CURRICULUM VITAE: Prof. Dr. Laura Ildikó Kovács

Last updated in July 2024

PROFESSOR

Formal Methods in Systems Engineering – FORSYTE Group
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http://forsyte.at/people/kovacs/

PERSONAL DATA

Date of birth: April 26, 1980
Citizenship: Hungarian and Romanian
Family status : Married, two children
Languages spoken: Hungarian, Romanian, English, German, basic Swedish

RESEARCH INTERESTS

Formal software verification, especially assertion synthesis and static analysis.
Symbolic computation, especially computer algebra and algorithmic combinatorics.
Automated reasoning, especially automated first-order theorem proving.

EDUCATION

November 2012	Habilitation in Computer Science	Vienna University of Technology (TU Wien) Austria
October 2007	Ph.D. in Computer Science with highest distinction	Research Institute for Symbolic Computation (RISC-Linz), Johannes Kepler University Linz, Austria
February 2004	M.Sc. in Computer Science	West University of Timişoara, Romania
July 2002	B.Sc. in Math and Computer Science	West University of Timişoara, Romania

CAREER HISTORY

2020 - now	Full professor Head of the FORSYTE Group Research focus coordinator – Logic and Computation	TU Wien, Austria (since 07/2019) (since 07/2024)
2016-2020	Full professor and Adjunct professor	TU Wien, Austria Chalmers University of Technology, Sweden
2013-2016	Associate professor and Adjunct associate professor	Chalmers University of Technology, Sweden TU Wien, Austria
2010-2013	Hertha-Firnberg research fellow Assistant Professor	TU Wien, Austria
2009-2010	Postdoctoral scientist	ETH Zürich, Switzerland Programming Methodology group of Prof. Peter Müller

2007-2009	Postdoctoral scientist	EPFL Lausanne, Switzerland MTC group of Prof. Thomas A. Henzinger
2003-2007	Ph.D. researcher	RISC-Linz, Austria
September 2007	Research visitor	SCORE group, Tsukuba University, Japan
2003-2007	Teaching assistant	West University of Timişoara, Romania

CAREER BREAKS

Maternity leaves during 2014-2015 and 2017.

PRIZES, HONORS, AND DISTINCTIONS

2024 April	Amazon Research Award 2023 Amazon Web Services
2021 December	Successful People in Germany and Austria BPH - British Publishing House
2021 August	Promotion Prize 2021 of the City of Vienna in STEM - Science, Technology, Engineering and Education
2021 April	Amazon Research Award 2020 Amazon Web Services
2020 December	ERC Consolidator Grant European Research Council Europe's most competitive research program for mid-career researchers
2019 April	Wien Live Look! Business Awards Nominee One of the top 3 nominees of the Viennesse look! magazine
2018 December	ERC Proof of Concept European Research Council
2014 December	Wallenberg Academy Fellowship Knut and Alice Wallenberg Foundation, Sweden Sweden's largest private investement in young researchers
2014 November	ERC Starting Grant European Research Council Europe's most competitive research program for young researchers
2013 November	Swedish Research Council - VR grant for Junior Researchers, Sweden Competitive grant: 769 applications, 64 approved
2012 June	Visiting professorship at the University Joseph Fourier, Grenoble, France
2011	FESTO Austria Prize for Young Researchers and Scientists FESTO IT company in process automation, Austria 22nd DAAAM International World Symposium, Vienna, Austria
2010 - 2013	FWF Hertha-Firnberg Fellowship, Austria Competitive fellowship: 53 applications, 13 approved

2008	Best paper award in application track
	3rd International Computer Science Symposium in Russia (CSR), Moscow, Russia
2007 September	Japan Society for the Promotion of Science (JSPS) fellowship
	Tsukuba University, Japan (Host: Prof. Tetsuo Ida)
2005	Best student presentation award
	2nd South-East European Workshop on Formal Methods (SEEFM), Ohrid
	FYR of Macedonia

UNIVERSITY TEACHING EXPERIENCE (only lecture courses)

2024   Lecturer of "Logic and Reasoning in Computer Science", TU Wien (2024S).
Bachelor course, 127 enrolled students.

2023   Lecturer of "Formal Methods in Computer Science", TU Wien (2023W).
Master course, 315 enrolled students.

2023   Lecturer of "Formal Methods in Computer Science - Exercises", TU Wien (2023W).
Master course, 89 enrolled students.

2023   Lecturer of "Automated Deduction", TU Wien (2023S).
Master course, 35 enrolled students.

2023   Lecturer of "Formal Methods in Computer Science", TU Wien (2023S).
Master course, 262 enrolled students.

2022   Lecturer of "Formal Methods in Computer Science", TU Wien (2022W).
Master course, 347 enrolled students.

2022   Lecturer of "Formal Methods in Computer Science - Exercises", TU Wien (2022W).
Master course, 89 enrolled students.

2022   Lecturer of "Automated Deduction", TU Wien.
Master course, 18 enrolled students.

2022   Lecturer of "Formal Methods in Computer Science", TU Wien (2022S).
Master course, 202 enrolled students.

2021   Lecturer of "Formal Methods in Computer Science", TU Wien (2021W).
Master course, 351 enrolled students.

2021   Lecturer of "Formal Methods in Computer Science - Exercises", TU Wien (2021W).
Master course, 117 enrolled students.

2021   Lecturer of "Formal Methods in Computer Science", TU Wien (2021S).
Master course, 237 enrolled students.

2021   Lecturer of "Automated Deduction", TU Wien.
Master course, 36 enrolled students.

2020   Lecturer of "Formal Methods in Computer Science", TU Wien (2020W).
Master course, 414 enrolled students.

2020   Lecturer of "Formal Methods in Computer Science - Exercises", TU Wien (2020W).
Master course, 141 enrolled students.

2020   Lecturer of "Automated Deduction", TU Wien.
Master course, 46 enrolled students.

2019   Lecturer of "Automated Deduction", TU Wien.
        Master course, 34 enrolled students.

2019   Lecturer of "Formal Methods in Computer Science", TU Wien (2019S).
        Master course, 140 enrolled students.

2018   Lecturer of "Automated Deduction", TU Wien.
        Master course, 21 enrolled students.

2019   Lecturer of "Formal Methods in Computer Science", TU Wien (2019W).
        Master course, 157 enrolled students.

2018   Lecturer of "Formal Methods in Computer Science", TU Wien (2018W).
        Master course, 140 enrolled students.

2018   Lecturer of "Formal Methods in Computer Science – Exercises", TU Wien (2018W).
        Master course, 56 enrolled students.

2016   Lecturer of "Automated Deduction", TU Wien.
        Master course, 10 enrolled students.

2015   Lecturer of "First-Order Theorem Proving and Vampire", Chalmers & University of Gothenburg.
        PhD course, 7 enrolled students.

2015   Lecturer of "The Computer Scientist in Society", Chalmers & University of Gothenburg.
        Master course, 78 enrolled students.

2015   Lecturer of "Automated Reasoning and Program Verification", TU Wien.
        Master Course, 13 enrolled students.

2015   Lecturer of "Chalmers Computing Lab Tech Talks", Chalmers & University of Gothenburg.
        PhD Course, 20 enrolled students.

2014   Lecturer of "Automated Reasoning and Program Verification", TU Wien.
        Master Course, 5 enrolled students.

2013   Lecturer of "Automated Reasoning for Program Verification", Chalmers & University of Gothenburg.
        Master Course, 19 enrolled students.

2013   Lecturer of "Automated Reasoning and Program Verification", TU Wien.
        Master Course, 7 enrolled students.

2012   Lecturer of "Advanced Topics in Theoretical Computer Science", TU Wien.
        Master Course, 9 enrolled students.

2012   Lecturer of "Automated Reasoning and Program Verification", TU Wien.
        Master Course, 13 enrolled students.

2011   Lecturer of "Advanced Theoretical Computer Science", TU Wien.
        Bachelor Course, 11 enrolled students.

2010   Lecturer of "Advanced Theoretical Computer Science", TU Wien.
        Bachelor Course, 10 enrolled students.

2009   Lecturer of "Foundations of Computer Science 1", University of Zürich.
        Bachelor Course, 120 enrolled students.

2009   Lecturer of "Software Engineering Seminar", ETH Zürich.
        Bachelor and Master Seminar, 13 enrolled students.

2009   Lecturer of "Advanced Theoretical Computer Science", EPFL.
        Bachelor Course, 34 enrolled students.

2008   Teaching assistant of "Basic and Advanced Theoretical Computer Science", EPFL.
Bachelor Courses, 80 and respectively 40 enrolled students.

2006   Teaching assistant of "Mathematical Basis of Computer Science", West University of Timişoara.
Bachelor Course, 60 enrolled students.

STUDENT SUPERVISION

Current

PhD main supervisor at TU Wien for Dipl.Ing. Eva Maria Wagner, 2024-2028.

PhD main supervisor at TU Wien for MSc. Robin Coutelier, 2023-2027.

PhD main supervisor at TU Wien for Dipl.Ing. Clemens Eisenhofer, 2022–2026.

PhD main supervisor at TU Wien for Dipl.Ing. Johannes Schoisswohl, 2021–2025.

PhD main supervisor at TU Wien for MSc. Anton Varonka, 2021–2025.

PhD main supervisor at TU Wien for Dipl.Ing. Márton Hajdú, 2021–2025.

PhD main supervisor at TU Wien for Dipl.Ing. Sophie Rain, 2020–2024.

PhD main supervisor at TU Wien for Dipl.Ing. Jakob Rath, 2019-2023.

PhD co-supervisor at TU Wien for Dipl.Ing. Thomas Hader, 2022-2026.

PhD co-supervisor at TU Wien for MSc. Francesco Pontiggia, 2023-2026.

Master thesis supervisor at TU Wien for Martina Bertalanic, 2024–2025.

Completed

PhD main supervisor at TU Wien for MSc. Petra Hozzova (further postdoc at CIIRC Prague), 2019-2024.
Thesis title: *Inductive Reasoning in Superposition* .

PhD main supervisor at TU Wien for Dipl.Ing. Marcel Moosbrugger (further senior scientist at Huawei,
2020-2024. Thesis title: *Automated Analysis of Probabilistic Loops*.

PhD main supervisor at TU Wien for Dipl.Ing. Pamina Georgiou (further product engineer at Certora),
2019-2023. Thesis title: *Towards Automating Induction for Software Verification – Guiding Inductive
Reasoning in Superposition-based Theorem Proving*.

PhD main supervisor at TU Wien for MSc. Miroslav Stankovic (further Postdoc at TU Wien and research
engineer at Nyra Health), 2018-2023. Thesis title: *Moment-Based Loop Analysis*.

PhD main supervisor at TU Wien for Dipl.Ing. Andreas Humenberger (further project manager at Sym-
flower GmbH Linz), 2016-2021. Thesis title: *Algebra-Based Loop Reasoning*.

PhD main supervisor at TU Wien for Dipl.Ing. Bernhard Gleiss (further solution architect at Zurich
Insurance, Austria), 2016-2020. Thesis title: *Automated Software Verification using Superposition-based
Theorem Proving*.

PhD main supervisor at Chalmers for MSc. Simon Robillard (further associate professor at Université de
Montpellier, France), 2014-2019. Thesis title: *Deductive Program Analysis with First-Order Theorem
Provers*.

PhD main supervisor at Chalmers for MSc. Evgenii Kotelnikov (further scientific developer at Ericsson,
Sweden), 2013-2018. Thesis title: *Automated Theorem Proving with Extensions of First-Order Logic*

PhD main supervisor at TU Wien for MSc. Ioan Drăgan (further researcher at eAustria Institute Timişoara), 2011-2015. Thesis title: *First-order Theorem Proving for Program Analysis and Theory Reasoning*

PhD main supervisor at TU Wien for Dipl.-Ing. Jakob Zwirchmayr (further senior scientist at TTech Austria), 2010-2013. Co-supervisor: Prof. Jens Knoop. Thesis title: *Symbolic Methods for the Timing Analysis of Programs*

PhD co-supervisor at TU Wien for Dipl.Ing. Thomas Hader, 2022-2026.

PhD co-supervisor at Chalmers for MSc. Yuting Chen, 2016-2021. – Licentiate degree completed in August 2018.

Master thesis supervisor at TU Wien for Eva Maria Wagner (now PhD student at TU Wien), 2023–2024. Thesis title: *Program Synthesis of Provable Recursive Functions*.

Master thesis supervisor at TU Wien for BHon Matthias Hetzenberger (further PhD student at TU Wien), 2022–2023. Thesis title: *Constraint Superposition for Higher-Order Logic*.

Master thesis supervisor at TU Wien for BHon Julian Müllner (further software architect at Bosch), 2022–2023. Thesis title: *Exact Inference for Probabilistic Loops*. **Austian State Award 2023 for Graduates (Würdigungspreis) for the Best Master Thesis in Austria), awarded by the Austrian Federal Ministry of Education, Science and Research (BMBWF).**

Master thesis supervisor at TU Wien for Lea Brugger (further PhD student at ETH Zürich), 2021–2022. Thesis title: *Automating Proofs of Game-Theoretic Security Properties of Off-Chain Protocols*. **EPILOG 2022 Distinguished Young Alumn Award of the TU Wien (Best Master Thesis WS 2022)** and **City Of Vienna Award 2023 for the Best Master Thesis in Vienna**.

Master thesis supervisor at TU Wien for Clemens Eisenhofer (further PhD student at TU Wien), 2021–2022. Thesis title: *User Propagators for Satisfiability Modulo Custom Theories*.

Master thesis supervisor at TU Wien for Andreas Lackner, 2021–2022. Thesis title: *Non-Linear Reasoning in the Superposition Calculus*

Master thesis supervisor at TU Wien for Thomas Hader, (further PhD student at TU Wien), 2021–2022. Thesis title: *Non-Linear SMT-Reasoning over Finite Fields*

Master thesis supervisor at TU Wien for Márton Hajdú (further PhD student at TU Wien), 2020–2021. Thesis title: *Automating Inductive Reasoning with Recursive Functions*

Master thesis supervisor at TU Wien for Christoph Hochrainer (further PhD student at TU Wien), 2019–2020. Thesis title: *Automated Reasoning over Arrays in the Superposition Calculus*

Master thesis supervisor at TU Wien for Marcel Moosbrugger (further PhD student at TU Wien), 2019–2020. Thesis title: *Automating Termination Analysis of Probabilistic Programs*. **EPILOG 2020 Distinguished Young Alumn Award of the TU Wien (Best Master Thesis WS 2020)** and **City Of Vienna Award 2021 for the Best Master Thesis in Vienna**.

Master thesis supervisor at TU Wien for Sophie Rain (further PhD student at TU Wien), 2019–2020. Thesis title: *First-Order Reasoning with Aggregates*

Master thesis supervisor at TU Wien for Johannes Schoisswohl, 2020–2021. Thesis title: *Automated Induction by Reflection*

Master thesis supervisor at TU Wien for Hanna Lachnitt (further PhD Student at Stanford), 2019–2020. Thesis title: *Formalizing Graph Trail Properties*

Master thesis supervisor at TU Wien for Pamina Georgiou (further PhD student at TU Wien), 2018-2019. Thesis title: *Trace Reasoning in Formal Verification – Guiding Vampire in Induction*

Master thesis supervisor at TU Wien for Jakob Rath (further PhD student at TU Wien), 2019. Thesis title: *Subsumption Demodulation in First-Order Theorem Proving*

Master thesis supervisor at TU Wien for Romana Jezek, Summer 2018- Summer 2019. Thesis title: *Formalization of Group Theory Problems for Automated Theorem Proving*

Master thesis supervisor at TU Wien for David Demastani, 2018–2020. Thesis title: *Superposition Reasoning About Quantied Bitvector Formulas*

Master thesis supervisor at Chalmers for Yuting Chen (further PhD student at Chalmers), Fall 2015-Summer 2016. Thesis title: *Theory-Specific Reasoning about Loops with Arrays using Vampire*

Master thesis supervisor at TU Wien for Bernhard Gleiss (further PhD student at TU Wien), Fall 2015-Summer 2016. Thesis title: *Interpolation and Local Proofs*

Master thesis supervisor at TU Wien for Bernhard Kragl (further PhD student at IST Austria), Fall 2013-Spring 2014. Thesis title: *Reasoning in First-Order Theories with Extensionality*

Master thesis supervisor at TU Wien for Ioana Jucu, Fall 2011-Fall 2013. Thesis title: *An Evaluation of Symbol Elimination for Generating First-Order Loop Invariants*

Master thesis supervisor at EPFL for Thibaud Hotellier (further PhD student at University of Berkeley), Fall 2008-Spring 2009. Thesis topic: *Invariants for Arrays and Matrices*. Co-supervisor: Prof. Thomas A. Henzinger.

Bachelor thesis supervsior at TU Wien for Lena Schnedlitz, 2018-2020. Thesis title: *SatVis: Visualization of Vampire Saturation Attempts*

Bachelor thesis supervisor at TU Wien for Bernhard Kragl, Spring 2012. Co-supervisor: Prof. Gernot Salzer. Thesis title: *Loop Invariants in Deductive Verification*

Internship supervisor at TU Wien for Daneshvar Amrollahi (further PhD student at Stanford), 2023-2024. Project topic: *Recursive Program Synthesis*

Internship supervisor at TU Wien for Hiitarth Singh, Spring 2023. Project topic: *Algebraic Loop Synthesis*

Internship supervisor at TU Wien for Robin Coutelier (further PhD student at TU Wien), Fall 2022. Project topic: *SAT-based Subsumption Resolution*s

Internship supervisor at TU Wien for Daneshvar Amrollahi, 2021-2022. Project topic: *Algebaric Loop Reasoning*

Internship supervisor at TU Wien for Régis Blanc, Summer 2012. Project topic: *Tree Interpolants in Vampire*

POSTDOCTORAL SUPERVISION

Current

Postdoctoral supervisor of Dr. Anja Petković Komel, 2022-present

Postdoctoral supervisor of Dr. Michael Rawson, 2021-present

Completed

Postdoctoral supervisor of Dr. Daniela Kaufmann (further senior project researcher at TU Wien), 2021-2024

Postdoctoral supervisor of Dr. George Kenison (further research fellow at U. Liverpool), 2021-2023

Postdoctoral supervisor of Dr. Maximillian Jaroschek, 2016-2018

Postdoctoral supervisor of Dr. Martin Suda (further postdoc at CIIRC Prague), 2016-2018

UNIVERSITY COMMITTEES

HIRING COMMITTEES

Hiring committee member and committee chair of the "Privacy" Full Professorship at TU Wien, 2023–2024.

Hiring committee member of the "Human-Computer Interaction" Full Professorship at TU Wien, 2022–2023.

Hiring committee member of the Assistant Professors (Tenure Track) of Computer Science, ETH Zürich, 2022.

Hiring committee member and evaluator of the Associate Professorship in Computer Science, Umeå University, Sweden, 2021.

Hiring committee member of the Assistant Professors (Tenure Track) of Computer Science, ETH Zürich, 2021.

Hiring committee member of the "Symbolic Computation" Full Professorship at JKU Linz, 2021.

Hiring committee member and committee chair of the "High Performance Computing Systems" Full Professorship at TU Wien, 2020-2021.

Hiring committee member of the "Computer Engineering – Technischen Informatik" Full Professorship at U. Salzburg, Austria, 2018-2019.

Hiring committee member of the "Computer Aided Verification" Full Professorship at TU Wien, 2017-2018.

Hiring committee member of the "Non-Classical Logics" Full Professorship at TU Wien, 2016.

PHD EXAMINATION AND REVIEWING COMMITTEES

PhD thesis committee member of Ana Costa, TU Wien, July 11, 2024;

PhD thesis committee member of Krisztina Fruzsa, TU Wien, April 15, 2024;

PhD thesis external examiner of Julian Parsert, U. Oxford, March 18, 2024;

PhD thesis committee member of Erkan Tairil, TU Wien, March 15, 2024;

PhD thesis reviewer and committe member of Toghrul Karimov, MPI, January 2024;

PhD thesis committee member and committee chair of Rafael Kiesel, TU Wien, October 25, 2023;

PhD thesis reviewer of Sumanth Prabhu S, Indian Institute of Science Bagalore, September/October 2023;

PhD thesis committee chair of Boris Shminke, Laboratoire Dieudonné Nice, September 1, 2023.

PhD thesis reviewer (co-supervisor) and examination committee member of Marcel Hark, RWTH Aachen, April/June 2021.

PhD thesis reviewer and examination committee member of Alexander Bentkamp, Vrije U. Amsterdam, February/May 2021.

PhD thesis reviewer and examination committee member of Sebastian Zivota, TU Wien, March 2021.

PhD thesis reviewer and examination committee member of Elizabeth Polgreen, U. Oxford, November 2019.

PhD thesis reviewer and examination committee member of Sylvia Grewe, TU Darmstadt, Germany, July 2019.

PhD examination committee member of Philipp Schillinger, KTH Stockholm, Sweden, June 2019.

PhD thesis reviewer of Michael Roman Färber, University of Innsbruck, Austria, November 2018.

PhD thesis reviewer and examination committee member of Roberto Blanco, University of Paris-Saclay, France, November 2017.

PhD thesis reviewer and examination committee member of Thorsten Tarrach, IST Austria, June 2016.

PhD examination committee member of Alexander Gustaffson, Mälardalen University, Västeras, Sweden, May 2016.

PhD thesis reviewer and examination committee member of Nathan Daniel Wasser, Technische Universität Darmstadt, Germany, February 2016.

PhD/Licentiate thesis examiner of Abdullah Mamun, Chalmers University of Technology, Gothenburg, Sweden, Fall 2015.

PhD thesis reviewer of Daniel Larraz, Universitat Politecnica de Catalunya (UPC), Barcelona, Spain, Spring 2015.

PhD/Licentiate examination committee member for Leo Hatvani, Mälardalen University, Sweden, Fall 2014.

PhD examination committee member for Ramona Enache at the University of Gothenburg, Fall 2013.

PhD examination committee member of PhD qualification exam for Thorsten Tarrach (now PhD student at IST Austria), at the Institute of Science and Technology (IST), Austria, Fall 2013.

PhD examination committee member and thesis examiner for Tejfel Máté (now Assoc.Prof. at ELTE Hungary), at Eötvös Lóránt University, Hungary, Fall 2008.

HABILITATION COMMITTEES

Habilitation committee member for Dr. Martin Lackner, TU Wien, 2024.

Habilitation committee member for Dr. Madalina Eraşcu, West University of Timişoara, Romania, April 2, 2024.

Hungary, Fall 2021-Summer 2022.

Habilitation committee member for Dr. Tamás Kozsik, ELTE Budapest, Hungary, Fall 2021-Summer 2022.

Habilitation committee chair and member for Dr. Magdalena Ortiz, TU Wien, Spring-Fall 2020.

Habilitation thesis referee for Dr. Christian Sternagel, Univeristy of Innsbruck, Austria, Spring 2020.

Habilitation committee chair and member for Dr. Igor Konnov, TU Wien, Spring-Fall 2019.

Habilitation committee member for Dr. Sascha Hunold, TU Wien, Spring-Fall 2019.

Habilitation committee member for Dr. Ezio Bartocci, TU Wien, Spring 2019.

Habilitation thesis referee for Dr. Cezary Kaliszyk, Univeristy of Innsbruck, Austria, Fall 2015.

Habilitation thesis referee for Dr. Harald Zankl, Univeristy of Innsbruck, Austria, Spring 2015.

UNDERGRADUATE EVALUATION COMMITTEES

Jury member of "EPIPLOG - Best Master Thesis" Committee at the Faculty of Informatics, TU Wien, June 2018.

EDUCATIONAL COMMITTEES

Computer Science Curriculum Committee member at TU Wien, 2011-2013 and 2016-2019.

OTHER COMMITTEES

Committee member of the "Faculty Model" Committee of the Faculty of Informatics, TU Wien, 2017-2019.

Committee member of the Jubilee Committee on"100 Years of Women Studying at the TU Wien" , 2018-2019.

Committee member of the "Code of Conduct" Committee of the Faculty of Informatics, TU Wien, 2016.

Committee member of the "Bachelor with Honors" program of the Faculty of Informatics, TU Wien, 2016-2018.

Faculty Senate member at Chalmers, 2013-2014.

SOFTWARE

ABSYNTH
`https://github.com/ahumenberger/Absynth.jl`
a software package for synthesizing program loops (since 2020).

ALIGATOR
`https://github.com/ahumenberger/Aligator.jl`
a software package for generating loop invariants of programs over scalars and arrays (since 2007).

AMBER
`https://github.com/probing-lab/amber`
a termination analysis tool for probabilistic programs (since 2020).

MORA
`https://github.com/miroslav21/mora`
a static analysis tool for analysing probabilistic programs (since 2019).

Z3
`https://github.com/Z3Prover/z3`
extending Z3 with custom theory support, especially for arithmetic reasoning (since 2020).

VAMPIRE
`http://vprover.org/`
developing program analysis and theory reasoning in the Vampire theorem prover (since 2009).

PROFESSIONAL ACTIVITIES

PC/PROGRAMME CHAIR

Marktoberdorf Summer School 2025 (co-chair);

Int. Conference on integrated Formal Methods (iFM), 2024 (co-chair);

Int. Conference on Reachability Problems (RP), 2024 (co-chair);

Int. Conference on Intelligent Computer Mathematics (CICM), 2024 (co-chair);

Int. Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS), 2024 (co-chair);

Int. Joint Conference on Automated Reasoning (IJCAR), 2022 (co-chair);

Int. Conference on Tests and Proofs (TAP), 2022 (co-chair);

Int. Conference on Concurrency Theory (CONCUR), 2020 (co-chair);

Int. Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR), 2020 (co-chair);

Int. Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC), 2015;

Int. Symposium on Symbolic and Numeric Algorithms for Scientific Computing - Logic and Programming track (SYNASC), yearly since 2012;

Deduction Mentoring Workshop, 2019;

Automated New-era Deductive Reasoning Event in Iberia (ANDREI-60), 2019 – honoring the 60th birthday of Andrei Voronkov;

Verification and Deduction Mentoring Workshop, 2018;

Third Workshop on Automated Inductive Theorem-Proving (WAIT), 2016;

Int. Workshop on Computational Origami and Applications (COA), 2016;

The Vampire Workshop, 2019, 2018, 2017, 2016, 2015 and 2014;

Int. Workshop on Interpolation: from Proofs to Applications (iPrA), 2015, 2014 and 2013;

Int. Symposium on Symbolic Computation in Software Science (SCSS), 2013;

Int. Workshop on Automated Specification and Verification of Web Systems (WWV), 2011 and 2010;

Int. Workshop on Invariant Generation (WING), 2010 and 2009.

WORKSHOP AND TUTORIAL CHAIR

Workshop chair at Int. Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC), 2012.

Workshop chair at Int. Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR), 2013, 2012, 2010 and 2008;

Tutorial chair at Int. Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC), 2011 and 2009;

DOCTORAL SYMPOSIUM CHAIR

Doctoral Symposium of the 26th International Symposium on Formal Methods (FM) 2024 (co-chair);

MEMBER OF PROGRAM COMMITTEES

- Int. Conference on Computer Aided Verification (CAV), 2024 – "Software" Area Chair;

- Int. Symposium on Symbolic Computation in Software Science (SCSS), 2024;

- ACM/IEEE Symposium on Logic in Computer Science (LICS), 2023;

- ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL), 2023;

- Int. Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS), 2023;

- Int. Conference on Tests and Proofs (TAP) 2023;

- Int. Conference on Formal Methods for Industrial Critical Systems (FMICS), 2023;

- Int. Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI), 2022;

- Thomas Henzinger Festschrift - Int. Conference Celebrating His 60th Birthday (Henzinger-60), 2022;

- Int. Workshop on Satisfiability Checking and Symbolic Computation (SC-Square), 2022;

- Int. Workshop on Interpolation (iPRA), 2022;

- Int. Conference on Computer-Aided Verification (CAV), 2021;

- Int. Conference on Automated Deduction (CADE), 2021;

- ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL), 2021;

- Int. Symposium on Symbolic and Algebraic Computation (ISSAC), 2021;

- Int. Conference on Computer Science Logic (CSL), 2021;

- Int. Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS), 2021;

- Int. Colloquium on Automata Languages and Programming (ICALP), 2021;

- Int. Conference on Formal Methods in Computer-Aided Design (FMCAD), 2021;

- Int. Conference on Highlights of Logic, Games and Automata (Highlights), 2021;

- Int. Conference on Relational and Algebraic Methods in Computer Science (RAMiCS), 2021;

- Int. Symposium on Symbolic Computation in Software Science (SCSS), 2021;

- Int. Workshop on Automated Reasoning: Challenges, Applications, Directions, Examplary Achievements (ARCADE), 2021;

- Int. Joint Conference on Automated Reasoning (IJCAR), 2020;

- Int. Conference on Computer Aided Verification (CAV), 2020;

- Int. Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS), 2020;

- Int. Conference on Intelligent Computer Mathematics (CICM), 2020;

- NASA Formal Methods Symposium (NFM), 2020;

- Int. Symposium on Symbolic Computation in Software Science (SCSS), 2020;

- Int. Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI), 2020;

- Int. Conference on Applied Informatics (ICAI), 2020;

- ACM/IEEE Symposium on Logic in Computer Science (LICS), 2019;

- Int. Conference on Automated Deduction (CADE), 2019;

- Int. Conference on Computer Aided Verification (CAV), 2019;

- Int. Symposium on Formal Methods (FM), 2019;

- Int. Conference on integrated Formal Methods (iFM), 2019;

- Int. Conference on Software Technology and Cyber Security (STCS), 2019;

- Asian Symposium on Programming Languages and Systems (APLAS), 2019;

- NASA Formal Methods Symposium (NFM), 2019;

- Int. Conference on Perspectives of System Informatics - Ershov Informatics Conference (PSI), 2019;

- Int. Conference on Intelligent Computer Mathematics (CICM), 2019;

- Int. Conference on Tests and Proofs (TAP), 2019;

- Int. Workshop on Automated Reasoning: Challenges, Applications, Directions, Examplary Achievements (ARCADE), 2019;

- Int. Workshop on Symbolic Computation and Satisfiability Checking (SC^2), 2019;

- Int. Workshop on Proof eXchange for Theorem Proving (PxTP), 2019;

- ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL), 2018;

- Int. Joint Conference on Automated Reasoning (IJCAR), 2018;

- Int. Conference on Computer Aided Verification (CAV), 2018;

- Int. Symposium on Symbolic and Algebraic Computation (ISSAC), 2018;

- Int. Symposium on Formal Methods (FM), 2018;

- Int. Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS), 2018;

- Int. Conference on integrated Formal Methods (iFM), 2018;

- Int. Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI), 2018;

- Int. Symposium on Theoretical Aspects of Software Engineering (TASE), 2018;

- Int. Conference on Intelligent Computer Mathematics (CICM) - Systems& Projects Track, 2018;

- Int. Conference on Tests and Proofs (TAP), 2018;

- NASA Formal Methods Symposium (NFM), 2018;

- 2018 IEEE Int. Conference on Future IoT Technologies (Future IoT), 2018;

- Int. Workshop on Formal Techniques for Java-like Programs (FTfJP), 2018;

- Int. Workshop on Practical Aspects of Automated Reasoning (PAAR), 2018;

- Int. Conference on Automated Deduction (CADE-26), 2017;

- Int. Static Analysis Symposium (SAS), 2017;

- Int. Conference on integrated Formal Methods (iFM), 2017;

- PhD Symposium at iFM'17 on Formal Methods: Algorithms, Tools and Applications, 2017;

- Int. Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI), 2017;

- Int. Conference on Distributed Computing and Internet Technology (ICDCIT), 2017;

- Int. Conference on Perspectives of System Informatics - Ershov Informatics Conference (PSI), 2017;

- Int. Symposium on Symbolic Computation in Software Science (SCSS), 2017;

- Int. Conference on Intelligent Computer Mathematics (CICM) - Systems& Projects Track, 2017;

- Int. Conference on Tests and Proofs (TAP), 2017;

- Int. Symposium on Theoretical Aspects of Software Engineering (TASE), 2017;

- Int. Conference on Mathematical Aspects of Computer and Information Sciences (MACIS), 2017;

- Int. ARCADE Workshop on Automated Reasoning: Challenges, Applications, Directions, Exemplary Achievements (ARCADE), 2017;

- Int. Workshop on Tools for Automatic Program Analysis (TAPAS), 2017;

- ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL), 2016;

- Int. Conference on Computer Aided Verification (CAV), 2016;

- Int. Symposium on Formal Methods (FM), 2016;

- Int. Conference on Computer Science Logic (CSL), 2016;

- Int. Conference on Certified Programs and Proofs (CPP), 2016;

- Int. Symposium on Theoretical Aspects of Software Engineering (TASE), 2016;

- The Haifa Verification Conference (HVC), 2016;

- Int. Conference on Distributed Computing and Internet Technology (ICDCIT), 2016;

- Int. Conference on Intelligent Computer Mathematics (CICM) - Calculemus Track, 2016;

- Int. Workshop on Practical Aspects of Automated Reasoning (PAAR), 2016;

- Int. Workshop on Automated Specification and Verification of Web Systems (WWV), 2016;

- Int. Conferences on Logic in Computer Science (LICS), 2015;

- Int. Conference on Automated Deduction (CADE-25), 2015;

- Int. Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR), 2015;

- Int. Symposium on Formal Methods (FM), 2015;

- The Haifa Verification Conference (HVC), 2015;

- Int. Conference on Perspectives of System Informatics - Ershov Informatics Conference (PSI), 2015;

- Int. Workshop on Tools for Automatic Program Analysis (TAPAS), 2015;

- Int. Workshop on Automated Specification and Verification of Web Systems (WWV), 2015;

- Int. Workshop on Quantification (QUANTIFY), 2015;

- Int. Conference on Computer Aided Verification (CAV), 2014;

- Int. Conference on Computer Science Logic (CSL) and Logic in Computer Science (LICS), 2014;

- Int. Static Analysis Symposium (SAS), 2014;

- Int. Symposium on Symbolic Computation in Software Science (SCSS), 2014;

- The Haifa Verification Conference (HVC), 2014;

- Int. Conference on integrated Formal Methods (iFM), 2014;

- Int. Conferencs on Intelligent Computer Mathematics (CICM), 2014;

- Int. Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI), 2014;

- Int. Conference on Perspectives of System Informatics - Ershov Informatics Conference (PSI), 2014;

- Int. Workshop on Invariant Generation (WING), 2014;

- Int. Workshop on Quantification (QUANTIFY), 2014;

- Int. Workshop on Automated Specification and Verification of Web Systems (WWV), 2014;

- Int. Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR), 2013;

- Int. Conference on Mathematical Aspects of Computer and Information Sciences (MACIS), 2013;

- The Formal Techniques for Java-like Programs Workshop, 2013;

- Int. Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR), 2012;

- The Alan Turing Centenary Conference, 2012;

- Int. Workshop on Tools for Automatic Program Analysis (TAPAS), 2012;

- Int. Conference on Certified Programs and Proofs (CPP), 2012;

- Int. Conference on Computer Science Logic (CSL), 2012;

- Int. Workshop on Invariant Generation (WING), 2012;

- Int. Conference on Perspectives of System Informatics - Ershov Informatics Conference (PSI), 2011;

- Int. Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC), 2011;

- Int. Conference on Formal Engineering Methods (ICFEM), 2011;

- Int. Conference on on Algebraic Informatics (CAI), 2011;

- Int. Conference on Mathematical Aspects of Computer and Information Sciences (MACIS), 2011;

- Int. Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR), 2010;

- Int. Symposium on Symbolic and Algebraic Computation (ISSAC), 2010;

- Int. Workshop on Symbolic Computation in Software Science (SCSS), 2010;

- Int. Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR), 2009;

- Int. Computer Science Symposium in Russia (CSR) - Application Track, 2007;

- Symposium on the Integration of Symbolic Computation and Mechanized Reasoning (CALCULE-MUS), 2007.

JOURNAL/BOOK REFEREE

J. of Automated Reasoning, 2021, and 2015;

J. of ACM, 2020;

J. of Symbolic Computation, 2019, 2011, and 2010;

J. on Satisfiability, Boolean Modeling and Computation, 2015;

Information Processing Letters, 2014;

J. of Formal Methods in System Design, 2013;

J. of Foundations of Computer Science, 2013;

J. of Formal Aspects of Computing, 2013;

J. of Science of Computer Programming, 2013;

Handbook of Model Checking, 2013;

J. of Theoretical Computer Science, 2012;

J. of Science of Computer Programming - special issue on Invariant Generation, Expert reviewer, 2012;

ACM Transactions on Programming Languages and Systems, 2011 and 2012;

J. of Applied Logic, 2012;

The Computer Journal, 2011;

Information Processing Letters, 2010;

J. of AI Communications, 2008;

J. of Software Tools for Technology, 2006.

CONFERENCE (SUB)REFEREE

ACM Conference on Object-Oriented Programming Systems, Languages, and Applications (OOP-SLA), 2023;

Int. European Symposium on Programming (ESOP), 2013;

Int. Conference on Computer Aided Verification (CAV), 2013;

Int. Conference on Formal Methods in Computer-Aided Design (FMCAD), 2013;

Int. Symposium on Symbolic and Algebraic Computation (ISSAC), 2012;

Int. Workshop on Satisfiability Modulo Theories (SMT), 2011;

Int. Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI), 2011;

Int. Conference on Programming Language Design and Implementation (PLDI), 2010 and 2009;

Int. Conference on Computer Aided Verification (CAV), 2009;

Int. Conference on Static Analysis Symposium (SAS), 2009;

Int. SPIN Workshop on Model Checking of Software (SPIN), 2009;

Int. Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC), 2008.

SCIENTIFIC REFERENT FOR FUNDING AGENCIES

Wirtschftsagentur Wien, since 2023;

Deutsche Forschungsgemeinschaft (DFG), 2023 and 2019;

Romanian Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI), 2023;

Spanish Fellowships Programme of the "la Caixa" Foundation, 2023 and 2024;

Israel Science Foundation (ISF), 2023;

European Research Council (ERC), 2024, 2023, 2022, 2021 and 2016;

French National Research Agency (ANR), 2021;

Dutch Research Council, 2020 and 2023/24;

Belgium Research Fund for Scientific Research, F.R.S-–FNRS–Belgium, 2020 and 2019;

Czech Science Foundation, 2019;

The Icelandic Research Fund, 2016;

Polish National Science Center - Funding scheme OPUS, 2015.

EDITORSHIP

Guest editor of the Special Issue of the J. of Logical Methods in Computer Science (LMCS) on selected papers of the International Conference on Concurrency Theory (CONCUR) 2020, 2021. Co-editor: Igor Konnov.

Guest editor of the Special Issue of the J. of Mathamics in Computer Science (MCS) on selected papers of the International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC) 2016, 2017/2019. Co-editors: James H. Davenport and Daniela Zaharie.

Guest editor of the Special Issue of the Annals of Mathematics and Artificial Intelligence (AMAI) on "Formalization of Geometry, Automated and Interactive Geometric Reasoning", 2017/2019. Co-editors: Pascal Schreck and Tetsuo Ida.

Editor of the Dagstuhl Report on Dasgtuhl Seminar 12461 "Games and Decisions for Rigorous Systems Engineering", 2013. Co-editors: Nikolaj Bjørner, Krishnendu Chatterjee, and Rupak M. Majumdar.

Guest editor of the Special Issue of the J. of Symbolic Computation on "Symbolic Computation in Software Science", 2013/2015. Co-editors: Prof. Adel Bouhoula, Prof. Bruno Buchberger and Dr. Temur Kutsia.

Guest editor of the Special Issue of the J. of Logic and Algebraic Programming on "Automated Specification and Verification of Web Systems", 2012/2013. Co-editors: Prof. Rosario Pugliese, Dr. Francesco Tiezzi, and Dr. Josep Silva Galiana.

Guest editor of the Special Issue of the J. of Symbolic Computation on "Invariant Generation and Advanced Techniques for Reasoning about Loops", 2010/2013. Co-editor: Dr. Nikolaj Bjørner.

Guest editor of the Special Issue of the J. of Applied Logic on "Automated Specification and Verification of Web Systems", 2010/2012. Co-editor: Dr. Temur Kutsia.

Guest editor of the Special Issue of the J. of Symbolic Computation on "Invariant Generation and Advanced Techniques for Reasoning about Loops", 2009/2010. Co-editors: Dr. Andrew Ireland and Dr. Martin Giese.

EDITORIAL BOARDS

Editorial Board Member of the Annals of West University of Timisoara – Mathematics and Computer Science, 2022-now.

Editorial Board Member of the Journal of Formal Methods in System Design (FMSD), 2021-now.

Editorial Board Member of the Journal of Symbolic Computation (JSC), 2020-now.

Editorial Board Member of the Journal Mathematics in Computer Science (MCS), 2016-now.

MEMBER OF ORGANIZING COMMITTEES

Organiser of the Automated Program Reasoning (APRe) Workshop, TU Wien, 12-19 April, 2024.

Organiser of the Automated Program Reasoning (APRe) Workshop, TU Wien, 5-6 November, 2019.

Organisation committee member of the First International Workshop Proof Theory for Automated Deduction, Automated Deduction for Proof Theory, Funchal, Madeira, October 2019.

Local chair of the Third Workshop on Automated-Inductive Theorem-Proving (WAIT), TU Wien, November 2016;

Proceedings chair of the Vienna Summer of Logic (VSL), 2014;

Local chair of ICNPAA 2012 World Congress: 9th International Conference on Mathematical Problems in Engineering, Aerospace and Sciences, Vienna University of Technology, 2012;

Local chair of Workshop on Logic and Computer Science, University of Vienna, 2011;

Local chair of Workshop on Automated Specification and Verification of Web Systems (WWV), 2010;

Symposium on the Integration of Symbolic Computation and Mechanized Reasoning (CALCULEMUS) and Mathematical Knowledge Management (MKM), 2007;

Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC), 2004 and 2005.

SEMINAR AND TRAINING SCHOOL ORGANISATION

Co-Organizer. Dagstuhl Seminar 12461 on "Games and Decisions for Rigorous Systems Engineering", Schloss Dagstuhl, Germany, November 11-16, 2012;

Co-Organizer. ARiSE/VCLA Winter School on Verification, Vienna University of Technology, Austria, 6-10 February 2012.

OTHER TECHNICAL COMMITTEES

Committee Member of the Bill McCune PhD Award in Automated Reasoning, 2023, 2024;

Committee Member of the E. W. Beth Outstanding Dissertation Prize, 2024 and 2023;

Committee Member of the E. W. Beth Outstanding Dissertation Prize, 2023;

Young Science Ambassador of Austria's Agency for Education and Internationalisation (OeAD), 2022–present;

Committee Member of the Herbrand Award 2021;

Management Committee (MC) member of the EU COST Action CA20111 on "EuroProofNet: European Research Network on Formal Proofs", 2021-2025;

Management Committee (MC) member of the EU COST Action CA19122 on "EUGAIN: European Network For Gender Balance in Informatics", 2020-2024;

Trustee of the Conference of Automated Deduction - CADE (Steering Committee member), 2016-2019, re-elected for 2019-2022;

Jury member of the Skolem Award for most influential papers in automated deduction, 2018-2019;

Jury member of "Hedy Lamarr Award for Young Women in IT" of the City of Vienna, Austria, yearly since 2018;

Int. Workshop on Automated Specification and Verification of Web Systems (WWV), Steering Committee, 2011-2014;

Int. Workshop on Invariant Generation (WING), Steering Committee, since 2007;

Vienna Center for Logic and Applications (VCLA), Advisory Board, since 2012.

MEMBER OF PROFESSIONAL ORGANIZATIONS

Association for Automated Reasoning.
Austrian Society for Rigorous Systems Engineering (ARiSE – www.arise.or.at) – Founding member.
European Association for Programming Languages and Systems.

CONSULTING

Dassault Aviation, France
  – consulting in theorem proving and loop assertion synthesis for software verification (2009 - 2010).

Intel Haifa, Israel
  – consulting in program verification (December 2010, October 2012).

RESEARCH GRANTS

Principal Investigator

1. Principal Investigator and Applicant, Amazon Research Award 2020, Amazon Web Services (AWS), *QuAT: Quantifiers and Arithmetic Theories are Friends with Benefits*, 05/2024-04/2025, USD 50,000 and USD 20,000 Cloud Credits.

2. Principal Investigator and Applicant, LEA – Let's Empower Austria Grant, *Abenteuer Informatik*, 04/2024-12/2025, EUR 117,000.

3. Principal Investigator and Applicant, LEA – Let's Empower Austria Grant, *Abenteuer Informatik für Volksschulen*, 04/2023-03/2024, EUR 80,000.

4. Principal Investigator and Applicant, ERC Consolidator Grant 2020, European Research Council (ERC), *ARTIST: Automated Reasoning with Theories and Induction for Software Technologies*, 07/2021-06/2026, EUR 2,000,000.

5. Principal Investigator and Applicant, *SpyCoDe: Semantic and Cryptographic Foundations of Security and Privacy by Compositional Design* – FWF Special Research Program SFB (with speaker Prof. Matteo Maffei), 2022-2026, EUR 4,400,000.

6. Principal Investigator and Applicant, *LogiCS@TUWien: European Center of Excellence for Logical Methods in Computer Science* – TU Wien Doctoral College (with speaker Prof. Stefan Szeider), 06/2022-05/2027, EUR 4,500,000.

7. Principal Investigator and Applicant, Amazon Research Award 2020, Amazon Web Services (AWS), *FOREST: First-Order Reasoning for Ensuring System Security*, 05/2021-04/2022, USD 50,000.

8. Principal Investigator and Applicant, *SecInt: Secure and Intelligent Human-Centric Digital Technologies* – TU Wien Doctoral College (with speaker Prof. Matteo Maffei), 09/2020-08/2024, EUR 1,800,000.

9. Principal Investigator and Applicant, ERC Proof of Concept 2018, European Research Council (ERC), *SYMELS: Symbol Elimination in Reliable System Engineering*, 06/2019-12/2020, EUR 150,000.

10. Principal Investigator and Applicant, Austrian-Hungarian Action Foundation (OMAA), Grant 101öu8, *Domain-Specific Reasoning in IoT Applications*, 02/2019 - 01/2020, EUR 10,200.

11. Principal Investigator and Applicant, Austrian Science Foundation (FWF), DK Grant W1255-N23, *LogiCS: Logical Methods in Computer Science* – Doctoral College (with speaker Prof. Georg Gottlob), 03/2018-02/2022, EUR 3,622,033.

12. Principal Investigator and Applicant, ERC Starting Grant 2014, European Research Council (ERC), *SYMCAR: Symbolic Computation and Automated Reasoning for Program Analysis*, 4/2016-3/2021, EUR 1,500,000.

13. Principal Investigator and Applicant, Wallenberg Academy Fellow 2014, Knut and Alice Wallenberg Foundation, *TheProSE: Theorem Proving and Symbol Elimination for Software Analysis and Verification*, 7/2015-6/2020, SEK 10,000,000.

14. Principal Investigator and Applicant, Swedish Research Council (VR), *Generating and Proving Program Properties using Symbol Elimination*, 1/2014-12/2017, SEK 3,360,000.

15. Principal Investigator and Applicant, Austrian Science Foundation (FWF), NFN Grant S11410-N23, *Interpolation and Symbol Elimination*, 3/2011-2/2015, EUR 178,668.

16. Principal Investigator and Applicant, Austrian-Hungarian Action Foundation (OMAA), Grant 82öu11, *Symbolic Computation and Automated Reasoning for the Numeric Analysis of Diabetes Models*, 10/2010 - 11/2011, EUR 9,143.

17. Principal Investigator and Applicant, TU Wien, Grant Innovative Ideas, *CETAT: Cutting-Edge Timing Analysis Technologies for Safety-Critical Real-Time Systems*, 3/2010 - 2/2013, EUR 99,480.

18. Principal Investigator and Applicant, Dassault Aviation, Grant D18501100001 (jointly with ETH Zürich), *Program Verification with Frama-C, Vampire, and Aligator*, 4/2010 - 12/2011, EUR 15,000.

19. Principal Investigator and Applicant, Austrian Science Foundation (FWF), Hertha Firnberg Grant T425-N23, *Computer Algebra and Theorem Proving for Verified Software*, 1/2010 - 3/2013, EUR 192,330.

Co-Principal Investigator and Project Partner

1. Co-Principal Investigator and Applicant, Vienna Science and Technology Fund (WWTF), Grant ICT (Prof. Maria Christakis, TU Wien, PI), *ForSmart: Effective Formal Methods for Smart-Contract Certification*, 9/2023-8/2027, EUR 799,850.

2. Co-Principal Investigator and Applicant, Vienna Science and Technology Fund (WWTF), Grant ICT (Prof. Ezio Bartocci, TU Wien, PI), *ProbInG: Distribution Recovery for Invariant Generation of Probabilistic Programs*, 5/2020-4/2024, EUR 782,100.

3. Co-Principal Investigator and Applicant, Wallenberg Foundation (Prof. Dave Sands, main PI at Chalmers), *WASP: Wallenberg Autonomous Systems Program*, 9/2015-12/2019, SEK 1,800,000,000.

4. Co-Principal Investigator and Applicant, Austrian Science Foundation (FWF), NFN Grant S11409-N23 (Assoc. Prof. Uwe Egly, TU Wien, PI), *Quantified Boolean Formulas*, 3/2015-2/2019, EUR 193,270.

5. Co-Principal Investigator and Applicant, Chalmers Software Center (Assoc. Prof. Patrizio Pelliccione, Chalmers, PI), *Assurance as a Service: Upfront Quality and Safety in Continuous Software Engineering*, 1/2014 - 6/2014, SEK 140,400.

6. Co-Principal Investigator and Applicant, Vienna Science and Technology Fund (WWTF), Grant ICT C-050 (Prof. Helmut Veith, TU Wien, PI), *PROSEED: Proof Seeding for Software Verification*, 1/2011-12/2014, EUR 598,000.

7. Project Partner, Austrian Research Promotion Agency (FFG), Bridge Grant 834162, (Prof. Eva Kühn, TU Wien, PI), *Coordination Middleware for Wireless Networks of Low Power Nodes (LO-PONODE)*, 4/2012 - 5/2014, EUR 443,000.

8. Project Partner, Austrian Research Promotion Agency (FFG), Bridge Grant 827485 (Prof. Andreas Krall, TU Wien, PI), *C3Pro: Correct Compilers for Correct Application Specific Processors*, 10/2010 - 9/2013, EUR 476,000.