Curriculum Vitae: Andreas Zeller

Male · German · Born October 28, 1965
Center for IT-Security, Privacy, and Accountability (CISPA) and Computer Science Department
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Education

1997 Ph.D. in Computer Science, TU Braunschweig (summa cum laude)
1991 Diploma in Computer Science, TU Darmstadt (passed with distinction)

Current Position

2003–present Full Professor (W3/C4), Computer Science, Saarland University, Germany

Previous Positions

2001–2003 Associate Professor (C3), Computer Science, Saarland University, Germany
1999–2001 Post-Doc Researcher (C1), Computer Science, Passau University, Germany
1997–1999 Post-Doc Researcher (C1), Computer Science, TU Braunschweig, Germany
1991–1997 Scientific Assistant, Computer Science, TU Braunschweig, Germany

Guest researcher/lecturer at Microsoft Research, Redmond, USA (2011, 2009, 2005); ETH Zürich, Switzerland (2007); and University of Washington, USA (2005).

Accomplishment Awards

2010 **ACM Fellow** (ACM's most prestigious member grade recognizing the top 1% of ACM members for their outstanding accomplishments) as the youngest European researcher ever for "contributions to automated debugging and mining software archives", two fields I helped to shape.

Impact Awards

2017 **MSR 10-Year Most Influential Paper Award** (the single MSR 2007 paper with the biggest impact) for "How Long Will It Take to Fix This Bug?" (with Cathrin Weiß, Rahul Premraj, and Thomas Zimmermann)

2015 **MSR 10-Year Most Influential Paper Award** (the single MSR 2005 paper with the biggest impact) for "When do Changes induce Fixes?" (with Jacek Śliwerski and Thomas Zimmermann)

2015 **ICSE 10-Year Most Influential Paper Award, Official Runner-Up** (one of two ICSE 2005 papers with the second biggest 10-year impact) for "Locating Causes of Program Failures" isolating cause-effect chains in failing programs (with Holger Cleve).

2014 **ICSE 10-Year Most Influential Paper Award** (the single ICSE 2004 paper with the biggest 10-year impact) for "Mining Software Histories to Guide Software Changes" introducing mining software repositories (with Thomas Zimmermann, Peter Weißgerber, and Stephan Diehl).

2009 **ACM SIGSOFT 10-Year Impact Award** (the single 1999 software engineering paper with the biggest 10-year impact) for "Yesterday, my program worked. Today, it does not. Why?" introducing delta debugging.

2006 **Jolt Productivity Award** (for products that have "jolted" the industry by making the task of creating software faster, easier, and more efficient) for "Why Programs Fail", the first textbook on debugging.

Supervision of Graduate Students and Postdoctoral Fellows

2001–present	9 Ph.D.s completed, 8 Ph.D.s currently supervised 6 Post-Docs completed, 2 Post-Docs currently associated, all at Saarland University

Teaching Activities

1997–present	Courses on Software Engineering, Introduction to Programming, Program Analysis, Software Testing, Security Testing
2012	Udacity Online Course CM259 "Software Debugging" (commissioned by Udacity)
2005	Textbook "Why Programs Fail", Morgan Kaufmann Editors
1999	Textbook "Essential Open Source Toolset", dpunkt/Wiley Editors (with Jens Krinke)

Organization of Scientific Meetings

2016	**General Chair**	IEEE European Symposium on Security and Privacy (EuroS&P 2016)
2016	**General Chair**	Intl. Symposium on Software Testing and Analysis (ISSTA 2016)
2013	**Program Chair**	Intl. Conference on Automated Software Engineering (ASE 2013) (co-chaired with Tevfik Bultan)
2011	**Program Chair**	European Conference on Software Engineering / ACM SIGSOFT Foundations of Software Engineering (ESEC/FSE 2011)
2008	**Program Chair**	Intl. Symposium on Software Testing and Analysis (ISSTA 2008)
2006	**Program Chair**	Intl. Conference on Compiler Construction (CC 2006) (co-chaired with Alan Mycroft)

Co-Organizer of six Dagstuhl Seminars (2003, 2005, 2007, 2010, 2011, and 2015).

Institutional Responsibilities

2013–present	Principal Investigator, Center for IT-Security, Privacy, and Accountability (CISPA).
2008–present	Scientific Vice-Coordinator, Saarbrücken Graduate School for Computer Science.
2001–present	Head of the Software Engineering Chair at Saarland University. Position offers from Mannheim, Hannover, Zürich, and Karlsruhe.
2001–present	Faculty member, Department of Computer Science, Saarland University.
2005–2007	Vice Dean and Speaker of Computer Science Department.
2003–2005	Vice Dean of Studies, Department of Mathematics and Computer Science.

Commissions of Trust

2016–present	Research Highlights Editorial Board, Communications of the ACM
2016–present	Editorial Board, Journal of Software Testing, Verification and Reliability
2013–present	Editorial Board, IEEE Transactions on Software Engineering (TSE)
2011–present	National DFG Proposal Review Panel for Computer Science, Elected Member
2009–present	Editorial Board, Springer Journal on Empirical Software Engineering (ESEM)
2008–present	Steering Committee, Int. Symposium on Software Testing and Analysis (ISSTA)
2011–2016	Steering Committee, European Software Engineering Conference (ESEC)
2006–2013	Editorial Board, ACM Transactions on Software Engineering and Methodology
2006–2009	ACM SIGSOFT Executive Committee, Elected Member At Large

Ten-Year Track Record: Andreas Zeller

The track record on the next two pages covers the last ten years, i.e. the period 2006—2016.

Ten Representative Publications

[1] Nagappan, N., Ball, T., and Zeller, A. 2006. "Mining Metrics to Predict Component Failures" *Proc. ICSE 2006*, pp. 452–461. **591 citations.**

[2] Kim, S., Zimmermann, T., Whitehead, J., and Zeller, A. 2007. "Predicting Faults from Cached History" *Proc. ICSE 2007*, pp. 489–498. **301 citations.**

[3] Neuhaus, S., Zimmermann, T., Holler, C., and Zeller, A. 2007. "Predicting Vulnerable Software Components" *Proc. CCS 2007*, pp. 529–540. **174 citations.**

[4] Dallmeier, V., Knopp, N., Mallon, C., Fraser, G., Hack, S., and Zeller, A. 2012. "Automatically Generating Test Cases for Specification Mining" IEEE TSE 38(2), pp. 243–257. Invited paper; conference version at ISSTA 2010. **142 citations.**

[5] Gross, F., Fraser, G., and Zeller, A. 2012. "Search-Based System Testing: High Coverage, no False Alarms" *Proc. ISSTA 2012*, pp. 67–77. **66 citations.**

[6] Holler, C., Herzig, K., and Zeller, A. 2012. "Fuzzing with Code Fragments" *Proc. USENIX Security 2012*, pp. 38–48. **47 citations.**

[7] Gorla, A., Tavecchia, I., Gross, F., and Zeller, A. 2014. "Checking App Behavior against App Descriptions" *Proc. ICSE 2014*, pp. 1025–1035. **94 citations.**

[8] Avdiienko, V., Kuznetsov, K., Gorla, A., Zeller, A., Arzt, S., Rasthofer, S., and Bodden, E. 2015. "Mining Apps for Abnormal Usage of Sensitive Data" *Proc. ICSE 2015.* **27 citations.**

[9] Jamrozik, K., von Styp-Rekowsky, P., and Zeller, A. 2016. "Mining Sandboxes" *Proc. ICSE 2016.*

[10] Höschele, M., and Zeller, A. 2016. "Mining Input Grammars From Dynamic Taints" *Proc. ASE 2016.*

Research Monographs, Chapters in Collective Volumes

[11] Zeller, A. 2007. "Beautiful Debugging." In: Oram, Wilson (Eds.), *Beautiful Code: Leading Programmers Explain How They Think,* Chapter 28.

[12] Zeller, A. 2009. *Why programs fail: A guide to systematic debugging.* Morgan Kaufmann Publishers (Second edition, 2009). **430 citations.** Translations: Russian, Chinese, Japanese.

[13] Zeller, A. and Schuler, D. 2009. "Seeding Bugs to Find Bugs: Beautiful Mutation Testing" In: Riley, Goucher (Eds.), *Beautiful Testing: Leading Professionals Reveal How They Improve Software ,* Chapter 18.

[14] Herzig, K. and Zeller, A. 2010. "Mining Your Own Evidence" In: Oram, Wilson (Eds.), *Making Software: What Really Works, and Why We Believe It,* Chapter 27.

[15] Kuznetsov, K., Gorla, A., Tavecchia, I., Gross, F., and Zeller, A. 2015. "Mining Android Apps for Anomalies" In: Menzies, Bird, Zimmermann (eds.), *The Art and Science of Analyzing Software Data.*

Patents

- Zeller, A., and Jamrozik, K., 2016. "Mining Sandboxes." International Patent Application based on [9]; published August 25, 2016 at the European Patent Office under International Publication Number WO 2016/131830 A1.

Invited Presentations

Invited presentations at peer-reviewed, international conferences — **MSR** (2017) · **GI Tag der Informatik** (2016) · **ICPC** (2015) · **ICSE** (2014) · **ICMT** (2013) · **SPIN** (2012) · **SSBSE** (2011) · **NASA Formal Methods Symposium** (2011) · **SCAM** (2010) · **ESEC/FSE** (2009) · **TTCN-3 User's Conference** (2009) · **ISEC** (2008) · **ICSE Education Track** (2008) · **ICSE Future of SE Track** (2007) · **MSR** (2007) · **TAIC PART** (2007) · **HVC** (2007)

International advanced schools — **Halmstad Summer School on Testing, Halmstad, Sweden** (2017) · **CASE Summer School on Applied Software Engineering, Bolzano, Italy** (2010) · **Summer School on Software Engineering, Salerno, Italy** (2008) · **LASER Summer School on Software Engineering, Elba, Italy** (2006)

Organization of International Conferences

- **European Symposium on Security and Privacy (EuroS&P)** — **General Chair** (2016)
- **ACM International Conference on Software Testing and Analysis (ISSTA)** — **General Chair** (2016) · **Steering Committee Chair** (2016–) · **Program Chair** (2008) · PC Member (2013, 2011, 2010, 2006)
- **ACM/IEEE International Conference on Software Engineering (ICSE)** — **Program Board Member** (2018, 2016) · Doctoral Symposium Chair (2012) · Tutorial Chair (2011) · Emerging Faculty Symposium Chair (2010) · PC Member (2017, 2015, 2014, 2013, 2011, 2010)
- **IEEE/ACM International Conference on Automated Software Engineering (ASE)** — **Program Co-Chair** (2013) · Doctoral Symposium Chair (2012) · PC Member (2017, 2014, 2012)
- **European Software Engineering Conference / ACM SIGSOFT Symposium on the Foundations of Software Engineering (ESEC/FSE)** — **Program Chair** (2011) · Tutorial Chair (2017) · PC Member (2017, 2015, 2013, 2009, 2008, 2006) · ESEC Steering Committee Member (2009–) · ACM SIGSOFT Executive Committee (FSE Steering Committee) Member (2006–2009)
- **International Conference on Compiler Construction (CC)** — **Program Co-Chair** (2006) · PC Member (2010, 2008) · ETAPS Steering Committee Member (2006–2007)
- **Haifa Verification Conference (HVC)** — **Program Chair** (2009)
- **Dagstuhl Seminars** — **Co-Organizer** ("Artifact Evaluation for Publications", 2015; "Self-Healing Programs", 2011; "New Frontiers for Empirical Software Engineering", 2010; "Mining Programs and Processes", 2007)

Major Contributions to the Early Careers of Excellent Researchers

Thomas Zimmermann (Microsoft Research; associate professor at University of Calgary) did his Master thesis (2001) and Ph.D. thesis (2006) with me, shaping and pioneering the new research field of Mining Software Repositories. With an h-index of 46 only ten years after his Ph.D., Thomas is now one of the most influential young Software Engineering researchers of all time.

Examples of Leadership in Industrial Innovation or Design

Testfabrik AG, founded in 2011, applies test generation techniques from the ERC "SPECMATE" project to automatically determine cross-browser issues and regression errors in Web applications. After attracting more than 1 Million € in startup funding and awards as co-founder, I currently serve as chair of the supervisory board.