

Dagstuhl Seminar 15381
Information from Deduction: Models and Proofs

Monday, 14.09.2015

- 09:15-09:30 Organizers Welcome
- 09:30-10:00 Geoff Sutcliffe, University of Miami, US *The TMTP - Thousands of Models for Theorem Provers*
- 10:00-10:30 Silvio Ghilardi, University of Milan, IT
Quantified Array Fragments: Decision Results and Applications
- 10:30-11:00 Coffee break
- 11:00-11:30 Christopher Lynch, Clarkson University - Potsdam, US
Hyperresolution modulo Horn Clauses – generating infinite models
- 11:30-12:00 Burkhart Wolff, University Paris South, FR.
Monadic Test sequence generation for Pike OS
- 12:00-14:00 Lunch
- 14:00-15:30 Introductory round where participants present one slide appetizers on topics they would like to present and/or topics they would not like to present in depth, but be known.
- 15:30-16:15 Tea/Coffee + cake
- 16:15-16:45 Christoph Benzmüller, FU Berlin, DE
Higher-Order Proofs and Models -- Examples from Meta-Logical Reasoning and Metaphysics
- 16:45-17:15 Arie Gurfinkel, Carnegie Mellon University - Pittsburgh, US
Parametric Symbolic Reachability

Tuesday, 15.09.2015

- 09:15-09:45 Matthias Horbach, MPI für Informatik - Saarbrücken, DE
Saturation Theorem Proving for Herbrand Models
- 09:45-10:15 Alberto Griggio, Bruno Kessler Foundation - Trento, IT
SAT-Based Parameter Synthesis and Optimization
- 10:15-10:45 Coffee Break
- 10:45-11:15 Andrey Rybalchenko, Microsoft Research UK - Cambridge, GB
Cardinalities and Quantifiers in Horn Constraints
- 11:15-11:45 Reiner Hähnle, TU Darmstadt, DE
Exploit Generation for Information Flow Leaks in Object-Oriented Programs
- 11:45-12:15 Gilles Reger, University of Manchester, GB
Proof Attempts Cooperating via Models
- 12:15-14:00 Lunch
- 14:00-14:30 Jürgen Giesl, RWTH Aachen, DE
Using Information from Deduction for Complexity Analysis
- 14:30-15:00 Carsten Fuhs, University of London, GB
Automatic Proofs of Termination and Memory Safety for Programs with Pointer Arithmetic
- 15:00-15:30 Aart Middeldorp, Universität Innsbruck, AT
Confluence and Certification
- 15:30-16:15 Coffee/Tea & Cake
- 16:15-16:45 Peter Baumgartner, NICTA - Canberra, AU
CDCL as Saturation
- 16:45-17:15 Bruno Dutertre, SRI - Menlo Park, US
An Overview of Models in Yices

Wednesday, 16.09.2015

- 09:15-09:45 Tobias Nipkow, TU München, DE
Mining the Archive of Formal Proofs
- 09:45-10:15 Christian Sternagel, Universität Innsbruck, AT
Verified AC-Equivalence Checking in Isabelle/HOL
- 10:15-10:45 Coffee Break
- 10:45-11:15 Zachary Kincaid, University of Toronto, CA
Optimization modulo quantified linear rational arithmetic
- 11:15-11:45 Albert Oliveras, UPC - Barcelona, ES
SMT-Based Methods for Difference Logic Invariant Generation
- 11:45-12:15 Christoph Weidenbach, MPI für Informatik - Saarbrücken, DE
Learn Fresh: Model-Guided Inferences
- 12:15-14:00 Lunch
- 18:00-18:15 Bus Journey Dagstuhl-Sitzerath
18:15-23:00 Dinner at the Landgasthof Paulus
23:00-23:15 Bus Journey Sitzerath-Dagstuhl

Costs:

- Bus: 9.00 EUR/Person (to be paid in the bus)
Dinner: 38.50 EUR/Person + drinks
(payment at the restaurant)

Thursday, 17.09.2015

- 09:00-09:30 Catherine Dubois, ENSIIE - Evry, FR
Formally verified constraint solvers
- 09:30-10:00 Swen Jacobs, Universität des Saarlandes, DE
SMT-based Reactive Synthesis
- 10:00-10:15 Albert Rubio, UPC - Barcelona, ES
Compositional Program Analysis using Max-SMT [short talk]
- 10:15-10:45 Coffee Break
- 10:45-11:15 Cesare Tinelli, University of Iowa - Iowa City, US
Conflict-based Quantifier Instantiation for SMT
- 11:15-11:45 Liana Hadarean, University of Oxford, GB
Logical Framework with Side-Conditions for SMT proofs
- 11:45-12:15 Martin Bromberger, MPI für Informatik - Saarbrücken, DE
Tips and Tricks in LIA constraint solving
- 12:15-14:00 Lunch
- 14:00-14:30 Stephan Schulz, Duale Hochschule Baden-Württemberg - Stuttgart, DE
(Efficiently) Generating Derivations
- 14:30-15:00 Jian Zhang, Chinese Academy of Sciences - Beijing, CN
Finite Model Searching Combined with Proof Search
- 15:00-15:30 Sarah Winkler, Microsoft UK
Partial Models for More Proofs?
- 15:30-16:15: Tea/Coffee + Cake
- 16:15-16:45 Deepak Kapur, University of New Mexico - Albuquerque, US
Interpolation Synthesis for Quadratic Polynomial Inequalities and combination with EUF
- 16:45-17:15 Konstantin Korovin, University of Manchester, GB
EPR-based BMC and k-induction with Counterexample Guided Abstraction Refinement
- 17:15-17:30 Nikolaj S. Bjorner, Microsoft Corporation - Redmond, US
Playing with Quantified Satisfiability (using Models and Cores) [short talk]
- 17:30-17:45 Andrey Rybalchenko, Microsoft Research UK - Cambridge, GB
Houdini with predicate abstraction and sll0n [short talk]

Friday, 18.09.2015

- 09:00-09:30 Dejan Jovanovic, SRI - Menlo Park, US
Sally: an Infinite-State Model-checker
- 09:30-10:00 Andrei Paskevich, University Paris South, FR
How to avoid proving the absence of integer overflows
- 10:00-10:30 Viorica Sofronie-Stokkermans, Universität Koblenz-Landau, DE
Exploiting Locality in Parametric Verification
- 10:30-11:00 Coffee Break
- 11:00-11:30 Noran Azmy, MPI für Informatik - Saarbrücken, DE
Formal Verification of Pastry Using TLA+
- 11:30-11:45 George Karpenkov, Université de Grenoble, FR
Obtaining invariants with Formula Slicing [short talk]
- 11:45-12:00 Christoph Benz Müller, FU Berlin, DE
Utilizing Countermodels from Nitpick in Meta-Logical Reasoning [short talk]
- 12:00-12:15 Jasmin Christian Blanchette, INRIA Lorraine - Nancy, FR
Semi-intelligible Isar Proofs from Machine-Generated Proofs [short talk]
- 12:15: Lunch and departure