

REID HOLMES

CURRICULUM VITAE

Associate Professor
Department of Computer Science
University of British Columbia
Vancouver, British Columbia, V6T 1Z4

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http://www.cs.ubc.ca/~rtholmes/

EDUCATION

Associate Professor 2015–Present
University of British Columbia, Vancouver, Canada

Associate Professor 2015
University of Waterloo, Waterloo, Canada

Assistant Professor 2010–2015
University of Waterloo, Waterloo, Canada

Adjunct Professor 2011–2013
University of Washington, Seattle, USA

Postdoctoral Fellow, Computer Science 2008–2010
University of Washington, Washington, USA
Host: David Notkin

Ph.D., Computer Science 2004–2008
University of Calgary, Calgary, Canada
Pragmatic Software Reuse
Supervisor: Robert J. Walker

M.Sc., Computer Science 2002–2004
University of British Columbia, Vancouver, Canada
Using Structural Context to Recommend Source Code Examples
Supervisor: Gail C. Murphy

B.Sc., Computer Science 1997–2002
University of British Columbia, Vancouver, BC, Canada

RESEARCH EXPERIENCE

Postdoctoral Fellow **University of Washington**
Department of Computer Science & **Washington, USA**
Engineering **2008–2010**
Hosted by David Notkin
Investigated new techniques to automatically detect when software behaviour is inconsistent with a developer's expectations.

Research Assistant
Department of Computer Science

University of Calgary
Calgary, Canada
2004–2008

Investigated a comprehensive approach, termed *Pragmatic Reuse*, by which productivity can be increased by supporting informal source code reuse tasks.

Research Intern
Human Interactions in Programming

Microsoft Research
Redmond, USA
Fall 2007

Investigated developer information needs while exploring external source code and developed a tool to increase the developer's understanding of how and why code had changed in the past.

Visiting Researcher
Center for Advanced Studies

IBM Canada
Ottawa, Canada
August 2006

Performed early validation of doctoral thesis premise and early prototype tool. Remainder of time was spent brainstorming techniques to make source code dependency investigation more effective.

Research Assistant
Department of Computer Science

University of British Columbia
Vancouver, Canada
2002–2004

Researched approaches to automatically locate source code examples that are relevant to a developer's current workspace in order to help them better understand how to use large frameworks.

Undergraduate Researcher
Software Practices Lab

University of British Columbia
Vancouver, Canada
April–Dec 2000

Researched and implemented techniques for increasing the scalability of an object-oriented runtime visualization system.

INDUSTRIAL
EXPERIENCE

Program Manager
Digital Lifestyle User Experience

Microsoft Corporation
Redmond, USA
May–Aug 2002

Software Engineer
Integration Engine

Pivotal Corporation
Vancouver, Canada
April–Sept 2001

Information Technologist
Network Solutions

Suncor Energy
Fort McMurray, Canada
Jan–Aug 1999

Network Engineer
University Support Services

University of British Columbia
Vancouver, Canada

HONOURS AND
AWARDS

- **Outstanding Young Computer Science Researcher Award**
CS—Can | Info—Can 2018
 - **ICSE Most Influential Paper 10 Years Later Runner-Up:**
“Using Structural Context to Recommend Source Code Examples” 2015
 - **ACM Distinguished Paper Award:** “Are Mutants a Valid Substitute
for Real Faults in Software Testing?”, *In Proceedings of the International
Symposium on the Foundations of Software Engineering (FSE)* 2014
 - **ACM Distinguished Paper Award:** “Coverage Is Not Strongly
Correlated With Test Suite Effectiveness”, *International
Conference on Software Engineering (ICSE)* 2014
 - **Distinguished Paper Award:** “The Influence of Non-Technical
Factors on Code Review”, *Working Conference on Reverse
Engineering (WCRE)* 2013
 - **ACM Distinguished Paper Award:** “Proactive Detection
of Collaboration Conflicts”, *Foundations of Software
Engineering (FSE)* 2011
 - Nominated for the Governor General’s Gold Medal 2009
 - Nominated for the Chancellor’s Graduate Medal 2009
 - NSERC PDF Postdoctoral Fellowship – \$80,000 2008
 - **MSR Challenge Award:** “A Newbie’s Guide to Eclipse APIs”,
Working Conference on Mining Software Repositories 2008
 - **Best Presentation Award:** “Informing Eclipse API Production and
Consumption”, *Eclipse Technology Exchange Workshop at OOPSLA* 2007
 - Ruby Doctoral Scholarship – \$16,000 2007
 - Queen Elizabeth II Doctoral Scholarship – \$15,000 2007
 - Departmental Research Award – \$8,000 2006
 - **ACM Distinguished Paper Award:** “Using Structural Context
to Recommend Source Code Examples”, *International Conference
on Software Engineering (ICSE)* 2005
 - Departmental Research Award – \$8,000 2005
 - Departmental Research Award – \$8,000 2004
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GRANTS

- NSERC Discovery – *Improving software quality with introspective testing* – \$215,000 2016
- NSERC Discovery – *Accelerator* – \$120,000 2016
- NSERC Discovery – *Understanding dynamic behaviour* – \$120,000 2011
- NSERC Discovery – *Supplement* – \$25,000 2011
- NSF SHF:Small Grant – *Partitioning static and dynamic dependences across versions* (with David Notkin) – \$188,424 2010
- NSF SHF:Medium Grant – *Speculation and continuous validation for software development* (with Michael Ernst, David Notkin, and Yuriy Brun) – \$750,000 2010
- IBM Jazz Innovation Grant – *Proactive Entropy Awareness System* (with David Notkin) – \$16,000 2008
- ACM Travel Grant – \$1,000 2006
- IBM Eclipse Innovation Grant – *Real-Time Example Generation, Analysis, and Integration* (with Rob Walker) – \$25,000 2005
- ACM Travel Grant – \$1,000 2005

TEACHING
ACTIVITIES

University of British Columbia — Department of Computer Science

- Professor CS 507 - Advanced Software Engineering Jan 2018
- Professor CS 310 - Software Engineering Jan 2018
- Professor CS 507 - Advanced Software Engineering Jan 2017
- Professor CS 310 - Software Engineering Jan 2017
- Professor CS 310 - Software Engineering Sept 2016
- Professor CS 507 - Advanced Software Engineering Jan 2016
- Professor CS 410 - Advanced Software Engineering Sept 2015

University of Waterloo — David R. Cheriton School of Computer Science

- Professor CS 846 - Human Aspects of SE Winter 2015
- Professor CS 446 - Software Architecture and Design Winter 2015
- Professor CS 846 - Recommendation Systems for SE Winter 2014
- Professor CS 446 - Software Architecture and Design Winter 2014
- Professor CS 446 - Software Architecture and Design Winter 2013
- Professor CS 246 - Object-Oriented Software Development Fall 2012
- Professor CS 846 - Human Aspects of SE Fall 2012
- Professor CS 846 - Human Aspects of SE Fall 2011
- Professor CS 446 - Software Architecture and Design Fall 2011
- Professor CS 436 - Networking and Distributed Systems Winter 2011
- Professor CS 446 - Software Architecture and Design Fall 2010

University of Washington — Department of Computer Science & Engineering

- Guest Lecture CSEP 504 - Advanced Software Engineering Winter 2009

University of Calgary — Department of Computer Science

- Teaching Assistant CS 531 - Software Evolution Winter 2006
- Teaching Assistant CS 531 - Software Evolution Winter 2005
- Teaching Assistant CS 311 - Software Engineering Fall 2004

University of British Columbia — Department of Computer Science

- Teaching Assistant CS 319 - Software Engineering Project Fall 2003
- Teaching Assistant CS 410 - Advanced Software Engineering Fall 2002
- Teaching Assistant CS 310 - Software Engineering Winter 2002
- Teaching Assistant CS 310 - Software Engineering Fall 2002
- Teaching Assistant CS 310 - Software Engineering Winter 2000
- Teaching Assistant CS 310 - Software Engineering Fall 1999

In all publications, students are denoted by * and postdocs are denoted by **.

JOURNAL
PUBLICATIONS

ESE15 Olga Baysal, Oleksii Kononenko*, **Reid Holmes**, and Michael W. Godfrey. Investigating Technical and Non-Technical Factors Influencing Modern Code Review. *Empirical Software Engineering*. 21(6): 932–959. June 2016.

TSE13 Yuriy Brun, **Reid Holmes**, Michael D. Ernst, and David Notkin. Early Detection of Collaboration Conflicts and Risks. *IEEE Transactions on Software Engineering (TSE)*, 39(10):1359–1375. October 2013.

IEEESW13 Olga Baysal*, **Reid Holmes**, and Michael W. Godfrey. Developer Dashboards: The Need For Qualitative Analytics. *IEEE Software*. 30(4):46–52. July-August 2013.

TOSEM12 **Reid Holmes** and Robert J. Walker. Systematizing Pragmatic Software Reuse. *ACM Transactions on Software Engineering and Methodology (TOSEM)*, 21(4):1–44, November 2012.

TSE06 **Reid Holmes***, Robert J. Walker, and Gail C. Murphy. Approximate Structural Context Matching: An Approach for Recommending Relevant Examples. *IEEE Transactions on Software Engineering (TSE)*, 32(12):952–970, December 2006.

CONFERENCE PUBLICATIONS Bold headings represent long and short *research papers* at top-tier software engineering venues (ICSE, FSE, and OOPSLA). These venues are generally held in the same regard as the premiere software engineering journals.

ICSE18a Nicholas Bradley*, Thomas Fritz, and **Reid Holmes**. Context-Aware Conversational Developer Assistants. *To appear in Proceedings of the International Conference on Software Engineering (ICSE)*. 2018. 10 pages. (21% acceptance rate)

ICSE18b **Reid Holmes**, Meghan Allen, and Michelle Craig. Dimensions of Experientialism for Software Engineering Education. *To appear in Proceedings of the International Conference on Software Engineering (ICSE) - Education and Training Track* 2018. 10 pages. (28% acceptance rate)

FSE17 Adriaan Labuschagne*, Laura Inozemtseva*, and **Reid Holmes**. Measuring the Cost of Regression Testing in Practice. *In Proceedings of the International Symposium on the Foundations of Software Engineering (ESEC/FSE)*. 2017. 821–830. [ESEC/FSE-11; Paderborn, Germany] (24% acceptance rate)

MSR15 Adriaan Labuschagne* and **Reid Holmes**. Do Onboarding Programs Work? *In Proceedings of the Working Conference on Mining Software Repositories (MSR)*. 2015. 381–385. [MSR-12; Florence, Italy] (33% acceptance rate)

FSE14 René Just**, Darioush Jalali*, Laura Inozemtseva*, Michael D. Ernst, **Reid Holmes** and Gordon Fraser. Are Mutants a Valid Substitute for Real Faults in Software Testing?. *In Proceedings of the International Symposium on the Foundations of Software Engineering (FSE)*. 2014. 654–665. [FSE-22; Hong Kong, China] (22% acceptance rate)
Awarded ACM SIGSOFT Distinguished Paper Award.

FSE14b Olga Baysal*, **Reid Holmes**, and Mike Godfrey. No Issue Left Behind: Reducing Information Overload in Issue Tracking. *In Proceedings of the International Symposium on the Foundations of Software Engineering (FSE)*. 2014. 666–677. [FSE-22; Hong Kong, China] (22% acceptance rate)

ICSE14 Laura Inozemtseva* and **Reid Holmes**. Coverage Is Not Strongly Correlated With Test Suite Effectiveness. *In Proceedings of the International Conference on Software Engineering (ICSE)*. 2014. 435–445. [ICSE-36; Hyderabad, India] (20% acceptance rate)
Awarded ACM SIGSOFT Distinguished Paper Award.

ICSE14b Siddharth Subramanian*, Laura Inozemtseva*, and **Reid Holmes**. Live API Documentation. *In Proceedings of the International Conference on Software Engineering (ICSE)*. 2014. 643–652. [ICSE-36; Hyderabad, India] (20% acceptance rate)

- ICSE14c** Laura Inozemtseva*, Siddharth Subramanian*, and **Reid Holmes**. Integrating Software Project Resources Using Source Code Identifiers. *In Proceedings of the International Conference on Software Engineering (ICSE), New Ideas and Emerging Results (NIER) Track*. 2014. 400–403. [ICSE-36; Hyderabad, India] (24% acceptance rate)
- ICSE14d **Reid Holmes**, Michelle Craig, Karen Reid, and Eleni Stroulia. Lessons Learned Managing Distributed Software Engineering Courses. *In Proceedings of the International Conference on Software Engineering (ICSE), Software Engineering Education and Training (SEET) track*. 2014. 321–324. [ICSE-36; Hyderabad, India] (33% acceptance rate)
- MSR14 Quinn Hanam*, Lin Tan, **Reid Holmes**, and Patrick Lam. Finding Patterns in Static Analysis Alerts: Improving Actionable Alert Ranking. *In Proceedings of the Working Conference on Mining Software Repositories (MSR)*. 2014. 152–161. [MSR-11; Hyderabad, India] (34% acceptance rate)
- MSR14b Oleksii Kononenko*, Olga Baysal*, **Reid Holmes**, and Michael W. Godfrey. Mining Modern Repositories with Elasticsearch. *In Proceedings of the Working Conference on Mining Software Repositories (MSR)*. 2014. 328–331. [MSR-11; Hyderabad, India] (37% acceptance rate)
- FSE13** Laura Inozemtseva*, Hadi Hemmati** and **Reid Holmes**. Using Fault History to Improve Mutation Reduction. *In Proceedings of the International Symposium on the Foundations of Software Engineering (ESEC/FSE), New Ideas Track*. 2013. 639–642. [FSE-21; St. Petersburg, Russia] (36% acceptance rate)
- ICSE13** Olga Baysal*, **Reid Holmes**, and Michael W. Godfrey. Situational Awareness: Personalizing Issue Tracking Systems. *In Proceedings of the International Conference on Software Engineering (ICSE), New Ideas and Emerging Results (NIER) Track*. 2013. 1185–1188. [ICSE-35; San Francisco, USA] (22% acceptance rate)
- MSR13 Hadi Hemmati**, Sarah Nadi*, Olga Baysal*, Oleksii Kononenko*, Wei Wang*, **Reid Holmes**, and Michael W. Godfrey. The MSR Cookbook: Mining a Decade of Research. *In Proceedings of the Working Conference on Mining Software Repositories (MSR)*. 2013. 343–353. [MSR-10; San Francisco, USA] (38% acceptance rate)
- MSR13b Siddharth Subramanian* and **Reid Holmes**. Making Sense of Online Code Snippets. *In Proceedings of the Working Conference on Mining Software Repositories (MSR)*. 2013. 85–88. [MSR-10; San Francisco, USA] (23% acceptance rate)
- WCRE13 Olga Baysal*, Oleksii Kononenko*, **Reid Holmes**, and Michael W. Godfrey. The Influence of Non-technical Factors on Code Review. *In Proceed-*

ings of the Working Conference on Reverse Engineering (WCRE). 2013. 122–131. [WCRE-20; Koblenz, Germany] (39% acceptance rate)
Awarded Distinguished Paper Award.

OOPSLA12 Kivanç Muşlu*, Yuriy Brun**, Reid Holmes, Michael D. Ernst, and David Notkin. Speculative Analysis of Integrated Development Environment Recommendations. *In Proceedings of the International Conference on Object Oriented Programming Systems Languages and Applications (OOPSLA)*. 2012. 669–682. [OOPSLA; Tuscon, USA] (25% acceptance rate)

ICSE12 Kivanç Muşlu*, Yuriy Brun**, **Reid Holmes**, Michael D. Ernst, and David Notkin. Improving IDE Recommendations by Considering Global Implications of Existing Recommendations. *In Proceedings of the New Ideas and Emerging Results Track (NIER) at the International Conference on Software Engineering (ICSE)*. 2012. 1349–1352. [ICSE-34; Zurich, Switzerland] (17% acceptance rate)

MSR12 Olga Baysal*, **Reid Holmes**, and Michael W. Godfrey. Mining Usage Data and Development Artifacts. *In Proceedings of the Working Conference on Mining Software Repositories (MSR)*. 2012. 98–107. [MSR-9; Zurich, Switzerland] (28% acceptance rate)

VLHCC12 Oleksii Kononenko*, David Dietrich*, Rahul Sharma*, and **Reid Holmes**. Automatically locating relevant programming help online. *In Proceedings of the Symposium on Visual Languages and Human-Centric Computing (VLHCC)*. 2012. 127–134. [VLHCC-28; Innsbruck, Austria] (28% acceptance rate)

WCRE12 Olga Baysal*, Oleksii Kononenko*, **Reid Holmes**, and Michael W. Godfrey. The Secret Life of Patches: A Firefox Case Study. *In Proceedings of the Working Conference on Reverse Engineering (WCRE)*. 2012. 447–455. [WCRE-18; Kingston, Canada] (36% acceptance rate)

FSE11 Yuriy Brun**, **Reid Holmes**, Michael D. Ernst, and David Notkin. Proactive Detection of Collaboration Conflicts *In Proceedings of the Symposium on the Foundations of Software Engineering (ESEC/FSE)*. 2011. 168–178. [FSE-8; Szeged, Hungary] (17% acceptance rate).
Awarded ACM SIGSOFT Distinguished Paper Award.

ICSE11 **Reid Holmes** and David Notkin. Identifying Program, Test, and Environmental Changes That Affect Behaviour. *In Proceedings of the International Conference on Software Engineering (ICSE)*. 2011. 371–380. [ICSE-33; Honolulu, USA] (14% acceptance rate)

ICSE10 **Reid Holmes**** and Robert J. Walker. Customized Awareness: Recommending Relevant External Change Events. *In Proceedings of the International Conference on Software Engineering (ICSE)*. 2010. 465–474. [ICSE-32; Cape Town, South Africa] (14% acceptance rate)

- ASE09 **Reid Holmes***, Tristan Ratchford*, Martin P. Robillard, and Robert J. Walker. Automatically Recommending Triage Decisions for Pragmatic Reuse Tasks. *In Proceedings of the International Conference on Automated Software Engineering (ASE)*. 2009. 397–408. [ASE-24; Auckland, New Zealand] (17% acceptance rate)
- ICSM09 **Reid Holmes***, Rylan Cottrell*, Robert J. Walker, and Joerg Denzinger. The End-to-End Use of Source Code Examples: An Exploratory Study. *In Proceedings of the International Conference on Software Maintenance (ICSM)*. 2009. 555–558. [ICSM-25; Edmonton, Canada] (39% acceptance rate)
- ICSR08 **Reid Holmes*** and Robert J. Walker. Lightweight, Semi-Automated Enactment of Pragmatic-Reuse Plans. *In Proceedings of the International Conference on Software Reuse*. 2008. 330–342. [ICSR-10; Beijing, China] (26% acceptance rate)
- MSR08 **Reid Holmes*** and Andrew Begel. Deep Intellisense: A Tool for Rehydrating Evaporated Information. *In Proceedings of the Working Conference on Mining Software Repositories*. 2008. 23–26. [MSR-5; Leipzig, Germany] (40% acceptance rate)
- MSR08b **Reid Holmes*** and Robert J. Walker. A Newbie’s Guide to Eclipse APIs. *In Proceedings of the Working Conference on Mining Software Repositories, Challenge Track*. 2008. 149–152. [MSR-5; Leipzig, Germany]
MSR Mining Challenge Award.
- ICSE07 **Reid Holmes*** and Robert J. Walker. Supporting the Investigation and Planning of Pragmatic Reuse Tasks. *In Proceedings of the International Conference on Software Engineering*. 2007. 447–457. [ICSE-29; Minneapolis, USA] (15% acceptance rate)
- ICSE06 **Reid Holmes***. Unanticipated Reuse of Large Scale Software Features. *In Proceedings of the International Conference on Software Engineering, Doctoral Symposium*. 2006. 961–964. [ICSE-28; Shanghai, China] (29% acceptance rate)
- ICSE05 **Reid Holmes*** and Gail C. Murphy. Using Structural Context to Recommend Source Code Examples. *In Proceedings of the International Conference on Software Engineering*. 2005. 117–125. [ICSE-27; St. Louis, USA] (14% acceptance rate)
Awarded ACM SIGSOFT Distinguished Paper Award.
-

WORKSHOP PUBLICATIONS DAPSE13 Olga Baysal*, Oleksii Kononenko*, **Reid Holmes**, and Michael W. Godfrey. Extracting Artifact Lifecycle Models From Metadata History. *In Proceedings of the ICSE Workshop on Data Analysis Patterns in Soft-*

- ware Engineering (DAPSE). 2013. 17–19. [DAPSE-1; San Francisco, USA]
- FCSD12 Yuriy Brun**, Kivanç Muşlu*, **Reid Holmes**, Michael D. Ernst, and David Notkin. Predicting Development Trajectories to Prevent Collaboration Conflicts. *In Proceedings of the Future of Collaborative Software Development (FCSD) at the International Conference on Computer Supported Cooperative Work (CSCW)*, 2012. 2 pages. [FCSD-1; Seattle, USA]
- USER12 **Reid Holmes**, David Notkin, and Mark Hancock. Industrially Validating Longitudinal Static and Dynamic Analyses. *In Proceedings of the User evaluation for Software Engineering Researchers (USER) Workshop at the International Conference on Software Engineering (ICSE)*. 2012. 43–44. [USER-1; Zurich, Switzerland]
- USER12b Olga Baysal*, **Reid Holmes**, and Michael W. Godfrey. Revisiting Bug Triage and Resolution Practices. *In Proceedings of the User evaluation for Software Engineering Researchers (USER) Workshop at the International Conference on Software Engineering (ICSE)*. 2012. 29–30. [USER-1; Zurich, Switzerland]
- FoSER10 Yuriy Brun**, **Reid Holmes****, Michael D. Ernst, and David Notkin. Speculative Analysis: Exploring Future States of Software, *In Proceedings of the Foundations of Software Engineering Working Conference on the Future of Software Engineering Research*. 2010. 59–64. [FoSER; Santa Fe, USA]
- SUITE10 **Reid Holmes****, David Notkin. Enhancing Static Source Code Search With Dynamic Data. *In Proceedings of the International Workshop on Search-Driven Development - Users, Infrastructure, Tools and Evaluation (SUITE)*. 2010. 13–16. [SUITE-2; Cape Town, South Africa]
- VISSOFT09 Rylan Cottrell*, Brina Goyette*, **Reid Holmes***, Robert J. Walker, and Joerg Denzinger. Compare and Contrast: Visual Exploration of Source Code Examples. *In Proceedings of the International Workshop on Visualizing Software for Understanding and Analysis (VISSOFT)*. 2009. 29–32. [VISSOFT-5; Edmonton, Canada]
- SUITE09 **Reid Holmes.*** Do Developers Search For Source Code Examples Using Multiple Facts?. *In Proceedings of the International Workshop on Search-Driven Development - Users, Infrastructure, Tools and Evaluation (SUITE)*. 2009. 13–16. [SUITE-1; Vancouver, Canada]
- STC09 **Reid Holmes*** and Robert J. Walker. Developer-Specific Awareness of External Changes. *In Proceedings of the Workshop on Socio-Technical Congruence (STC)*. 2009. 4 pages. [STC-2; Vancouver, Canada]

CHASE08 **Reid Holmes*** and Robert J. Walker. Promoting Developer-Specific Awareness. *In Proceedings of the Workshop on Cooperative and Human Aspects of Software Engineering at the International Conference on Software Engineering*. 2008. 61–64. [CHASE-1; Leipzig, Germany]

ETX07 **Reid Holmes*** and Robert J. Walker. Informing Eclipse API Production and Consumption. *In Proceedings of the Eclipse Technology Exchange Workshop at the ACM Conference on Object-Oriented Programming, Systems, Languages, and Applications*. 2007. 70–74. [ETX-5; Montreal, Canada]

Best Presentation Award.

VISSOFT07 **Reid Holmes*** and Robert J. Walker. Supporting Task-Specific Source Code Dependency Investigation. *In Proceedings of the International Workshop on Visualizing Software for Understanding and Analysis*. 2007. 100–107. [VISSOFT-4; Banff, Canada]

MSR06 Robert J. Walker, **Reid Holmes***, Ian Hedgeland*, Puneet Kapur*, and Andrew Smith. A Lightweight Approach to Technical Risk Estimation via Probabilistic Impact Analysis. *In Proceedings of the Mining Software Repositories Workshop at the International Conference on Software Engineering*. 2006. 98–104. [MSR-3; Shanghai, China]

ETX04 **Reid Holmes*** and Gail C. Murphy. Unsticking Eclipse Plug-in Development. *Eclipse Technology Exchange Workshop at the ACM Conference on Object-Oriented Programming, Systems, Languages, and Applications*. 2004. 8 pages. [ETX-2; Vancouver, Canada]

OSSE03 Davor Cubranic*, **Reid Holmes***, Annie T. T. Ying*, and Gail C. Murphy. Tools for Light-Weight Knowledge Sharing in Open-Source Software Development. *Position paper for the Workshop on Open Source Software: Taking Stock of the Bazaar at the International Conference on Software Engineering*. 2003. 25–30. [OSSE-3; Portland, USA]

IWPC03 Andrew Chan*, **Reid Holmes***, Gail C. Murphy, and Annie T. T. Ying. Scaling an Object-Oriented System Execution Visualizer Through Sampling. *In Proceedings of the International Workshop on Program Comprehension*. 2003. 237–244. [IWPC-11; Portland, USA]

RESEARCH DEMONSTRATIONS ICSE14e Oleksii Kononenko*, Olga Baysal*, **Reid Holmes**, and Mike Godfrey. DASHboards: Enhancing Developer Situational Awareness. *In Proceedings of the International Conference on Software Engineering (ICSE), Research Demonstration Track*. 2014. 552–555. [ICSE-36; Hyderabad, India].

ICSE11b **Reid Holmes** and David Notkin. Identifying Opaque Behavioural Changes.

In Proceedings of the International Conference on Software Engineering (ICSE), Research Demonstration Track. 2011. 995–997. [ICSE-33; Honolulu, USA]

FSE11 Yuriy Brun**, **Reid Holmes**, Michael D. Ernst, and David Notkin. Crystal: Precise and Unobtrusive Conflict Warnings. *In Proceedings of the Symposium on the Foundations of Software Engineering (ESEC/FSE), Research Demonstration Track.* 2011. 444–447. [FSE-8; Szeged, Hungary]

ASE08 **Reid Holmes**** and Robert J. Walker. Semi-automating pragmatic reuse tasks. *In Proceedings of the Conference on Automated Software Engineering (ASE), Research Demonstration Track.* 2008. 481–482. [ASE-23; L’Aquila, Italy]

FSE05 **Reid Holmes*** and Gail C. Murphy. Strathcona example recommendation tool. *In Proceedings of the International Symposium on Foundations of Software Engineering (ESEC/FSE), Research Demonstration Track.* 2005. 237–240. [FSE-13; Lisbon, Portugal]

BOOK
CHAPTERS

ASA15 Olga Baysal*, Oleksii Kononenko*, **Reid Holmes**, and Michael W. Godfrey. Synthesizing Knowledge from Software Development Artifacts. *Book chapter in The Art and Science of Analyzing Software Data.* Eds. Chris Bird, Tim Menzies, and Thomas Zimmermann. 2015.

RSSE14 Laura Inozemtseva*, **Reid Holmes**, and Robert J. Walker. Recommendations in the Small. *Book chapter in Recommendation Systems in Software Engineering.* Eds. Martin Robillard, Walid Maalej, Robert J. Walker and Thomas Zimmermann. Springer, 2014. 77–92.

RSSE14 Robert J. Walker and **Reid Holmes**. Simulation. *Book chapter in Recommendation Systems in Software Engineering.* Eds. Martin Robillard, Walid Maalej, Robert J. Walker and Thomas Zimmermann. Springer, 2014. 301–327.

TECHNICAL
REPORTS

TR13 Siddharth Subramanian*, Laura Inozemtseva* and **Reid Holmes**. Live API Documentation. *University of Waterloo Technical Report CS-2013-17.* 2013. 10 pages.

TR12 Olga Baysal* and **Reid Holmes**. *A Qualitative Study of Mozillas Process Management Practices.* *University of Waterloo Technical Report CS-2012-10.* 2012. 35 pages.

TR10 Yuriy Brun**, **Reid Holmes****, Michael D Ernst, David Notkin. Speculative Identification of Merge Conflicts and Non-Conflicts. *University of*

Washington Technical Report UW-CSE-10-03-01. 2010. 10 pages.

TR09 **Reid Holmes****, Rylan Cottrell*, Robert J. Walker, and Joerg Denzinger. The End-to-End Use of Source Code Examples: An Exploratory Study — Appendix. *University of Calgary Technical Report 2009-934-13*. 2009. 8 pages.

THESES

Reid Holmes. Pragmatic Software Reuse. *Ph.D. Dissertation*, November 2008. 247 pages.

Reid Holmes Using Structural Context to Recommend Source Code Examples. *M.Sc. Dissertation*, August 2004. 63 pages.

PATENTS

Benedek, Franco, Guo, Hally, **Holmes**, Pamucci, Praitis, Sager, and Wentz. System and Method of Preventing a Web Browser Plug-in Module From Generating a Failure. US Patent # 7,398,433. Awarded July 2008.

Begel, Venolia, **Holmes**. Development Environment Integration With Version History Tools. US Application # 12/126,251. May, 2008.

Franco, Guo, Pamucci, Sager, **Holmes**, Hally, and Benedek. Add-on Management. US Application # 10/822,221. April 2004.

OTHER TALKS

Assessing Software Quality From First Principles
University of California, Irvine Informatics Seminar
Irvine, California, USA. June 3, 2016

Mobile App Development
CEMC Workshop in Computer Science for Young Women
Waterloo, Ontario, Canada. May 26, 2014

The Spec is Right
CS4U: Computer Science Community Outreach
Waterloo, Ontario, Canada. December 4, 2013

Mobile App Development
CEMC Workshop in Computer Science for Young Women
Waterloo, Ontario, Canada. May 27, 2013

Recovering Semantic Links From Source Code Fragments
Consortium for Software Engineering Research
Markham, Ontario, Canada. November 17, 2013

Proactive Detection of Collaboration Conflicts

Mannheim Department of Computer Science
 Universität Mannheim, Mannheim, Germany. June 11, 2012

Proactive Detection of Collaboration Conflicts
 Department of Computer Science
 University of Calgary, Calgary, Canada. March 5, 2012

Proactive Detection of Collaboration Conflicts
 Indian Software Engineering Conference (ISEC)
 Kanpur IIT, Kanpur, India. February 24, 2012

Keynote: Improving Comprehension of Source Code Changes
 Consortium for Software Engineering Research
 Kingston, Ontario, Canada. June 21, 2011

Exposing Opaque Changes by Contrasting Static and Dynamic Analyses
 Department of Computer Science & Engineering Industrial Affiliates Day
 University of Washington, Seattle, USA. October 29, 2009

Pragmatic Software Reuse
 Departmental Graduate Seminar
 University of Calgary, Calgary, Canada. November 21, 2008

Deep Intellisense: Re-hydrating Evaporated Knowledge
 Research Overview
 Microsoft Research, Redmond, USA. December 14, 2007

Using Structural Context to Recommend Source Code Examples
 Departmental Graduate Seminar
 University of Calgary, Calgary, Canada. June 10, 2005

Using Structural Context to Recommend Source Code Examples
 Departmental Graduate Seminar
 University of British Columbia, Vancouver, Canada. August 22, 2004

OOVisualizer: Visualizing Software Execution
 Consortium of Canadian Software Engineering Research
 Toronto, Canada. September 20, 2000

SERVICE
 ACTIVITIES

Software Engineering Community

- Associate Editor — IEEE Transactions on Software Engineering (TSE) 2018
- Reviewer — Empirical Software Engineering Journal (EMSE) 2018
- Associate Editor — IEEE Transactions on Software Engineering (TSE) 2017

- Program Committee Member — Innovations in Software Engineering Conference (ISEC) 2017
- Program Committee Member — Working Conference on Mining Software Repositories (MSR) 2017
- Program Committee Member — International Workshop on API Usage and Evolution (WAPI @ ICSE) 2017
- Program Committee Member — International Conference on Software Maintenance and Evolution - Early Research Advances (ICSME) 2017
- Program Committee Member — Foundations of Software Engineering - Research Demonstrations (FSE) 2017
- Program Committee Member — Centre for Advanced Studies Conference (CASCON) 2017
- Reviewer — NSERC Discovery 2017
- Reviewer — Empirical Software Engineering Journal (EMSE) 2017
- Program Committee Member — International Conference on Software Engineering (ICSE) 2016
- Program Committee Member — International Conference on Software Analysis, Evolution, and Reengineering (SANER) 2016
- Program Committee Member — Working Conference on Mining Software Repositories (MSR) 2016
- Program Committee Member — International Conference on Software Maintenance and Evolution - Early Research Advances (ICSME) 2014
- Program Committee Member — International Workshop on Software Analytics (SWAN) 2016
- Program Committee Member — International Workshop on Release Engineering (RELENG) 2016
- Organizing Committee Member — Foundations of Software Engineering (FSE) 2016
- Organizing Committee Member — International Conference on Functional Programming (ICFP) 2016
- Organizing Committee Member — European Conference on Object-Oriented Programming (ECOOP) 2016
- Lead Organizer — Canadian Consortium for Software Engineering Research (CSER) 2015
- Program Committee Member — International Conference on Software Engineering (ICSE) 2015
- Program Committee Member — International Conference on Software Reuse (ICSR) 2015
- Organizing Committee Member — Foundations of Software Engineering (FSE) 2015

- Organizing Committee Member — International Requirements Engineering Conference (RE) 2015
- Workshop Organizer — International Workshop on Recommendation Systems for Software Engineering (RSSE @ ICSE) 2014
- Reviewer — ACM Transactions on Software Engineering and Methodology (TOSEM) 2014
- Reviewer — IEEE Software Reviewer 2014
- Program Committee Member — International Conference on Software Maintenance and Evolution (ICSME) 2014
- Program Committee Member — International Workshop on Release Engineering (RELENG) 2014
- Program Committee Member — Working Conference on Reverse Engineering (WCRE) 2014
- Program Committee Member — International Conference on Program Comprehension (ICPC) 2014
- Reviewer — New University Researchers Start-up Program of Fonds de Recherche du Québec 2014
- Organizing Committee Member — International Conference on Software Engineering (ICSE) 2014
- Organizing Committee Member — Foundations of Software Engineering (FSE) 2014
- Organizing Committee Member — International Requirements Engineering Conference (RE) 2014
- Reviewer — ACM Transactions on Software Engineering and Methodology (TOSEM) 2013
- Reviewer — IEEE Software Reviewer 2013
- Reviewer — Empirical Software Engineering Journal (EMSE) 2013
- Program Committee Member — International Conference on Object Oriented Programming Systems Languages and Applications (OOPSLA) 2013
- Program Committee Member — Working Conference on Mining Software Repositories (MSR) 2013
- Program Committee Member — International Workshop on Release Engineering (RELENG) 2013
- Organizing Committee Member — International Conference on Software Engineering (ICSE) 2013
- Organizing Committee — International Conference on Automated Software Engineering (ASE) 2013
- Organizing Committee — International Conference on Software Engineering (ICSE) 2013

- Organizing Committee — International Requirements Engineering Conference (RE) 2013
- Organizing Committee — International Conference on Software Maintenance — Early Research Track (ICSM) 2013
- Organizing Committee — Working Conference on Reverse Engineering (WCRE) 2013
- Reviewer — NSERC Discovery 2012
- Reviewer — IEEE Transactions on Software Engineering (TSE) 2012
- Reviewer — ACM Transactions on Software Engineering and Methodology (TOSEM) 2012
- Reviewer — ACM Conference on Human Factors in Computing Systems (CHI) 2012
- Program Committee Member — Working Conference on Reverse Engineering (WCRE) 2012
- Program Committee Member — Working Conference on Mining Software Repositories (MSR) 2012
- Program Committee Member — International Conference on Program Comprehension (ICPC) 2012
- Program Committee Member — Search-Driven Development: Users, Infrastructure, Tools and Evaluation (SUITE @ ICSE) 2012
- Reviewer — ACM Transactions on Software Engineering and Methodology (TOSEM) 2011
- Reviewer — IEEE Transactions on Software Engineering (TSE) 2011
- Reviewer — IEEE Software 2011
- Reviewer — Empirical Software Engineering Journal 2011
- Program Committee Member — Working Conference on Reverse Engineering (WCRE) 2011
- Program Committee Member — Working Conference on Mining Software Repositories (MSR) 2011
- Program Committee Member — Symposium on the Foundations of Software Engineering — New Ideas Track (ESEC/FSE) 2011
- Program Committee Member — International Conference on Software Maintenance — Early Research Track (ICSM) 2011
- Program Committee Member — Search-Driven Development: Users, Infrastructure, Tools and Evaluation (SUITE @ ICSE) 2011
- Reviewer — ACM Symposium on User Interface Software and Technology (UIST) 2011
- Reviewer — ACM Conference on Human Factors in Computing Systems (CHI) 2011
- Program Committee Member — International Conference on Program Comprehension (ICPC) 2011

- Program Committee Member — Working Conference on Mining Software Repositories (MSR) 2011
 - Workshop Organizer — International Workshop on Recommendation Systems for Software Engineering (RSSE @ ICSE) 2010
 - Reviewer — IEEE Trans. on Systems, Man, and Cybernetics (SMC) 2010
 - Reviewer — ACM Conference on Human Factors in Computing Systems (CHI) 2010
 - Reviewer — International Conference on Aspect-Oriented Software Development (AOSD) 2010
 - Program Committee Member — Working Conference on Mining Software Repositories (MSR) 2010
 - Program Committee Member — Search-Driven Development: Users, Infrastructure, Tools and Evaluation (SUITE @ ICSE) 2010
 - Program Committee Member — International Workshop on Knowledge Collaboration in Software Development (KCSD) 2009
 - Program Committee Member — Search-Driven Development: Users, Infrastructure, Tools and Evaluation (SUITE @ ICSE) 2009
 - Reviewer — ACM Transactions on Software Engineering and Methodology (TOSEM) 2009
 - Reviewer — ACM Symposium on User Interface Software and Technology (UIST) 2009
 - Jury Member — Mining Software Repositories Challenge 2009
 - Reviewer — Software: Practice and Experience (SPE) 2009
 - Reviewer — ACM Transactions on Software Engineering and Methodology (TOSEM) 2008
 - Reviewer — IEEE Software 2008
 - Reviewer — Automated Software Engineering Journal 2007
- University of British Columbia — Department of Computer Science
- Chair, Computing Committee 2017
 - Strategic Planning Committee 2017
 - Chair, Computing Committee 2016
 - Faculty Affairs Committee 2015
- University of Waterloo — School of Computer Science
- Commons Committee 2014
 - CEMC Workshop in Computer Science for Young Women (half-day session on app development using AppInventor) 2013
 - CS4U Presenter 2013
 - Commons Committee 2013

- CEMC Workshop in Computer Science for Young Women
(half-day session on app development using TouchDevelop) 2012
 - Undergraduate Recruitment 2012
 - March Break Open House Lab Tour Organizer (2012)
 - CS 697 - Graduate Unhandbook panel
 - Undergraduate Recruitment 2011
 - March Break Open House Lab Tour Organizer (2011)
 - Undergraduate Recruitment 2010
 - Fall Open House Lab Tour Organizer (2010)
- University of Calgary — Department of Computer Science
- Hiring Committee 2006
 - Vice-President (Social), Computer Science Graduate Student's Association 2005
 - New Graduate Student Orientation Co-ordinator 2005
- University of British Columbia — Department of Computer Science
- Vice-President (Social), Computer Science Graduate Student's Association 2004
 - New Graduate Student Orientation Co-ordinator 2004
 - Student Volunteer — Window on the World Conference Newspaper, ICSE-25, Portland, OR, USA 2003
- University of Waterloo — Centre for Teaching Excellence
- CTE663: Open Classroom November 2011
 - CTE601: Instructional Skills Workshop (3 days) April 2011
 - CTE639: Qualitative Research Design December 2010
 - CTE642: Course Design Fundamentals October 2010
 - CTE906: Successful Classroom September 2010
 - CTE907: Graduate Teaching/Supervision September 2010
- University of Waterloo — Other Training
- TCPS2: Course on Research Ethics (CORE) November 2012
 - SO1038: Emergency First Aid December 2010
 - SO1081: Workplace Violence - Awareness October 2010
 - SO1001: Staff Safety Orientation October 2010
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STUDENTS

Postdoc

- 2016-2017: Xin Xia (w/ Murphy) Faculty, Monash U.
- 2014-2015: Cheng Zhang (w/ Godfrey) N/A
- 2014-2015: Haroon Malik (w/ Godfrey) Faculty, Marshall U.
- 2012-2013: Hadi Hemmanti (w/ Godfrey) Faculty, U. of Calgary

PhD

- 2017-Present: Nico Ritschel (w/ Garcia) (Spring 2022)
- 2016-Present: Quinn Hanam (w/ Mesbah) (Spring 2019)
- 2012-2017: Laura Inozemtseva Ghost Automation
- 2012-2014: Olga Baysal (w/ Godfrey) Faculty, Carleton U.

Masters of Science / Mathematics / Engineering

- 2017-2019: Xinhong Liu (Spring 2020)
- 2017-2019: Anna Scholtz (Spring 2020)
- 2017-2019: Felix Grund (Spring 2019)
- 2016-2018: Rodrigo Arajo (Spring 2018)
- 2016-2018: Nick Bradley (Spring 2018)
- 2014-2016: Adriaan Labuschagne N/A
- 2012-2014: Quinn Hanam (w/ Tan) UBC PhD
- 2012-2014: Siddharth Subramanian National Instruments
- 2012-2014: Divam Jain (w/ Lam) Google
- 2011-2013: Laura Inozemtseva Ghost Automation
- 2011-2013: Abdullah El-Sayed Waveline Media
- 2010-2012: Kimiisa Oshikoji Symantec

Research Essay Masters of Mathematics

- 2013-2014: Ravi Chandra Malleboina BlackBerry
- 2013-2014: S Ashar Ghani Bentley CAD

Undergraduate Research Assistants

- 2018: Annie Wang UBC
- 2017: Lucas Zamprogno UBC

Last Revised: May 25, 2018