Curriculum Vitae of Thomas Wies

Particulars

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Research Interests

Program analysis and verification; automated deduction; concurrent software; software productivity.

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

- 10/2023 – today: Professor. Computer Science Department, Courant Institute of Mathematical Sciences, New York University, New York, NY, USA.
- 09/2017 – 09/2023: 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

- 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.
- Bellairs Workshop on "Network Verification", Bellairs, Barbados, May 2022.
- Simons Institute Seminar on "Theoretical Foundations of Computer Systems", February 2021.
- Dagstuhl Seminar on "Deduction Beyond Satisfiability", Dagstuhl, Germany, September 2019.
- Shonan Meeting on "Causal Reasoning in Systems", Shonan Village, Japan, June 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

- 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

- 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:

- 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, IEEE Symposium on Security and Privacy *IEEE S&P*: 2023, 2024.
- **Other**: National Science Foundation: 2014, 2016, 2017, 2019, 2021; 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 – today.
- 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.
- Nisarg Patel, NYU, 2018 – today.
- Jacob Salzberg, NYU, 2021 – today.

former PhD students:

- 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 DRIFT^2".
- Damien Zufferey, EPFL, graduated 2009 on "Verification of Concurrent Asynchronous Message-Passing Programs".
- Marco Muñiz, 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

- 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

- Deputy Director representing Computer Science on the Courant Steering Committee, Fall 2022 – today.
- Director of Graduate Studies of the PhD Program, Fall 2019 – Fall 2020, Fall 2021 – today.
- Member of CS Appointments Committee, 2017 – today.
- Member of CS Fellowship Committee (admission, student progress), 2013 – today.
- 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. 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.
2. 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.
3. Refinement Proofs for Probabilistic Proofs. K. Jiang, D. Chait-Roth, Z. DeStefano, M. Walfish, and T. Wies. In *Proceedings of 44th IEEEE Symposium on Security and Privacy, IEEE S&P'23*, San Francsico, CA, USA, May 2023.

4. 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.
5. 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.
6. 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.
7. Automated repair for timed systems. M. Kölb, S. Leue, and T. Wies. *Formal Methods in System Design (FMSD)*. October 2022.
8. 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.
9. 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.
10. 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.
11. Automated Verification of Concurrent Search Structures. S. Krishna, N. Patel, D. Shasha, and T. Wies. Morgan & Claypool Publishers, 2021.
12. 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.
13. 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.
14. 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.
15. Local Reasoning for Global Graph Properties. S. Krishna, A. J. Summers, T. Wies. In *29th European Symposium on Programming, ESOP*, Dublin, Ireland, April 2020.
16. 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.
17. 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.
18. 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.
19. 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.
20. 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.
21. 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.
22. 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.
23. 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.
24. Classifying Bugs with Interpolants. A. Podelski, M. Schäf, and T. Wies. In *10th International Conference on Tests & Proofs, TAP'16*, Vienna, Austria, July 2016.
25. Complete Instantiation-Based Interpolation. N. Totla and T. Wies. In *Journal of Automated Reasoning*, 57(1):37-65, 2016.
26. 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.
27. 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.

28. VERMEER: A Tool for Tracing and Explaining Faulty C Programs. D. Schwartz-Narbonne, C. Oh, M. Schäf, and T. Wies. In 37th *International Conference on Software Engineering, ICSE'15, Demonstrations Track*, Florence, Italy, May 2015
29. Context-Directed Graph Coverage. D. Schwartz-Narbonne, M. Schäf, D. Jovanović, P. Rümmer, and T. Wies. In *7th NASA Formal Methods Symposium, NFM'15*, Pasadena, CA, USA, April 2015
30. 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.
31. Concolic Fault Abstraction. C. Oh, M. Schäf, D. Schwartz-Narbonne, and T. Wies. In *14th IEEE International Working Conference on Source Code Analysis and Manipulation, SCAM'14*, Victoria, Canada, September 2014.
32. 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.
33. 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.
34. Dynamic Package Interfaces. S. Esmaeilsabzali, R. Majumdar, T. Wies, and D. Zufferey. In *17th International Conference on Fundamental Approaches to Software Engineering, FASE'14*, Grenoble, France, April 2014.
35. 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.
36. Explaining Inconsistent Code. M. Schäf, 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.
37. 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.
38. Structural Counter Abstraction. K. Bansal, E. Koskinen, T. Wies, and D. Zufferey. In *19th International Conference on Tools and Algorithms for the Construction and Analysis of Systems, TACAS'13*, Rome, Italy, March 2013.
39. Complete Instantiation-Based Interpolation. N. Totla and T. Wies. In *40th Annual ACM Symposium on the Principles of Programming Languages, POPL'13*, Rome, Italy, January 2013.
40. Flow-Sensitive Fault Localization. J. Christ, E. Ermis, M. Schäf, and T. Wies. In *14th International Conference on Verification, Model Checking, and Abstract Interpretation, VMCAI'13*, Rome, Italy, January 2013.
41. Error Invariants. E. Ermis, M. Schäf, and T. Wies. In *18th International Symposium on Formal Methods, FM'12*, Paris, France, August 2012.
42. Ideal Abstractions for Well-Structured Transition Systems. D. Zufferey, T. Wies, and T. A. Henzinger. In *13th International Conference on Verification, Model Checking, and Abstract Interpretation, VMCAI'12*, Philadelphia, USA, January 2012.
43. Deciding Functional Lists with Sublist Sets. T. Wies, M. Muñiz, and V. Kuncak. In *4th International Conference on Verified Software: Theories, Tools, and Experiments, VSTTE'12*, Philadelphia, USA, January 2012.
44. An Efficient Decision Procedure for Imperative Tree Data Structures. T. Wies, M. Muñiz, and V. Kuncak. In *23rd International Conference on Automated Deduction, CADE-23*, Wroclaw, Poland, August 2011.
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