



PROGRAM
for the
**FEDERATED LOGIC
CONFERENCE**

9 – 21 July 2010
Edinburgh, Scotland
United Kingdom



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2. Welcome Statement

During the past 50 years there has been extensive, continuous, and increasing interaction between logic and computer science. In many respects, logic provides computer science with both a unifying foundational framework and a modeling tool. Indeed, logic has rightly been called "the calculus of computer science", playing, as it does, a crucial role in such diverse areas such as artificial intelligence, computational complexity, distributed computing, database systems, hardware design, programming languages, and software engineering.

Since 1996, several conferences whose focus is on logic and computation have held a joint meeting every three or four years: the Federated Logic Conference (FLoC). We are now pleased to welcome you to the FLoC'10, the fifth such meeting. This takes place in Edinburgh, Scotland, from July 9th – 21st, and is hosted by the School of Informatics of the University of Edinburgh.

FLoC'10 consists of eight major conferences:

- Conference on Computer-Aided Verification (CAV)
- IEEE Computer Security Foundations Symposium (CSF)
- International Conference on Logic Programming (ICLP)
- International Joint Conference on Automated Reasoning (IJCAR)
- International Conference on Interactive Theorem Proving (ITP)
- IEEE Symposium on Logic in Computer Science (LICS)
- Conference on Rewriting Techniques and Applications (RTA)
- International Conference on Theory and Applications of Satisfiability Testing (SAT)

These include about a dozen plenary, keynote and invited talks, as well as tutorial days. Additionally, there are around 50 workshops.

FLoC'10 promises to be an exciting scientific event. Welcome!

Moshe Y. Vardi (FLoC 2010, General Chair)

Leonid Libkin, Gordon Plotkin (FLoC 2010 Conference Co-chairs)

3. FLoC 2010 General Schedule

| | | | | | | | | |
|----------------------|------------------|-----|-------|--------------|-----|-----------|------|---------|
| Friday 9 July | <i>Workshops</i> | | | | | | | |
| Saturday 10 July | | | | | | | | |
| Sunday 11 July | | ITP | LICS | RTA | SAT | Reception | | |
| Monday 12 July | | | | | | | | |
| Tuesday 13 July | | | | | | Banquet | | |
| Wednesday 14 July | <i>Workshops</i> | | | | | | | |
| Thursday 15 July | | | | | | | | |
| Friday 16 July | | | | CAV Tutorial | | Reception | | |
| Saturday 17 July | | CSF | IJCAR | | | CAV | ICLP | |
| Sunday 18 July | | | | | | | | Banquet |
| Monday 19 July | | | | | | | | |
| Tuesday 20 July | <i>Workshops</i> | | | | | | | |
| Wednesday 21 July | | | | | | | | |

- All plenary and keynote talks will be held in the *George Square (GS) Lecture Theatre* (see the map at the end of the handbook) and are freely open to members of the public.
- Each main conference will be held in *Appleton Tower (AT)* (See the map).

Block 1

- LICS – Appleton Tower Lecture Theatre 4
- ITP – Appleton Tower Lecture Theatre 5
- RTA – Appleton Tower Lecture Theatre 3
- SAT – Appleton Tower Lecture Theatre 2

Block 2

- CAV – Appleton Tower Lecture Theatre 4 (including tutorials)
 - IJCAR – Appleton Tower Lecture Theatre 5
 - ICLP – Appleton Tower Lecture Theatre 3
 - CSF – Appleton Tower Lecture Theatre 2
- Workshops will be held in either Informatics Forum (IF) or Appleton Tower (AT) whose room numbering is of the form X.YZ, X is the level, YZ is the room number.
(X=G refers to the ground floor.)

General Schedule

| | | | | | | | | |
|----------------------|--------------|--------------|--------------------|-------------|---------------|--------------|---------------|--|
| Friday 9 July | Coq-2 | MLQA | ITRS | DCM | LOLA | DTP | PCARC | |
| Saturday 10 July | | | HyLo | | LSB | | PSPL | |
| Sunday 11 July | ITP | | | | LICS | | | |
| Monday 12 July | | | | | | | | |
| Tuesday 13 July | | | | | | | | |
| Wednesday 14 July | | | FCS-PrivMod | PAAR | | LFMTP | UNIF | |
| Thursday 15 July | PAR | UITP | | MLPA | LAM | PSTT | CLoDeM | |
| Friday 16 July | | CSF | | | IJCAR | | | |
| Saturday 17 July | | | | | | | | |
| Sunday 18 July | | | | | | | | |
| Monday 19 July | | | | | | | | |
| Tuesday 20 July | | FCC | | | VERIFY | UniDL | SVARM | |
| Wednesday 21 July | | ASA-4 | | | | WING | | |

Workshops are marked with the same colour(s) as their associated conference(s).

4. SOCIAL EVENTS

Block 1: ITP, LICS, RTA, SAT (11–14 July 2010)



Drinks Reception - Sunday, 11th July at Edinburgh Castle (19:00 – 22:00)

Public areas of the castle will be open including the Crown Room, which displays the Scottish Crown Jewels. The reception coincides with the 2010 FIFA World Cup Final, which will be shown on the plasma screens during the reception. Additional food and drink will be available for purchase.

Conference Banquet - Tuesday, 13th July at Our Dynamic Earth (19:00 for 20:00)

One of Edinburgh's most popular tourist attractions, by the foot of the Royal Mile. The displays will be open for viewing.

Block 2: CAV, CSF, ICLP, IJCAR (16–19 July 2010)



Drinks Reception - Friday, 16th July at The National Galleries of Scotland (18:30 – 20:30)

The Galleries lie at the heart of Edinburgh's main thoroughfare, Princes Street, beneath the Castle. The National Gallery houses Scotland's national collection of fine art from the early Renaissance to the end of the nineteenth century and will be open for viewing during the reception.

Conference Banquet - Sunday, 18th July at Prestonfield House (19:30 for 20:00)

Nestling at the foot of Arthur's Seat close to the main university and FLoC accommodation campus.

Squash Tournament - Sunday, 15th July

The traditional CADE/IJCAR Squash Tournament will be held on 15 July. Any FLoC participant may sign up during registration for £8.

5. Plenary and Keynote Invited Talks

All these talks will be held in the George Square Lecture Theatre and are freely open to members of the public.

Sunday, July 11th

14:00 – 14:30 (Plenary)

Amir Pnueli: A Gentle Giant, Lord of the Phi's and the Psi's

David Harel (Weizmann Institute of Science)

14:30 – 15:00 (Plenary)

Robin Milner, a Craftman of Tools for the Mind

Gordon Plotkin (University of Edinburgh)

Tuesday, July 13th

09:00 – 10:00 (Plenary)

Datalog+ : A Family of Logical Query Languages for New Applications

Georg Gottlob (University of Oxford)

14:00 – 15:00 (Keynote)

Theorem Proving for Verification: The Early Days

J. Strother Moore (University of Texas)

Friday, July 16th

09:00 – 10:00 (Plenary)

Policy Monitoring in First-order Temporal Logic

David Basin (ETH Zurich)

Sunday, July 18th

14:00 – 15:00 (Keynote)

Induction, Invariants, and Abstraction

Deepak Kapur (University of New Mexico)

Abstracts and Short Biographies of the Speakers

David Basin (ETH Zurich)

Friday July 16th, 9:00 – 10:00 - George Square Lecture Theatre.

Policy Monitoring in First-order Temporal Logic.

In security and compliance, it is often necessary to ensure that agents and systems comply to complex policies. An example from financial reporting is the requirement that every transaction t of a customer c , who has within the last 30 days been involved in a suspicious transaction t' , must be reported as suspicious within 2 days. We present an approach to monitoring such policies formulated in an expressive fragment of metric first-order temporal logic. We also report on case studies in security and compliance monitoring and use these to evaluate both the suitability of this fragment for expressing complex, realistic policies and the efficiency of our monitoring algorithm.

(Joint work with Felix Klaedtke and Samuel Mueller)

Biography

David Basin has the chair for Information Security at the Department of Computer Science, ETH Zurich, since 2003. He is also the director of the ZISC, the Zurich Information Security Center.

He received his Ph.D. from Cornell University in 1989, and his Habilitation from the University of Saarbruecken in 1996. His appointments include a postdoctoral research position at the University of Edinburgh (1990-1991), and a senior research position within the Max-Planck-Institut fuer Informatik (1992-1997). From 1997-2002 he was a full professor at the University of Freiburg, where he held the chair for software engineering.

His research focuses on information security, in particular methods and tools for modeling, building, and validating secure and reliable systems. He serves on the editorial boards of numerous journals including IEEE Transactions on Dependable and Secure Computing and Acta Informatica. He is also Editor-in-Chief of Springer-Verlag's book series in Information Security and Cryptography.

Georg Gottlob (University of Oxford)

Tuesday July 13th, 9:00 – 10:00 - George Square Lecture Theatre.

Datalog+-: A Family of Logical Query Languages for New Applications.

I will report on a recently introduced family of Datalog-based languages, called Datalog+-, which is a new framework for tractable ontology querying, and for a variety of other applications. Datalog+- extends plain Datalog by features such as existentially quantified rule heads, and, at the same

time, restricts the rule bodies so to achieve decidability and tractability. I will review a number of theoretical results and show how Datalog+- relates to both Database Dependency Theory and the Guarded Fragment of first order logic. I will show that popular tractable description logics translate into Datalog+- and illustrate how this formalism can be used in the context of web data extraction, data exchange, and other applications.

Biography

Georg Gottlob is a Professor of Computing Science at Oxford University and an Adjunct Professor at TU Wien. His interests include data extraction, database theory, graph decomposition techniques, AI, knowledge representation, logic and complexity. Gottlob has received the Wittgenstein Award from the Austrian National Science Fund, is an ACM Fellow, an ECCAI Fellow, and a member of the Austrian Academy of Sciences, the German National Academy of Sciences, and the Academia Europaea. He chaired the Program Committees of IJCAI 2003 and ACM PODS 2000, was the Editor in Chief of the Journal Artificial Intelligence Communications, and is currently a member of the editorial boards of journals, such as CACM and JCSS. He is the main founder of Lixto, a company that provides tools and services for web data extraction.

David Harel (Weizmann Institute of Science)

Sunday July 11th, 14:00 – 14:30 - George Square Lecture Theatre.

Amir Pnueli: A Gentle Giant, Lord of the Phi's and the Psi's.

Biography

David Harel has been at the Weizmann Institute of Science in Israel since 1980. He was Department Head from 1989 to 1995, and was Dean of the Faculty of Mathematics and Computer Science between 1998 and 2004. He was also co-founder of I-Logix, Inc. He received his PhD from MIT in 1978, and has spent time at IBM Yorktown Heights, and sabbaticals at Carnegie-Mellon, Cornell, and the University of Edinburgh. In the past he worked mainly in theoretical computer science (logic, computability, automata, database theory), and he now works mainly on software and systems engineering and on modeling biological systems. He is the inventor of statecharts and co-inventor of live sequence charts, and co-designed Statemate, Rhapsody and the Play-Engine. Among his awards are the ACM Karlstrom Outstanding Educator Award (1992), the Israel Prize (2004), the ACM Software System Award (2007), and three honorary degrees. He is a Fellow of the ACM, the IEEE and the AAAS, and was elected to the Academia Europaea.

Deepak Kapur (University of New Mexico)

Sunday July 18th, 14:00 – 15:00 - George Square Lecture Theatre.

Induction, Invariants, and Abstraction.

Invariants play a key role in verifying properties of imperative programs. Inductive reasoning is essential to verifying properties of recursive programs. Relationship between derivation of loop invariants and speculation of lemmas in inductive reasoning is explored. Abstraction is an effective heuristic for approximating program behavior in order to derive invariants. Interaction among developing abstractions, inductive reasoning, and generating invariants is investigated.

Biography

Deepak Kapur is a distinguished professor of computer science at the University of New Mexico at Albuquerque. From 1998 until 2006, he served as the chair of the computer science department there. He has conducted research in areas of automated deduction, induction theorem proving, term rewriting, unification theory, formal methods, algebraic and geometric reasoning and their applications. His group built one of the first rewrite-based theorem provers, called Rewrite Rule Laboratory. He served as the editor-in-chief of the Journal of Automated Reasoning from 1993-2007. He is on the editorial board of Journal of Symbolic Computation and other journals. He received the Herbrand Award for distinguished contributions to automated reasoning in 2009.

J. Strother Moore (University of Texas)

Tuesday July 13th, 14:00 – 15:00 - George Square Lecture Theatre.

Theorem Proving for Verification: The Early Days.

Since Turing, computer scientists have understood that the question "does this program satisfy its specifications?" could be reduced to the question "are these formulas theorems?" But the theorem proving technology of the 50s and 60s was inadequate for the task. In 1971, here in Edinburgh, Boyer and I started building the first general-purpose theorem prover designed for a computational logic. This project continues today, with Matt Kaufmann as a partner; the current version of the theorem prover is ACL2 (A Computational Logic for Applicative Common Lisp).

In this talk I'll give a highly personal view of the four decade long "Boyer-Moore Project", including our mechanization of inductive proof, support for recursive definitions, rewriting with previously proved lemmas, integration of decision procedures, efficient representation of logical constants, fast execution, and other proof techniques. Along the way we'll see several interesting side roads: the founding of the Edinburgh school of logic programming, a structure-shared text editor that played a role in the creation of Word, and perhaps most surprisingly, the use of our "Lisp theorem prover" to formalize and prove theorems about commercial microprocessors and virtual machines

via deep embeddings, including parts of processors by AMD, Centaur, IBM, Motorola, Rockwell-Collins, Sun, and others. The entire project helps shed light on the dichotomy between general-purpose theorem provers and special-purpose analysis tools.

Biography

J Strother Moore holds the Admiral B.R. Inman Centennial Chair in Computing Theory at the University of Texas at Austin. He is the author of many books and papers on automated theorem proving and mechanical verification of computing systems. Along with Boyer he is a co-author of the Boyer-Moore theorem prover and the Boyer-Moore fast string searching algorithm. With Matt Kaufmann he is the co-author of the ACL2 theorem prover. Moore got his PhD from the University of Edinburgh in 1973 and his SB from MIT in 1970. Moore was a founder of Computational Logic, Inc., and served as its chief scientist for ten years. He served as chair of the UT Austin CS department for eight years. He and Bob Boyer were awarded the McCarthy Prize in 1983 and the Current Prize in Automatic Theorem Proving by the American Mathematical Society in 1991. In 1999, they were awarded the Herbrand Award for their work in automatic theorem proving. Boyer, Moore, and Kaufmann were awarded the 2005 ACM Software Systems Award for the Boyer-Moore theorem prover. Moore is a Fellow of both the American Association for Artificial Intelligence and the ACM and is a member of the US National Academy of Engineering.

Gordon Plotkin (University of Edinburgh)

Sunday July 11th, 14:30 – 15:00 - George Square Lecture Theatre.

Robin Milner, a Craftsman of Tools for the Mind.

Biography

Gordon Plotkin obtained his BSc, in Mathematics and Physics, from Glasgow University, in 1967, and his PhD, in Artificial Intelligence, from Edinburgh University, in 1972. He then joined the faculty at Edinburgh, becoming a full professor in 1986. He is a Fellow of the Royal Society, a member of Academia Europaea, and a Fellow of the Royal Society of Edinburgh, and has held visiting positions at Syracuse, Stanford, Orsay, INRIA, Aarhus, MIT, ENS, Paris 7, DEC SRC, ETL, and Microsoft.

His research contributions include work on hypothesis discovery, theorem proving, situation theory, non-standard logics, and category theory, but he may be best known for his work on the semantics and logic of programming languages, with contributions to operational semantics, logical frameworks, concurrency, domain theory, security, type theory, lambda calculus, full abstraction, abstract syntax, nondeterminism and probabilistic computation. His current interests include the theory of algebraic computational effects and computational systems biology.

6. On Internet Access

If you wish to use any of the options described here for accessing the internet, you are required at the registration to sign a document agreeing to the University of Edinburgh's Computing Regulations. These can be viewed at:

<http://www.ucs.ed.ac.uk/EUCS/regs.html>

1. Wifi

The University of Edinburgh participates in the eduroam secure, world-wide roaming access service. See <http://www.eduroam.org/>. You can use this if your home institution also participates. If this is the case, you have to register to use eduroam at your home institution, before you arrive. Then, when you arrive, you will automatically have wireless access. FLoC encourages you to use this service.

Alternatively, information for guest access to the University of Edinburgh's "central" wireless network can be obtained from the Registration Desk.

2. Computer terminals

A limited number of terminals are available on the Appleton Tower concourse. A Visitor Account, obtainable from the Registration Desk, is necessary for access to these terminals. Further terminals are available in the North Computing Lab on the 5th floor of Appleton Tower. These are open access – no account is needed. All terminals have web browsers and ssh clients.

7. About FLoC (Federated Logic Conference)

During the past forty years there has been extensive, continuous, and growing interaction between logic and computer science. In many respects, logic provides computer science with both a unifying foundational framework and a tool for modelling. In fact, logic has been called "the calculus of computer science," playing a crucial role in diverse areas such as artificial intelligence, computational complexity, distributed computing, database systems, hardware design, programming languages, and software engineering.

The **Federated Logic Conference** brings together several international conferences related to mathematical logic and computer science.

History

In 1996, as part of its Special Year on Logic and Algorithms, DIMACS (Center for Discrete Mathematics and Theoretical Computer Science) hosted the first Federated Logic Conference (FLoC 1996), which brought together four synergistic conferences:

- 13th International Conference on Automated Deduction (CADE),
- 8th International Conference on Computer Aided Verification (CAV),
- 11th IEEE Symposium on Logic in Computer Science (LICS),
- 7th International Conference on Rewriting Techniques and Applications (RTA).

The 1999 Federated Logic Conference (FLoC 1999) was held in Trento, Italy. In addition to 16th CADE, 11th CAV, 14th LICS and 10th RTA, it comprised 15 affiliated workshops.

The 2002 Federated Logic Conference (FLoC 2002) took place in Copenhagen, Denmark. It merged 18th CADE, 14th CAV, 17th LICS and 13th RTA with:

- 11th International Symposium of Formal Methods Europe (FM),
- 18th International Conference on Logic Programming (ICLP),
- 11th International Conference on Automated Reasoning with Analytic Tableaux and Related Methods (TABLEAUX)

and with 31 affiliated workshops.

The 2006 Federated Logic Conference (FLoC 2006) was held in Seattle, USA. In addition to 18th CAV, 21st LICS, 17th RTA and 22nd ICLP, it combined:

- 3rd International Joint Conference on Automated Reasoning (IJCAR), itself is a merger of CADE, TABLEAUX and other meetings,
- 9th International Conference on Theory and Applications of Satisfiability Testing (SAT)

with 41 affiliated workshops.

FLoC 2010

This year will be the biggest Federated Logic Conference with over 1000 people registered. It combines 8 conferences with 48 workshops, and is divided into two blocks:

- Block 1: ITP, LICS, RTA, SAT (11–14 July 2010)
- Block 2: CAV, CSF, ICLP, IJCAR (16–19 July 2010)

In addition to those, there are four independent events affiliated with FLoC:

- *Automatheo* – Workshop on Automated Mathematical Theory Exploration (14-15 July 2010)
- *CASC-J5* – The CADE ATP System Competition (16-19 July 2010)
- *SMT-COMP* – Satisfiability Modulo Theories Competition (15-19 July 2010)
- *Termination* (International Termination Competition (during IJCAR))

Committees for FLoC 2010

Steering Committee:

| | |
|---------------------------|-------------------------------|
| General Chair: | Moshe Y. Vardi |
| Conference Co-chairs: | Leonid Libkin, Gordon Plotkin |
| CAV Representative: | Edmund Clarke |
| CSF Representative: | Graham Steele |
| ICLP Representative: | Manuel Hermenegildo |
| IJCAR Representative: | Alan Bundy |
| ITP Representative: | Tobias Nipkow |
| LICS Representative: | Martin Abadi |
| RTA Representative: | Jurgen Giesl |
| SAT Representative: | Enrico Giunchiglia |
| EasyChair Representative: | Andrei Voronkov |

Program Committee Chairs:

| | |
|------------|-------------------------------------|
| for CAV: | Tayssir Touili, Byron Cook |
| for CSF: | Michael Backes, Andrew C. Myers |
| for ICLP: | Manuel Hermenegildo, Torsten Schaub |
| for IJCAR: | Jurgen Giesl, Reiner Haehnle |
| for ITP: | Matt Kaufmann, Lawrence C. Paulson |
| for LICS: | Jean-Pierre Jouannaud |
| for RTA: | Chris Lynch |
| for SAT: | Ofer Strichman, Stefan Szeider |

Organizing Committee:

| | |
|--|---|
| Conference Co-chairs: for the Steering Committee: | Leonid Libkin, Gordon Plotkin Moshe Y. Vardi |
| Workshop Chair: | Philip Scott |
| Publicity Chair: | Nicole Schweikardt |
| Book exhibit chair: | Stephan Kreutzer |
| Student Travel Grant Coordinator: | Seth Fogarty |

Local Organizing Committee:

| | |
|---------------------------|--|
| Venue Coordinator: | Floris Geerts |
| Volunteer Coordinator: | Kousha Eteessami |
| Fundraising Coordinator: | Anuj Dawar |
| Web site: | Claire David, Bartek Klin, Perdita Stevens |
| Registration Coordinator: | Ian Stark |
| AV/WiFi Coordinator: | Paul Jackson |
| Book exhibits: | Stephan Kreutzer |
| Proceedings Coordinator: | Jacques Fleuriot |
| Conference Brochure: | Tony Tan |

Below are the complete lists of conferences, together with their affiliated workshops.

1. CAV – Computer Aided Verification

- AFM – Automated Formal Methods
- EC2 – Exploiting Concurrency Efficiently and Correctly
- EMSQMS – Evaluation Methods for Solvers and Quality Metrics for Solutions
(with IJCAR)
- HW V W – HardWare Verification Workshop
- NSV-3 – Numerical Software Verification (with LICS)
- PSY – Practical SYNthesis for Concurrent Systems (combined with SVARM)
- SMT – Satisfiability Modulo Theories (with SAT)
- SVARM – Synthesis, Verification and Analysis of Rich Models (with IJCAR)

2. CSF – Computer Security Foundations

- ASA-4 – Analysis of Security APIs
- FCC – Formal and Computational Cryptography
- FCS-PrivMod – Foundations of Security and Privacy (*with LICS*)

3. ICLP – International Conference on Logic Programming

- ASPOCP – Answer Set Programming and Other Computing Paradigms
- CHR – Constraint Handling Rules
- CICLOPS – Colloquia on the Implementation of Constraint Logic Programming Systems (combined with WLPE)
- WLPE – Workshop on Logic Programming Environments
(combined with CICLOPS)
- ICLP-DC – ICLP Doctoral Consortium
- LaSh – Logic and Search (*with SAT*)
- WCB – Workshop on Constraint Based Method for Bioinformatics
- WG17 – ICLP's WG17 meeting

4. IJCAR – International Joint Conference on Automated Reasoning

- Automatheo – Automated Mathematical Theory Exploration
(independent workshop affiliated to FLoC) (with ITP)
- CLoDeM – Comparing Logical Decision Methods (with LICS)
- EMSQMS – Evaluation Methods for Solvers and Quality Metrics for Solutions
(with CAV)
- LfSA – Logics for System Analysis (with LICS)
- MLPA – Modulo Systems and Libraries for Proof Assistants (with ITP)
- PAAR – Practical Aspects for Automated Reasoning
- SVARM – Synthesis, Verification and Analysis of Rich Models (with CAV)
- UITP – User Interfaces for Theorem Provers (with ITP)
- UniDL – Uncertainty in Description Logics
- UNIF – Workshop on Unification (with RTA)
- VERIFY – Verification Workshop
- WING – Workshop on Invariant Generation
- WST – Workshop on Termination (with RTA)
- CASC-J5 and Termination – Competitions

5. ITP – Interactive Theorem Proving

- Automatheo – Automated Mathematical Theory Exploration
(independent workshop affiliated to FLoC) (with IJCAR)
- Coq-2 – Workshop of Coq users, developers and contributors
- MLPA – Module Systems and Libraries for Proof Assistants (with IJCAR)
- PAR – Partiality and Recursion in Interactive Theorem Provers
- UITP – User Interfaces for Theorem Provers (with IJCAR)

6. LICS – Logic in Computer Science

- CLoDeM – Comparing Logical Decision Methods (with IJCAR)
- DCM – Developments in Computational Models
- DTP – Dependently Typed Programming
- FCS-PrivMod – Foundations of Security and Privacy (with CSF)
- HyLo – Hybrid Logic and Application
- ITRS – Intersection Types and Related Systems
- IWS – Strategies in Rewriting, Proving and Programming (with RTA)
- LAM – Logics, Agents and Mobility
- LCC/PPC – Logic and Computational Complexity/Propositional Proof Complexity (with SAT)
- LFMTTP – Logical Frameworks and Meta-languages
- LfSA – Logics for System Analysis (with IJCAR)
- LOLA – Syntax and Semantics of Low Level Languages
- LSB – Logic and Systems Biology
- MLQA – Models and Logics for Quantitative Analysis
- NSV-3 – Numerical Software Verification (with CAV)
- PCARC – Partial Combinatory Algebras in Realizability and Computability
- PSPL – Proof Systems for Program Logics
- PSTT – Proof Search in Type Theories

7. RTA – Rewriting Techniques and Applications

- HOR – Higher-Order Rewriting
- IFIP-WG1.6 – Annual Meeting of the IFIP Working Group 1.6 on Term Rewriting
- IWS – Strategies in Rewriting, Proving and Programming (with LICS)
- UNIF – Workshop on Unification (with IJCAR)
- WST – Workshop on Termination (with IJCAR)

8. SAT – Theory and Applications of Satisfiability Testing

- LaSh – Logic and Search (with ICLP)
- LCC/PPC – Logic and Computational Complexity/Propositional Proof Complexity (with LICS)
- LoCoCo – Logics for Component Configuration
- POS – Pragmatics of SAT
- SMT – Satisfiability Modulo Theories (with CAV)

Friday, 9 July 2010

Workshops + Milner Lecture by Stephen Cook

| | Type | Event | Place |
|----|-----------|--|----------------------------------|
| 1 | Workshop | Coq-2 – ITP | Appleton Tower 2.14 |
| 2 | Workshop | MLQA – LICS | Forum G.03 |
| 3 | Workshop | ITRS – LICS | Appleton Tower 2.11 |
| 4 | Workshop | DCM – LICS/IJCAR (Moved from Appleton Tower 2.12) | Forum G.07A |
| 5 | Workshop | LOLA – LICS | Forum 4.31+4.33 |
| 6 | Workshop | DTP – LICS | Forum G.07 |
| 7 | Workshop | PCARC – LICS | Forum 1.15 |
| 8 | Workshop | IWS – LICS/RTA | Forum 1.16 |
| 9 | Workshop | LCC+PCC – SAT (Moved from Forum G.07A) | Appleton Tower 2.12 |
| 10 | Lecture | Milner Lecture: Stephen Cook (NOT FLoC event), at 1700 | Appleton Tower Lecture Theatre 5 |
| 11 | Reception | Milner Lecture Reception (NOT FLoC event), at 1800 | Forum |

Saturday, 10 July 2010

Workshops

| | Type | Event | Place |
|---|----------|---|---------------------|
| 1 | Workshop | HyLo – LICS | Appleton Tower 2.11 |
| 2 | Workshop | DCM – LICS/IJCAR (Moved from AT 2.12) | Forum G.07A |
| 3 | Workshop | LCC+PCC – LICS (Moved from Forum G.07A) | Appleton Tower 2.12 |
| 4 | Workshop | DTP – LICS | Forum G.07 |
| 5 | Workshop | LSB – LICS | Forum 4.31+4.33 |
| 6 | Workshop | PSPL – LICS | Appleton Tower 2.14 |
| 7 | Workshop | IFIP-WG1.6 – RTA | Forum 1.15 |
| 8 | Workshop | POS – SAT | Forum G.03 |
| 9 | Workshop | LoCoCo – SAT | Forum 1.16 |

Sunday, 11 July 2010

| ITP | LICS | RTA | SAT |
|--|---|---|---|
| Appleton Tower Lecture Theatre 5 | Appleton Tower Lecture Theatre 4 | Appleton Tower Lecture Theatre 3 | Appleton Tower Lecture Theatre 2 |
| | 0845 – 0900 Opening | | |
| Session 1 Chair: Matt Kaufmann | Finite Model Theory Chair: Victor Vianu | Session 1 Chair: Georg Moser | SAT Invited Talk |
| 0900 – 0930 N. Schirmer, E. Cohen From Total Store Order to Sequential Consistency: A Practical Reduction Theorem | 0900 – 0930 V. Barany, G. Gottlob, M. Otto Querying the Guarded Fragment | 0900 – 0930 P. Bahr Partial Order Infinitary Term Rewriting and Bohm Trees | 0900 – 1000 Yehuda Naveh The Big Deal: Applying Constraint Satisfaction Technologies Where It Makes the Difference |
| 0930 – 1000 F. Verbeek, J. Schmaltz Proof Pearl: A formal proof of Duato's condition for deadlock-free adaptive networks | 0930 – 1000 M. Otto Highly Acyclic Groups, Hypergraph Covers and the Guarded Fragment | 0930 – 1000 H. Zantema, M. Raffelsieper Proving Productivity in Infinite Data Structures | |
| 1000 – 1030 coffee break | | | |
| Session 2 Chair: David Pichardie | Type Theory Chair: Herman Geuvers | Session 2 Chair: Johannes Waldmann | Heuristics |
| 1030 – 1100 R. Kumar, M. Norrish (Nominal) Unification by Recursive Descent with Triangular Substitutions | 1030 – 1100 V. Siles, H. Herbelin Equality is typable in Semi- Full Pure Type Systems | 1030 – 1100 M. Sylvestre, I. Durand, G. Senizergues Termination of linear bounded term rewriting systems | 1030 – 1100 S. Kottler SAT Solving with Reference Points |
| 1100 – 1130 J.-F. Dufourd, Y. Bertot Formal study of plane Delaunay Triangulation | 1100 – 1130 A. Popescu, E. Gunter, C. Osborn Strong normalization of System F by HOAS on top of FOAS | 1100 – 1130 C. Sternagel, R. Thiemann Certified Subterm Criterion and Certified Usable Rules | 1100 – 1130 D. Tompkins, H. Hoos Dynamic Scoring Functions with Variable Expressions: New SLS Methods for Solving SAT |
| 1130 – 1200 S. Boldo, F. Clement, J.-C. Filliartre, M. Mayero, G. Melguiond, P. Weis Formal Proof of a Wave Equation Resolution Scheme: the Method Error | 1130 – 1200 J. Laird Game Semantics for a Polymorphic Programming Language | 1130 – 1200 F. Neurauter, A. Middeldorp Polynomial Interpretations over the Reals do not Subsume Polynomial Interpretations over the Integers | 1130 – 1150 A. Nadel, V. Ryzhkin Assignment Stack Shrinking |
| 1200 – 1230 A. Fox, M. Myreen A Trustworthy Monadic Formalization of the ARMv7 Instruction Set Architecture | 1200 – 1230 H. Herbelin An intuitionistic logic that proves Markov's principle | 1200 – 1230 C. Otto, M. Brockschmidt, C. von Essen, J. Giesl Automated Termination Analysis of Java Bytecode by Term Rewriting | 1150 – 1210 M. Jarvisalo, A. Biere Reconstructing Solutions after Blocked Clause Elimination |
| | | | 1210 – 1230 A. Sabharwal, B. Selman, L. Kroc An Empirical Study of Optimal Noise and Runtime Distributions in Local Search |
| 1230 – 1400 Lunch break | | | |

FLoC Plenary Talks: Tributes to Amir Pnueli and Robin Milner (George Square Lecture Theatre)
Chair: Moshe Vardi

1400 – 1430
Amir Pnueli: A Gentle Giant, Lord of the Phi's and the Psi's
David Harel

1430 – 1500
Robin Milner, a Craftsman of Tools for the Mind
Gordon Plotkin

1500 – 1530
Coffee break

| Session 3 Chair: Cesar Munoz | Logic and Automata Chair: David Harel | Session 3 Chair: Dan Dougherty | Theory + Combinatorics |
|--|--|--|--|
| 1530 – 1600 B. Huffman, C. Urban Proof Pearl: A New Foundation for Nominal Isabelle | 1530 – 1600 M. Jenkins, J. Ouaknine, A. Rabinovich, J. Worrell Alternating Timed Automata over Bounded Time | 1530 – 1600 A. Koller, S. Thater Underspecified computation of normal forms | 1530 – 1600 K. Makino, S. Tamaki, M. Yamamoto An Exact Algorithm for the Boolean Connectivity Problem for k-CNF |
| 1600 – 1630 J. Cowles, R. Gamboa Using a First Order Logic to Verify That Some Set of Reals Has No Lebesgue Measure | 1600 – 1630 T. Colcombet, C. Loeding Regular cost functions over finite trees | 1600 – 1630 K. Gmeiner, B. Gramlich, F. Schernhammer On (Un)Soundness of Unravelings | 1600 – 1630 H. Katebi, K. Sakallah, I. Markov Symmetry and Satisfiability: An Update |
| 1630 – 1700 T. Mhamdi, O. Hasan, S. Tahar On the Formalization of the Lebesgue Integration Theory in HOL | 1630 – 1700 E. Kopczynski, A. Widjaja To Parikh Images of Grammars: Complexity and Applications | 1630 – 1700 A. Riesco, A. Verdejo, N. Marti-Oliet Declarative Debugging of Missing Answers for Maude Specifications | 1630 – 1700 S. Porschen, T. Schmidt, E. Speckenmeyer Complexity Result for Linear XSAT Problems |
| | 1700 – 1715 Coffee break | 1700 – 1720 M. Hills, G. Rosu A Rewriting Logic Semantics Approach to Modular Program Analysis | 1700 – 1730 O. Beyersdorff, A. Meier, S. Mueller, M. Thomas, H. Vollmer Proof Complexity of Propositional Default Logic |
| | Complexity of CSP Chair: Nicole Schweikardt | | |
| | 1715 – 1745 M. Bodirsky, M. Hills, B. Martin On the Scope of the Universal-Algebraic Approach to Constraint Satisfaction | | |
| | 1745 – 1815 M. Kozik, L. Barto New conditions for Taylor varieties and CSP | | |
| 1900 – 2230 Drinks reception at Edinburgh Castle | | | |

Monday, 12 July 2010

| ITP | LICS | RTA | SAT |
|--|--|--|---|
| Appleton Tower Lecture Theatre 5 | Appleton Tower Lecture Theatre 4 | Appleton Tower Lecture Theatre 3 | Appleton Tower Lecture Theatre 2 |
| ITP Invited Talk Chair: Sandip Ray | LICS Invited Talk Chair: Rajeev Alur | RTA Invited Talk Chair: Sophie Tison | SAT Invited Talk |
| 0900 – 1000 Gerwin Klein A Formally Verified OS Kernel. Now What? | 0900 – 1000 Martin Abadi The Fine Print of Security | 0900 – 1000 Mikolaj Bojanczyk Automata for Data Words and Data Trees | 0900 – 1000 Ramamohan Paturi Exact Algorithms and Complexity |
| 1000 – 1030 Coffee break | | | |
| Session 4 Chair: J Moore | Semantics Chair: Martin Abadi | Session 4 Chair: Delia Kesner | Theory + Combinatorics |
| 1030 – 1100 J. Hendrix, D. Kapur, J. Meseguer Coverset Induction with Partiality and Subsorts: a Powerlist Case Study | 1030 – 1100 J. Endrullis, D. Hendriks, J. W. Klop Modular Construction of Fixed Point Combinators and Clocked Boehm Trees | 1030 – 1100 A. Guglielmi, T. Gundersen, M. Parigot A proof calculus which reduces syntactic bureaucracy | 1030 – 1100 E. Dantsin, A. Wolpert On Moderately Exponential Time for SAT |
| 1100 – 1130 M. Armand, B. Gregoire, A. Spiwack, L. They Extending Coq with Imperative Features and its Application to SAT Verification | 1100 – 1130 C. Broadbent, A. Carayol, C.-H. L. Ong, O. Serre Recursion Schemes and Logical Reflection | 1100 – 1130 C. Appel, V. van Oostrom, J. G. Simonsen Higher-Order (Non-)Modularity | 1100 – 1130 E. Ben-Sasson, J. Johannsen Lower bounds for width- restricted clause learning on small width formulas |
| 1130 – 1200 M. Johansson, L. Dixon, A. Bundy Case-Analysis for Rippling and Inductive Proof | 1130 – 1200 J. Brotherson and M. Kanovich, D. Larchey- Wendling and D. Galmiche Undecidability of Boolean BI and of propositional separation logic and its neighbours | 1130 – 1200 K. Fujita, A. Schubert The undecidability of type related problems in type-free style System F | 1130 – 1150 S. Cotton Some Techniques for Minimizing Resolution Proofs |
| 1200 – 1230 P. Manolios, D. Vroon Interactive Termination Proofs using Termination Cores | 1200 – 1230 P.-A. Mellies Segal condition meets computational effects | 1200 – 1230 M. Schmidt-Schauss, D. Sabel, E. Machkasova Simulation in the Call-by- Need Lambda-Calculus with letrec | 1150 – 1210 A. van Gelder, I. Spence Zero-One Designs Produce Small Hard SAT Instances |
| 1230 – 1400 Lunch break | | | |
| Session 5 Chair: Gerwin Klein | Finite Model Theory Chair: Stephan Kreutzer | RTA Invited Talk Chair: Fairouz Kamareddine | SAT Usage |
| 1400 – 1430 G. Barthe, B. Gregoire, S. Z. Beguelin Programming language techniques for cryptographic proofs | 1400 – 1430 D. Kuske, J. Liu, M. Lohrey The Isomorphism Problem On Classes of Automatic Structures | 1400 – 1500 Vincent van Oostrom Realising Optimal Sharing | 1400 – 1430 C. Fuhs, P. Schneider-Kamp Synthesizing Shortest Straight-Line Programs over GF(2) using SAT |

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|--|---|--|---|
| 1430 – 1500 D. Cachera, D. Pichardie Proof Pearl: A Certified Denotational Abstract Interpreter | 1430 – 1500 Y. He On the strictness of the first- order quantifier structure hierarchy over finite structures | | 1430 – 1500 O. Kullmann Green-Tao Numbers and SAT |
| 1500 – 1530 Coffee break | | | |
| Session 6 Chair: Pete Manolios | Finite Model Theory Chair: Yijia Chen | Session 5 Chair: Bernhard Gramlich | QBF |
| 1530 – 1600 S. Swords, W. Hunt A Mechanically Verified AIG- to-BDD Conversion Algorithm | 1530 – 1600 M. Grohe Fixed-Point Definability and Polynomial Time on Graphs with Excluded Minors | 1530 – 1600 T. Kutsia, M. Marin Order-Sorted Unification with Regular Expression Sorts | 1530 – 1600 U. Bubeck, H. K. Buning Rewriting (Dependency-)Quantified 2- CNF with Arbitrary Free Literals into Existential 2- HORN |
| 1600 – 1630 W. Mansky, E. Gunter A Framework for Formal Verification of Compiler Optimizations | 1600 – 1630 S. Kreutzer, S. Tazari Lower Bounds for the Complexity of Monadic Second-Order Logic | 1600 – 1630 S. Mimram Computing Critical Pairs in 2-Dimensional Rewriting Systems | 1600 – 1630 C. Miller, S. Kupferschmid, M. Lewis, B. Becker Encoding Techniques, Craig Interpolants and Bounded Model Checking for Incomplete Designs |
| 1630 – 1700 H. Geuvers, A. Koprowski, D. Synek, E. van der Weegen Automated Machine- Checked Hybrid System Safety Proofs | 1630 – 1700 B. Laubner Capturing Polynomial Time on Interval Graphs | 1630 – 1700 J. Levy, M. Villaret An Efficient Nominal Unification Algorithm | 1630 – 1700 E. Giunchiglia, P. Marin, M. Narizzano sQueuezBF: An effective preprocessor for QBFs |
| 1700 – 1800 Business Meeting Chair: Matt Kaufmann and Larry Paulson | 1700 – 1715 Coffee break | | 1700 – 1730 A. Goultiaeva, F. Bacchus Exploiting Circuit Representations in QBF solving |
| | Logics Chair: Dan Ghica | Session 6 | |
| | 1715 – 1745 P. Johann, A. Simpson, J. Voigtlander A Generic Operational Metatheory for Algebraic Effects | 1715 – 1815 RTA Business Meeting | |
| | 1745 – 1815 N. Zeilberger Polarity and the logic of delimited continuations | | |
| | | | |
| | 1830 – 2000 LICS Business Meeting LICS 25 th Year Anniversary (A Look at the Past LICS Meetings and a Panel on the Future of LICS) | | |

Tuesday, 13 July 2010

| ITP | LICS | RTA | SAT |
|---|--|--|--|
| Appleton Tower Lecture Theatre 5 | Appleton Tower Lecture Theatre 4 | Appleton Tower Lecture Theatre 3 | Appleton Tower Lecture Theatre 2 |
| FLoC Plenary Talk (George Square Lecture Theatre) Chair: Martin Grohe | | | |
| 0900 – 1000 Georg Gottlob Datalog+/-: A Family of Logical Knowledge Representation and Query Languages for New Applications | | | |
| 1000 – 1030 Coffee break | | | |
| Session 7 Chair: Michael Norrish | Logic and Automata Chair: Georg Gottlob | Session 7 Chair: Rachid Echahed | Random + Statistics/LS |
| 1030 – 1100 A. Felty, B. Pientka Reasoning with Higher-Order Abstract Syntax and Contexts: A Comparison | 1030 – 1100 M. Bojanczyk, S. Lasota An extension of data automata that captures XPath | 1030 – 1100 J. Endrullis, C. Grabmayer, D. Hendriks, J. W. Klop, V. van Oostrom Unique Normal Forms in Infinitary Weakly Orthogonal Term Rewriting | 1030 – 1100 V. Rathi, E. Aurell, L. Rasmussen, M. Skoglund Bounds on Threshold of Regular Random k-SAT |
| 1100 – 1130 S. Autexier, D. Dietrich A tactic language for declarative proofs | 1100 – 1130 T. Place, L. Segoufin Deciding definability in FO2(\leftarrow) on trees | 1100 – 1130 P. Bahr Abstract Models of Transfinite Reductions | 1100 – 1130 T. Hugel, Y. Boufkhad Non Uniform Selection of Solutions for Upper Bounding the 3-SAT Threshold |
| 1130 – 1200 D. Walukiewicz-Chrzaszcz, J. Chrzaszcz Inductive Consequences in the Calculus of Constructions | 1130 – 1200 L. Barguno, C. Creus, G. Godoy, F. Jacquemard, C. Vacher The Emptiness Problem for Tree Automata with Global Constraints | 1130 – 1200 S. Kahrs Infinitary Rewriting: Foundations Revisited | 1130 – 1150 M. Nikolic Statistical Methodology for Comparison of SAT Solvers |
| 1200 – 1210 M. O. Myreen Separation logic adapted for proofs by rewriting | 1200 – 1230 N. Schweikardt, L. Segoufin Addition-invariant FO and regularity | 1200 – 1230 J. G. Simonsen Weak Convergence and Uniform Normalization in Infinitary Rewriting | 1150 – 1210 A. Balint, A. Frohlich Improving stochastic local search for SAT with instance specific information and a new probability distribution |
| 1210 – 1220 D. Howe Higher-Order Abstract Syntax in Isabelle/HOL | | | 1210 – 1230 A. Belov, Z. Stachniak Improved Local Search for Circuit Satisfiability |
| 1220 – 1230 B. Spitters, E. van der Weegen Developing the algebraic hierarchy with type classes in Coq | | | |
| 1230 – 1400 Lunch break | | | |
| FLoC Keynote Talk (George Square Lecture Theatre) Chair: Jean-Pierre Jouannaud | | | |
| 1400 – 1500 J. Strother Moore Theorem Proving for Verification: The Early Days | | | |

1500 – 1530
Coffee break

| Excursion 1530 – 1800 | Logics Chair: Amy Felty | Session 8 Chair: Femke van Raamsdonk | QBF |
|--------------------------|---|---|---|
| | 1530 – 1600 A. Guglielmi, T. Gundersen, L. Strassburger Breaking Paths in Atomic Flows for Classical Logic | 1530 – 1600 H. Zankl, M. Korp Modular Complexity Analysis via Relative Complexity | 1530 – 1600 R. Brummayer, F. Lonsing, A. Biere Automated Testing and Debugging of SAT and QBF Solvers |
| | 1600 – 1630 M. Basaldella, K. Terui Infinitary completeness in ludics | 1600 – 1630 M. Avanzini, G. Moser Closing the Gap Between Runtime Complexity and Polytime Computability | 1600 – 1630 W. Klieber, S. Sapra, S. Gao, E. Clarke A Non-Prenex, Non-Clausal QBF Solver with Game- State Learning |
| | 1630 – 1700 A. Avron, O. Arieli, A. Zamansky On Strong Maximality of Paraconsistent Finite-Valued Logics | 1630 – 1700 J. Waldmann Polynomially Bounded Matrix Interpretations | 1630 – 1700 F. Lonsing, A. Biere Integrating Dependency Schemes in Search-Based QBF Solvers |
| | 1700 – 1715 Coffee break | 1700 – 1720 S. Winkler, H. Sato, A. Middeldorp, M. Kurihara Optimizing mkbTT (System Description) | 1700 – 1800 SAT Business Meeting |
| | Short Papers Session Chair: Stephane Lengrand | | |
| | 1715 – 1725 M. N. Menaa On the Compositionality of Round Abstraction | | |
| | 1725 – 1735 P.-Y. Strub, Q. Wang Coq Modulo Theory – Short Paper | | |
| | 1735 – 1745 S. Bohm, S. Goller, P. Jancar Bisimilarity of one-counter processes is PSPACE- complete | | |
| | 1745 – 1755 J.-Q. Li A Computability Path Ordering for Polymorphic Terms | | |
| | 1830 – 2359 Banquet | | |

Wednesday, 14 July 2010

| ITP | LICS | SAT |
|--|--|---|
| Appleton Tower Lecture Theatre 5 | Appleton Tower Lecture Theatre 4 | Appleton Tower Lecture Theatre 2 |
| ITP Invited Talk Chair: Christian Urban | LICS Invited Talk Chair: Martin Escardo | SAT Invited Tutorial |
| 0900 – 1000 Benjamin C. Pierce Proof Assistants as Teaching Assistants: A View from the Trenches | 0900 – 1000 Catuscia Palamidessi Probabilistic Information Flow | 0900 – 1000 Daniel Kroening A Primer on the Algorithmic Aspects of Satisfiability Modulo Theories |
| 1000 – 1030 Coffee break | | |
| Session 8 Chair: Thorsten Altenkirch | Process Calculi Chair: Catuscia Palamidessi | Optimization + SAT Usage |
| 1030 – 1100 M. Sozeau Equations: a dependent pattern-matching compiler | 1030 – 1100 M. Johansson, J. Bengtson, J. Parrow, B. Victor Weak Equivalences in Psi-calculi | 1030 – 1100 V. Manquinho, R. Martins, I. Lynce Improving Unsatisfiability- based Algorithms for Boolean Optimization |
| 1100 – 1130 A. Chargueraud The Optimal Fixed Point Combinator | 1100 – 1130 M. Bartoletti, R. Zunino A calculus of contracting processes | 1100 – 1130 D. Pankratov, A. Borodin On the Relative Merits of Simple Local Search Methods for the Max Sat Problem |
| 1130 – 1200 T. Braibant, D. Pous An Efficient Coq Tactic for Deciding Kleene Algebras | 1130 – 1200 C. Eisentraut, H. Hermanns, L. Zhang On Probabilistic Automata in Continuous Time | 1130 – 1150 C.-M. Li, F. Manyà, Z. Qian, Z. Zhu Exact MinSAT Solving |
| 1200 – 1230 P. Lammich, A. Lochbihler The Isabelle Collections Framework | 1200 – 1230 J. Goubault-Larrecq Omega-QRB-Domains and the Probabilistic Powerdomain | 1150 – 1210 R. Ehlers Minimising Deterministic Buchi Automata Precisely using SAT Solving |
| | | 1210 – 1230 G. Namasivayam, M. Truszczyński Simple but Hard Mixed Horn Formulas |
| 1230 – 1400 Lunch break | | |
| Session 9 Chair: to be determined | LICS Invited Talk Chair: Eugenio Moggi | Joint SAT/SMT session |
| 1400 – 1430 J. C. Blanchette, T. Nipkow Nitpick: A Counterexample Generator for Higher-Order Logic Based on a Relational Model Finder | 1400 – 1500 Vincent Danos Abstracting the ODE semantics of rule-based models: exact and automatic model reduction | 1400 – 1420 M. Bofill, J. Suy, M. Villaret A system for solving constraint satisfaction problems with SMT |

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|--|---|---|
| 1430 – 1500 A. Krauss, A. Schrapp A Mechanized Translation from Higher-Order Logic to Set Theory | | 1420 – 1450 J. Christ, J. Hoenicke (SMT'10) Instantiation- Based Interpolation for Quantified Formulae |
| 1500 – 1530 Coffee break | | |
| Session 10 Chair: Elsa Gunter | Concurrency Chair: Vincent Danos | Competitions |
| 1530 – 1600 C. Keller, B. Werner Importing HOL-Light into Coq | 1530 – 1600 C. Laneve, A. Vitale The Expressive Power of Synchronizations | 1530 – 1600 C. Peschiera, L. Pulina, A. Tacchella, U. Bubeck, O. Kullmann, I. Lynce The Seventh QBF Solvers Evaluation (QBFVAL'10) |
| 1600 – 1630 S. Bohme, T. Weber Fast LCF-Style Proof Reconstruction for Z3 | 1600 – 1630 S. Staton, G. Winskel On the expressivity of symmetry in even structures | 1600 – 1630 Competition |
| 1630 – 1700 T. Weber Validating QBF Invalidation in HOL4 | 1630 – 1700 T. Ehrhard A finiteness structure on resource terms | 1630 – 1700 Competition |
| | 1700 – 1715 Coffee break | 1700 – 1730 Competition |
| | Coalgebras Chair: Phil Scott | |
| | 1715 – 1745 S. Abramsky Coalgebras, Chu spaces and Representations of Physical Systems | |
| | 1745 – 1815 S. Milius A Sound and Complete Calculus for finite Stream Circuits | |
| | 1815 – 1820 Closing | |

Wednesday, 14 July 2010

Workshops

| | Type | Event | Place |
|---|----------|--|----------------------------------|
| 1 | Workshop | SMT – CAV/SAT (Moved from Forum 4.31+4.33) | Forum G.07A |
| 2 | Workshop | FCS–Priv-Mod – LICS/CSF | Appleton Tower Lecture Theatre 1 |
| 3 | Workshop | PAAR – IJCAR | Appleton Tower 2.14 |
| 4 | Workshop | LFMTP – LICS | Appleton Tower 2.12 |
| 5 | Workshop | UNIF – IJCAR/RTA | Appleton Tower Lecture Theatre 3 |
| 6 | Workshop | WST – IJCAR/RTA | Forum G.03 |
| 7 | Workshop | HOR – RTA | Forum G.07 |
| 8 | Workshop | AFM – CAV (Moved from Forum G.07 A) | Forum 4.31+4.33 |
| 9 | Workshop | Automatheo (Independent workshop) | India St. |

Thursday, 15 July 2010

Workshops + CAV Tutorial

| | Type | Event | Place |
|----|----------|--|----------------------------------|
| 1 | Workshop | PAR – ITP | Forum 4.31+4.33 |
| 2 | Workshop | UITP – IJCAR/ITP | Dugald Stewart Building G.06 |
| 3 | Workshop | MLPA – ITP/IJCAR | Forum 1.16 |
| 4 | Workshop | FCS–Priv-Mod – LICS/CSF | Appleton Tower Lecture Theatre 1 |
| 5 | Workshop | LAM – LICS | Appleton Tower Lecture Theatre 2 |
| 6 | Workshop | PSTT – LICS | Forum 1.15 |
| 7 | Workshop | CLoDem – LICS/IJCAR | Appleton Tower 2.14 |
| 8 | Workshop | LfSA – LICS/IJCAR | Appleton Tower 2.12 |
| 9 | Workshop | WST – IJCAR/RTA | Forum G.03 |
| 10 | Workshop | NSV-3 – LICS/CAV | Appleton Tower Lecture Theatre 3 |
| 11 | Workshop | HW V W – CAV | Appleton Tower 2.11 |
| 12 | Workshop | CICLOPS-WLPE – ICLP (Moved from Forum G.07A) | Forum 4.31 + 4.33 |
| 13 | Workshop | SMT – CAV/SAT (Moved from Forum 4.31 + 4.33) | Forum G.07A |
| 14 | Workshop | LaSh – ICLP/SAT | Appleton Tower Lecture Theatre 5 |
| 15 | Lunch | IFColog sponsored lunch | Appleton Tower Concourse |
| 16 | Lunch | FLoC Steering Committee lunch | Forum Turing Room |
| 15 | Workshop | Automatheo (Independent workshop) | India St. |

CAV Tutorial: (Appleton Tower Lecture Theatre 4)

| Time | |
|-------------|---|
| 0900 – 1000 | Tutorial 1 Robert Brayton ABC: An Academic Industrial-Strength Verification Tool |
| 1000 – 1030 | Coffee break |
| 1030 – 1100 | Tutorial 1 continued |
| 1100 – 1230 | Tutorial 2 Ken McMillan Software Model Checking (TBC) |
| 1230 – 1400 | Lunch break |
| 1400 – 1500 | Tutorial 3 Thomas Reps There's Plenty of Room at the Bottom: Analyzing and Verifying Machine Code |
| 1500 – 1530 | Coffee break |
| 1530 – 1600 | Tutorial 3 continued |
| 1600 – 1730 | Tutorial 4 Andrey Rybalchenko Constraint Solving for Program Verification: Theory and Practice by Example |

Friday, 16 July 2010

| IJCAR | CAV | ICLP |
|---|---|---|
| Appleton Tower Lecture Theatre 5 | Appleton Tower Lecture Theatre 4 | Appleton Tower Lecture Theatre 3 |
| FLoC Plenary Talk (George Square Lecture Theatre) | | |
| 0900 – 1000 David Basin Policy Monitoring in First-order Temporal Logic | | |
| 1000 -1030 coffee break | | |
| Logical Frameworks and Combination of Systems | Software Model Checking | Analysis and Implementation Chair: Enrico Pontelli |
| 1030 – 1045 Mike Gordon Remembering Robin Milner | 1030 – 1055 A. Bouajjani, C. Dragoi, C. Enea, A. Rezine, M. Sighireanu Invariant Synthesis for Programs Manipulating Lists with Unbounded Data | 1030 – 1100 P. Schneider-Kamp, J. Giesl, T. Stroeder, A. Serebrenik, R. Thiemann Automated Termination Analysis for Logic Programs with Cut |
| 1045 – 1115 A. Schack-Nielsen, C. Schurmann Curry-Style Explicit Substitutions for the Linear and Affine Lambda Calculus | 1055 – 1120 D. Kroening, N. Sharygina, A. Tsitovich, C. M. Wintersteiger Termination Analysis with Compositional Transition Invariants | 1100 – 1130 A. Pettorossi, M. Proietti, V. Senni Transformations of Logic Programs on Infinite Lists |
| 1115 – 1130 B. Pientka, J. Dunfield Beluga: A Framework for Programming and Reasoning with Deductive Systems (System Description) | 1120 – 1145 K. MacMillan Lazy Annotation for Program Testing and Verification | 1130 – 1200 P. C. de Guzman, M. C. Linares, D. S. Warren Swapping Evaluation: A Memory-Scalable Solution for Answer-On-Demand Tabling |
| 1130 – 1145 S. Ghilardi, S. Ranise MCMT: A Model Checker Modulo Theories | 1145 – 1200 T. Ball, E. Bounimova, V. Levin, R. Kumar, J. Lichtenberg The Static Driver Verifier Research Platform | |
| 1145 – 1215 C. Ihlemann, V. Sofronie-Stokkermans On efficient reasoning in combinations of theories | 1200 – 1215 M. Kawaguchi, P. M. Rondon, R. Jhala Dsolve: Verification Via Liquid Type Inference | 1200 – 1230 V. S. Costa, I. C. Dutra, R. Rocha Threads and Or-Parallelism Unified |
| | 1215 – 1230 S. Kundu, M. Ganai, C. Wang CONTESSA: Concurrency Testing Augmented with Symbolic Analysis | |
| 1230 – 1400 Lunch break | | |
| Description Logic I | Model Checking and Automata | Probabilistic Programs Chair: Tom Schrijvers |
| 1400 – 1430 R. Gore, C. Kupke, D. Pattinson, L. Schroder Global Caching for Coalgebraic Description Logics | 1400 – 1425 P. A. Abdulla, Y.-F. Chen, L. Clemente, L. Holik, C.-D. Hong, R. Mayr, T. Vojnar Simulation Subsumption in Ramsey-based Buchi Automata Universality and Inclusion Testing | 1400 – 1430 J. Sneyers, W. Meert, J. Vennekens, Y. Kameya, T. Sato CHR(PRISM)-based Probabilistic Logic Learning |
| 1430 – 1500 D. Magka, Y. Kazakov, I. Horrocks Tractable Extensions of the Description Logic EL with Numerical | 1425 – 1500 F. Herbretreau, B. Srivathsan, I. Walukiewicz Efficient Emptiness Check for Timed | 1430 – 1500 H. Christiansen, C. T. Have, O. T. Lassen, M. Petit Inference with Constrained Hidden |

| Datatypes | Buchi Automata | Markov Models in PRISM |
|--|--|---|
| 1500 – 1530 Coffee break | | |
| Higher-Order Logic | Tools | Technical Communications – I Chair: Vitor Santos-Costa |
| 1530 – 1600 J. Backes, C. Brown Analytic Tableaux for Higher-Order Logic with Choice | 1530 – 1545 N. Caniart Merit: an Interpolating Model-Checker | 1530 – 1542 M. Maher Contractible Approximations of Soft Global Constraints |
| | 1545 – 1600 A. Donze Breach, A Simulation-based Toolbox for the Verification and Parameter Synthesis of Hybrid Systems | 1542 – 1554 J. Santos, S. Muggleton Subsumer: A Prolog theta-subsumption engine |
| 1600 – 1630 J. C. Blanchette, A. Krauss Monotonicity Inference for Higher-Order Formulas | 1600 – 1615 A. Pnueli, Y. Sa'ar, L. D. Zuck JTLV: A Framework for Developing Verification Algorithms | 1554 – 1606 P. Lopez-Garcia, L. Darmawan, F. Bueno A Framework for Verification and Debugging of Resource Usage Properties |
| | | 1606 – 1618 N. Guenot Focused Proof Search for Linear Logic in the Calculus of Structures |
| | 1615 – 1630 R. Meyer, T. Strazny Petruchio: From Dynamic Networks to Nets | 1618 – 1630 N. Saeedloei, G. Gupta Timed Definite Clause Omega-Grammars |
| 1630 – 1700 S. Bohme, T. Nipkow Sledgehammer: Judgement Day | In Memory of Amir Pnueli | 1630 – 1642 T. Mantadelis, G. Janssens Dedicated Tabling for a Probabilistic Setting |
| | 1630 – 1730 Moshe Vardi Amir Pnueli: Ahead of His Time | 1642 – 1654 D. Fierens Improving the Efficiency of Gibbs Sampling for Probabilistic Logical Models by Means of Program Specialization |
| | 1730 – 1800 Donor Peled, Zohar Manna, etc. Reminiscences on Amir Pnueli (TBC) | |

Saturday, 17 July 2010

| CSF | IJCAR | CAV | ICLP |
|---|---|---|--|
| Appleton Tower Lecture Theatre 2 | Appleton Tower Lecture Theatre 5 | Appleton Tower Lecture Theatre 4 | Appleton Tower Lecture Theatre 3 |
| Hewlett-Packard Security Lecture | IJCAR Invited Talk | CAV Invited Talk | ICLP Invited Talk Chair: Torsten Schaub |
| 0900 – 1000 Vitaly Shmatikov The end of anonymity, the beginning of privacy | 0900 – 1000 Johan van Benthem Logic between Expressivity and Complexity | 0900 – 1000 Pasquale Malacaria Quantitative Information Flow: from Theory to Practice? | 0900 – 1000 Francois Fages A Logical Paradigm for Systems Biology |
| 1000 – 1030 Coffee break | | | |
| Quantitative Security | Verification | Counter and Hybrid Systems Verification | Answer Set Programming Chair: Stefan Woltran |
| 1030 – 1100 B. Kopf, A. Rybalchenko Approximation and randomization for quantitative information-flow analysis | 1030 – 1100 A. Ayad, C. Marche Multi-Prover Verification of Floating-Point Programs | 1030 – 1055 F. Mari, I. Melatti, I. Salvo, E. Tronci Synthesis of Quantized Feedback Control Software for Discrete Time Linear Hybrid Systems | 1030 – 1100 C. Drescher, T. Walsh A Translational Approach to Constraint Answer Set Solving |
| 1100 – 1130 H. Yasuoka, T. Terauchi Quantitative information flow – verification hardness and possibilities | 1100 – 1115 K. Chaudhuri, D. Doligez, L. Lamport, S. Merz Verifying Safety Properties with the TLA+ Proof System | 1055 – 1120 L. Zhang, Z. She, S. Ratschan, H. Hermanns, E. M. Hahn Safety Verification for Probabilistic Hybrid Systems | 1100 – 1130 S. Baselice, P. Bonatti Decidable subclasses of finitary programs |
| 1130 – 1200 M. Clarkson, F. Schneider Quantification of integrity | 1115 – 1130 R. Piskac, V. Kuncak MUNCH – Automated Reasoner for Sets and Multisets | 1120 – 1145 K. Ghorbal, E. Goubault, P. Sylvie A Logical Product Approach to Zonotope Intersection | 1130 – 1200 M. Alviano, W. Faber, N. Leone Disjunctive ASP with Functions: Decidable Queries and Effective Computation |
| 1200 – 1230 B. Kopf, G. Smith Vulnerability bounds and leakage resilience of blinded cryptography under timing attacks | 1130 – 1200 E. Sherman, B. J. Garvin, M. B. Dwyer A Slice-based Decision Procedure for Type-based Partial Orders | 1145 – 1210 R. Iosif, M. Bozga, F. Konecny Fast Acceleration of Ultimately Periodic Relations | 1200 – 1230 J. Oetsch, J. Puehrer, H. Tompits Catching the Ouroboros: On Debugging Non-ground Answer-set Programs |
| 1200 – 1230 V. Sofronie-Stokkermans Hierarchical reasoning for the verification of parametric systems | 1200 – 1230 V. Sofronie-Stokkermans Hierarchical reasoning for the verification of parametric systems | 1210 – 1235 L. Pulina, A. Tacchella An Abstraction-Refinement Approach to Verification of Artificial Neural Networks | |
| 1230 – 1400 Lunch break | | | |
| Security Protocol Verification I | First-Order Logic | Memory Consistency | Technical Communications – II Chair: John Gallagher |
| 1400 – 1430 M. Arnaud, V. Cortier, S. Delaune Modeling and verifying ad hoc routing protocols | 1400 – 1415 K. Hoder, L. Kovacs, A. Voronkov Symbol Elimination and Interpolation in Vampire | 1400 – 1425 J. Alglave, L. Maranget, S. Sarkar, P. Sewell Fences in Weak Memory Models | 1400 – 1412 S. Basol, O. Erdem, M. Fink, G. Ianni HEX Programs with Action Atoms |
| | 1415 – 1430 | | 1412 – 1424 C. Wernhard |

| | | | |
|---|---|---|---|
| | K. Korovin, C. Stickel iProver-Eq: An Instantiation-based Theorem Prover with Equality | | Circumscription and Projection as Primitives of Logic Programming 1424 – 1436 L. M. Pereira, A. M. Pinto Tight Semantics for Logic Programs |
| 1430 – 1500 M. Brusio, K. Chatzikokolakis, J. den Hartog Formal verification of privacy for RFID systems | 1430 – 1500 H. de Nivelle Classical Logic with Partial Functions | 1425 – 1450 S. Mador-Haim, R. Alur, M. M. K. Martin Generating Litmus Tests for Contrasting Memory Consistency Models | 1436 – 1448 J. Near From Relational Specifications to Logic Programs 1448 – 1500 S. Brass Implementation Alternatives for Bottom-Up Evaluation |
| 1500 – 1530 Coffee break | | | |
| Privacy and Anonymity | Non-Classical Logic | Verification of Hardware and Low Level Code | 1530 – 1630 ALP Community Meeting Chair: Gopal Gupta |
| 1530 – 1600 G. Barthe, A. Hevia, Z. Luo, T. Rezk, B. Warinschi Robustness guarantees for anonymity | 1530 – 1545 C. Beierle, M. Finthammer, G. Kern-Isberner, M. Thimm Automated Reasoning for Relational Probabilistic Knowledge Representation | 1530 – 1555 A. Thakur, J. Lim, A. Lal, A. Burton, E. Driscoll, M. Elder, T. Andersen, T. Reps Directed Proof Generation for Machine Code | 1630 – 1800 The 2010 Prolog Programming Contest Chair: Tom Schrijvers |
| 1600 – 1630 M. Arapinis, T. Chothia, E. Ritter, M. Ryan Analysing unlinkability and anonymity using the applied pi-calculus | 1545 – 1615 R. Gore, F. Widmann Optimal Tableaux for Propositional Dynamic Logic with Converse | 1555 – 1620 C. Conway, C. Barrett Verifying Low-Level Implementations of High-Level Datatypes | |
| 1630 – 1700 R. Kuesters, T. Truderung, A. Vogt A game-based definition of coercion-resistance and its applications | 1615 – 1645 M. Kaminski, G. Smolka Terminating Tableaux for Hybrid Logic with Eventualities 1645 – 1710 M. C. Mayer, S. Cerrito Herod and Pilate: two tableau provers for basic hybrid logic | 1620 – 1645 S. Chatterjee, M. Kishinevsky Automatic Generation of Inductive Invariants from High-Level Microarchitectural Models of Communication Fabrics 1645 – 1710 J. Li, F. Xie, T. Ball, V. Levin Efficient Reachability Analysis of Buchi Pushdown Systems for Hardware/Software Co-verification | |
| | Business Meeting (in the FORUM building) | Tools | |
| | 1710 – 1750 CADE Business Meeting | 1715 – 1730 S. Blom, J. van de Pol, M. Weber LTSMIN: Distributed and Symbolic Reachability 1730 – 1745 B. Bollig, J.-P. Katoen, C. Kern, M. Leucker, D. Neider, D. R. Piegdon libal: the Automated Learning Framework | |
| | 1750 – 1830 TABLEAUX Business Meeting | 1800 – 1900 Business Meeting | |

Sunday, 18 July 2010

| CSF | IJCAR | CAV | ICLP |
|---|--|---|---|
| Appleton Tower Lecture Theatre 2 | Appleton Tower Lecture Theatre 5 | Appleton Tower Lecture Theatre 4 | Appleton Tower Lecture Theatre 3 |
| Authorization | Induction | CAV Invited Talk | Technical Communications – III Chair: Agostino Dovier |
| 0900 – 0930 A. Lee, T. Yu On the quantitative analysis of proofs of authorization: applications, framework, and techniques | 0900 – 0930 M. Aderhold Automated Synthesis of Induction Axioms for Programs with Second- Order Recursion | 0900 – 1000 Somesh Jha Retrofitting Legacy Code for Security | 0900 – 0912 K. Bauters, J. Janssen, S. Schockaert, D. Vermier, M. De Cock Communicating Answer Set Programs |
| | | | 0912 – 0924 T. Fayruzov, J. Janssen, M. De Cock, C. Cornelis, D. Vermier Efficient solving of time- dependent answer set programs |
| 0930 – 1000 L. Bauer, L. Jia, D. Sharma Towards precise specification of logic-based access-control policies | 0930 – 1000 D. Baelde, D. Miller, Z. Snow Focused Inductive Theorem Proving | | 0924 – 0936 M. Balduccini Learning Domain-Specific Heuristics for Answer Set Solvers |
| | | | 0936 – 0948 T. Janhunen Sampler Programs: The Stable Model Semantics Abstract Constraints Programs Revisited |
| | | | 0948 – 1000 J. Oetsch, J. Puehrer, H. Tompits Methods and Methodologies for Developing Answer-Set Programs – Project Description |
| 1000 – 1030 Coffee break | | | |
| Information Flow | Decision Procedures | Synthesis | Knowledge Representation and Reasoning Chair: Ilkka Niemela |
| 1030 – 1100 M. Y. Becker Information flow in credential systems | 1030 – 1100 V. Aravantinos, R. Caferra, N. Peltier A Decidable Class of Nested Iterated Schemata | 1030 – 1055 R. Ehlers Symbolic Bounded Synthesis | 1030 – 1100 Y. Wang, J.-H. You, L.-Y. Yuan, Y.-D. Shen Loop Formulas for Description Logic Programs |
| 1100 – 1130 A. Russo, A. Sabelfeld Dynamic vs. static flow- sensitive security analysis | 1100 – 1115 V. Aravantinos, R. Caferra, N. Peltier RegSTAB: a SAT-Solver for Propositional Schemata | 1055 – 1120 K. Chatterjee, T. Henzinger, B. Jobstmann, R. Singh Measuring and Synthesizing Systems in Probabilistic Environments | 1100 – 1130 M. Slota, J. Leite Towards Closed World Reasoning in Dynamic Open Worlds |
| 1130 – 1200 A. Chudnov, D. Naumann | 1115 – 1145 N. Bjorner Linear Quantifier Elimination | 1120 – 1145 S. Graf, D. Peled, S. Quinton | 1130 – 1200 J. Delgrande |

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|---|--|--|---|
| Information flow monitor inlining | as an Abstract Decision Procedure | Achieving Distributed Control Through Model Checking | A Program-Level Approach to Revising Logic Programs under the Answer Set Semantics |
| 1200 – 1230 S. Chong Required information release | 1145 – 1215 O. Friedmann, M. Latte, M. Lange A Decision Procedure for CTL* Based on Tableaux and Automata | 1145 – 1210 R. Bloem, K. Chatterjee, K. Geimel, T. Henzinger, B. Jobstmann Robustness in the Presence of Liveness | 1200 – 1230 P. Hou, B. De Cat, M. Denecker FO(FD): Extending classical logic with rule-based fixpoint definitions |
| | 1210 – 1225 R. Bloem, A. Cimatti, K. Geimel, G. Hofferek, R. Koenighofer, M. Roveri, V. Schuppan, R. Seeber RATSY – A new Requirement Analysis Tool with Synthesis | 1210 – 1225 R. Bloem, A. Cimatti, K. Geimel, G. Hofferek, R. Koenighofer, M. Roveri, V. Schuppan, R. Seeber RATSY – A new Requirement Analysis Tool with Synthesis | |
| | 1215 – 1230 F. Maric, P. Janicic URBiVA: Uniform Reduction to Bit-Vector Arithmetic | 1225 – 1240 V. Kuncak, M. Mayer, R. Piskac, P. Suter Comfusy: A Tool for Complete Functional Synthesis | |

1230 – 1400
Lunch break

FLoC Keynote Talk (George Square Lecture Theatre)

1400 – 1500

Induction, Invariants, and Abstraction
Deepak Kapur

1500 – 1530
Coffee break

| Security Protocol Verification II | Arithmetic | Concurrent Program Verification – I | CHR and CLP Chair: Terrace Swift |
|---|--|--|--|
| 1530 – 1600 S. Meier, C. Cremers, D. Basin Strong invariants for the efficient construction of machine-checked protocol security proofs | 1530 – 1600 J. Abourbih, L. Blaney, A. Bundy, F. McNeill A Single-Significant-Digit Calculus for Semi-Automated Guesstimation | 1530 – 1555 V. Kahlon, C. Wang Universal Causality Graphs: A Precise Happens-Before Model for Detecting Bugs in Concurrent Programs | 1530 – 1600 H. Betz, F. Raiser, T. Fruehwirth A Complete and Terminating Execution Model for Constraint Handling Rules |
| 1600 – 1630 S. Z. Beguellini, G. Barthe, S. Heraud, B. Gregoire, D. Hedin A machine-checked formalization of sigma-protocols | 1600 – 1630 H. Bensaïd, R. Caferra, N. Peltier Perfect discrimination graphs: indexing terms with integer exponents | 1555 – 1620 V. Vafeiadis Automatically proving linearizability | 1600 – 1630 M. Gabbiellini, J. Mauro, M. C. Meo, J. Sneyers Decidability properties for fragments of CHR |
| | | 1620 – 1645 P. Cerny, A. Radhakrishna, D. Zufferey, S. Chaudhuri, R. Alur Model Checking of Linearizability of Concurrent List Implementations | |
| 1630 – 1700 B. Schmidt, P. Schaller, D. Basin Impossibility results for secret establishment | 1630 – 1700 A. Brillout, D. Kroening, P. Rummer, T. Wahl An Interpolating Sequent Calculus for Quantifier-Free Presburger Arithmetic | 1645 – 1710 E. Cohen, M. Moskal, S. Tobies, W. Schulte Local Verification of Global Invariants in Concurrent Programs | 1630 – 1700 M. Rodriguez-Artalejo, C. A. Romero-Diaz A Declarative Semantics for CLP with Qualification and Proximity |

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|--|---|---|--|
| | <p>Business Meeting (in the FORUM building)</p> | <p>1710 – 1735 A. Albarghouthi, A. Gurfinkel, O. Wei, M. Chechik Abstract Analysis of Symbolic Executions</p> | |
| | <p>1710 – 1750 IJCAR Business Meeting</p> | | |
| | | <p>Competition Results</p> | |
| | | <p>1735 – 1750 C. Barrett, M. Deters, A. Oliveras, A. Stump Report on SMT-COMP 2010</p> | |

Monday, 19 July 2010

| CSF | IJCAR | CAV | ICLP |
|--|---|--|--|
| Appleton Tower Lecture Theatre 2 | Appleton Tower Lecture Theatre 5 | Appleton Tower Lecture Theatre 4 | Appleton Tower Lecture Theatre 3 |
| Security Specifications | IJCAR Invited Talk | CAV Invited Talk | ICLP Invited Talk Chair: Manuel Hermenegildo |
| <p>0900 – 0930 J. Garay, A. Kiayias, H.-S. Zhou A framework for the sound specification of cryptographic tasks</p> | <p>0900 – 1000 Leonardo de Moura Bugs, Moles and Skeletons: Symbolic Reasoning for Software Development</p> | <p>0900 – 1000 Maged Michael Memory Management in Concurrent Algorithms</p> | <p>0900 – 1000 Molham Aref Datalog for Enterprise Software: From Industrial Applications to Research</p> |
| <p>0930 – 1000 D. Akhawe, A. Barth, P. Lam, J. Mitchell, D. Song Towards a formal foundation of web security</p> | | | |
| <p>1000 – 1030 Coffee break</p> | | | |
| Language Based Security | Applications | Compositional Reasoning | Applications Chair: Thom Fruehwirth |
| <p>1030 – 1100 A. Tiu, J. Dawson Automating open bimulation checking for the spi-calculus</p> | <p>1030 – 1100 V. Cheval, H. Comon-Lundh, S. Delaune Automating security analysis: symbolic equivalence of constraint systems</p> | <p>1030 – 1055 Y.-F. Chen, E. Clarke, A. Farzan, M.-H. Tsai, Y.-K. Tsay, B.-Y. Wang Automated Assume-Guarantee Reasoning through Implicit Learning</p> | <p>1030 – 1100 M. Milano, M. Gavanelli, F. Riguzzi, P. Cagnoli Logic-Based Decision Support for Strategic Environmental Assessment</p> |
| | | <p>1055 – 1120 R. Singh, D. Giannakopoulou, C. Pasareanu Learning Component Interfaces with May and Must Abstractions</p> | |
| <p>1100 – 1130 S. Ciobaca, V. Cortier Protocol composition for arbitrary primitives</p> | <p>1100 – 1115 C. Dunchev, A. Leitsch, T. Libal, D. Weller, B. W. Paleo The Proof Transformation System CERES</p> | <p>1120 – 1145 A. Cohen, K. Namjoshi, Y. Sa'ar A Dash of Fairness for Compositional Reasoning</p> | <p>1100 – 1130 M. Gomez-Zamalloa, E. Albert, G. Puebla Test Case Generation for Object-Oriented Imperative Languages in CLP</p> |
| <p>1130 – 1200 M. Abadi, G. Plotkin On protection by layout randomization</p> | <p>1115 – 1130 D. Kuhlwein, M. Cramer, P. Koepke, B. Schroder Premise Selection in the Naproche System</p> | | <p>1145 – 1200 A. Cohen, K. Namjoshi, Y. Sa'ar SPLIT: A Compositional LTL Verifier</p> |
| | <p>1130 – 1200 M. Suda, C. Weidenbach, P. Wischnewski On the Saturation of YAGO</p> | <p>1200 – 1230 G. Sutcliffe Results of the CASC-J5 System Competition</p> | <p>Tool Session</p> |
| | | <p>1200 – 1215 M. Bozzano, A. Cimatti, J.-P. Katoen, V. Y. Nguyen, T. Noll, M. Roveri, R. Wimmer A Model Checker for AADL</p> | |

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|-----------------------------|--|--|--|
| | | 1215 – 1230 M. Mazo Jr., A. Davitian, P. Tabuada PESSOA: A tool for embedded controller synthesis | Applying Prolog to Develop Distributed Systems |
| 1230 – 1400 Lunch break | | | |
| | Description Logic – II | Decision Procedures | Technical Communications – IV Chair: Tomi Janhunen |
| | 1400 – 1430 B. Glimm, I. Horrocks, B. Motik Optimized Description Logic Reasoning via Core Blocking | 1400 – 1425 M. Zhou, F. Hei, B.-Y. Wang, M. Gu On Array Theory of Bounded Elements | 1400 – 1412 P. Shakarian, V.S. Subrahmanian, M. L. Sapino Using Generalized Annotated Programs to Solve Social Network Optimization Problems |
| | | | 1412 – 1424 F. Riguzzi, T. Swift Tabling and Answer Subsumption for Reasoning on Logic Programs with Annotated Disjunctions |
| | 1430 – 1500 Y. Kazakov An Extension of Complex Role Inclusion Axioms in the Description Logic SROIQ | 1425 – 1450 D. Monniaux Quantifier elimination by lazy model enumeration | 1424 – 1436 D. Corapi, A. Russo, E. Lupu Inductive Logic Programming as Abductive Search |
| | | | 1436 – 1448 M. Alberti, M. Gavanelli, E. Lamma Runtime Addition of Integrity Constraints in Abductive Logic Programs |
| | | | 1448 – 1500 G. Simari, V. S. Subrahmanian Abductive Inference in Probabilistic Logic Programs |
| 1500 – 1530 Coffee break | | | |
| | Termination | Concurrent Program Verification – II | Applications and Systems Chair: Neng-Fa Zhou |
| | 1530 – 1600 N. Hirokawa, A. Middeldorp Decreasing Diagrams and Relative Termination | 1530 – 1555 P. Ganty, R. Majumdar, B. Monmege Bounded Underapproximations | 1530 – 1600 A. Dal Palu, A. Dovier, F. Fogolari, E. Pontelli CLP-based protein fragment assembly |
| | 1600 – 1630 F. Neurauter, A. Middeldorp, H. Zankl Monotonicity Criteria for Polynomial Interpretations over the Naturals | 1555 – 1620 A. Seth Global Reachability in Bounded Phase Multi-Stack Pushdown Systems 1620 – 1645 S. La Torre, P. Madhusudan, G. Parlato Model-checking parameterized concurrent programs using linear interfaces | 1600 – 1630 M. Balduccini, S. Giroto Formalization of Psychological Knowledge in Answer Set Programming and its Application |

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|--|---|---|---|
| | <p>1630 – 1700 S. Winkler, A. Middeldorp Termination Tools in Ordered Completion</p> | <p>1645 – 1710 A. Kaiser, D. Kroening, T. Wahl Dynamic Cutoff Detection in Parameterized Concurrent Programs</p> | <p>1630 – 1700 R. Brummayer, M. Jarvisalo Testing and Debugging Techniques for Answer Set Solver Development</p> |
| | <p>1700 – 1730 A. Rubio Results of the Termination 2010 System Competition</p> | <p>Tool Session</p> <p>1710 – 1725 E. M. Hahn, H. Hermanns, B. Wachter, L. Zhang PARAM: A Model Checker for Parametric Markov Models</p> | <p>1700 – 1730 J. Oetsch, J. Puehrer, M. Schwengerer, H. Tompits The System Kato: Detecting Cases of Plagiarism for Answer-Set Programs</p> |
| | <p>Herbrand Award Ceremony</p> | <p>1725 – 1740 K. Chatterjee, T. Henzinger, B. Jobstmann, A. Radhakrishna GIST: A Solver for Probabilistic Games</p> | |
| | <p>1730 – 1800 Maria Paola Bonacina (Master of Ceremony) Presentation of the Herbrand Award to David Plaisted (Congratulations!!! :-)</p> | <p>1740 – 1755 A. Ferrante, M. Memoli, M. Napoli, M. Parente, F. Sorrentino ANuSMV Extension for Graded-CTL Model Checking</p> | |

Tuesday, 20 July 2010

Workshops

| | Type | Event | Place |
|---|----------|--|---------------------|
| 1 | Workshop | FCC – CSF | Appleton Tower 2.12 |
| 2 | Workshop | VERIFY – IJCAR | Forum G.03 |
| 3 | Workshop | UniDL – IJCAR/ITP | Forum 1.15 |
| 4 | Workshop | SVARM+PSY – IJCAR/CAV (Moved from Forum 4.31+4.33) | Forum G.07 |
| 5 | Workshop | EMSQMS – IJCAR/CAV | Appleton Tower 2.14 |
| 6 | Workshop | EC2 – CAV | Forum G.07A |
| 7 | Workshop | CHR – ICLP | Appleton Tower 2.11 |
| 8 | Workshop | ASPOCP – ICLP (Moved from Forum G.07) | Forum 4.31 + 4.33 |
| 9 | Workshop | WG17 – ICLP | Forum 4.02 |

Tuesday, 21 July 2010

Workshops

| | Type | Event | Place |
|---|----------|--|---------------------|
| 1 | Workshop | ASA-4 – CSF (Moved from G.07) | Forum 4.31 + 4.33 |
| 2 | Workshop | VERIFY – IJCAR | Forum G.03 |
| 3 | Workshop | WING – IJCAR | Appleton Tower 2.11 |
| 4 | Workshop | SVARM+PSY – IJCAR/CAV (Moved from Forum 4.31+4.33) | Forum G.07 |
| 5 | Workshop | EC2 – CAV | Forum G.07A |
| 6 | Workshop | ICLP-DC – ICLP | Appleton Tower 2.12 |
| 7 | Workshop | WCB – ICLP | Appleton Tower 2.14 |
| 8 | Workshop | WG17 – ICLP | Forum 4.02 |

9. School of Informatics, University of Edinburgh

The **School of Informatics** is an academic unit of the University of Edinburgh responsible for research, teaching, outreach and commercialisation in Informatics.

It was created in 1998 from the former **Department of Artificial Intelligence**, the **Centre for Cognitive Science** and the **Department of Computer Science**, along with the **Artificial Intelligence Applications Institute** and the **Human Communication Research Centre**. Research in the School of Informatics draws on these component disciplines and much of it is interdisciplinary in nature. The school is especially well known for research in the areas of artificial intelligence, computational linguistics, system biology and theoretical computer science; but also contributes to many other areas of informatics. The school has over 130 research staff and 75 members of academic staff. Current enrolment includes around 250 research students as well as 475 taught masters and undergraduate students. The school was ranked 1st in the UK according to the Guardian University Tables 2008, as well as being ranked 1st in the 2008 RAE rankings.

The School of Informatics was awarded a 5*A in the UK government's HEFCE, the only computer science department in the country to achieve this highest possible rating. The School is generally considered world-leading, standing with the foremost U.S. Institutes.

The School has seven research Institutes:

- Institute for Adaptive and Neural Computation (IANC)
- Centre for Intelligent Systems and their Applications
- Institute for Communicating and Collaborative Systems (ICCS)
- Institute for Computing Systems Architecture (ICSA)
- Institute of Perception, Action and Behaviour (IPAB)
- Laboratory for Foundations of Computer Science (LFCS)
- Informatics Life Sciences Institute (ILSI)

10. About Edinburgh

Edinburgh is the capital city of Scotland. It is the second largest city in Scotland and the seventh-most populous in the United Kingdom. Owing to its spectacular, rugged setting and vast collection of Medieval and Georgian architecture, it is often considered one of the most picturesque cities in Europe. The city was one of the major centres of the Enlightenment, led by the University of Edinburgh, earning it the nickname *Athens of the North*. The **Old Town** and **New Town** districts of Edinburgh were listed as a UNESCO World Heritage Site in 1995. There are over 4,500 listed buildings within the city. In May 2010, it had a total of 40 conservation areas covering 23% of the building stock and 23% of the population, the highest such ratios of any major city in the UK. In the 2009 mid year population estimates, Edinburgh had a total resident population of 477,660. Edinburgh is well-known for the annual **Edinburgh Festival**, a collection of official and independent festivals held annually over about four weeks from early August. Another highlight of the city of Edinburgh is, of course, **The Edinburgh Castle**.

Old Town

The Old Town has preserved its medieval plan and many Reformation-era buildings. One end is closed by the castle and the main artery, the Royal Mile, leads away from it; minor streets (called *closes* or *wynds*) lead downhill on either side of the main spine in a herringbone pattern. Large squares mark the location of markets or surround public buildings such as St. Giles' Cathedral and the Law Courts. Other notable places nearby include the Royal Museum of Scotland, Surgeons' Hall and McEwan Hall. The street layout is typical of the old quarters of many northern European cities, and where the castle perches on top of a rocky crag (the remnants of an extinct volcano) the Royal Mile runs down the crest of a ridge from it.

New Town

The New Town was an 18th century solution to the problem of an increasingly crowded Old Town. It is considered by many to be one of the finest examples of Georgian architecture and planning in the world. Confined to the ridge running down from the castle, the plan was to extend the Old Town based on a rigid, ordered grid, which fitted well with enlightenment ideas of rationality. The principal street was to be George Street, which follows the natural ridge to the north of the Old Town. Either side of it are the other main streets of Princes Street and Queen Street. Princes Street has since become the main shopping street in Edinburgh, and few Georgian buildings survive on it. Linking these streets were a series of perpendicular streets. At the east and west ends are St. Andrew Square and Charlotte Square, respectively. The latter was designed by Robert Adam and is often considered one of the finest Georgian squares in the world. Bute House, the official residence of the First Minister of Scotland, is on the north side of Charlotte Square.

The Edinburgh Festival

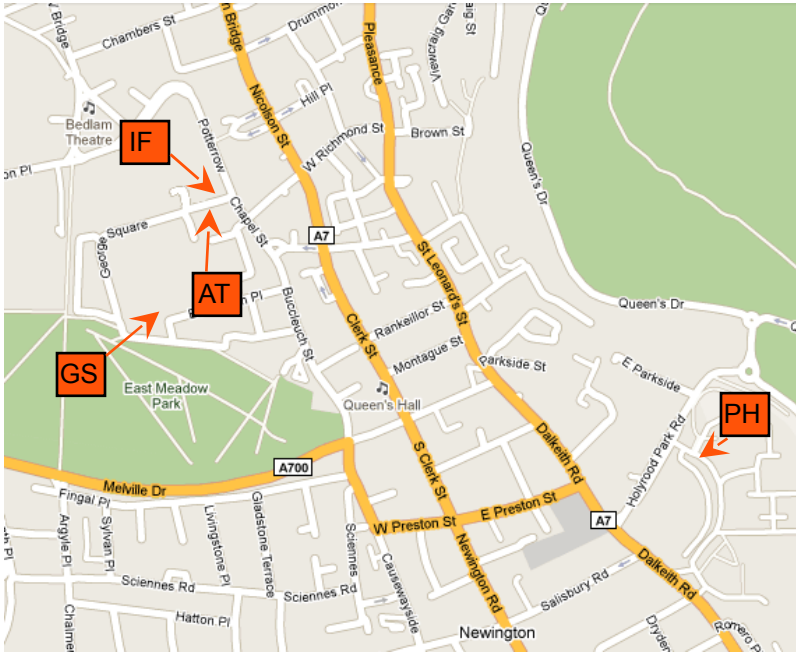
The Edinburgh Festival is a collection of official and independent festivals held annually over about four weeks from early August. It traces its roots to 1947 when the **Edinburgh International Festival (EIF)** was established in a post-war effort to "provide a platform for the flowering of the human spirit". That same year, eight theatrical companies "gatecrashed" the official Festival by organizing their own event, outside the official auspices of the EIF; this started the movement which grew into the Edinburgh Festival Fringe (EFF). The EFF is also referred to as the **Edinburgh Fringe**, the Fringe, or (incorrectly) the Edinburgh Fringe Festival. Since then, the EIF and the Fringe remain independent bodies and run separate programmes each year and several other festivals have also been established in Edinburgh. Therefore, the "Edinburgh Festival" is not one Festival, but rather a collection of independent festivals which happen to take place in the same city at about the same time. The most famous of events in the festival are the **Edinburgh Fringe** (the largest performing arts festival in the world), the **Edinburgh International Festival**, the **Edinburgh Military Tattoo**, and the **Edinburgh International Book Festival**.

Edinburgh Castle

Edinburgh Castle is a castle fortress which is located upon the volcanic **Castle Rock**. Human habitation of the site is dated as far back as the 9th century BC although the nature of early settlement is unclear. There has been a royal castle here since at least the reign of David I in the 12th century, and the site continued to be a royal residence until the Union of the Crowns in 1603. From the later 17th century, the castle became a military base, with a large garrison.

Few of the present buildings pre-date the Lang Siege of the 16th century, when the medieval fortifications were largely destroyed by artillery bombardment. The notable exception is St. Margaret's Chapel, the oldest surviving building in Edinburgh, which dates from the early 12th century. Among other significant buildings are the Royal Palace and the early-16th-century Great Hall. The castle also houses the Scottish National War Memorial, and National War Museum of Scotland. ***Drinks Reception of Block 1 of FLoC will take place here on Sunday 11th July, the same time as the 2010 FIFA World Cup Final.***

VENUE AND ACCOMMODATION MAP



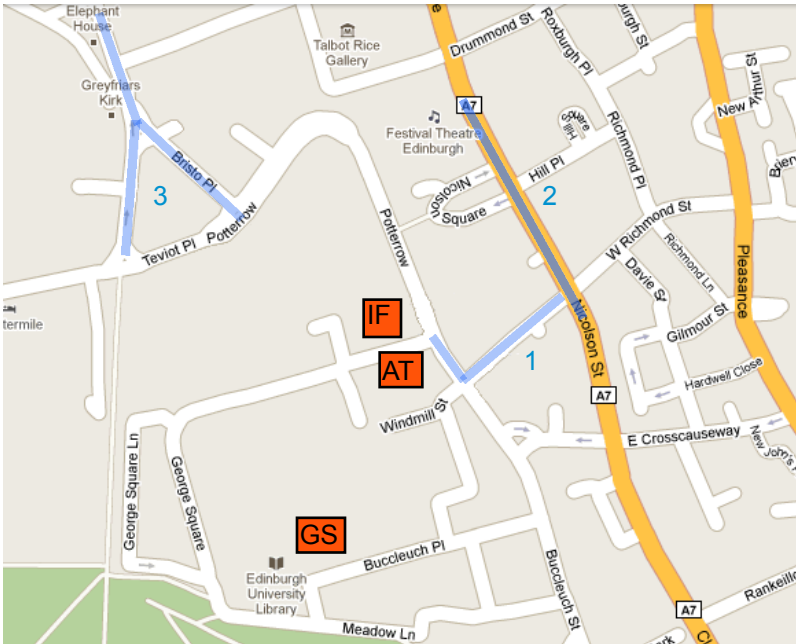
CONFERENCE VENUES:

- AT** Appleton Tower,
11 Crichton Street, Edinburgh, EH8 9LE.
- IF** Informatics Forum,
10, Crichton Street, Edinburgh, EH8 9AB.
- GS** George Square Lecture Theatre,
George Square, Edinburgh, EH8 9LK

ACCOMMODATION:

- PH** Pollock Halls Campus
18 Holyrood Park Road, Edinburgh, EH16 5BQ.

VENUE MAP



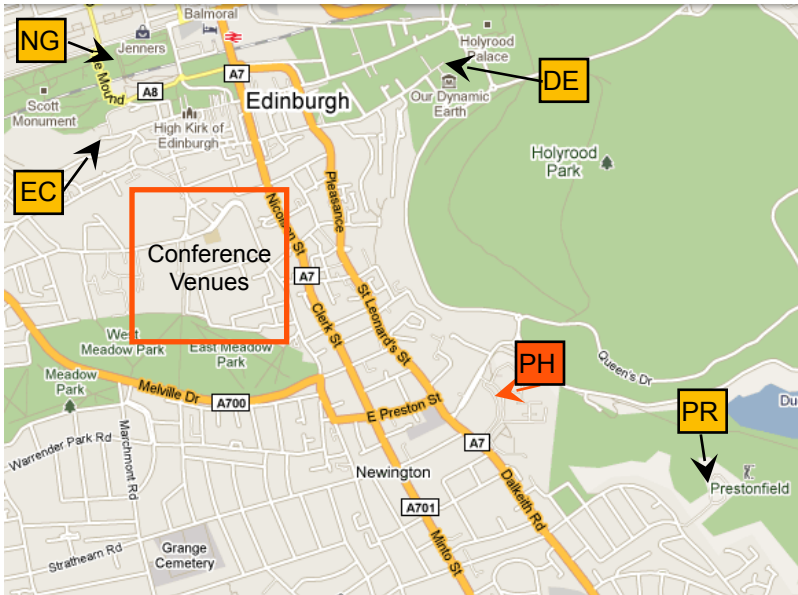
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- GS** George Square Lecture Theatre,
George Square, Edinburgh, EH8 9LK

STREETS FOR FOODIES:

- 1 W. Nicholson St.
- 2 Nicholson St.
- 3 Bristo Pl. - Forrest Rd. - George IV Bridge

SOCIAL EVENTS MAP



SOCIAL EVENTS:

- EC** Edinburgh Castle,
Castlehill, Edinburgh, EH1 2NG.
- DE** Our Dynamic Earth,
Holyrood Rd, Edinburgh EH8 8AS.
- NG** The National Galleries of Scotland,
The Mound, Edinburgh, EH2 2EL.
- PR** Prestonfield House,
Priestfield Road, Edinburgh, EH16 5UT.

ACCOMMODATION:

- PH** Pollock Halls Campus
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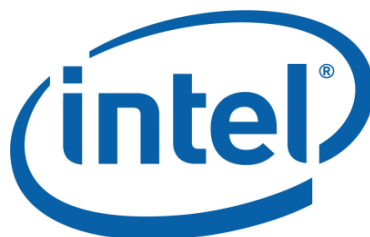
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