

Computer Science Department
Harvey Mudd College
301 Platt Boulevard
Claremont, CA 91711

PHONE (909) 607-8975
FAX (909) 607-8364
E-MAIL stone@cs.hmc.edu

Christopher A. Stone

- Education**
- 1994 – 2000 Carnegie Mellon University Pittsburgh, PA
Ph.D. Computer Science
Dissertation: *Singleton Types and Kinds for Typed Intermediate Languages*
Committee Chair: Professor Robert W. Harper
- 1998 Carnegie Mellon University Pittsburgh, PA
M.S. Computer Science
- 1990 – 1994 Carnegie Mellon University Pittsburgh, PA
M.S. Mathematics
B.S. Mathematics/Computer Science, with University Honors
B.S. Physics, with University Honors
- Awards**
- ACM SIGPLAN Most Influential PLDI Paper Award (2006, for 1996).
National Defense Science and Engineering Graduate Fellowship (1994–1997)
- Employment**
- Associate Professor of Computer Science (2006 – present)
Assistant Professor of Computer Science (2000 – 2006)
Harvey Mudd College, Claremont, CA
- Research Interests**
- Type systems, optimizing compilers, object calculi, programming language design, and applications of constructive logic.
- Grants**
- Christopher A. Stone, Mellon Sabbatical Enhancement Grant, Summer 2006.
- Andrej Bauer and Christopher A. Stone. USA-SLOVENIA Cooperation in Science and Technology Travel Grant, *Applications of Realizability Theory in the Design of Data Structures*, 2005–06.
- Courses Taught**
- CS 60 Principles of Computer Science (F01)
CS 70 Data Structures and Program Development (F04 – S06, F07)
CS 81 Computability and Logic (S04)
CS 131 Programming Languages (F00 – S04, F07)
CS 132 Compiler Design (S01, S03, S05, F07)
CS 189 Programming Practicum (F05 – S06)

**Advisory
Roles**

Computer Science Clinic Projects
QB Inc. (2000–01), Qualcomm (01–02), Northrop Grumman (02–03),
SnapTrack/Qualcomm (03–04), Green Hills Software (Summer 05),
NC4 (05–06), Laserfiche (S06), RealNetworks (07–08).

Student Research Projects
Quantum Computing, with Cris Cecka ('06)
Types for Extensible Objects, with Jonah Cohen ('05)
Adding Views to Cyclone, with Elmer Kim ('03)
Equivalence Algorithms for Recursive Types, with Andrew Schoonmaker ('02)
MeaseL Project (joint with Professor Joshua Hodas)
with Michael Allen ('02), Edward Miller ('03), Peter Henry (Pomona '02),
Melissa Chase ('03), George Kuan ('04).

Faculty Advisor, CS computer systems staff (2004–06)

Faculty Advisor, Claremont Student ACM Chapter (2007–08).

**Professional
Activities**

Invited Visitor, Faculty of Mathematics and Physics, University of Ljubljana,
Slovenia, June–October 2006.

General Chair for the 2008 International Workshop on Foundations of Object-
Oriented Languages (FOOL 2008).

Program Chair for the 2006 International Workshop on Foundations and
Developments of Object-Oriented Languages (FOOL/WOOD 2006)

Program Committee Member for the Workshop on Object-Oriented
Developments (WOOD 2003), the ACM International Conference on
Functional Programming (ICFP 2004, ICFP 2007), and the Mathematical
Foundations of Programming Semantics conference (MFPS 24).

Invited Panel Member for the 2003 NSF Software Engineering and Languages
(SEL) Program.

Invited talk with Andrej Bauer (*From Theories to Signatures*), Mathematical
Foundations of Programming Semantics Conference (MFPS 20), Special
Session on Logical Foundations and Programming Semantics, May 2004.

Invited talk (*Extensional Equivalence and Singleton Types*) at UCLA, March 2004.

Invited talk (*Continuations*) at the University of Ljubljana, Slovenia. January 2004.

External reviews for the IEEE Logic in Computer Science (LICS), ACM
International Conference on Functional Programming (ICFP), ACM
Principles of Programming Languages (POPL), Journal of Functional
Programming.

**Book
Chapters**

Christopher A. Stone. Type Definitions. In Benjamin C. Pierce, editor,
Advanced Topics in Types and Programming Languages, MIT Press,
2005.

Robert Harper and Christopher Stone. A Type-Theoretic Interpretation of Standard
ML. In Gordon Plotkin, editor, *Proof, Language and Interaction: Essays in
Honour of Robin Milner*, MIT Press, 2000.

**Journal
Papers**

- Andrej Bauer and Christopher A. Stone. RZ: a Tool for Bringing Constructive and Computable Mathematics Closer to Programming Practice, Submitted for journal publication, 2007.
- Christopher A. Stone and Robert Harper. Extensional Equivalence and Singleton Types. *ACM Transactions in Computational Logic*, 7(4), October 2006.
- Christopher A. Stone. Extensible Objects Without Labels. *ACM Transactions on Programming Languages and Systems*, 26(5), September 2004. Preliminary version presented at the Ninth International Workshop on Foundations of Object-Oriented Languages (FOOL 9), January 2002.
- Jon G. Riecke and Christopher A. Stone. Privacy via Subsumption. *Information and Computation* 172(1):2-28, 2002. Preliminary version presented at the Fifth International Workshop on Foundations of Object-Oriented Languages (FOOL 5), January 1998.
- J. Kadane, C. Stone and G. Wallstrom. The Donation Paradox for Peremptory Challenges. *Theory and Decision*, 47(2), October 1999.
- R.E. Valdes-Perez and C.A. Stone. Systematic Detection of Subtle Spatio-Temporal Patterns in Time-Lapse Imaging. II. Particle Migrations. *Bioimaging* 6(2):71-78, 1998.
- Edoardo Biagioni, Ken Cline, Peter Lee, Chris Okasaki, and Chris Stone. Safe-for-Space Threads in Standard ML, *Higher-Order and Symbolic Computation*, 11(2), 1998. Preliminary version presented at the Second SIGPLAN Workshop on Continuations, January 1997.

**Other
Conference &
Workshop
Papers**

- Andrej Bauer and Christopher A. Stone. *RZ: a Tool for Bringing Constructive and Computable Mathematics Closer to Programming Practice*, Computability in Europe Conference (CiE 2007), LNCS 4497, July 2007.
- Andrej Bauer and Christopher A. Stone. *Specifications via Realizability*, Constructive Logic for Automated Software Engineering Workshop, Edinburgh, April 2005.
- David Tarditi, Greg Morrisett, Perry Cheng, Chris Stone, Robert Harper and Peter Lee. *Retrospective on "TIL: A Type-Directed Optimizing Compiler for ML"*. 20 Years of the ACM SIGPLAN Conference on Programming Language Design and Implementation (1979-1999).
- Christopher A. Stone and Robert Harper. *Deciding Type Equivalence in a Language with Singleton Kinds*. Proceedings of the 27th SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL '00). Extended version appears as Carnegie Mellon University Technical Report CMU-CS-99-155, 1999.
- Greg Morrisett, David Tarditi, Perry Cheng, Chris Stone, Robert Harper and Peter Lee. *The TIL/ML Compiler: Performance and Safety Through Types*, 1996 Workshop on Compiler Support for Systems Software.
- David Tarditi, Greg Morrisett, Perry Cheng, Chris Stone, Robert Harper and Peter Lee. *TIL: A Type-Directed Optimizing Compiler for ML*. Proceedings of the ACM SIGPLAN '96 Conference on Programming Language Design and Implementation, May 1996.

**Technical
Reports**

Christopher A. Stone and Andrew P. Schoonmaker. *Equational Theories for Recursive Types*. HMC Technical Report, 2005.

Leaf Petersen, Perry Cheng, Robert Harper, and Chris Stone. *Implementing the TILT Intermediate Language*. Carnegie Mellon University Technical Report CMU-CS-00-180, 2000.

Karl Crary, Robert Harper, Perry Cheng, Leaf Petersen, and Chris Stone. *Transparent and Opaque Interpretations of Datatypes*. Carnegie Mellon University Technical Report CMU-CS-98-177, 1998.

Robert Harper and Chris Stone. *An Interpretation of Standard ML in Type Theory*. Carnegie Mellon University Technical Report CMU-CS-97-147, June 1997.