Michael D. Bond

May 2022

EDUCATION	PhD, Computer Science, University of Texas at Austin, 2008 – Advisor: Kathryn S. McKinley MCS, Computer Science, University of Illinois at Urbana–Champaign, 2003 BS, Computer Science, University of Illinois at Urbana–Champaign, 2002
PROFESSIONAL APPOINTMENTS	Associate professor, Department of Computer Science & Engineering, Ohio State University (2016–present) Assistant professor, Department of Computer Science & Engineering, Ohio State University (2011–2016) Postdoctoral fellow, Department of Computer Science, University of Texas at Austin (2009–2010)
GRADUATED ADVISEES	Jipeng Huang, MS (2014) Minjia Zhang, PhD (2016) Swarnendu Biswas, PhD (2016) Aritra Sengupta, PhD (2017) Man Cao, PhD (2017) Jake Roemer, PhD (2019) Rui Zhang, PhD (2020) Kaan Genç, MS (2021) Jacob Bambeck, MS (2022)
CURRENT ADVISEES	Arpita Chowdhury, PhD student (2021–present) Chujun Geng, PhD student (2022–present) Vincent Beardsley, PhD student (2022–present)
CO-ADVISEE (EXTERNAL)	Zixian Cai (Australian National University), PhD student (2021–present); co-advised with Stephen M. Blackburn (Australian National University) and Martin Maas (Google)
REFEREED PUBLICATIONS	Haoran Ma, Shi Liu, Chenxi Wang, Yifan Qiao, Michael D. Bond, Stephen M. Blackburn, Miryung Kim, and Guoqing Harry Xu. Mako: A Low-Pause, High-Throughput Evacuating Collector for Memory-Disaggregated Datacenters. *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, June 2022. To appear. Zixian Cai, Stephen M. Blackburn, Michael D. Bond, and Martin Maas. Distilling the Real Cost of Production Garbage Collectors. *IEEE International Symposium on Performance Analysis of Systems and Software (ISPASS)*, May 2022. To appear. Rui Zhang, Michael D. Bond, and Yinqian Zhang. Cape: Compiler-Aided Program Transformation for HTM-Based Cache Side-Channel Defense. *International Conference on Compiler Construction (CC)*, pages 181–193, April 2022.

1 of 12

Zixian Cai, Stephen M. Blackburn, and Michael D. Bond. Understanding and Utilizing Hardware Transactional Memory Capacity. *ACM SIGPLAN International Symposium on Memory Management (ISMM)*, pages 1–14, June 2021.

Sixiang Ma, Fang Zhou, Michael D. Bond, and Yang Wang. Finding Heterogeneous-Unsafe Configuration Parameters in Cloud Systems. *ACM European Conference on Computer Systems (EuroSys)*, pages 410–425, April 2021.

Chenxi Wang, Haoran Ma, Shi Liu, Yuanqi Li, Zhenyuan Ruan, Khanh Nguyen, Michael D. Bond, Ravi Netravali, Miryung Kim, and Guoqing Harry Xu. Semeru: A Memory-Disaggregated Managed Runtime. *USENIX Symposium on Operating Systems Design and Implementation (OSDI)*, pages 261–280, November 2020.

Kaan Genç, Michael D. Bond, and Guoqing Harry Xu. Crafty: Efficient, HTM-Compatible Persistent Transactions. *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, pages 59–74, June 2020.

Jake Roemer, Kaan Genç, and Michael D. Bond. SmartTrack: Efficient Predictive Race Detection. *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, pages 747–762, June 2020.

Rui Zhang, Swarnendu Biswas, Vignesh Balaji, Michael D. Bond, and Brandon Lucia. Peacenik: Architecture Support for Not Failing under Fail-Stop Memory Consistency. *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, pages 317–333, March 2020.

Kaan Genç, Jake Roemer, Yufan Xu, and Michael D. Bond. Dependence-Aware, Unbounded Sound Predictive Race Detection. *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, pages 179:1–179:30, October 2019.*

Swarnendu Biswas, Rui Zhang, Michael D. Bond, and Brandon Lucia. Rethinking Support for Region Conflict Exceptions. *IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, pages 1095–1106, May 2019.

Jake Roemer, Kaan Genç, and Michael D. Bond. High-Coverage, Unbounded Sound Predictive Race Detection. *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, pages 374–389, June 2018.

Benjamin P. Wood, Man Cao, Michael D. Bond, and Dan Grossman. Instrumentation Bias for Dynamic Data Race Detection. *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, pages 69:1–69:31, October 2017.*

Man Cao, Minjia Zhang, Aritra Sengupta, Swarnendu Biswas, and Michael D. Bond. Hybridizing and Relaxing Dependence Tracking for Efficient Parallel Runtime Support. *ACM Transactions on Parallel Computing (TOPC)*, September 2017.

Minjia Zhang, Swarnendu Biswas, and Michael D. Bond. Avoiding Consistency Exceptions Under Strong Memory Models. *ACM SIGPLAN International Symposium on Memory Management (ISMM)*, pages 115–127, June 2017.

Aritra Sengupta, Man Cao, Michael D. Bond, and Milind Kulkarni. Legato: End-to-End Bounded Region Serializability Using Commodity Hardware Transactional Memory. *IEEE/ACM International Symposium on Code Generation and Optimization (CGO)*, pages 1–13, February 2017.

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*OOPSLA has been published as an annual issue of the journal *Proceedings of the ACM on Programming Languages (PACMPL)* since 2017.

Swarnendu Biswas, Man Cao, Minjia Zhang, Michael D. Bond, and Benjamin P. Wood. Lightweight Data Race Detection for Production Runs. *International Conference on Compiler Construction (CC)*, pages 11–21, February 2017.

Man Cao, Jake Roemer, Aritra Sengupta, and Michael D. Bond. Prescient Memory: Exposing Weak Memory Model Behavior by Looking into the Future. *ACM SIGPLAN International Symposium on Memory Management (ISMM)*, pages 99–110, June 2016.

Man Cao, Minjia Zhang, Aritra Sengupta, and Michael D. Bond. Drinking from Both Glasses: Combining Pessimistic and Optimistic Tracking of Cross-Thread Dependences. *ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP)*, pages 20:1–20:13, March 2016.

Minjia Zhang, Swarnendu Biswas, and Michael D. Bond. Relaxed Dependence Tracking for Parallel Runtime Support. *International Conference on Compiler Construction (CC)*, pages 45–55, March 2016.

Swarnendu Biswas, Minjia Zhang, Michael D. Bond, and Brandon Lucia. Efficient, Software-Only Data Race Exceptions. *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, pages 241–259, October 2015.

Aritra Sengupta, Swarnendu Biswas, Minjia Zhang, Michael D. Bond, and Milind Kulkarni. Hybrid Static–Dynamic Analysis for Statically Bounded Region Serializability. *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, pages 561–575, March 2015.

Minjia Zhang, Jipeng Huang, Man Cao, and Michael D. Bond. Low-Overhead Software Transactional Memory with Progress Guarantees and Strong Semantics. *ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP)*, pages 97–108, February 2015.

Michael D. Bond, Milind Mulkarni, Man Cao, Meisam Fathi Salmi, and Jipeng Huang. Efficient Deterministic Replay of Multithreaded Executions in a Managed Language Virtual Machine. *International Conference on Principles and Practices of Programming on the Java Platform (PPPJ)*, pages 90–101, September 2015.

Aritra Sengupta, Man Cao, Michael D. Bond, and Milind Kulkarni. Toward Efficient Strong Memory Model Support for the Java Platform via Hybrid Synchronization. *International Conference on Principles and Practices of Programming on the Java Platform (PPPJ)*, pages 65–75, September 2015.

Donald E. Porter, Michael D. Bond, Indrajit Roy, Kathryn S. McKinley, and Emmett Witchel. Practical Fine-Grained Information Flow Control Using Laminar. *ACM Transactions on Programming Languages and Systems (TOPLAS)*, November 2014.

Swarnendu Biswas, Jipeng Huang, Aritra Sengupta, and Michael D. Bond. Double-Checker: Efficient Sound and Precise Atomicity Checking. *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, pages 28–39, Edinburgh, June 2014.

Man Cao, Minjia Zhang, and Michael D. Bond. Drinking from Both Glasses: Adaptively Combining Pessimistic and Optimistic Synchronization for Efficient Parallel Runtime Support. *Workshop on Determinism and Correctness in Parallel Programming (WoDet)*, Salt Lake City, March 2014.

Michael D. Bond, Milind Kulkarni, Man Cao, Minjia Zhang, Meisam Fathi Salmi, Swarnendu Biswas, Aritra Sengupta, and Jipeng Huang. Octet: Capturing and Controlling

Cross-Thread Dependences Efficiently. *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, pages 693–712, Indianapolis, October 2013.

Jipeng Huang and Michael D. Bond. Efficient Context Sensitivity for Dynamic Analyses via Calling Context Uptrees and Customized Memory Management. *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, pages 53–72, Indianapolis, October 2013.

Guoqing Xu, Michael D. Bond, Feng Qin, and Atanas Rountev. LeakChaser: Helping Programmers Narrow Down Causes of Memory Leaks. *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, pages 270–282, San Jose, CA, USA, June 2011.

Varun Srivastava, Michael D. Bond, Kathryn S. McKinley, and Vitaly Shmatikov. A Security Policy Oracle: Detecting Security Holes using Multiple API Implementations. *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, pages 343–354, San Jose, CA, USA, June 2011.

Michael D. Bond, Katherine E. Coons, and Kathryn S. McKinley. Pacer: Proportional Detection of Data Races. *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, pages 255–268, Toronto, June 2010.

Michael D. Bond, Graham Z. Baker, and Samuel Z. Guyer. Breadcrumbs: Efficient Context Sensitivity for Dynamic Bug Detection Analyses. *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, pages 13–24, Toronto, June 2010.

Michael D. Bond, Varun Srivastava, Kathryn S. McKinley, and Vitaly Shmatikov. Efficient, Context-Sensitive Detection of Real-World Semantic Attacks. *ACM SIGPLAN Workshop on Programming Languages and Analysis for Security (PLAS)*, pages 1–10, Toronto, June 2010.

Michael D. Bond and Kathryn S. McKinley. Leak Pruning. *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, pages 277–288, Washington, DC, March 2009.

Indrajit Roy, Donald E. Porter, Michael D. Bond, Kathryn S. McKinley, and Emmett Witchel. Laminar: Practical Fine-Grained Decentralized Information Flow Control. *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)*, pages 63–74, Dublin, June 2009.

Michael D. Bond and Kathryn S. McKinley. Tolerating Memory Leaks. *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, pages 109–126, Nashville, TN, USA, October 2008.

Michael D. Bond and Kathryn S. McKinley. Probabilistic Calling Context. *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, pages 97–112, Montreal, October 2007.

Michael D. Bond, Nicholas Nethercote, Stephen W. Kent, Samuel Z. Guyer, and Kathryn S. McKinley. Tracking Bad Apples: Reporting the Origin of Null and Undefined Value Errors. *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)*, pages 405–422, Montreal, October 2007.

Byeongcheol Lee, Kevin Resnick, Michael D. Bond, and Kathryn S. McKinley. Correcting the Dynamic Call Graph Using Control Flow Constraints. *International Conference on Compiler Construction (CC)*, pages 80–95, Braga, Portugal, March 2007.

Michael D. Bond and Kathryn S. McKinley. Bell: Bit-Encoding Online Memory Leak Detection. *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, pages 61–72, San Jose, CA, USA, October 2006.

Michael D. Bond and Kathryn S. McKinley. Continuous Path and Edge Profiling. *IEEE/ACM International Symposium on Microarchitecture (MICRO)*, pages 130–140, Barcelona, November 2005.

Michael D. Bond and Kathryn S. McKinley. Practical Path Profiling for Dynamic Optimizers. *IEEE/ACM International Symposium on Code Generation and Optimization (CGO)*, pages 205–216, San Jose, CA, USA, March 2005.

Rahul Joshi, Michael D. Bond, and Craig Zilles. Targeted Path Profiling: Lower Overhead Path Profiling for Staged Dynamic Optimization Systems. *IEEE/ACM International Symposium on Code Generation and Optimization (CGO)*, pages 239–250, Palo Alto, CA, USA, March 2004.

NON-REFEREED PUBLICATIONS

Rui Zhang, Swarnendu Biswas, Vignesh Balaji, Michael D. Bond, and Brandon Lucia. Neat: Low-Complexity, Efficient On-Chip Cache Coherence. arXiv:2107.05453, July 2021.

Jake Roemer and Michael D. Bond. Online Set-Based Dynamic Analysis for Sound Predictive Race Detection. arXiv:1907.08337, July 2019.

UNDER SUBMISSION

Ada Barach, Max Taylor, Jacob Bambeck, Michael D. Bond, and Zhiqiang Lin. Cocoon: Static Information Flow Control in Rust. Under submission to *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)* 2022.

DISSERTATION

Michael David Bond. *Detecting and Tolerating Bugs in Deployed Systems.* Department of Computer Science, University of Texas at Austin, December 2008. ACM SIGPLAN Outstanding Doctoral Dissertation Award.

EXTERNAL LEADERSHIP ACTIVITIES

Area Chair, Program Committee, *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)* 2023

Co-chair, Artifact Evaluation Committee, *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)* 2017

Co-chair, Artifact Evaluation Committee, *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)* 2016

Chair, Program Committee, *ACM SIGPLAN International Symposium on Memory Management (ISMM)* 2015

Member, Jikes RVM Team (2007–present)

REVIEWING ACTIVITIES

Program Committee Member, *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)* 2023

Program Committee Member, *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)* 2022

Program Committee Member, *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)* 2021

Review Committee Member, *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)* 2021

External Review Committee Member, *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)* 2021

External Review Committee Member, *ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP)* 2021

External Review Committee Member, *ACM SIGPLAN International Symposium on Memory Management (ISMM)* 2021

External Review Committee Member, *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)* 2020

Program Committee Member, *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)* 2020

Program Committee Member, *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)* 2020

Program Committee, *ACM SIGPLAN International Symposium on Memory Management (ISMM)* 2019

Program Committee Member, *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)* 2019

External Review Committee Member, *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)* 2018

External Review Committee Member, *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)* 2018

External Review Committee Member, *IEEE/ACM International Conference on Parallel Architectures and Compilation Techniques (PACT)* 2017

External Review Committee Member, *ACM SIGPLAN International Symposium on Memory Management (ISMM)* 2017

External Review Committee Member, *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)* 2017

External Program Committee Member, *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)* 2017

External Program Committee Member, *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)* 2016

Program Committee Member, *ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP)* 2016

External Review Committee Member, *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)* 2016

External Review Committee Member, *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)* 2015

External Review Committee Member, *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)* 2014

External Review Committee Member, *ACM SIGPLAN International Symposium on Memory Management (ISMM)* 2014

External Review Committee Member, *ACM SIGPLAN Symposium on Principles and Practice of Parallel Programming (PPoPP)* 2014

Program Committee Member, *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)* 2013

Program Committee Member, *ACM SIGPLAN International Symposium on Memory Management (ISMM)* 2013

External Review Committee Member, *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)* 2013

Program Committee Member, *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)* 2012

External Review Committee Member, *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)* 2012

Program Committee Member, *ACM SIGPLAN International Symposium on Memory Management (ISMM)* 2011

External Review Committee Member, *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)* 2011

Program Committee Member, *ACM SIGPLAN/SIGOPS International Conference on Virtual Execution Environments (VEE)* 2011

Program Committee Member, *Workshop on Transitioning to Multicore* 2011

Program Committee Member, *ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA)* 2010

External Review Committee Member, *ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI)* 2010

Program Committee Member, *ACM SIGSOFT International Workshop on Multicore Software Engineering (IWMSE)* 2010

Review Committee Member, *ACM SIGPLAN International Symposium on Memory Management (ISMM)* 2010

Reviewer for *ACM Transactions on Programming Languages and Systems (TOPLAS)*; *ACM Transactions on Architecture and Code Optimization (TACO)*; *ACM Transactions on Software Engineering and Methodology (TOSEM)*; and *Software: Practice and Experience (SPE)*

OTHER EXTERNAL SERVICE

Panelist, Computer & Information Science & Engineering, National Science Foundation (2022)

Selection Committee Member, Student Research Competition, ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI) 2020

Steering Committee Member, ACM SIGPLAN International Symposium on Memory Management (ISMM) (2014–2018)

Panelist, Computer & Information Science & Engineering, National Science Foundation (2015)

Selection Committee Member, Student Research Competition, ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI) 2013

Mentor, Doctoral Symposium, ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS) 2012

Panelist, Doctoral Symposium, ACM SIGPLAN International Conference on Systems, Programming, Languages and Applications: Software for Humanity (SPLASH) 2011

Panelist, Computer & Information Science & Engineering, National Science Foundation (2011)

NOTABLE
INTERNAL
LEADERSHIP

Chair, Diversity and Inclusion Committee, Department of Computer Science & Engineering, Ohio State University (May 2022 – present)

Lead organizer, exploreCSR, Ohio State University (August 2020 – May 2022)

AWARDS

exploreCSR Award, Google Research (2020)

Outstanding Teaching Award, Department of Computer Science & Engineering, Ohio State University (2018)

Lumley Research Award, College of Engineering, Ohio State University (2016)

Distinguished Paper Award, ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA 2015)

Distinguished Artifact Award, ACM SIGPLAN International Conference on Object-Oriented Programming, Systems, Languages, and Applications (OOPSLA 2015)

Faculty Early Career Development (CAREER) Award, National Science Foundation (2013)

ACM SIGPLAN Outstanding Doctoral Dissertation Award (2008)

GRANTS

National Science Foundation, CNS Core: Small: Rethinking High-Performance Persistent Transactions, CNS-2106117, single PI, $499,998 (October 2021 – September 2024)

Google Research, exploreCSR, single PI, $18,000 (September 2020)

Google Cloud Platform Education Programs Team, Google Cloud Platform credits, single PI, $7,500 (May 2019)

National Science Foundation, XPS: FULL: Collaborative Research: Rethinking Architecture Support for Memory Consistency, XPS-1629126, PI, $343,904 ($825,000 total) (September 2016 – August 2021)

National Science Foundation, SHF: Small: Collaborative Research: Hybrid Static–Dynamic Analyses for Region Serializability, CCF-1421612, PI (lead institution), $364,979 ($438,706 total) (September 2014 – August 2018)

National Science Foundation, CAREER: Practical Language and System Support for Reliable Concurrent Software, CAREER-1253703, single PI, $555,143 (March 2013 – February 2019)

National Science Foundation, CSR: Small: Making Software Transactional Memory More than a Research Toy, CSR-1218695, single PI, $400,000 (September 2012 – August 2016)

Pending proposals	National Science Foundation, Collaborative Research: CNS Core: Medium: Decentralized Garbage Collection for Modern Computing Platforms; requested $600,000 for PI Bond (lead institution) and $600,000 for PI Saugata Ghose (UIUC); submitted December 2021
	National Science Foundation, CNS Core: Medium: Application Semantics Aware Concurrency Control; co-PI, requested $1,200,000 total for PI Wang and co-PIs Bond and Blanas; submitted December 2021
Software artifacts	Cape: Compiler-Aided Program Transformation for HTM-Based Cache Side-Channel Defense (by Rui Zhang), 2022
	Understanding and Utilizing Hardware Transactional Memory Capacity (by Zixian Cai), 2021
	Finding Heterogeneous-Unsafe Configuration Parameters in Cloud Systems (by Sixiang Ma), 2021
	Semeru: A Memory-Disaggregated Managed Runtime (by Chenxi Wang et al.), 2020
	Crafty: Efficient, HTM-Compatible Persistent Transactions (by Kaan Genç), 2020
	SmartTrack: Efficient Predictive Race Detection (by Jake Roemer), 2020
	Peacenik: Architecture Support for Not Failing under Fail-Stop Memory Consistency (by Rui Zhang), 2020
	Dependence-Aware, Unbounded Sound Predictive Race Detection (by Kaan Genç), 2019
	Rethinking Support for Region Conflict Exceptions (by Swarnendu Biswas), 2019
	Vindicator: High-Coverage, Unbounded Sound Predictive Race Detection (by Jake Roemer), 2018
	Fast Instrumentation Bias (by Benjamin P. Wood), 2017
	Avoiding Consistency Exceptions Under Strong Memory Models (by Minjia Zhang), Jikes RVM Research Archive, 2017
	Legato: End-to-End Bounded Region Serializability Using Commodity Hardware Transactional Memory (by Aritra Sengupta), Jikes RVM Research Archive, 2017
	Lightweight Data Race Detection for Production Runs (by Swarnendu Biswas), Jikes RVM Research Archive, 2017
	Prescient Memory: Exposing Weak Memory Model Behavior by Looking into the Future (by Man Cao), Jikes RVM Research Archive, 2016
	Relaxed Dependence Tracking for Parallel Runtime Support (by Minjia Zhang), Jikes RVM Research Archive, 2016
	Drinking from Both Glasses: Combining Pessimistic and Optimistic Tracking of Cross-Thread Dependences (by Man Cao), Jikes RVM Research Archive, 2016
	Valor: Efficient, Software-Only Region Conflict Exceptions (by Swarnendu Biswas), Jikes RVM Research Archive, 2015
	EnfoRSer-H: Toward Efficient Strong Memory Model Support for the Java Platform via Hybrid Synchronization (by Aritra Sengupta), Jikes RVM Research Archive, 2015

Multithreaded record & replay, Jikes RVM Research Archive, 2015

EnfoRSer: Hybrid Static–Dynamic Analysis for Statically Bounded Region Serializability (by Aritra Sengupta), Jikes RVM Research Archive, 2015

A Java Port of the STAMP Benchmarks, Modified for LarkTM (by Minjia Zhang), Jikes RVM Research Archive, 2015

Low-Overhead Software Transactional Memory with Progress Guarantees and Strong Semantics (by Minjia Zhang), Jikes RVM Research Archive, 2015

DoubleChecker: Efficient Sound and Precise Atomicity Checking (by Swarnendu Biswas), Jikes RVM Research Archive, 2014

Octet: Capturing and Controlling Cross-Thread Dependences Efficiently, Jikes RVM Research Archive, 2013

Efficient Context Sensitivity for Dynamic Analyses via Calling Context Uptrees and Customized Memory Management (with Jipeng Huang), Jikes RVM Research Archive, 2013

Static cloning of library methods for application and VM contexts, Jikes RVM Research Archive, 2013

LeakChaser, a Java memory leak detection tool (by Guoqing Xu), Jikes RVM Research Archive, 2011

Pacer: Proportional Detection of Data Races, Jikes RVM Research Archive, 2010

Breadcrumbs: Context Sensitivity for Dynamic Analyses, Jikes RVM Research Archive, 2010

Pecan: Efficient, Context-Sensitive Intrusion Detection, Jikes RVM Research Archive, 2010

Laminar (with Indrajit Roy and Donald E. Porter), Jikes RVM Research Archive, 2009

Leak Pruning, Jikes RVM Research Archive, 2008

Bad Apples Suite (with Stephen W. Kent), 12 real null pointer exception bugs, 2008

Tolerating Memory Leaks with Melt, Jikes RVM Research Archive, 2008

Probabilistic Calling Context, Jikes RVM Research Archive, 2007

Origin Tracking for Null References, Jikes RVM Research Archive, 2007

Sleigh: a memory leak detection tool, Jikes RVM Research Archive, 2006

PEP: continuous path and edge profiling, Jikes RVM Research Archive, 2006

Practical and Targeted Path Profiling, part of the Scale compiler, 2005

INVITED TALKS   "Good-Enough Memory Consistency," Wild and Crazy Ideas Session, *ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, Providence, RI, USA, March 2019

Several formal and informal talks while on sabbatical visiting UCLA and Australian National University, December 2018 – March 2019

"Pushing Predictive Data Race Detection to the Limit," International Workshop on Dynamic Analysis, Vancouver, October 2017

"Discovering Empirical and Theoretical Analysis Properties from Lots of Real Executions," National Java Resource Workshop, Vancouver, October 2017

"Rethinking System Support for Memory Consistency and Coherence," Carnegie Mellon University, February 2017

"Rethinking Strong Memory Consistency," Ghent University, March 2016

"Toward Practical Language and Runtime Support for Reliable, Scalable Parallelism"
- University of Massachusetts at Amherst, May 2015
- Massachusetts Institute of Technology, May 2015

"Practical Language and System Support for Reliable, Scalable Concurrency," Carnegie Mellon University, November 2013

"Practical Language and System Support for Reliable Concurrent Software," University of Michigan, October 2013

"Practical Language and System Support for Reliable Concurrent Software," Purdue University, April 2013

"Tracking Conflicting Accesses Efficiently for Software Record and Replay," Cambridge Systems Workshop, Microsoft Research, Cambridge, UK, March 2012

"Pacer: Proportional Detection of Data Races," Tufts University, May 2010

"Achieving Reliability in Deployed Software Systems"
- Georgia Institute of Technology, April 2010
- Carnegie Mellon University, April 2010
- University of Chicago, March 2010
- University at Buffalo, March 2010
- University of Toronto, March 2010
- Max Planck Institute for Software Systems, March 2010
- University of Wisconsin, March 2010
- Microsoft Research Redmond, March 2010
- University of Rochester, March 2010
- The College of William & Mary, February 2010
- Stanford University, February 2010
- Ohio State University, February 2010

"Making Software Robust in Deployed Systems"
- University of Michigan at Ann Arbor, April 2009
- Duke University, March 2009
- University of Nebraska at Lincoln, February 2009

"Deployed Software: An Ideal Environment for Fixing Bugs?"
- University of Illinois at Urbana–Champaign, July 2008
- University of Washington, June 2008
- University of Oregon, June 2008
- Stanford University, June 2008
- University of California at Santa Cruz, June 2008
- University of California at Berkeley, June 2008
- University of California at San Diego, June 2008
- Texas A & M University, June 2008

"Bounding Leaky Programs," Wild and Crazy Ideas Session, *ACM SIGPLAN International Symposium on Memory Management (ISMM)*, Tucson, AZ, USA, June 2008

"Improving Software Reliability at Production Time"
- IBM Research, Hawthorne, NY, USA, October 2007
- IBM Corporation, Austin, TX, USA, October 2007
- Intel Corporation, Hillsboro, OR, USA, June 2007