

Curriculum Vitae of Thomas Wies

Particulars

address: Computer Science Department
Courant Institute of Mathematical Sciences
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Research Interests

Program analysis and verification; concurrency; automated deduction.

Education

- University of Freiburg, Freiburg, Germany, 2006 – 2009
Ph.D. in Computer Science (with distinction), degree date: November 2009
Thesis: Symbolic Shape Analysis, Advisor: Prof. Andreas Podelski
- Max Planck Institute for Computer Science, Saarbrücken, Germany, 2005 – 2006
Ph.D. student
- Saarland University, Saarbrücken, Germany, 1999 – 2005
B.Sc. and M.Sc. in Computer Science (Diplom), Minor in Physics, degree date: March 2005
Thesis: Symbolic Shape Analysis, Advisor: Prof. Andreas Podelski

Academic Honors and Awards

- Best Paper Award at ISSRE 2019.
- Elected Member of IFIP Working Group 2.3 “Programming Methodology”, 2018.
- Best Paper Award at OOPSLA 2014.
- National Science Foundation, CAREER Award, 2014.
- Ph.D. with distinction, University of Freiburg, 2009.
- Microsoft Research European Ph.D. Scholarship, 2006 – 2009.
- Scholarship of DFG Research Training Group on “Mathematical Logic and Applications”, University of Freiburg, 2006 – 2009.
- Scholarship of DFG Research Training Group on “Quality Guarantees for Computer Systems”, Max Planck Institute for Computer Science, 2005 – 2006.

Work Experience

- 09/2023 – today: Professor. Computer Science Department, Courant Institute of Mathematical Sciences, New York University, New York, NY, USA.
- 09/2017 – 08/2023: Associate Professor. Computer Science Department, Courant Institute of Mathematical Sciences, New York University, New York, NY, USA.
- 09/2011 – 08/2017: Assistant Professor. Computer Science Department, Courant Institute of Mathematical Sciences, New York University, New York, NY, USA.
- 2016 (Summer): Visiting Researcher. Microsoft Research, Redmond, WA, USA.
- 2009 – 2011: Postdoctoral Researcher. Institute of Science and Technology, Klosterneuburg, Austria.
- 2008 – 2009: Postdoctoral Researcher. École Polytechnique Fédérale de Lausanne, Switzerland.
- 2007 (Fall): Research Intern. Microsoft Research, Redmond, WA, USA.
- 2006 (Fall): Research Intern. Microsoft Research, Cambridge, UK.
- 2006 – 2008: Research Assistant. University of Freiburg, Germany.
- 2005 – 2006: Research Assistant. Max Planck Institute for Computer Science, Saarbrücken, Germany.

Selected Invited Talks

- 34th International Conference on Concurrency Theory, Calgary, Canada, September 2024.
- Dagstuhl Seminar on “Theoretical Advances and Emerging Applications in Abstract Interpretation”, Dagstuhl, Germany, July 2023.
- Dagstuhl Seminar on “Formal Methods and Distributed Computing: Stronger Together”, Dagstuhl, Germany, December 2022.
- SRI Summer School on “Formal Methods”, Menlo Park, CA, USA, June 2022.
- Simons Institute Seminar on “Theoretical Foundations of Computer Systems”, February 2021.
- Dagstuhl Seminar on “Deduction Beyond Satisfiability”, Dagstuhl, Germany, September 2019.
- 16th International Workshop on Satisfiability Modulo Theories, Oxford, UK, July 2018.
- 15th International Conference on Verification, Model Checking, and Abstract Interpretation, San Diego, USA, January 2014.

Professional Activities

Grants

- V. Chandrasekaran and T. Wies. Amazon Web Services “Automating Privacy Compliance” Research Award 2023. Total gift amount: \$40,000.
- T. Wies and D. Shasha. “SHF: Small: Modular Automated Verification of Concurrent Data Structures”. National Science Foundation, CCF-2304758. Oct. 2023 – Sep. 2026. Total amount: \$600,000.
- T. Wies and D. Shasha. Amazon Web Services “A Modular Library of Verified Concurrent Search Structure Algorithms” Research Award 2022. Gift amount: \$80,000.
- S. Angel, A. Blumberg, J. Bonneau, P. Cousot, J. Thaler, M. Walfish, and T. Wies, ZK Proofs Unbound: Next-Generation Pipelines for Real-world Applications, DARPA research grant, HR001119S0076-SIEVE-FP-014. May 2020 – Mar. 2024. Total amount: \$5.7M.
- T. Wies. NSF Student Travel Grant for 2020 International Conference on Computer-Aided Verification (CAV). May 2020 – Apr. 2023. Amount: \$15,000.
- T. Wies. NSF Student Travel Grant for 2019 International Conference on Computer-Aided Verification (CAV). May 2019 – Apr. 2020. Amount: \$15,000.
- T. Wies. Facebook “Testing and Verification” Research Award 2018. Gift amount: \$10,000.
- T. Wies. SHF:Small:Verifying Complex Concurrent Data Structures with Flow Interfaces. National Science Foundation, CCF-1815633. Oct. 2018 – Sep. 2022. Total amount: \$498,496.
- E. Koskinen and T. Wies. CCF:Small:Collaborative: Concurrent Software Verification with Rely/Guarantee Abstractions. National Science Foundation, CCF-1618059. Aug. 2016 – Jul. 2020. Total amount: \$489,863.00 (NYU: \$240,252).
- M. Walfish, T. Wies, and A. Blumberg. TWC: Medium: Scaling proof-based verifiable computation. National Science Foundation, CNS-1514422. Jul. 2015 – Jun. 2020. Total amount: \$1,151,830.
- T. Wies. CAREER: Abstracting Programs for Automated Debugging. National Science Foundation, CCF-1350574. Feb. 2014 – Jan. 2020. Total amount: \$512,734.
- T. Wies and C. Barrett. SHF:Small:Integrating separation logic and SMT for better heap verification. National Science Foundation, CCF-1320583. Sep. 2013 – Aug. 2017. Total amount: \$500,000.

Steering Committee Member

- European Joint Conference for the Theory and Practice of Software (ETAPS), 2022 – 2023.
- European Symposium on Programming (ESOP), 2022 – today.

Organizer and Program Chair

- Co-Organizer of Workshop in Honor of Andreas Podelski’s 65th birthday, co-located with *PLDI 2024*, Copenhagen, Denmark, June 2024.
- Co-Organizer of Formal Methods Meetup 2023, New Haven, CT, October 2023.

- Program Co-Chair of 11th International Conference on Networked Systems, *NETYS 2023*, Marrakesh, Morocco, May 2023.
- Program Chair of 32nd European Symposium on Programming, *ESOP 2023*, Paris, France, April 2023.
- Program Co-Chair of 23rd International Conference on Verification, Model Checking, and Abstract Interpretation, *VMCAI 2022*, Philadelphia, PA, USA, January 2022.
- Fellowship Chair of 33rd International Conference on Computer Aided Verification, *CAV 2021*, virtual, 2021.
- Fellowship Chair of 32nd International Conference on Computer Aided Verification, *CAV 2020*, Los Angeles, CA, USA, 2020.
- Co-Chair of 8th Workshop on Synthesis, *SYNT 2019*, New York, NY, USA, July 2019.
- Fellowship Chair of 31st International Conference on Computer Aided Verification, *CAV 2019*, New York, NY, USA, 2019.
- Chair of 8th Workshop on Tools for Automatic Program Analysis, *TAPAS 2017*, New York, NY, USA, August 2017.
- Co-Chair of 9th Working Conference on Verified Software: Theories, Tools, and Experiments, *VSTTE 2017*, Heidelberg, Germany, July 2017.
- Co-Chair of 4th International Workshop on Invariant Generation, *WING 2012*, Manchester, UK, June 2012.

Program Committee Member

Conferences:

- 24th Conference on Formal Methods in Computer-Aided Design, *FMCAD 2024*, Prague, Czech Republic, October 2024.
- 51st ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages, *POPL 2024*, London, UK, January 2024.
- 44rd IEEE Symposium on Security and Privacy, *IEEE S&P 2023*, San Francisco, CA, USA, May 2023.
- 43rd ACM SIGPLAN Conference on Programming Language Design and Implementation, *PLDI 2022*, San Diego, CA, USA, June 2022.
- 21st Conference on Formal Methods in Computer-Aided Design, *FMCAD 2021*, New Haven, CT, USA, October 2021.
- 13th Working Conference on Verified Software: Theories, Tools, and Experiments, *VSTTE 2021*, New Haven, CT, USA, October 2021.
- 12th Working Conference on Verified Software: Theories, Tools, and Experiments, *VSTTE 2020*, Los Angeles, CA, USA, July 2020.
- 8th International Conference on Networked Systems, *NETYS 2020*, Marrakesh, Morocco, June 2020.
- 47th ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages, *POPL 2020*, New Orleans, LA, USA, January 2020.
- 21st International Conference on Verification, Model Checking, and Abstract Interpretation, *VMCAI 2020*, New Orleans, LA, USA, January 2020.
- 25th International Conference on Tools and Algorithms for Construction and Analysis of Systems, *TACAS 2019*, Prague, Czech Republic, April 2019.
- 10th Working Conference on Verified Software: Theories, Tools, and Experiments, *VSTTE 2018*, Oxford, UK, July 2018.
- 30th International Conference on Computer Aided Verification, *CAV 2018*, Oxford, UK, July 2018.
- 24th International Conference on Tools and Algorithms for Construction and Analysis of Systems, *TACAS 2018*, Thessaloniki, Greece, April 2018.
- 19th International Conference on Verification, Model Checking, and Abstract Interpretation, *VMCAI 2018*, Los Angeles, CA, USA, January 2018.
- *Onward! 2017*, Vancouver, Canada, October 2017.
- 28th International Conference on Concurrency Theory, *CONCUR 2017*, Berlin, Germany, September 2017.
- 31st European Conference on Object-Oriented Programming, *ECOOP 2017*, Barcelona, Spain, June 2017.
- 23rd International Conference on Tools and Algorithms for Construction and Analysis of Systems, *TACAS 2017*, Uppsala, Sweden, April 2017.

- 28th International Conference on Computer Aided Verification, *CAV 2016*, July 2016, Toronto, Ontario, Canada.
- 43th ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages, *POPL 2016*, Extended Reviewer Committee, St. Petersburg, FL, USA, January 2016.
- 17th International Conference on Verification, Model Checking, and Abstract Interpretation, *VMCAI 2016*, St. Petersburg, FL, USA, January 2016.
- 16th International Conference on Verification, Model Checking, and Abstract Interpretation, *VMCAI 2015*, Mumbai, India, January 2015.
- 41th ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages, *POPL 2014*, San Diego, USA, January 2014.
- 5th International Conference on Verified Software: Theories, Tools, and Experiments, *VSTTE 2013*, Atherton, USA, May 2013.
- 19th International Static Analysis Symposium, *SAS 2012*, Deauville, France, September 2012.
- 4th International Conference on Verified Software: Theories, Tools, and Experiments, *VSTTE 2012*, Philadelphia, USA, January 2012.

Workshops:

- 2nd Workshop on Automated Deduction for Separation Logics, *ADSL 2020*, New Orleans, USA, January 2020.
- 1st Workshop on Automated Deduction for Separation Logics, *ADSL 2018*, Oxford, UK, July 2018.
- 2nd International Workshop on Causal Reasoning for Embedded and Safety-critical Systems Technologies, *CREST 2017*, Uppsala, Sweden, April 2017.
- 14th International Workshop on Satisfiability Modulo Theories, *SMT 2016*, Coimbra, Portugal, July 2016.
- 21st Workshop on Foundations of Object-Oriented Languages, *FOOL 2014*, Portland, USA, October 2014.
- 12th International Workshop on Satisfiability Modulo Theories, *SMT 2014*, Vienna, Austria, July 2014.
- 14th Workshop on Formal Techniques for Java-like Programs, *FTfJP 2012*, Beijing, China, June 12, 2012.
- 2nd International Workshop on Intermediate Verification Languages, *BOOGIE 2012*, Berkeley, California, USA; July 2012.
- 3rd International Workshop on Invariant Generation, *WING 2010*, Edinburgh, UK, July 2010.
- 2nd International Workshop on Invariant Generation, *WING 2009*, York, UK, March 2009.

Refereed for

- **Book chapters:** Handbook of Model Checking.
- **Journals:** Transactions for Programming Languages and Systems (*TOPLAS*); Computing Surveys (*CSUR*); Formal Methods in System Design (*FMSD*); Journal of Automated Reasoning (*JAR*); Journal of Symbolic Computation (*JSC*); Logical Methods in Computer Science (*LMCS*); Journal of Functional Programming (*JFP*); Journal of Computer Science and Technology (*JCST*); Acta Informatica; ACM Transactions on Design Automation of Electronic Systems (*TODAES*); Computer Languages, Systems & Structures (*COMLAN*); Science of Computer Programming (*SCICO*); Transactions on Software Engineering (*TSE*); Transactions on Knowledge and Data Engineering (*TKDE*); International Journal on Software Tools for Technology Transfer (*STTT*); ACM Transactions on Software Engineering and Methodology (*TOSEM*);
- **Conferences:** Static Analysis Symposium (*SAS*): 2004–2007, 2009–2012; Verification, Model Checking, and Abstract Interpretation (*VMCAI*): 2005, 2006, 2008, 2014–2016, 2018, 2020; Conference on Automated Deduction (*CADE-20*); ACM Symposium on Principles of Programming Languages (*POPL*): 2006, 2010, 2013, 2014, 2016–2021, 2024; Logic for Programming, Artificial Intelligence, and Reasoning (*LPAR*): 2006, 2012; Conference on Tools and Algorithms for the Construction and Analysis of Systems (*TACAS*): 2007, 2009, 2015, 2018, 2019; Conference on Computer Aided Verification (*CAV*): 2008, 2009, 2016, 2018, 2023; Asian Semantic Web Conference (*ASWC*): 2008; Compiler Construction (*CC*): 2009, European Symposium on Programming (*ESOP*): 2010, 2015, 2020, 2022. Foundations of Software Science and Computation Structures (*FOSSACS*): 2011, 2013; Programming Language Design and Implementation (*PLDI*): 2011, 2014, 2015, 2016, 2022; Runtime Verification (*RV*): 2011, 2012. Verified Software: Theories, Tools, and Experiments (*VSTTE*): 2012, 2013, 2017, 2018, 2020; Automated Technology for Verification and Analysis (*ATVA*): 2012. NASA Formal Methods Symposium (*NFM*): 2013. Computer Science Logic (*CSL*): 2013, 2018. Symposium on Frontiers of Combining Systems (*FroCoS*): 2013. Logic in Computer Science (*LICS*): 2015, 2020. International Joint Conference on Automated Reasoning (*IJCAR*): 2016, 2018, 2020. Annual Conference on Foundations of Software Technology and Theoretical Computer Science (*FSTTCS*): 2016. International Conference on Concurrency Theory (*CONCUR*): 2017, 2023. International Conference on Networked Systems (*NETYS*): 2020. Object Oriented Programming Systems, Languages, and Applications (*OOPSLA*): 2020. Formal Methods in Computer-Aided Design (*FMCAD*): 2021, 2024. IEEE Symposium on Security and Privacy *IEEE S&P*: 2023, 2024.

- **Other:** National Science Foundation: 2014, 2016, 2017, 2019, 2021, 2024; Department of Energy: 2021; Army Research Office: 2019; Swiss Science Foundation; Czech Science Foundation.

Courses designed and taught

- “Principles of Programming Languages”, undergraduate course, NYU, Spring 2015, Fall 2015, 2016, 2021, and 2023.
- “Programming Languages”, graduate course, NYU, Fall 2012, 2018, Spring 2019, and Fall 2022.
- “Computer Systems Organization”, undergraduate course, NYU, Fall 2019.
- “Object-Oriented Programming”, graduate course, NYU, Spring 2018.
- “Object-Oriented Programming”, undergraduate course, NYU, Fall 2013, Spring 2017, Fall 2017.
- “Programming Paradigms for Concurrency”, graduate course, NYU, Spring 2014.
- “Rigorous Software Development”, graduate course, NYU, Spring 2012, 2013, and 2016.

Advised Postdoctoral Fellows

- Sebastian Wolff, NYU, July 2021 – June 2024.
- Yan Shvartzshnaider, NYU, January 2017 – January 2021.
- Daniel Schwartz-Narbonne, NYU, January 2013 – May 2015.

Advised Students

current PhD students:

- Devora Chait-Roth, NYU, 2020 – today.
- Ekanshdeep Gupta, NYU, 2020 – today.
- Elaine Li, NYU, 2020 – today.
- Jacob Salzberg, NYU, 2021 – today.

former PhD students:

- Nisarg Patel, NYU, 2018 – 2024, graduated on “Verification of Concurrent Search Structures”.
- Siddharth Krishna, NYU, 2013 – 2019, graduated on “Compositional Abstractions for Verifying Concurrent Data Structures”.
- Zvonimir Pavlinovic, NYU, 2013 – 2019, graduated on “Leveraging Program Analysis for Type Inference”.
- Kshitij Bansal (co-advised by Clark Barrett), NYU, 2013 – 2016, graduated on “Decision Procedures for Finite Sets with Cardinality, and Local Theory Extensions”.
- Chanseok Oh, NYU, 2014 – 2016, graduated on “Improving SAT Solvers by Exploiting Empirical Characteristics of CDCL”.
- Wei Wang (co-advised by Clark Barrett), NYU, 2013 – 2016, graduated on “Partition Memory Models in Program Analysis”.
- Paul Gazzillo (co-advised by Robert Grimm), NYU, 2014 – 2015, graduated on “Analyzing Source Code Across Static Conditionals”.
- Damien Zufferey, IST Austria, 2009 – 2011, graduated 2013 on “Analysis of Dynamic Message Passing Programs”.

former MS students:

- Chaitanya Agarwal, NYU, 2022.
- Eric Mathew Cox, NYU, graduated 2022 on “Symbolic Execution of GRASShopper Programs”.
- Goktug Saatcioglu, NYU, graduated 2020 on “Static Responsibility Analysis of Floating-Point Programs”.
- Yusen Su, NYU, graduated 2020 on “Data Flow Refinement Type Inference Tool DRIFT²”.
- Damien Zufferey, EPFL, graduated 2009 on “Verification of Concurrent Asynchronous Message-Passing Programs”.
- Marco Muñoz, Freiburg University, graduated 2009 on “Decision Procedures for List-Manipulating Programs”.

former undergraduate students:

- Kunming (Benny) Jiang, 2020 – 2022.
- Ariel Holtzman, NYU, Summer 2015.

Doctoral Thesis Committee Member

- Ike Mulder “Proof Automation for Fine-Grained Concurrent Separation Logic”, Radboud Universiteit 2024, Netherlands (Advisors: Robbert Krebbers and Herman Greuvers).
- Xiangyu Gao “Solver-Aided Compiler Design for Programmable Network Devices”, NYU 2024 (Advisors: Anriudh Sivaraman and Srinivas Narayana).
- Trieu Trinh “Olympiad-level Geometry Theorem Proving without Human Demonstrations”, NYU 2024 (Advisor: He He).
- Felix Stutz, “Implementability of Asynchronous Communication Protocols”, MPI-SWS 2023, Germany (Advisors: Rupak Majumdar and Damien Zufferey).
- Martin Kölbl, “Causal Analysis and Repair of Systems”, University of Konstanz 2022, Germany (Advisor: Stefan Leue).
- Berk Cirisci, “Formal Verification of Concurrent Data Structures”, Université Paris Cité, France (Advisors: Ahmed Bouajjani and Constantin Enea).
- Preston Moore, “A PORT in Stormy SEAs: Leveraging Past Problems to Prevent Future Failures”, NYU 2022 (Advisor: Justin Cappos).
- Ter-Gabrielyan Arshavir, “Compositional Verification of Rich Program Properties in Separation Logic”, ETH Zurich 2021 (Advisor: Peter Müller).
- Jens Pagel, “Decision Procedures for Separation Logic: Beyond Symbolic Heaps”, TU Wien 2020 (Advisor: Florian Zuleger and Georg Weissenbacher).
- Tan Cheng, “Auditing Outsourced Services”, NYU 2020 (Advisor: Michael Walfish).
- Chaoqiang Deng, “Responsibility Analysis by Abstract Interpretation”, NYU 2020, (Advisor: Patrick Cousot).
- Dan Gopstein, “Atoms Of Confusion”, NYU 2020 (Advisor: Justin Cappos).
- Junjie Chen, “SMT-Based and Disjunctive Relational Abstract Domains for Static Analysis”, NYU 2015 (Advisor: Patrick Cousot).
- Liana Hadarean, “Efficient and Trustworthy Theory Solver for Bit-vectors in Satisfiability Modulo Theories”, NYU 2014 (Advisor: Clark Barrett).
- Tim King, “Effective Algorithms for the Satisfiability of Quantifier-Free Formulas Over Linear Real and Integer Arithmetic”, NYU 2014 (Advisor: Clark Barrett).
- Alex Rubinsteyn, “Runtime Compilation of Array-Oriented Python Programs”, NYU 2013 (Advisor: Dennis Shasha).
- Eric Hielscher, “Locality Optimization For Data Parallel Programs”, NYU 2013 (Advisor: Dennis Shasha).
- Dejan Jovanović, “SMT Beyond DPLL(T): A New Approach to Theory Solvers and Theory Combination”, NYU 2012 (Advisor: Clark Barrett).

NYU Courant Institute and Computer Science Department

- Chair of Computer Science Department, Fall 2024 – today.
- Deputy Director for Computer Science of the Courant Institute, Fall 2022 – Spring 2024.
- Director of Graduate Studies of the PhD Program, Fall 2019 – Fall 2020, Fall 2021 – Spring 2024.
- Member of CS Appointments Committee, 2017 – today.
- Member of CS Fellowship Committee (admission, student progress), 2013 – Spring 2024.
- Chair of Courant CS Faculty Fellowship Committee, 2019.
- Organizer of Ph.D. student visit day, 2012 – 2018.

Professional Memberships

- Association for Computing Machinery (ACM SIGPLAN)
- European Joint Conferences on Theory and Practice of Software (ETAPS association)

Languages

German, English, French (basic knowledge).

Publication List

1. Verifying Lock-free Search Structure Templates. N. Patel, D. Shasha, and T. Wies. In *Proceedings of 38th European Conference on Object-Oriented Programming, ECOOP*, Vienna, Austria, September 2024.
2. Deciding Subtyping for Asynchronous Multiparty Sessions. E. Li, F. Stutz, and T. Wies. In *Proceedings of 33rd European Symposium on Programming, ESOP*, Luxembourg, Luxembourg, April 2024.
3. Complete Multiparty Session Type Projection with Automata. E. Li, F. Stutz, T. Wies, and D. Zufferey. In *Proceedings of 35th International Conference on Computer Aided Verification, CAV*, Paris, France, July 2023.
4. nekton: a linearizability proof checker. R. Meyer, A. Opaterny, T. Wies, and S. Wolff. In *Proceedings of 35th International Conference on Computer Aided Verification, CAV*, Paris, France, July 2023.
5. Refinement Proofs for Probabilistic Proofs. K. Jiang, D. Chait-Roth, Z. DeStefano, M. Walfish, and T. Wies. In *Proceedings of 44th IEEE Symposium on Security and Privacy, IEEE S&P'23*, San Francisco, CA, USA, May 2023.
6. Embedding Hindsight Reasoning in Separation Logic. R. Meyer, T. Wies, and S. Wolff. In *Proceedings of the ACM on Programming Languages, Vol. 7, No. PLDI*, Orlando, FA, USA, June 2023.
7. Make flows small again. R. Meyer, T. Wies, and S. Wolff. In *29th International Conference on Tools and Algorithms for the Construction and Analysis of Systems, TACAS'23*, Paris, France, April 2023.
8. A Concurrent Program Logic with a Future and History. R. Meyer, T. Wies, and S. Wolff. In *Proceedings of the ACM on Programming Languages, Vol. 6, No. OOPSLA*, Auckland, New Zealand, December 2022.
9. Automated repair for timed systems. M. Kölb, S. Leue, and T. Wies. *Formal Methods in System Design (FMSD)*. October 2022.
10. Needles in a Haystack: Using PORT to Catch Bad Behaviors within Application Recordings. P. Moore, T. Wies, M. Waldman, P. Frankl, and J. Cappos. In *Proceedings of 17th International Conference on Software Technologies, ICSoft*, Lissabon, Portugal, July 2022.
11. Inverse-Weighted Survival Games. M. Goldstein, X. Han, A. M. Puli, T. Wies, A. J. Perotte, and R. Ranganath. In *Proceedings of the 35th Conference on Neural Information Processing Systems, NeurIPS*, December 2021.
12. Verifying Concurrent Multicopy Search Structures. N. Patel, S. Krishna, D. Shasha, and T. Wies. In *Proceedings of the ACM on Programming Languages, Vol. 5, No. OOPSLA, Article 113*, October 2021.
13. Automated Verification of Concurrent Search Structures. S. Krishna, N. Patel, D. Shasha, and T. Wies. Morgan & Claypool Publishers, 2021.
14. Data Flow Refinement Type Inference. Z. Pavlinovic, Y. Su, and T. Wies. In *Proceedings of the ACM on Programming Languages, Vol. 5, No. POPL, Article 19*, January 2021.
15. TarTar: A Timed Automata Repair Tool. M. Kölbl, S. Leue, and T. Wies. In *Proceedings of 32st International Conference on Computer Aided Verification, CAV*, Los Angeles, CA, USA, July 2020.
16. Verifying Concurrent Search Structure Templates. S. Krishna, N. Patel, D. Shasha, and T. Wies. In *41st ACM SIGPLAN Conference on Programming Language Design and Implementation, PLDI*, London, UK, June 2020.
17. Local Reasoning for Global Graph Properties. S. Krishna, A. J. Summers, T. Wies. In *29th European Symposium on Programming, ESOP*, Dublin, Ireland, April 2020.
18. Charting a Course Through Uncertain Environments: SEA Uses Past Problems to Avoid Future Failures. P. Moore, J. Cappos, P. Frankl, T. Wies. In *30th International Symposium on Software Reliability Engineering, ISSRE*, Berlin, Germany, October 2019.
19. Clock Bound Repair for Timed Systems. M. Kölbl, S. Leue, and T. Wies. In *Proceedings of 31st International Conference on Computer Aided Verification, CAV*, New York, NY, USA, July 2019.
20. VACCINE: Using Contextual Integrity for Data Leakage Detection. Y. Shvartzshnaider, Z. Pavlinovic, A. Balashankar, T. Wies, L. Subramanian, H. Nissenbaum, and P. Mittal. In *Proceedings of The Web Conference, WWW*, San Francisco, CA, USA, May 2019.
21. Go with the Flow: Compositional Abstractions for Concurrent Data Structures. S. Krishna, D. Shasha, T. Wies. In *Proceedings of the ACM on Programming Languages, Vol. 2, No. POPL, Article 37*, January 2018.
22. Full Accounting for Verifiable Outsourcing. R. S. Wahby, Y. Ji, A. J. Blumberg, a. shelat, J. Thaler, M. Walfish, T. Wies. In *ACM Conference on Computer and Communications Security, CCS*, Dallas, TX, USA, November 2017.
23. Partitioned Memory Models for Program Analysis. W. Wang, C. Barrett, and T. Wies. In *18 International Conference on Verification, Model Checking, and Abstract Interpretation, VMCAI 2017*, Paris, France, January 2017.

24. Error Invariants for Concurrent Traces. A. Holzer, D. Schwartz-Narbonne, M. Tabaei Befrouei, G. Weissenbacher and T. Wies. In *21st International Symposium on Formal Methods, FM'16*, Limassol, Cyprus, November 2016.
25. Learning Privacy Expectations by Crowdsourcing Contextual Informational Norms. Y. Shvartzshnaider, S. Tong, T. Wies, P. Kift, H. Nissenbaum, L. Subramanin, and P. Mittal. In *AAAI Conference on Human Computation and Crowdsourcing, HCOMP'16*, Austin, TX, USA, October 2016.
26. Classifying Bugs with Interpolants. A. Podelski, M. Schäfer, and T. Wies. In *10th International Conference on Tests & Proofs, TAP'16*, Vienna, Austria, July 2016.
27. Complete Instantiation-Based Interpolation. N. Totla and T. Wies. In *Journal of Automated Reasoning*, 57(1):37-65, 2016.
28. Practical SMT-Based Type Error Localization. Z. Pavlinovic, T. King, and T. Wies. In *20th ACM SIGPLAN International Conference on Functional Programming, ICFP'15*, Vancouver, British Columbia, Canada, August 2015.
29. Deciding Local Theory Extensions via E-Matching. K. Bansal, T. King, A. Reynolds, C. Barrett, and T. Wies. In *27th International Conference on Computer Aided Verification, CAV'15*, San Francisco, CA, USA, July 2015.
30. VERMEER: A Tool for Tracing and Explaining Faulty C Programs. D. Schwartz-Narbonne, C. Oh, M. Schäfer, and T. Wies. In *37th International Conference on Software Engineering, ICSE'15, Demonstrations Track*, Florence, Italy, May 2015
31. Context-Directed Graph Coverage. D. Schwartz-Narbonne, M. Schäfer, D. Jovanović, P. Rümmer, and T. Wies. In *7th NASA Formal Methods Symposium, NFM'15*, Pasadena, CA, USA, April 2015
32. Finding Minimum Type Error Sources. Z. Pavlinovic, T. King, and T. Wies. In *ACM SIGPLAN International Conference on Object Oriented Programming Systems, Languages, and Applications, OOPSLA'14*, Portland, OR, USA, October 2014.
33. Concolic Fault Abstraction. C. Oh, M. Schäfer, D. Schwartz-Narbonne, and T. Wies. In *14th IEEE International Working Conference on Source Code Analysis and Manipulation, SCAM'14*, Victoria, Canada, September 2014.
34. Automating Separation Logic with Trees and Data. R. Piskac, T. Wies, and D. Zufferey. In *26th International Conference on Automated Verification, CAV'14*, Vienna, Austria, July 2014.
35. GRASShopper: Complete Heap Verification with Mixed Specifications. R. Piskac, T. Wies, and D. Zufferey. In *20th International Conference on Tools and Algorithms for the Construction and Analysis of Systems, TACAS'14*, Grenoble, France, April 2014.
36. Dynamic Package Interfaces. S. Esmailsabzali, R. Majumdar, T. Wies, and D. Zufferey. In *17th International Conference on Fundamental Approaches to Software Engineering, FASE'14*, Grenoble, France, April 2014.
37. Cascade 2.0. W. Wang, C. Barrett, and T. Wies. In *15th International Conference on Verification, Model Checking, and Abstract Interpretation, VMCAI'14*, San Diego, CA, USA, January 2014.
38. Explaining Inconsistent Code. M. Schäfer, D. Schwartz-Narbonne, and T. Wies. In *9th Joint Meeting of the European Software Engineering Conference and the ACM SIGSOFT Symposium on the Foundations of Software Engineering, ESEC/FSE'13*, Saint Petersburg, Russia, August 2013.
39. Automating Separation Logic using SMT. R. Piskac, T. Wies, and D. Zufferey. In *25th International Conference on Automated Verification, CAV'13*, Saint Petersburg, Russia, July 2013.
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