

LIST OF PUBLICATIONS AND TALKS

WITHIN

PROJECT T425-N23

LAURA KOVÁCS

Note: Refereed publications have been published in proceedings and presented at conferences/workshops. All co-authored publications present work done in an equally distributed joint collaboration. The co-authored publications have their authors listed in alphabetical order.

1 Invited Papers

- [1] Laura Kovács and Andrei Voronkov. First-Order Theorem Proving and Vampire. In *Proceedings of the International Conference on Computer Aided Verification (CAV)*, volume 8044 of *LNCS*, pages 1–35, 2013.
- [2] Laura Kovács. Symbol Elimination in Program Analysis. In *Proceedings of the International Conference on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC)*, volume P3964 of *IEEE Computer Society*, page 1, 2011.

2 Refereed Publications in Proceedings

Refereed Papers in Conference Proceedings

- [1] Armin Biere, Jens Knoop, Laura Kovács, and Jakob Zwirchmayr. SmacC: A Retargetable Symbolic Execution Engine. In *Proceedings of the International Symposium on Automated Technology for Verification and Analysis (ATVA 2013)*, LNCS, 2013. To appear.
- [2] Ioan Dragan, Konstantin Korovin, Laura Kovács, and Jakob Zwirchmayr. Bound Propagation for Arithmetic Reasoning in Vampire. In *Proceedings of the International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC 2013)*, IEEE, 2013. To appear.
- [3] Jens Knoop, Laura Kovács, and Jakob Zwirchmayr. WCET Squeezing: On-demand Feasibility Refinement for Proven Precise WCET-bounds. In *Proceedings of the ACM International Conference on Real-Time and Network Systems (RNTS 2013)*, ACM, 2013. To appear.
- [4] Armelle Bonenfant, Hugues Cassé, Marianne De Michiel, Jens Knoop, Laura Kovács, and Jakob Zwirchmayr. FFX: A Portable WCET Annotation Language. In *Proceedings of the ACM International Conference on Real-Time and Network Systems (RNTS 2012)*, pages 91–100. ACM, 2012.
- [5] Kryštof Hoder, Andreas Holzer, Laura Kovács, and Andrei Voronkov. Vinter: A Vampire-Based Tool for Interpolation. In *Proceedings of Asian Symposium on Programming Languages and Systems (APLAS 2012)*, volume 7705 of *LNCS*, pages 148–146, 2012.
- [6] Jens Knoop, Laura Kovács, and Jakob Zwirchmayr. r-TuBound: Loop Bounds for WCET Analysis (Tool Paper). In *Proceedings of International Conference on Logic for Programming, Artificial Intelligence, and Reasoning (LPAR-18)*, volume 7180 of *LNCS*, pages 435–444, 2012.

- [7] Adalbert Kovács and Laura Kovács. A Hodographic Approximation Method for Analyzing the Fluid Motion Through Network Profiles. In *Proceedings of 23rd International DAAAM Symposium*, volume 23 of *DAAAM International*, pages 125–128, 2012.
- [8] Adalbert Kovács, Laura Kovács, and Levente Kovács. The Boundary Element Method in the Study of Non-Stationary Movements Through Network Profiles. In *Proceedings of 13th International Conference on Mathematics and its Applications (ICMA)*, Scientific Bulletin of Politehnica University Timișoara (ISSN 1224-6069), pages 241–248.
- [9] Laura Kovács and Adalbert Kovács. Symbol Elimination and its Applications in Program Verification. In *Proceedings of 13th International Conference on Mathematics and its Applications (ICMA)*, Scientific Bulletin of Politehnica University Timișoara (ISSN 1224-6069), pages 329–334.
- [10] Laura Kovács, Béla Paláncz, and Levente Kovács. Solving Robust Glucose-Insulin Control by Dixon Resultant Computations. In *Proceedings of International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC 2012)*, IEEE Computer Society 978-0-7695-4934-7/12, pages 53–61, 2012.
- [11] Kryštof Hoder and Laura Kovács and Andrei Voronkov. Playing in the Grey Area of Proofs. In *Proceedings of ACM SIGACT-SIGPLAN International Symposium on Principles of Programming Languages (POPL)*, volume 47 of *ACM SIGPLAN Notices*, pages 259–272, 2012.
- [12] Kryštof Hoder, Laura Kovács, and Andrei Voronkov. Case Studies on Invariant Generation Using a Saturation Theorem Prover. In *Proceedings of the Mexican International Conference on Artificial Intelligence (MICAI)*, volume 7094 of *LNAI*, pages 1–15, 2011.
- [13] Kryštof Hoder, Laura Kovács, and Andrei Voronkov. Invariant Generation in Vampire. In *Proceedings of the International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS)*, volume 6605 of *LNCS*, pages 60–64, 2011.
- [14] Jens Knoop and Laura Kovács and Jakob Zwirchmayr. Symbolic Loop Bound Computation for WCET Analysis. In *Proceedings of the International Conference on Perspectives of System Informatics (PSI)*, volume 7162 of *LNCS*, pages 224–239, 2011.
- [15] Adalbert Kovács and Laura Kovács. Analyzing the Fluid Motion Through Network Profiles Using the Boundary Element Method. In *Proceedings of 22nd International DAAAM Symposium: Intelligent Manufacturing and Automation*, volume 2 of *DAAAM International*, pages 1147–1148, 2011.
- [16] Laura Kovács and Adalbert Kovács. Aligator: Experiments and Limitations. In *Proceedings of 22nd International DAAAM Symposium: Intelligent Manufacturing and Automation*, volume 2 of *DAAAM International*, pages 1145–1146, 2011.
- [17] Laura Kovács, Georg Moser, and Andrei Voronkov. On Transfinite Knuth-Bendix Orders. In *Proceedings of the International Conference on Automated Deduction (CADE)*, volume 6803 of *LNAI*, pages 384–399. Springer, 2011.
- [18] Thomas A. Henzinger, Thibaud Hottelier, Laura Kovács, and Andrey Rybalchenko. Aligators for Arrays (Tool Paper). In *Proceedings of the International Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR-17)*, volume 6397 of *LNCS*, pages 348–356, 2010.
- [19] Kryštof Hoder and Laura Kovács and Andrei Voronkov. Interpolation and Symbol Elimination in Vampire. In *Proceedings of the International Joint Conference on Automated Reasoning (IJCAR)*, volume 6173 of *LNCS*, pages 188–195, 2010.

- [20] Régis Blanc and Thomas A. Henzinger and Thibaud Hottelier and Laura Kovács. ABC: Algebraic Bound Computation for Loops. In *Proceedings of the International Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR-16)*, volume 6355 of *LNAI*, pages 103–118, 2010.

Refereed Papers in Workshop Proceedings

- [1] Armin Biere, Jens Knoop, Laura Kovács, and Jakob Zwirchmayr. The Auspicious Couple: Symbolic Execution and WCET Analysis. In *Proceedings of the International Workshop on Worst-Case Execution Time Analysis (WCET)*, volume 30 of *OASICS*, pages 53–63, 2013.
- [2] Jens Knoop, Laura Kovács, and Jakob Zwirchmayr. An Evaluation of WCET Analysis using Symbolic Loop Bounds. In *Proceedings of the International Workshop on Worst-Case Execution Time Analysis (WCET)*, pages 93–103, 2011.
- [3] Jens Knoop, Laura Kovács, and Jakob Zwirchmayr. Practical Experiments with Symbolic Loop Bound Computation for WCET Analysis. In *Proceedings of the 28th Workshop of the GI-Working group on Programming Languages and Computing Concepts*, 2011. Technical Report of the Computer Science Faculty of the Christian-Albrechts University Kiel.

3 Other Publications

Editorial Papers

- [1] Laura Kovács, Rosario Pugliese, Josep Silva, and Francesco Tiezzi. Editorial to the Special issue on Automated Specification and Verification of Web Systems. *Journal of Logic and Algebraic Programming*, 2013. To appear.
- [2] Nikolaj Bjørner and Laura Kovács. Foreword to the Special Issue on Invariant Generation and Advanced Techniques for Reasoning about Loops. *Journal of Symbolic Computation*, 47(12):1413–1415, 2012.
- [3] Laura Kovács and Temur Kutsia. Editorial to the Special Issue on Automated Specification and Verification of Web Systems. *Journal of Applied Logic*, 10(1):1, 2012.
- [4] Martin Giese, Andrew Ireland, and Laura Kovács. Introduction to the Special Issue on Invariant Generation and Advanced Techniques for Reasoning about Loops. *Journal of Symbolic Computation*, 45(11):1097–1100, 2010.

Edited Volumes

- [1] Laura Kovács and Temur Kutsia, editors. *Proceedings of the Fifth International Symposium on Symbolic Computation in Software Sciences*, EPiC Volumes and RISC Technical Report, 2013. To appear.
- [2] Laura Kovács, Rosario Pugliese, Josep Silva, and Francesco Tiezzi. Special issue on Automated Specification and Verification of Web Systems. *Journal of Logic and Algebraic Programming*, 2013. To appear.
- [3] Nikolaj Bjørner, Krishnendu Chatterjee, Laura Kovacs, and Rupak M. Majumdar, editors. *Games and Decisions for Rigorous Systems Engineering (Dagstuhl Seminar 12461)*, volume 2 of *Dagstuhl Reports*. Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik, 2013.
- [4] Nikolaj Bjørner and Laura Kovács, editors. *Special Issue on Invariant Generation and Advanced Techniques for Reasoning about Loops*, volume 47 of *Journal of Symbolic Computation*, 2012.

- [5] Laura Kovács and Temur Kutsia, editors. *Special Issue on Automated Specification and Verification of Web Systems*, volume 10 of *Journal of Applied Logic*, 2012.
- [6] Laura Kovács, Rosario Pugliese, and Francesco Tiezzi, editors. *Proceedings of the 7th International Workshop on Automated Specification and Verification of Web Systems*, volume 61 of *EPTCS*, 2011.
- [7] Nikolaj Bjørner and Laura Kovács, editors. *Proceedings of the International Workshop on Invariant Generation (WING)*. IJCAR, University of Edinburgh, 2010.
- [8] Martin Giese, Andrew Ireland, and Laura Kovács, editors. *Special Issue on Invariant Generation and Advanced Techniques for Reasoning about Loops*, volume 45 of *Journal of Symbolic Computation*, 2010.
- [9] Laura Kovács and Temur Kutsia, editors. *Proceedings of the International Workshop on Automated Specification and Verification of Web System (WWV)*. Vienna University of Technology, 2010.

Abstracts in Conference and Workshop Proceedings

- [1] Jens Knoop, Laura Kovács, and Jakob Zwirchmayr. An Evaluation of WCET Analysis using Symbolic Loop Bounds (abstract/presentation). In *Proceedings of the 16th Colloquium on Programming Languages and Programming Foundations (KPS)*, page 200, 2011. Westfälische Wilhelms University Münster.
- [2] Jens Knoop, Laura Kovács, and Jakob Zwirchmayr. An Evaluation of WCET Analysis using Symbolic Loop Bounds (extended Abstract). In *Proceedings of the Annual Doctoral Workshop on Mathematical and Engineering Methods in Computer Science (MEMICS)*, page 119, 2011. Lednice, Czech Republic.

Theses

- [1] Laura Kovács. *Symbol Elimination in Program Analysis*. Habilitation Thesis, Vienna University of Technology, Austria, November 2012.

4 Invited Lectures and Talks

Invited Lectures at Summer Schools

- [1] Laura Kovács. Automated Theorem Proving - An Introduction. Invited lecturer at the ARiSE/VCLA Winter School on Verification, Vienna, February 2012.
- [2] Laura Kovács. Automated Theorem Proving - with some Applications to Verification. Invited lecturer at the ARiSE/VCLA Winter School on Verification, Vienna, February 2012.

Invited Conference Talks

- [1] Laura Kovács. Symbol Elimination in Program Analysis. Invited talk at the International Seminar on Program Verification, Automated Debugging and Symbolic Computation (PAS), Beijing, China, 10-12 October 2012.
- [2] Laura Kovács. Symbol Elimination in Program Analysis. Invited talk at the International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC), Timisoara, Romania, 26-29 September 2011.

Invited Workshop Talks

- [3] Laura Kovács. Program Verification using Algebraic Techniques. Invited talk at the Graduate Seminar: Logic and Information, Joint Workshop of the Universities of Bern, Fribourg, and Neuchâtel, Switzerland, 19 November 2009.
- [4] Laura Kovács. Quantified Invariant Generation using Symbolic Computation and Theorem Proving. Invited talk at the Workshop on Symbolic Computation and Software Verification (SCSV), Tsukuba University, Japan, 8-9 April 2010.

Invited Seminar Talks

- [1] Laura Kovács. Playing in the Grey Area of Proofs. Invited colloquium talk at Microsoft Cambridge, UK, 19 September 2012.
- [2] Laura Kovács. Playing in the Grey Area of Proofs. Invited colloquium talk at VERIMAG, Grenoble, France, 5 April 2012.
- [3] Laura Kovács. Playing in the Grey Area of Proofs. Invited colloquium talk at IST/TU Wien Rigorous System Engineering Seminar, TU Wien, 8 March 2012.
- [4] Laura Kovács. Experiments with Invariant Generation Using a Saturation Theorem Prover. Invited colloquium talk at AdaCore, Paris, France, 18 April 2011.
- [5] Laura Kovács. RiSE: Rigorous Systems Engineering. Invited colloquium talk at the Research Seminar for Master Students, West University of Timisoara, Romania, 25-27 May 2011.
- [6] Laura Kovács. Symbol Elimination in Program Analysis. Invited colloquium talk at the Technical University Graz, Austria, 31 May 2011.
- [7] Laura Kovács. Symbol Elimination in Program Analysis. Invited colloquium talk at Helsinki Institute for Information Technology (HIIT), 23 September 2011.
- [8] Laura Kovács. Aligators and Arrays. Invited colloquium talk at IST/TU Wien Rigorous System Engineering Seminar, IST Austria, 28 October 2010.
- [9] Laura Kovács. Symbol Elimination and Interpolation. Invited colloquium talk at the University of Verona, Italy, 21 September 2010.
- [10] Laura Kovács. Symbol Elimination and Interpolation for Software Verification. Invited colloquium talk at Intel, Haifa, Israel, 20 December 2010.

Tutorial Speaker

- [1] Kryštof Hoder, Laura Kovács, and Andrei Voronkov. First-Order Theorem Proving and Vampire. Tutorial at the International Conference on Automated Deduction (CADE), Wrocław, Poland, 1 August 2011.
- [2] Laura Kovács. First-Order Theorem Proving and Vampire. Tutorial at the RiSE-PUMA Workshop, Traunkirchen, Austria, 4 October 2011.
- [3] Laura Kovács. First-Order Theorem Proving and Vampire. Tutorial at the Mexican International Conference on Artificial Intelligence (MICAI), 26 November - 4 December 2011.
- [4] Laura Kovács. Program Assertion Synthesis using Symbolic Computation. Tutorial at the International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC), Timisoara, Romania, 26-29 September 2011.
- [5] Laura Kovács and Andrei Voronkov. Invariant Generation using Theorem Proving. Tutorial at the International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC), Timisoara, Romania, 26-29 September 2011.

Seminar Participation by Invitation

- [1] Laura Kovács. Experiments with Invariant Generation Using a Saturation Theorem Prover, March 2011. Contributed talk at the “Deduction at Scale” Seminar, Ringberg Castle, Germany.
- [2] Laura Kovács. Interpolation and Symbol Elimination, April 2010. Contributed talk at the Dagstuhl Seminar 10161 on “Decision Procedures in Software, Hardware and Bioware”, Schloss Dagstuhl, Germany.

5 Contributed Talks

- [1] Laura Kovács. Experiments with Invariant Generation Using a Saturation Theorem Prover, March 2011. Contributed talk at the Workshop on Logic and Computer Science, Kurt Gödel Research Center, University of Vienna, Austria.
- [2] Laura Kovács. Interpolation and Symbol Elimination, February 2010. Contributed talk at the RISE Workshop, Technical University of Graz, Austria.