

Sam Tobin-Hochstadt

College of Computer & Information Science
Northeastern University
360 Huntington Avenue
Boston, MA 02115

202 West Village H
Phone: 617-373-8091
samth@ccs.neu.edu
www.ccs.neu.edu/~samth

Research Interests

My research focuses on the design and analysis of programs and programming languages. I am particularly interested in how programs grow from prototype scripts to robust software, and how programming language design can support this process. My research concerns type systems, software contracts, module systems, and extensible languages.

Appointments

- 2011- Research Assistant Professor, CCIS, Northeastern University

- 2009-2011 Mozilla Postdoctoral Research Fellow, CCIS, Northeastern University
- 2006-2009 Research Assistant, CCIS, Northeastern University
- 2003-2006 Teaching Assistant, CCIS, Northeastern University
- 2004-2006 Intern, Programming Languages Research Group, Sun Microsystems Labs

Education

- 2010 PH.D in Computer Science, Northeastern University
Thesis title: *Typed Scheme: From Scripts to Programs*
- 2006 MA in Computer Science, Northeastern University
- 2003 BS in Computer Science with Honors, University of Chicago

Publications

Journal Articles

- 2012 The Design and Implementation of Typed Scheme, with Matthias Felleisen, *Higher Order and Symbolic Computation (HOSC)*, to appear.

Conferences

- 2012 Run Your Research: On the Effectiveness of Lightweight Mechanization, with Casey Klein, John Clements, Christos Dimoulas, Carl Eastlund, Matthias Felleisen, Matthew Flatt, Jay A. McCarthy, Jon Rafkind, and Robert Bruce Findler, *Proc. 39th ACM Symposium on Principles of Programming Languages (POPL)*.
- 2012 Typing the Numeric Tower, with Vincent St-Amour, Matthias Felleisen, and Matthew Flatt, *2012 Symposium on Practical Aspects of Declarative Languages (PADL)*.

- 2011 Languages as Libraries, with Vincent St-Amour, Ryan Culpepper, Matthew Flatt, and Matthias Felleisen, *Proc. 32nd ACM Conference on Programming Language Design and Implementation (PLDI)*.
- 2010 Logical Types for Untyped Languages, with Matthias Felleisen, *Proc. 15th ACM International Conference on Functional Programming (ICFP)*.
- 2009 Practical Variable-Arity Polymorphism, with Matthias Felleisen and T. Stephen Strickland, *Proc. Eighteenth European Symposium on Programming (ESOP)*.
- 2008 The Design and Implementation of Typed Scheme, with Matthias Felleisen, *Proc. 35th ACM Symposium on Principles of Programming Languages (POPL)*.
- 2006 Interlanguage Migration: From Scripts to Programs, with Matthias Felleisen, *Dynamic Languages Symposium at OOPSLA (DLS)*.

Workshops

- 2011 Semantic Solutions to Program Analysis Problems (Abstract), *2011 Fun Ideas and Thoughts Session at the 32nd ACM Conference on Programming Language Design and Implementation (FIT)*.
- 2010 Extensible Pattern Matching for Extensible Languages (Abstract), *2010 Symposium on Implementation and Application of Functional Languages (IFL)*.
- 2010 Where are you going with those types? (Abstract), with Vincent St-Amour, Matthias Felleisen, and Matthew Flatt, *2010 Symposium on Implementation and Application of Functional Languages (IFL)*.
- 2010 Purely Functional Data Structures for Typed Racket, with Hari Prashanth K R, *2010 Workshop on Scheme and Functional Programming*.
- 2009 Cycles without pollution: a gradual typing poem, with Robert Bruce Findler, *First Workshop on Script to Program Evolution (STOP)*.
- 2007 Advanced Macrology and the Implementation of Typed Scheme, with Ryan Culpepper and Matthew Flatt, *2007 Workshop on Scheme and Functional Programming*.
- 2005 A Core Calculus of Metaclasses, with Eric Allen, *Twelfth Workshop on Foundations of Object-Oriented Languages (FOOL)*.

Miscellaneous Publications

- 2004-2008 Fortress Language Specification, with Eric Allen, David Chase, Joe Hallet, Victor Luchangco, Jan-Willem Maessen, Sukyoung Ryu, and Guy L. Steele Jr., versions 0.618-1.0, Sun Microsystems Technical Report.

Patents

- 2006 Method and apparatus for expressing and checking relationships between types, with Sukyoung Ryu, Eric Allen, Victor Luchangco, and Joe Hallet, Pending. 2007/0256060.

Grants & Awards

- 2011-2012 Gift from the Mozilla Corporation, \$74,900
- 2009-2011 2-year Mozilla Research Fellowship, Mozilla Corporation, \$200,000
- 2010 CCIS Outstanding Research Award

Teaching

- 2012 Instructor, Fundamentals of Computer Science 2 (Honors)
- 2011 Instructor, Fundamentals of Computer Science 2 (Honors)
- 2009 Instructor, Fundamentals of Computer Science 1
- 2005 Instructor, Fundamentals of Computer Science 2
- 2003-2008 Teaching Assistant, Fundamentals of CS 1 (2003, 2004), Fundamentals of CS 2 (2004), Software Development (2005), Programming Languages (2006, 2008)

Advisees

- 2010- Vincent St-Amour, Ph.D student, Northeastern University
- 2009-2010 Hari Prashanth K R, MS Thesis, Northeastern University
- 2007 Ivan Gazeau, Ph.D student from École normale supérieure (Paris)

Selected Talks

- 2011 Domain-Specific Languages for GnoSys. At the DARPA CRASH PI Meeting
- 2011 Evolving Software from Scripts to Programs. At the Oregon State University Department of Computer Science
- 2010 From Scripts to Programs. At the Indiana University Department of Computer Science
- 2010 Logical Types for Scheme. At the New England Programming Languages and Systems Symposium
- 2010 Typed Scheme: From Scripts to Programs. At the Harvard University Programming Languages Seminar
- 2009 Types for Scheme, in Scheme. At the Boston Lisp Meeting
- 2009 Typed Scheme: From Scripts to Programs. At Sun Microsystems Laboratories
- 2009 The Design and Implementation of Typed Scheme. At the Symposium in Honor of Mitchell Wand
- 2008 To Type or Not to Type. At the Northeastern University ACM Lecture Series

Professional Activities

- 2012 International Conference on Functional Programming, Program Committee
- 2012 Workshop on Script to Program Evolution, Chair
- 2010-2012 TC39 - ECMAScript (Standards Committee for JavaScript), Member
- 2011 Workshop on Scheme and Functional Programming, Program Committee
- 2011 New England Programming Languages and Systems Symposium, Chair
- 2011 Workshop on Script to Program Evolution, Program Committee
- 2011 Workshop on Types in Language Design and Implementation, Program Committee
- 2010 Workshop on Foundations of Object-Oriented Languages, Program Committee
- 2010 Symposium on Trends in Functional Programming, Program Committee

Reviewer for J. of Functional Programming, VMCAI 2012, OOPSLA 2009, ICFP 2008

Professional Associations

Association for Computing Machinery, SIGPLAN

References

Matthias Felleisen

Trustee Professor of Computer Science
Northeastern University
360 Huntington Avenue
Boston, MA 02115
matthias@ccs.neu.edu

Mitchell Wand

Professor of Computer Science
Northeastern University
360 Huntington Avenue
Boston, MA 02115
wand@ccs.neu.edu

Olin Shivers

Associate Professor of Computer Science
Northeastern University
360 Huntington Avenue
Boston, MA 02115
shivers@ccs.neu.edu

Guy L. Steele Jr.

Sun Fellow
Oracle Corporation
1 Network Drive
Burlington, MA 01803
Guy.Steele@oracle.com

Brendan Eich

Chief Technical Officer
Mozilla Corporation
650 Castro Street
Mountain View, CA 94041
brendan@mozilla.com