

Eric Bodden, Ph.D.

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Date of birth: Feb. 20th, 1980

Education

- 01/2006–06/2009** **McGill University, Montréal, Québec, Canada**
Ph.D. in Computer Science
Thesis: Verifying finite-state properties of large-scale programs
Advisor: Professor Laurie J. Hendren
- 10/2003–12/2005** **RWTH Aachen University, Aachen, Germany**
Diploma in Computer Science, graduated with distinction
Thesis: J-LO—A tool for runtime-checking temporal assertions
Advisor: Professor Klaus Indermark
- 09/2002–06/2003** **University of Kent at Canterbury, UK**
exchange year, Diploma in Computer Science, graduated with distinction
- 10/2000–08/2002** **RWTH Aachen University, Aachen, Germany**
Intermediate Diploma (Vordiplom) in Computer Science

Workshops on transferable skills

- 10/2009–12/2009** **Achieving professional goals:** Attended workshop *Achieving professional goals* offered by the Center for Advanced Security Research Darmstadt (CASED).
- March 2008** **Learn to teach:** Attended workshop by McGill's Teaching and Learning Services. Topics: Engaging Students through Interactive Strategies, Communicating with students, Language and culture for asking and answering questions.
- 10/2006–12/2006** **Writing Science Articles:** Successfully completed course *Writing Science Articles 1* offered by McGill University. Topic: How to structure and edit scientific articles to make them easily accessible to a broad audience.

Academic Work Experience

- 08/2009–present** **Post-doctoral research fellow:** Software Technology Group (Professor Mira Mezini), Technische Universität Darmstadt, Germany.
Coordinator of the Graduate School: Center for Advanced Security Research Darmstadt (CASED). Responsible for hiring of scholars, for organizing workshops on transferable skills and the annual retreat, for controlling and reporting. Promoting new Master of IT-Security.
- 01/2006–07/2009** **Research Assistant:** Sable Research Group, School of Computer Science, McGill University, Montréal, Québec, Canada. Designer and maintainer of the **Clara** system for **hybrid verification** (dynamic and static) of typestate properties using runtime monitors and data-flow analysis. In runtime monitoring, a compiler instruments a program under test with safety checks that are evaluated at runtime. The static analyses that Clara provides evaluate most of these checks ahead-of-time.

This allows programmers to find programming errors already at compile time, and to evaluate runtime monitors with less overhead at runtime. I am also the chief maintainer of the **Soot** framework for the analysis and transformation of Java programs, and a committer to the **AspectBench Compiler** project, an open research compiler for AspectJ.

- 02/2004–12/2005** **Student Assistant:** Chair I2 for Programming languages and Program analysis, RWTH Aachen University, Germany. I supported Ph.D. student Michael Weber in the design and development of an explicit-state model checker for SDL, the Specification and Description Language.
- 04/2001–07/2002** **Student Assistant:** Detection of sub-components of gestures using hierarchical clustering as part of project “Wireless Information System for Deaf People On The Move”. Supervisor: Britta Bauer of Institute of Man-Machine Interaction, RWTH Aachen University.

Relevant Employment, Internships and Projects

- 2006/01–present** **Research Assistant:** Sable Research Group, School of Computer Science, McGill University. Designer and maintainer of a system for the **hybrid verification** (dynamic and static) of safety properties using runtime monitors. Also maintainer of the **Soot** framework, the de-facto standard in program analysis and transformation of Java programs, and committer to the **AspectBench Compiler** project, an open research compiler for AspectJ.
- 06/2004–11/2005** **Microsoft Student Partner** at Microsoft Germany GmbH, Aachen, Germany. Established academic relationships between Microsoft and students. Built community web portal using Microsoft infrastructure software.
- 06/2003–06/2004** **Software Architect at Q2Web** GmbH, Pulheim, Germany. Designed and implemented a caching system for PDAs, allowing both offline reading and posting of webpages.
- 06/2003–09/2003** **Summer internship at IBM** e-business Integration Technologies, Hursley, UK. Developed performance-test framework for J9 Java VM from scratch.
- 04/2002–06/2002** **Lab on Java High-Performance Programming** at the Institute for Scientific Computing, RWTH Aachen University, Aachen, Germany. Developed distributed algorithms in Java using MPI and other technologies.
- 10/1996–09/2001** **Programmer at Hitec Zang** GmbH, Herzogenrath, Germany. Developed software components in Delphi. Conducted ISO 9000 compliance testing.

Awards, Distinctions and Patents

- March 2010** **CAGS/UMI and ADESAQ Dissertation awards**
McGill University nominated my dissertation “Verifying finite-state properties of large-scale programs” for the Canada-wide CAGS/UMI Distinguished Dissertation Awards and for the Québec-wide Prix d’excellence de l’Association des doyens des études supérieures au Québec (ADESAQ). There is one nomination per faculty.
- July 2008** **SIGSOFT Distinguished Paper Award**
“Racer: Effective Race Detection Using AspectJ” at the 2008 International Symposium on Software Testing and Analysis (ISSTA).
The ACM Special Interest Group on Software Engineering (SIGSOFT) awards up to two submissions to the ISSTA conference with this award every year. In 2008, my submission was selected as one of two submissions to be awarded.
- June 2005** **Winner: Grand Finals of the ACM Student Research Competition**
“Efficient and Expressive Runtime Verification for Java”.
This award is the highest honour that the Association for Computing Machinery (ACM) awards to one graduate and one undergraduate student each year, taking into account submissions to all major ACM conferences. In 2005 I won in the undergraduate category.

Others	<p>Distinction: Diplomas awarded with distinction by both the University of Kent at Canterbury and RWTH Aachen University (see above)</p> <p>Patent: pending for “Method and system for performance profiling of software”, claimed by IBM, US patent no. US20060101421, filed on 19/10/2005.</p> <p>Other awards: I have been awarded multiple merit-based travel awards by ACM SIGPLAN and SIGSOFT, the DFG, AOSD-Europe and McGill University. McGill University further supported me through multiple merit-based departmental funding and tuition-fee waivers.</p>
<u>Service</u>	<p>Communications chair: International Symposium on Software Testing and Analysis (ISSTA) 2011.</p>
Since 08/2009	<p>Coordinator of the Software-Engineering Project: Technische Universität Darmstadt. In this project, groups of four to six students develop an industrial-strength piece of software from scratch, for actual industrial partners. I acquired project proposals and 27.000 EUR of funding from industrial partners such as Deutsche Börse Group, Deutsche Flugsicherung, REA Electronics and Lynx Technik AG. Further, I supervised the overall project during the entire academic year.</p>
Since 11/2009	<p>Coordinator of the Graduate School: Center for Advanced Security Research Darmstadt (CASED): hiring of scholars, organization of workshops on transferable skills, organization of annual retreat, controlling and reporting. Promoting new Master of IT-Security.</p>
06/2006–06/2009	<p>Representative for Canada: Association of Alumni, Friends, and Supporters of the RWTH Aachen University in North America: connecting with and supporting RWTH Alumni living in Canada, organization of the annual meeting of all North-American Alumni in Montréal, May 15th-17th, 2009. (www.rwth-naaa.de)</p>
Others	<p>Hiring Committees: In 2009/2010: Member of a hiring committee for a full professorship in Software Engineering at the Technische Universität Darmstadt.</p> <p>Program Committees: International Conference on Aspect-Oriented Programming (AOSD) 2011, International Conference on Runtime Verification (RV) 2010, Workshop on Foundations of Aspect-Oriented Languages (FOAL) 2010, Workshop on Runtime Verification (RV) 2007 and 2009, Workshop on Virtual Machines and Intermediate Languages for emerging modularization mechanisms (VMIL) 2008 and 2009 and the ECOOP Doctoral Symposium 2008.</p> <p>Reviewer: ACM Transactions on Software Engineering and Methodology (TOSEM), IEEE Transactions on Software Engineering (TSE), International Journal of Image and Graphics (IJIG), ECOOP 2010, OOPSLA 2008, PEPM 2008, PLDI 2006, AOSD 2006, 2007 and 2010, SEFM 2005 and 2008, and ATVA 2008.</p> <p>Other Related Community Involvement: From 01/2006–04/2006: Member of the Expert group for Design by Contract for Java in the Java Community Process (JCP). Also committer to the ajlib development group; goal: to develop a standard library of reusable AspectJ aspects.</p>
<u>Citizenship</u>	<p>German</p>
<u>Languages</u>	<p>German native</p> <p>English full professional proficiency (written and spoken)</p> <p>French elementary proficiency (written and spoken)</p>
<u>References</u>	<p>Available upon request</p>