

# Ian Wehrman

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## *Contact*

The University of Texas at Austin  
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## *Research Interests*

Concurrent programming language semantics, reasoning and verification.

## *Education*

Ph.D. Computer Science, Fall 2012 (expected)  
The University of Texas at Austin

M.Sc. Computer Science, 2006  
Washington University in St. Louis

B.Sc. Computer Science, 2004  
Webster University

## *Papers*

### *Journals*

C. A. R. Hoare, Bernhard Moller, Georg Struth, Ian Wehrman. Concurrent Kleene Algebra and its Foundations. *Journal of Logic and Algebraic Programming*: 80(6), Relations and Kleene Algebras in Computer Science, pp. 266-296, 2011.

Ian Wehrman, C. A. R. Hoare, Peter W. O'Hearn. Graphical Models of Separation Logic. *Information Processing Letters*: 109(17): pp. 1001-1004, 2009.

Ian Wehrman, David Kitchin, William R. Cook and Jayadev Misra. A Timed Semantics of Orc. *Theoretical Computer Science*: 402 (2-3), pp. 234-248, 2008.

### *Conferences*

C. A. R. Hoare, Bernhard Möller, Georg Struth, Ian Wehrman. Concurrent Kleene Algebra. 20th International Conference on Concurrency Theory (CONCUR): pp. 399-414, 2009.

C. A. R. Hoare, Bernhard Möller, Georg Struth, Ian Wehrman. Foundations of Concurrent Kleene Algebra. 11th International Conference on Relational Methods in Computer Science (RelMiCS): pp. 166-186, 2009.

Sajeeva Pallemulle, Ian Wehrman and Kenneth Goldman. Byzantine Fault Tolerant Execution of Long-Running Distributed Applications. 18th IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS), 2006.

Ian Wehrman, Aaron Stump and Edwin Westbrook. Slothrop: Knuth-Bendix Completion with a Modern Termination Checker. 17th International Conference on Rewriting Techniques and Applications (RTA): pp. 287-296, 2006.

Edwin Westbrook, Aaron Stump and Ian Wehrman. A Language-based Approach to Functionally Correct Imperative Programming. 10th ACM SIGPLAN International Conference on Functional Programming (ICFP): pp. 268-279, 2005.

### *Workshops*

Ian Wehrman, Josh Berdine. A Proposal for Weak-Memory Local Reasoning. Syntax and Semantics of Low-Level Languages (LOLA), 2011.

Ian Wehrman, David Kitchin, William R. Cook and Jayadev Misra. A Timed Semantics of Orc (excerpt). 2nd Workshop on Event-Based Semantics (WEBS), 2008.

Aaron Stump and Ian Wehrman. Property Types: Semantic Programming for Java. 13th International Workshop on Foundations and Developments of Object-Oriented Languages (FOOL/WOOD), 2006.

Ian Wehrman and Aaron Stump. Mining Propositional Simplification Proofs for Small Validating Clauses. 3rd Workshop on Pragmatics of Decision Procedures in Automated Reasoning (PDPAR). ENTCS, Volume 144, Issue 2, pp. 79-91, 2006.

### *Book Chapters*

C. A. R. Hoare, Ian Wehrman, Peter W. O’Hearn. Graphical Models of Separation Logic. In “Engineering Methods and Tools for Software Safety and Security.” IOS Press, 2009.

### *Technical Reports*

Ian Wehrman. Semantics and Syntax of a Weak-Memory Separation Logic: Sequential Fragment. University of Texas at Austin. TR-2076. October, 2010.

Ian Wehrman, David Kitchin, William R. Cook and Jayadev Misra. Properties of the Timed Operational and Denotational Semantics of Orc. University of Texas at Austin. TR-07-65. December, 2007.

Ian Wehrman. Knuth-Bendix Completion with Modern Termination Checking. Master's thesis, Washington University in St. Louis. WUCSE-2006-45. August, 2006.

Ian Wehrman, Sajeeva Pallemulle and Ken Goldman. Extending Byzantine Fault Tolerance to Replicated Clients. WU-CSE-2006-7. February, 2006.

Edwin Westbrook, Aaron Stump and Ian Wehrman. A Language-based Approach to Functionally Correct Imperative Programming. WU-CSE-2005-32. July, 2005.

## *Experience*

Microsoft Research Cambridge, 2009  
Research Intern, Programming Principles Group.  
Mentor: Josh Berdine

Marktoberdorf Summer School, 2008  
Engineering Methods and Tools for Software Safety and Security

Microsoft Research Cambridge, 2008  
Research Intern, Programming Principles Group.  
Mentor: C. A. R. Hoare

Marktoberdorf Summer School, 2007  
Formal Logical Methods for System Security and Correctness

Microsoft Research Redmond, 2007  
Research Intern, Software Reliability Group.  
Mentor: Shuvendu Lahiri

## *Awards & Scholarships*

MCD Doctoral Fellowship, 2006  
The University of Texas at Austin

Natural Sciences Dean's Excellence Award, 2006  
The University of Texas at Austin

Distinguished Master's Fellowship, 2004  
Washington University in St. Louis

Math & Computer Science Department Honors, 2004  
Webster University

## *Academic Service*

### *Reviewing:*

International Conference on Coordination Models and Languages 2007; IARCS Conference on Foundations of Software Technology and Theoretical Computer Science 2007; European Conference on Object-Oriented Programming 2008; International Joint Conference on Automated Reasoning 2008; International Conference on Coordination Models and Languages 2009; Journal of Formal Methods in System Design 2011; International Conference on Certified Programs and Proofs 2011; Interactive Theorem Proving 2012; Formal Methods in Computer-Aided Design 2012.

### *Teaching Assistance:*

Computation Orchestration; Logic, Sets and Functions; Logic and Discrete Mathematics; Programming Language Theory.

## *Graduate Coursework*

### *The University of Texas at Austin:*

Feature-oriented programming; Verification and Validation; Model-Checking Reactive Systems; Computation Orchestration; Distributed Computing; Introduction to Mathematical Logic; Supervised Teaching in Computer Science.

### *Washington University in St. Louis:*

Seminar on Computational Logic: Proof Theory of Arithmetic; Seminar on Computational Complexity Theory (unofficial); Introduction to Automated Theorem Proving; Computational Geometry; Introduction to Formal Languages and Automata; Advanced Data Structures; Seminar on Survivable Systems (unofficial); Seminar on Algorithms: Approximation Algorithms; Seminar on Computational Logic: Equational Theorem Proving; Introduction to Artificial Intelligence; Programming Language Theory; Advanced Algorithms.

## *Miscellaneous*

Citizenship: United States of America.

Date of birth: 7 June, 1980.

Updated: September, 2012.