Curriculum Vitae: Thomas Vogel

Humboldt-Universität zu Berlin, Unter den Linden 6, 10099 Berlin, Germany
+49 30 2093-41147 • thomas.vogel@informatik.hu-berlin.de • https://thomas-vogel.github.io

Education

2018 Ph.D. in Computer Science, Hasso Plattner Institute/University of Potsdam (summa cum laude)
2008 Diploma in Information Systems, University of Bamberg (graduated with distinction)

Positions

2022-present Postdoctoral Researcher, Humboldt-Universität zu Berlin
2021-2022 Stand-in Professor for Empirical Software Engineering (W3), Paderborn University
2018-2021 Postdoctoral Researcher, Humboldt-Universität zu Berlin
2017-2018 Scientific Assistant, Humboldt-Universität zu Berlin
2013-2017 Scientific Assistant, Hasso Plattner Institute/University of Potsdam
2008-2013 Ph.D. Student (Scholarship), Hasso Plattner Institute/University of Potsdam

Selected Awards

2025 **SEAMS 10-Year Most Influential Paper Award** for "Software Engineering meets Control Theory" (SEAMS 2025; with Antonio Filieri, Martina Maggio, Konstantinos Angelopoulos, Nicolas D'Ippolito, Ilias Gerostathopoulos, Andreas Hempel, Henry Hoffmann, Pooyan Jamshidi, Evangelia Kalyvianaki, Cristian Klein, Filip Krikava, Sasa Misailovic, Alessandro Papadopoulos, Suprio Ray, Amir Sharifloo, Stepan Shevtsov, Mateusz Ujma)
2024 **SEAMS 2024 Best Paper Award** for "Formal Synthesis of Uncertainty Reduction Controllers" (with Marc Carwehl, Calum Imrie, Genaína Rodrigues, Radu Calinescu, and Lars Grunske)
2021 **Top 1% of SoSyM Reviewers** of the Journal of Software and Systems Modeling (SoSyM)
2018 **Facebook Testing and Verification Research Award** (acceptance rate <7%)
2017 **Karsten Schwan Best Paper Award** for "Efficient Utility-Driven Self-Healing Employing Adaptation Rules for Large Dynamic Architectures" (ICAC 2017; with Sona Ghahremani and Holger Giese)
2012 **SEAMS 2012 Best Paper Award** for "A language for feedback loops in self-adaptive systems: Executable runtime megamodels" (with Holger Giese)

Grants

2025 Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) grant for "Controlling Search-Based Test Case Generation and Program Repair"
2018 Facebook Testing and Verification Research Award for "Self-Adaptive Search for Sapienz (S3)"

Mentoring Ph.D. Students

Current Marc Carwehl and Sebastian Müller
2023 Dr. Arut Prakash Kaleeswaran ("Explanation of the Model Checker Verification Result")
2023 Dr. Sona Ghahremani ("Incremental Self-Adaptation of Dynamic Architectures Attaining Optimality and Scalability", summa cum laude)

Teaching (selected courses)

Lecturer "AI Controlled Software Testing (2025) • "Software Engineering II" (2017–2025, with Lars Grunske) • "Adaptive Systeme" (2023, with Marc Carwehl) • "Software Quality Assurance" (2022) • "Search-Based Software Engineering" (2022) • "Learning, Optimization, and Assurances for Self-Adaptive Systems" (2022) • "Software Engineering for Self-Adaptive Systems" (2021) • "Requirements Engineering and Software Architecture" (2021)
Assistant "Software Engineering" (2019–2025) • "Methoden und Modelle des Systementwurfs" (2022–2025) • "Modellbasierte Entwicklung eingebetteter Systeme" (2021) • "Software Verification" (2020)

Steering Committee Memberships

2023–present ACM/IEEE International Conference on Software Engineering for Adaptive and Self-Managing Systems (SEAMS) (nominated)
2020-2022 International Symposium on Search-Based Software Engineering (SSBSE) (elected)

Editorial Boards

Since 05/2025	Associate Editor of ACM Transactions on Autonomous and Adaptive Systems (TAAS)
Since 01/2014	Editor-in-Chief of `self-adaptive.org`, the central website of the research community on software engineering for self-adaptive systems

Organization of Recent Scientific Meetings

2025	**Program Co-Chair**	Research Track, ACM/IEEE International Conference on Software Engineering for Adaptive and Self-Managing Systems (SEAMS)
2023	**Workshop Co-Chair**	Gesellschaft für Informatik (GI) conference on Software Engineering (SE)
2023	**Program Co-Chair**	HOP Track, International Symposium on Search-Based Software Engineering (SSBSE)
2022	**Program Co-Chair**	Challenge Track, International Symposium on Search-Based Software Engineering (SSBSE)
2021	**Program Co-Chair**	DEI Track, 5th European Conference on Software Architecture (ECSA)
2021	**Program Chair**	Artifacts Track, ACM/IEEE International Symposium on Software Engineering for Adaptive and Self-Managing Systems (SEAMS)

Co-Organizer of three GI Dagstuhl Seminars: Explainable Software for Cyber-Physical Systems (2019), Software Engineering for Intelligent and Autonomous Systems (2018), Software Engineering for Self-Adaptive Systems (2014).

Selected Program Committee Memberships

- **ACM/IEEE International Conference on Automated Software Engineering (ASE)** – Research Track (2025), NIER Track (2022)
- **ACM/IEEE International Conference on Software Engineering (ICSE)** – Research Track (2024), NIER Track (2020)
- **IEEE International Conference on Software Testing, Verification and Validation (ICST)** – Research Track (2022–2025)
- **ACM/IEEE International Conference on Software Engineering for Adaptive and Self-Managing Systems (SEAMS)** – Research Track (2026, 2018–2024), Artifact Track (2023, 2015)
- **ACM Genetic and Evolutionary Computation Conference (GECCO)** – SBSE Track (2019–2023)
- **ACM/IEEE International Conference on Automation of Software Test (AST)** – (2025)
- **IEEE International Conference on Autonomic Computing and Self-Organizing Systems (ACSOS)** – Research Track Senior PC Member (2023), Research Track (2022, 2021), Posters/Demos Track (2021, 2020)
- **International Symposium on Search-Based Software Engineering (SSBSE)** – Research Track (2025, 2021–2023), NIER Track (2021, 2020)

Five Representative Publications

[1] Marc Carwehl, Calum Imrie, **Thomas Vogel**, Genaína Rodrigues, Radu Calinescu, and Lars Grunske. "Formal Synthesis of Uncertainty Reduction Controllers". In: *Proceedings of the 19th International Conference on Software Engineering for Adaptive and Self-Managing Systems*. SEAMS '24. **Best Paper Award**. ACM, 2024, pp. 2–13. DOI: 10.1145/3643915.3644095.

[2] João Paulo Costa de Araujo, Genaína Nunes Rodrigues, Marc Carwehl, **Thomas Vogel**, Lars Grunske, Ricardo Caldas, and Patrizio Pelliccione. "Explainability for Property Violations in Cyberphysical Systems: An Immune-Inspired Approach". In: *IEEE Software* 41.5 (2024), pp. 43–51. DOI: 10.1109/MS.2024.3387289.

[3] Arut Prakash Kaleeswaran, Arne Nordmann, **Thomas Vogel**, and Lars Grunske. "A User Study for Evaluation of Formal Verification Results and their Explanation at Bosch". In: *Empirical Software Engineering (EMSE)* 28.125 (2023). DOI: 10.1007/s10664-023-10353-4.

[4] **Thomas Vogel**, Chinh Tran, and Lars Grunske. "A Comprehensive Empirical Evaluation of Generating Test Suites for Mobile Applications with Diversity". In: *Information and Software Technology* 130 (2021). *(Available online 25 September 2020)*, p. 106436. DOI: 10.1016/j.infsof.2020.106436.

[5] **Thomas Vogel** and Holger Giese. "Model-Driven Engineering of Self-Adaptive Software with EUREMA". In: *ACM Transactions on Autonomous and Adaptive Systems* 8.4 (2014), 18:1–18:33. DOI: 10.1145/2555612.

All publications: Homepage • DBLP • Google Scholar • ORCiD: 0000-0002-7127-352X