyński, Roman Słowiński (Institute of Computing Science, Poznań, University of Technology, Poznań, Poland)
Generation of Exhaustive Set of Rules within Dominance-based Rough Set Approach
Krzysztof Dembczyński, Roman Pindur, Robert Susmaga (Institute of Computing Science, Poznań University of Technology, Poznań, Poland)
Dominance-based Rough Set Classifier without Induction of Decision Rules
Krzysztof Dembczyński, Roman Pindur, Robert Susmaga (Institute of Computing Science, Poznań University of Technology, Poznań, Poland)

12.30 – 14.00   Lunch

14.00 – 16.00   First Afternoon Session
Greedy Algorithm for Set Cover in Context of Knowledge Discovery Problems
Mikhail Ju. Moshkov (Faculty of Computing Mathematics and Cybernetics, Nizhny Novgorod State University, Nizhny Novgorod, Russia)

Reducts Versus Constructs: an Experimental Evaluation

Robert Susmaga (Institute of Computing Science, Poznań University of Technology, Poznań, Poland)

Foundations of Vagueness: a Category-theoretic Approach

Mohua Banerjee, Department of Mathematics (Indian Institute of Technology, Kanpur, India), Mihir K. Chakraborty (Department of Pure Mathematics, University of Calcutta, Kolkata, India)

Variable-Precision Compatibility Spaces

Anna Gomolińska (Department of Mathematics, University of Białystok, Białystok, Poland)

Towards a Symbolic Interpretation of Approximate Reasoning

Mazen El-Sayed, Daniel Pacholczyk (Faculty of Sciences, University of Angers, Angers, France)

16.00 – 16.30	Coffee
16.30 – 18.00	Second Afternoon Session

Rule Discovery Based on New Attributes Construction

Agnieszka Dardzińska-Głębocka (Department of Mathematics, Białystok Technical University, Białystok, Poland)

Modelling Concurrent Systems Specified by Dynamic Information Systems: A Rough Set Approach

Krzysztof Pancerz, Zbigniew Suraj (Chair of Computer Science Foundations, University of Information Technology and Management, Rzeszów, Poland)

Fuzziness in Information Systems

Alicja Mieszkowicz-Rolka, Leszek Rolka (Department of Avionics and Control, Rzeszów University of Technology, Rzeszów, Poland)

Sunday, 13th of April

9.00 – 10.30	First Morning Session

A Comparison of Three Strategies to Rule Induction from Data with Numerical Attributes

Jerzy W. Grzymała-Busse (Department of Electrical Engineering and Computer Science, University of Kansas, Lawrence KS, USA)

'Computing with words' Concept Applied to Musical Information Retrieval

Bożena Kostek (Sound and Vision Engineering Department, Gdańsk University of Technology, Gdańsk, Poland)

Rough Set Based Automatic Classification of Musical Instrument Sounds

Alicja A. Wieczorkowska (Multimedia Department, Polish-Japanese Institute of Information Technology, Warsaw, Poland), Andrzej Czyżewski (Sound and Vision Engineering Department, Gdańsk University of Technology, Gdańsk, Poland)

10.30 – 11.00	Coffee
11.00 – 12.30	Second Morning Session

Rule Induction with Grouping Target Concepts based on Rough Sets

Shusaku Tsumoto (Department of Medical Informatics, Shimane Medical University, School of Medicine, Izumo City, Shimane, Japan)

Introduction and Elucidation of the Quality of Sagacity in the Extended Variable Precision Rough Sets Model

Malcolm J. Beynon (Cardiff Business School, Cardiff University, Cardiff, Wales)

Granular Reasoning Using Zooming In and Out

Tetsuya Murai, Yoshiharu Sato (Graduate School of Engineering, Hokkaido University, Sapporo, Japan), Germano Resconi (Dipartimento di Matematica, Universita Cattolica, Brescia, Italia), Michinori Nakata (Faculty of Management and Information Sciences, Josai International University, Togane, Chiba, Japan)

Information Granules for Intelligent Knowledge Structure

Patrick Doherty (Dept. of Computer Science, Linköping University, Linköping, Sweden), Witold Łukaszewicz, Andrzej Szałas (Dept. of Computer Science, Linköping University, Linköping, Sweden and College of Economics and Computer Science TWP, Olsztyn, Poland)

12.30 – 14.00	Lunch
14.00 – 16.00	First Afternoon Session

Algebraic Structures of Rough Sets in Representative Approximation Spaces

Zbigniew Bonikowski (Institute of Mathematics and Informatics, University of Opole, Opole, Poland)

Evidence Theory and VPRS model

Barbara Marszał-Paszek, Piotr Paszek (Institute of Applied Computer Science, University of Silesia, Sosnowiec, Poland)

Attribute Reduction in the Bayesian Version of Variable Precision Rough Set Model

Dominik Ślęzak (Department of Computer Science University of Regina, Canada and Polish-Japanese Institute of Information Technology, Warsaw, Poland), Wojciech Ziarko (Department of Computer Science University of Regina, Canada)

Hybrid Classifier Based on Rough Sets and Neural Networks

Jarosław Stepaniuk, Katarzyna Kierzkowska (Department of Computer Science, Białystok University of Technology, Białystok, Poland)

16.00 – 16.30	Coffee
16.30 – 18.00	Second Afternoon Session

Neural Network Architecture for Synthesis of the Probabilistic Rule Based Classifiers

Dominik Ślęzak (Department of Computer Science University of Regina, Canada and Polish-Japanese Institute of Information Technology, Warsaw, Poland), Jakub Wróblewski (Polish-Japanese Institute of Information Technology, Warsaw, Poland), Marcin Szczuka (Institute of Mathematics, Warsaw University, Warsaw, Poland)

On the Decision Table with Maximal Number of Reducts

Hung Son Nguyen (Institute of Mathematics, Warsaw University, Warsaw, Poland)

Rough Set Approach to Pattern Extraction from Classifiers

Jan Bazan (Institute of Mathematics, University of Rzeszów, Rzeszów, Poland), James F. Peters (Department of Electrical and Computer Engineering, University of Manitoba, Winnipeg, Manitoba, Canada), Andrzej Skowron, Nguyen Hung Son, Marcin Szczuka (Institute of Mathematics, Warsaw University, Warsaw, Poland)

A Method for Extracting Rules from Incomplete Information System

Yidong Lan (Department of Mechanics and Engineering Science, Peking University, Beijing, China), Lin Zhang, Liancheng Liu (CIMS Engineering Research Center, Tsinghua University, Beijing, China)

Software Composition

Organizers: Uwe Aßmann (Linköpings Universitet, Sweden), Elke Pulvermueller (Universität Karlsruhe, Germany), Isabelle Borne, (Université de Bretagne-Sud, France), Noury Bouraqadi, (Ecole des Mines de Douai, France), Pierre Cointe, (Ecole des Mines de Nantes, France)

Sunday, 6th of April

9.00 – 10.30	First Morning Session — Aspects and Views in Architecture

Design Aspects and GRS-based AOD — The GREAT Framework
Alexander Christoph (FZI Karlsruhe)
The Development of Generic Definitions of Hyperslice Packages in Hyper/J
Youssef Hassoun, Constantinos Constantinides (University of London)
Transforming Application Compositions with XSLTs
Johann Oberleitner, Thomas Gschwind (TU Vienna)
Automatic Roundtrip Engineering
Uwe Aßmann (Linköpings Universitet)

10.30 – 11.00	Coffee

11.00 – 12.30	Second Morning Session — Component Protocols, Interaction, and Adaptation

On the Conherence of Component Protocols
Andres Farias, Yann-Gael Gueheneuc (Ecole des Mines de Nantes)
Generation of Asynchronous Component Adapters
Jens Jahnke, Luay Kawasme (University of Victoria)
Separating Interaction Concerns from Distributed Feature Components
Jangxiong Pang, Lynne Blair (Lancaster University)

12.30 – 14.00	Lunch

14.00 – 15.30	First Afternoon Session — Architecture and Assembly

A Low-Lewel Analysis Library for Architecture Recovery
Welf Lowe, Jonas Lundberg (Växjö University)
Architecture Recovery by Semi-Automatic Component Identification
Jonas Lundberg, Welf Lowe (Växjö University)
Concepts and Techniques Simplifying the Assembly Process for Component Instances
Ursula Scheben, Arnd Poetzsch-Heffter (Fern-Universität Hagen, Universität Kaiserlautern)

15.30 – 16.30	Coffee

16.30 – 18.10	Second Afternoon Session — Dynamic Composition Techniques

Composition of Structured Process Specifications
Samira Sadaoui (University of Regina)
Online Reconfiguration of Component-based Applications in PacoSuite
Pieter Schollaert, Wim Vanderperren, Davy Suvee, Viviane Jonckers (Vrije Universiteit Brussel)
Web Components and the Semantic Web
Maire Casey, Claus Pahl (Dublin City University)
Multi-Level Composition for Software Federations
Tuyet Le-Anh, Jorge Villalobos, Jacky Estublier (LSR IMAG Grenoble)

Test and Analysis of Component Based Systems

Organizer: Mauro Pezzè (Università degli Studi di Milano Bicocca, Italy)

Sunday, April 13th

9.00 – 10.00	First Morning Session — Testing Component Based Systems

Chair : Mauro Pezzè

Compositional Generation of MC/DC Integration Test Suites
Alexander Pretschner (Universität München)

Performing Integrated System Tests Using Malicious Component Insertion
Charalampos Atrikakis, Thomas Kalamaris and Vaios Kakavas (National Technical University of Athens)

Built-In Contract Testing in Component Integration Testing
Hans-Gerhard Gross and Nikolas F. Mayer (Fraunhofer Institute for Experimental Software Engineering)

Towards Model-Driven Testing
Reiko Heckel and Marc Lohmann (University of Paderborn)

Integration of "Components" to Test Software Components
Antonia Bertolino, Eda Marchetti and Andrea Polini (CNR)

A Fault Taxonomy for Component-Based Software
Leonardo Mariani (Università di Milano Bicocca)

10.00 – 11.00	Discussion
11.00 – 11.15	Coffee
11.15 – 11.55	Second Morning Session — Configurability *Chair : Paolo Prinetto*

Modelling and Validating a Multiple-Configuration Railway Signalling System Using SDL
Alessandro Fantechi and Emilio Spinicci (Università degli Studi di Firenze)

Grid Infrastructure Monitoring Service Framework Jiro/JMX Based Implementation
Bartosz Ławniczek, Grzegorz Majka, Paweł Słowikowski, Krzysztof Zieliński and Sławomir Zieliński (University of Minig and Metallurgy)

Self-Test Components for Highly Reconfigurable Systems
Giovanni Denaro, Leonardo Mariani and Mauro Pezzè (Università di Milano Bicocca)

Towards Testing Product Line Architectures
H. Muccini (Università dell'Aquila) and *A. van der Hoek (University of California)*

11.55 – 13.00	Discussion
13.00 – 14.00	Lunch
14.00 – 14.50	First Afternoon Session — Analysis and Test of Component Based Real-Time Systems

Chair : Alessandro Fantechi

A Safety Mechanism Using Software Patterns
Hiromi Kobayashi and Kiyohito Itoh (Tokai University)

A Dual Language Approach Extension to UML for the Development of Time-Critical Component-Based Systems
Luigi Lavazza (Politecnico di Milano), *Sandro Morasca (Università degli Studi dell'Insubria)*, and *Angelo Morzenti (Politecnico di Milano)*

A Framework for Composing Real-Time Schedulers
Giuseppe Lipari, Enrico Bini (Scuola Superiore S. Anna), and *Gerhard Fohler (Mälardalen University)*
Model Driven Performance Analysis of Enterprise Information Systems
James Skene and Wolfgang Emmerich (University College London)
Modeling and Analysis of Non-Functional Properties in Component-Based Systems
Antonia Bertolino (CNR) and *Raffaela Mirandola (University of Roma TorVergata)*

14.50 – 15.50	Discussion
15.50 – 16.00	Coffee
16.00 – 16.40	Second Afternoon Session — Specification and Design for Testability

Chair : Sandro Morasca

A Framework for Selecting Components Automatically: A First Approach
Ismael Rodríguez and Fernando Rubio (Universidad Complutense de Madrid)
Safe Composition of Linda-Based Components
Ana M. Roldán (University of Huelva), *Ernesto Pimentel (University of Málaga)*, and *Antonio Brogi (Università di Pisa)*
UML Modeling for Regression Testing of Component Based Systems
A. S. M. Sajeev (University of New England) and *Bugi Wibowo (University of New Castle)*
Design for Testability for Highly Reconfigurable Component-Based Systems
Andrea Baldini, Paolo Prinetto (Politecnico di Torino), Giovanni Denaro and Mauro Pezzè (Università di Milano Bicocca)

16.40 – 17.30	Discussion

UniGra

Uniform Approaches to Graphical Process Specification Techniques
Organizers: Hartmut Ehrig (Technische Universität Berlin, Germany), Roswitha Bardohl (Technische Universität Berlin, Germany)

Saturday, 5th of April

14.15 – 16.00	First Afternoon Session	*Chair : R. Bardohl*

Opening
H. Ehrig
Behaviour and Instantiation of High-Level Net Processes
H. Ehrig
Modeling Petri Net Based Systems by Net Transformations: New Developments
M. Urbasek

16.00 – 16.30	Coffee	
16.30 – 18.00	Second Afternoon Session	*Chair : F. Orejas*

Case Study: Modelling Telecom Services with Petri Net Modules
J. Padberg
Relating Axiomatic and Operational Semantics of Place/Transition Nets: From Process Terms to Partial Orders
J. Desel, G. Juhas, R. Lorenz

Sunday, April 6th

9.00 – 10.30	First Morning Session	*Chair : J. Padberg*

Unfolding-Based Verification for Graph Transformation Systems
P. Baldan, A. Corradini, B. König
On the Functorial Semantics of Algebraic Graph Grammars
P. Baldan, A. Corradini, U. Montanari, L. Ribeiro

10.30 – 11.00	Coffee

11.00 – 12.30	Second Morning Session	*Chair : D. Janssens*

Components for Algebra Transformation Systems
H. Ehrig, F. Orejas
Modeling Agent Systems with Distributed Transformation Units
S. Kuske, P. Knirsch

12.30 – 14.00	Lunch

14.00 – 16.00	First Afternoon Session	*Chair : H.-J. Kreowski*

A Hierarchical Program Representation for Refactoring
N. Van Eetvelde, D. Janssens
XML-based Specification of Diagram Editors
M. Minas
Dynamic Aspects of Visual Modelling Languages
P. Bottoni

16.00 – 16.30	Coffee

16.30 – 18.00	Second Afternoon Session	*Chair : P. Bottoni*

Model Based Verification and Validation of Properties
G. Engels, J.M. Küster, R. Heckel, M. Lohmann
The Bidirectional Mapping Problem
St. Kent
Closing
H. Ehrig

USE

Workshop on Unanticipated Software Evolution
Organizers: Günter Kniesel (University of Bonn, Germany), Pascal Costanza (University of Bonn, Germany), José Luiz Fiadeiro (University of Lisbon and ATX Software, Portugal)

Saturday, 5th of April

9.30 – 10.30	Welcome session
10.30 – 11.00	Coffee
11.00 – 12.00	Morning Session

A Meta-model Driven Methodology for State Transfer in Component-oriented Systems
Yves Vandewoude, Yolande Berbers

Towards Transparent Hot-Swapping Support for Producer-Consumer Componets
Nico Janssens, Sam Michiels, Tom Mahieu, Pierre Verbaeten

12.00 – 13.30	Lunch
13.30 – 14.30	First Afternoon Session

Behavior Protocols Capturing Errors and Updates
Jiři Adámek, Frantisek Plasil
Formalizing Dynamic Software Updating
Gavin Bierman, Michael Hicks, Peter Sewell, Gareth Stoyle

14.30 – 15.00	Break
15.00 – 16.00	Second Afternoon Session

LuckyJ: an Asynchronous Evolution Platform for Component-Based Applications
Manuel Oriol
Locators – Dynamic Service Composition and System Evolution
Robert Hirschfeld, Jeff Eastman, Matthias Wagner, Hendrik Berndt

16.00 – 16.30	Coffee
16.30 – 17.30	Third Afternoon Session

Managing Quality of Service During Evolution
Joris Gorinsek, Stefan Van Baelen, Yolande Berbers, Karel De Vlaminck
Anticipating Scientific Software Evolution as a Combined Technological and Design Approach
Catherine Letondal, Uwe Zdun

17.30 – 18.00	Break
18.00 – 19.00	Fourth Afternoon Session

Towards a Taxonomy of Software Evolution
Tom Mens, Jim Buckley, Awais Rashid, Matthias Zenger
Taxonomy of Evolution and Dependability
Massimo Felici
A Framework for Database Evolution Management
Isabelle Comyn-Wattiau, Jacky Akoka, Nadira Lammari

Sunday, 6th of April

9.00 – 9.30	Summary by organizers
9.30 – 9.45	Formation of breakout groups
9.45 – 10.30	Breakout groups
10.30 – 11.00	Coffee
11.00 – 12.30	Breakout groups
12.30 – 14.00	Lunch
14.00 – 16.00	Breakout groups
16.00 – 16.30	Coffee
16.30 – 17.30	Presentations of breakout groups
17.30 – 18.00	Workshop summary, future of the workshop

WITS

2003 IFIP WG 1.7, ACM SIGPLAN and GI FoMSESS Workshop on Issues in the Theory of Security

Organizer: Roberto Gorrieri (Dipartimento di Scienze dell'Informazione, Italy)

Saturday, 5th of April

10.00 – 10.30	Registration
10.30 – 10.50	Coffee
10.50 – 11.00	Welcome (R. Gorrieri)

11.00 – 12.30 Morning Session — Semantic Techniques for Protocol Analysis   *Chair : J. Guttman*

A Fault-Tree Representation of NPATRL Security Requirements
I. Cervesato, C. Meadows
A Decidable Subclass of Unbounded Security Protocols
R. Ramanujam, S.P. Suresh
Relating Process Algebras and Multiset Rewriting for Security Protocol Analysis
S. Bistarelli, I. Cervesato, G. Lenzini, F. Martinelli

12.30 – 14.00 Lunch

14.00 – 16.00 First Afternoon Session — Protocol Verification   *Chair : G. Lowe*
Verification of Copy-protection Cryptographic Protocols Using Approximations of Term Rewriting Systems
T. Genet, Y.T. Tang-Talpin, V. Viet Triem Tong
Non Interference Proof Techniques for the Analysis of Cryptographic Protocols
M. Bugliesi, A. Ceccato, S. Rossi
Compositional, Reasoning and Non Interference for Checking Integrity in Digital Stream Protocols
F. Martinelli, M. Petrocchi, A. Vaccarelli
Guess What? Here is a New Tool that Finds some New Guessing
R. Corin, S. Malladi, J. Alves-Foss, S. Etalle

16.00 – 16.30	Coffee
16.30	Panel: Security and Dependability (P. Ryan organizer)

Sunday, 6th of April

9.00 – 10.30 First Morning Session — System Security   *Chair : R. Focardi*
Using Data-Independence in the Analysis of Intrusion Detection Systems
G.T. Rohrmair, G. Lowe
Information Flow in Operating Systems: Eager Formal Methods
J.D. Guttman, A.L. Herzog, J.D. Ramsdell
Reputation-based Trust Management
V. Shmatikov, C. Talcott

10.30 – 11.00 Coffee

11.00 – 12.30 Second Morning Session — Information Flow and Confinement   *Chair : P. Ryan*
Secure Contexts
A. Bossi, D. Macedonio, C. Piazza, S. Rossi

A Theorem Proving Approach to Analysis of Secure Information Flow
A. Darvas, R. Haehnle, D. Sands
Measuring the Confinement of Concurrent Probabilistic Systems
A. Di Pierro, C. Hankin, H. Wiklicky

12.30 – 14.00	Lunch

14.00 – 16.00	First Afternoon Session — Security Analysis	*Chair : J. Jürjens*

An Enhanced CFA for Security Policies
C. Bodei, P. Degano, C. Priami, N. Zannone
A Generic Approach to Security Analysis
D. Hedin, D. Sands
Computational Soundness of Formal Adversaries
J. Herzog

16.00 – 16.30	Coffee
16.30 – 18.00	IFIP WG 1.7 business meeting

WOOD

Workshop on Object-Oriented Developments
Organizers: Viviana Bono (University of Torino, Italy), Michele Bugliesi (University of Venice, Italy)

Saturday, 12th of April

9.15 – 9.30	Opening
9.30 – 10.30	First Morning Session

Invited Lecture
Challenging Typing Issues in Object-oriented Languages
Kim Bruce (Williams College)

10.30 – 11.00	Coffee
11.00 – 12.30	Second Morning Session

Extending Java to Dynamic Object Behaviors
L. Bettini, S. Capecchi and B. Venneri (Univ. of Firenze)
BabyJ: From Object Based to Class Based Programming via Types
C. Anderson and S. Drossopoulou (Imperial College)

12.30 – 14.00	Lunch
14.00 – 16.00	First Afternoon Session

Invited Lecture
Temporal Constraints for Concurrent Object Synchronisation
Vladimiro Sassone (Univ. of Sussex)
Effects and Effect Inference for a Core Java Calculus
G. Bierman and M. Parkinson (Univ. of Cambridge)

16.00 – 16.30	Coffee
16.30 – 18.00	Second Afternoon Session

Can Addresses be Types? (A Case Study: Objects with Delegation)
C. Anderson (Imperial College), F. Barbanera (Univ. of Catania), M. Dezani-Ciancaglini (Univ. of Torino) and S. Drossopoulou (Imperial College)
Alias Types for Environment-aware Computations
F. Damiani (Univ. of Torino) and P. Giannini (Univ. of Piemonte Orientale)

Tutorial 1

Foundations of Constraint Programming

Roman Barták
Saturday, April 12, full day
Start: 9.00

Constraint programming is a technology for declarative description and solving of hard combinatorial problems. The user just states the constraints over the problem variables and the system finds a valuation of the variables satisfying the constraints.

The tutorial gives a survey of basic constraint satisfaction techniques. First, the notion of a constraint is explained and some examples of practical applications of constraint technology are given. Then we present enumeration algorithms (search) for solving constraints, in particular generate and test, backtracking, backjumping, dynamic backtracking, backmarking, and discrepancy search and we compare their advantages and weaknesses. In the next part we concentrate on consistency techniques; we present the algorithms for arc and path consistency and we explain the general notions of k-consistency, (i,j)-consistency, inverse consistency, and singleton consistency. After that, we show how consistency techniques are integrated with enumeration in forward checking and look ahead methods and we present some techniques for solving over-constrained problems. The tutorial is concluded with examples of modelling real-life problems using constraints.

The tutorial is targeted to a broad computer science community, in particular to everyone interested in techniques for solving hard combinatorial problems (scheduling and assignment problems, circuit design, network management and configuration, interactive graphics, molecular biology etc.). No prior knowledge of Constraint Programming is required.

Tutorial 2

Querying and Transforming XML Documents Using Tree Automata

Alexandru Berlea, Helmut Seidl
Saturday, April 5, afternoon
Start: 14.30

We present an approach to XML querying and transforming based on tree automata. The first part of the tutorial handles XML querying. We review formalisms which can be used to specify expressive queries on XML documents, show how these queries can be compiled into tree automata and discuss the challenges of a practical implementation. We introduce fxgrep, an XML querying tool based on the presented techniques. fxgrep offers to specify queries by means of a rather intuitive pattern language. We describe how these patterns can be implemented by pushdown tree automata. The second part of the tutorial is concerned with XML transformations. We consider the rule-based approach to XML transformations and explain the different roles of queries involved in transformations. We introduce binary queries as a static equivalent of costly and non-declarative dynamic navigation in the input tree. We show how binary queries can be efficiently implemented using instrumented pushdown tree automata. We illustrate our ideas by means of the XML transformation tool fxt.

Tutorial 3

Multi-Media Instruction in Safe and Secure Systems

Bernd Krieg-Brückner, Markus Roggenbach, Christoph Luth, Dieter Hutter, Erica Melis, Arnd Poetzsch-Heffter, Martin Wirsing
Sunday, April 6, full day
Start: 9.00

The aim of the MMiSS project is to set up a multimedia Internet-based adaptive educational system, covering the whole subject of Safe Systems.

The MMiSS tutorial consists of six parts:

- Towards MultiMedia Instruction in Safe and Secure Systems — Introduction and Overview
- Teaching TECS — A Case Study for MMiSS
- An Ontology for Formal Methods
- Architecture of the Teaching and Learning Environment
- Semantic Document Structuring and Sustainable Development in MMiSS
- MMiSS-Repository, Development Graph and Authoring Tools
- ActiveMath System Description

Tutorial 4

Advanced Compilation Techniques for the Itanium Processor Family
Gerolf F. Hoflehner, Dattraya Kulkarni
Saturday, April 5, morning
Start: 9.00

The Itanium Processor Family (IPF) offers exciting opportunities for compiler development and research. This tutorial presents internals of the Intel IPF production compiler architecture, gives details about advanced compilation techniques, and provides performance data and background on individual optimizations. The material covers predication, register allocation, register stack optimization and loop optimization techniques. The compiler optimizations are demonstrated on code case studies coming from numerical code, integer code and application kernels. Practitioners, graduate students, researchers and educators in the compiler field will get an overview of state-of-the-art compiler architecture and technology, learn details about optimizations, which exploit IPF key features, and their application performance impact, and get a perspective on future compiler research and development.

Tutorial 5

Formal Development of Critical Systems with UML
Jan Jürjens
Saturday, April 12, morning
Start: 9.00

UML offers an unprecedented opportunity for high-quality critical systems development that is feasible in an industrial context.

- As the de-facto standard in industrial modeling, a large number of developers is trained in UML.
- Compared to previous industrial notations with a user community of comparable size, UML is relatively precisely defined.
- A number of tools are being developed to assist the every-day work using UML.

This tutorial aims to give background knowledge on using UML for the formal development of critical systems and to contribute to overcoming these challenges. As an example application domain, we focus on security-critical systems. We also show how to generalize the approach to the other application domains mentioned. The tutorial includes a demo of a prototypical tool for the formal analysis of UML models for critical requirements, which is based on XMI.

Tutorial 6

An inside Look at Rotor, Microsoft's "Shared Source" Implementation of the Common Language Infrastructure
Yahya H. Mirza
Sunday, April 6, full day
Start: 9.00

With .NET, Microsoft has introduced a major evolution in their computing platform. At the core of .NET, is a language agnostic runtime, which is being standardized by ECMA. This effort is called the Common Language Infrastructure or the CLI. The multi-vendor adoption of the CLI provides a great opportunity for language researchers. Language researchers can now innovate in their particular domain, while interoperating with existing commercial and research oriented language based solutions.

In early 2002, Microsoft released a "Shared Source" implementation of the CLI available on BSD UNIX, Linux, Mac OSX, and the Windows platform codenamed "Rotor". For language designers, Rotor can serve as an effective runtime core for experimentation at the language feature level. For compiler and virtual machine researchers, Rotor provides a context for applied research into alternative object representations, method dispatch, garbage collectors, JIT compilers, etc. My goal is to provide an in depth exploration into Rotor.

Tutorial 7

Theory and Practice of Co-Verification Process: UniTesk Story
Alexander K. Petrenko, Victor V. Kuliamin
Sunday, April 6, afternoon
Start: 14.00

Co-verification process (CVP) is an evolution of the Design-by-Contract idea. CVP allows conducting development of software specification, software itself, and tests concurrently, which decreases the projects duration. Consideration of design and testing problems together helps to discover latent design errors earlier, so decreasing their cost.

The focus of this tutorial is an instrumental support of such a process. A toolkit is presented, which provides a "critical mass" of features necessary to introduce CVP into real-life software development processes.

The tutorial combines presentations and discussions. It covers the following topics:

- functional requirements formalization and methods of the specification of software interfaces;
- representation of specifications in the specification extension of different programming language, including C, Java, and C#;
- use of specific kinds of state machine models for test sequence generation;
- automatic generation of adapters (mediators) that bridge abstract specification and implementation and support hierarchic specifications and test suites;
- reuse of specifications and test suite components due to managing the different levels of abstraction;
- experience of using UniTesK in industrial projects and technology transfer to other companies.

Social events

CMCS Dinner, April 5, 2003
Restaurant *Fret@porter*
ul. Freta 37
Time: 20.00 – 23.00

First Workshop Dinner, April 6, 2003
Restaurant *Polska Restauracja*
ul. Nowy Świat 21 (entrance also at Al. Jerozolimskie 32)
Time: 20.00 – 23.00

Reception, April 7, 2003
John Paul II Collection Museum (*Muzeum Kolekcji im. Jana Pawła II*)
pl. Bankowy 1
Time: 20.00 – 23.00

ETAPS Dinner, April 9, 2003
Restaurant *Klub Skarpa*
ul. Kopernika 5/7/9
Time: 20.00 – 23.00

Second Workshop Dinner, April 12, 2003
Restaurant *Polska Tradycja*
ul. Belwederska 18 a
Time: 20.00 – 23.00