

# Stephanie Weirich

School of Engineering and Science, University of Pennsylvania

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## Education

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<b>Cornell University</b> <i>Ph.D., Computer Science</i>	<b>Ithaca, NY</b> <i>August 2002</i>
<b>Cornell University</b> <i>M.S., Computer Science</i>	<b>Ithaca, NY</b> <i>August 2000</i>
<b>Rice University</b> <i>B.A., Computer Science, magnum cum laude</i>	<b>Houston, TX</b> <i>May 1996</i>

## Positions

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<b>University of Pennsylvania</b> <i>Associate Professor</i>	<b>Philadelphia, Pennsylvania</b> <i>July 2008-present</i>
<b>University of Cambridge</b> <i>Visitor</i>	<b>Cambridge, UK</b> <i>August 2009-July 2010</i>
<b>Microsoft Research</b> <i>Visiting Researcher</i>	<b>Cambridge, UK</b> <i>September-November 2009</i>
<b>University of Pennsylvania</b> <i>Assistant Professor</i>	<b>Philadelphia, Pennsylvania</b> <i>July 2002-July 2008</i>
<b>Cornell University</b> <i>Instructor, Research Assistant and Teaching Assistant</i>	<b>Ithaca, New York</b> <i>August 1996-July 2002</i>
<b>Lucent Technologies</b> <i>Intern</i>	<b>Murray Hill, New Jersey</b> <i>June-July 1999</i>

## Research Interests

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Programming languages, Type systems, Functional programming, Generic programming, Dependent types, Program verification, Proof assistants

## Honors

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- Penn Engineering Fellow, University of Pennsylvania, 2014.
- Institute for Defense Analyses Computer Science Study Panel, 2007.
- National Science Foundation CAREER Award, 2003.
- Intel Graduate Student Fellowship, 2000–2001.
- National Science Foundation Graduate Research Fellowship, 1996–1999.
- CRA-W Distributed Mentorship Project Award, 1996.
- Microsoft Technical Scholar, 1995–1996.

## Teaching Experience

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### University of Pennsylvania.....

- CIS 120 - Programming Languages and Techniques I  
Spring 2014, Spring 2013, Spring 2012, Spring 2011, Fall 2008, Spring 2008, Spring 2007
- CIS 552 - Advanced Programming  
Fall 2013, Fall 2012, Fall 2011
- CIS 500 - Software Foundations  
Fall 2014, Fall 2005, Fall 2004
- CIS 670/700 - Advanced topics in Programming Languages  
Fall 2010, Spring 2009, Fall 2006, Spring 2006, Fall 2002
- CIS 340 - Principles of Programming Languages  
Spring 2004, Spring 2003

### Cornell University.....

- CS 212 - Java Practicum
- CS 213 - C++ Programming
- CS 214 - A Taste of UNIX and C

## Students

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### Dissertation supervision.....

- Richard Eisenberg, anticipated graduation date: 2015.
- Brent Yorgey, anticipated graduation date: Fall 2014.
- Vilhelm Sjöberg, anticipated graduation date: Fall 2014.
- Chris Casinghino, anticipated graduation date: August 2014.
- Dimitrios Vytiniotis, August 2008.  
*Practical type inference for first-class polymorphism*  
Current position: Microsoft Research, Cambridge UK.
- Geoffrey Washburn, December 2007.  
*Principia Narcissus: How to avoid being caught by your reflection*  
Current position: Logicblox.

### Dissertation committee member.....

- Peter Michael Osera, Penn, proposal April 2014.
- Daniel Wagner, Penn, June 2014 (expected).
- Harley Eades III, University of Iowa, May 2014.
- Julien Cretin, INRIA / University Paris 7, January 2014.
- Michael Greenberg, Penn (chair), December 2013.
- Hongbo Zhang, Penn, Master's thesis, December 2013.
- Karl Mazurak, Penn (chair), May 2013.
- Jianzhao Zhao, Penn, April 2013.
- Aaron Bohannon, Penn, February 2012.
- Jean-Philippe Bernardy, Chalmers ("Faculty Opponent"), Gothenburg, Sweden, June 2011.
- Jeffrey Vaughan, Penn, December 2009.
- Boris Yakobowski, INRIA / University Paris 7, December 2008.
- Dan Dantas, Princeton University, August 2007.
- Stephen Tse, Penn, August 2007.

- Wahnhong Nam, Penn, December 2006.
- Joeseeph Vanderwaart, Carnegie Mellon University, August 2006.
- Vladimir Gapayev, Penn, January 2006.

#### Visiting PhD student supervision.....

- Antoine Voizard, École Normale Supérieure, Paris. Mar-Aug 2014.
- Steven Keuchel, University of Ghent, Sep 2013-Mar 2014.
- Arthur Charguéraud (co-supervised with Benjamin Pierce), INRIA, 2007.

#### Independent study.....

- Graduate: Antal Spector-Zablusky, Spring 2013. Jennifer Paykin, Fall 2012. Richard Eisenberg, Justin Hsu, Spring 2012. Richard Eisenberg, Hongbo Zhang. Fall 2011. Brent Yorgey, Peter-Michael Osera, Vilhelm Sjöberg. Fall 2008-Spring 2009. Chris Casighino, Spring 2008. Andrew Hilton (co-advised), Karl Mazurak, Jeff Vaughan, Fall 2004. Liang Huang, Spring 2004.
- Undergraduate: Kaycee Anderson, Juan Jose Lopez, Caroline Ho, and Johanna Martens, Senior Design Project, 2013-2014. Mitchell Stern, Spring 2014. Hamidhasan Ahmed, Spring 2014, Summer 2013. Sneha Popey, Summer 2008. Stephanie Simon, Summer 2008. David Gorski, Fall 2006. Parshant Mittal, Atish Davda, Fall 2005. Neal Parikh, Summer 2004.

## Research Community Service

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#### Journal Service.....

- Editor of Journal of Functional Programming, 2011-present
- Guest Editor (with Zhenjiang Hu, Shin-Cheng Mu), Progress in Informatics. Special Issue on Advanced Programming Techniques for Construction of Robust, General and Evolutionary Programs, March 2013.
- Guest Editor (with Benjamin Pierce), Journal of Automated Reasoning. Special Issue on the POPLmark Challenge. October 2012.
- Editorial Board, Foundations and Trends in Programming Languages, 2012-present.
- Nomination committee, SIGPLAN CACM Research Highlights, 2009-2011.

#### Conference and Workshop Leadership.....

- Dependently-Typed Programming Workshop (DTP) 2013, program chair and organizer.
- Shonan Village Dependently-Typed Programming, 2011, co-organizer.
- Types in Language Design and Implementation Workshop, 2011, general chair.
- International Conference on Functional Programming (ICFP) 2010, program chair.
- Haskell Symposium 2009, program chair.
- Workshop on Mechanizing Metatheory, 2006-2009, co-organizer.
- Workshop on Mechanizing Metatheory, 2006, program chair.

#### Program Committee Membership (conference/symposium).....

- Certified Proofs and Programs (CPP) 2015.
- Principles of Programming Languages (POPL) 2014.
- Functional and Logic Programming (FLOPS) 2014.
- Typed Lambda Calculi and Applications (TLCA) 2013.
- Asian Symposium on Programming Languages and Systems (APLAS) 2012.
- International Symp. on Principles and Practice of Declarative Programming (PPDP) 2012.
- Certified Proofs and Programs (CPP) 2011.

- European Symposium on Programming (ESOP) 2011.
- Verified Software, Tools, Theory and Experiments (VSTTE) 2010.
- International Conference on Functional Programming (ICFP) 2007.
- International Conference on Aspect-Oriented Software Development (AOSD) 2007.
- Principles of Programming Languages (POPL) 2006.
- European Symposium on Programming (ESOP) 2006.
- Programming Language Design and Implementation (PLDI) 2004.
- International Conference on Functional Programming (ICFP) 2002.

#### Program Committee Membership (workshop).....

- Logical Frameworks and Meta Languages Theory and Practice (LFMTP) 2013.
- Trends in Functional Programming in Education (TFPIE) 2013.
- Grace Hopper Conference, Panels, Workshops, and Presentations 2012.
- Programming Languages meets Program Verification Workshop (PLPV) 2010.
- IFIP TC2 Working Conference Domain Specific Languages 2009.
- Proof Carrying Code Workshop 2008.
- Haskell Workshop 2007.
- Workshop on Types in Language Design and Implementation (TLDI) 2007.
- ML Workshop 2006.
- MetaOCaml Workshop, 2005.
- Foundations of Object-Oriented Languages Workshop (FOOL) 2005.
- MetaOCaml Workshop, 2004.
- Foundations of Global Ubiquitous Computing Workshop (FGUC) 2004.
- IFIP TC2 Working Conference on Generic Programming 2002.
- Haskell Workshop 2001.

#### Steering Committee Membership.....

- Haskell Symposium, 2008-2012
- ICFP, 2009-2012
- TLDI, 2010-present
- PLPV, 2012-present
- WGP, 2012-present
- PLMW, 2012-present

#### Technical Society Membership.....

- Association for Computing Machinery, 1998-present
- ACM SIGPLAN, 1998-present
- ACM SIGLOG, 2014-present
- IFIP Working Group 2.8 (Functional Programming), 2003-present
- IFIP Working Group 2.11 (Program Generation), 2007-2012

#### Other.....

- NSF panel: June 2014, October 2012, December 2011, March 2008, December 2004.
- Haskell' language standard committee, 2005-2010.
- TYPES forum moderator: 2003-2009.
- PLDI External Review Committee: 2013, 2011, 2009
- POPL External Review Committee: 2015, 2012.
- Ad hoc reviews: JFP, HOSC, Acta Informatica, TOPLAS, SCP, ICFP, POPL, PLDI,

ECOOP, LCTES, ICALP, FOOL, ML, Haskell, PEPM

## Department, School and University Service

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- University committee on the Facilities, 2011-present. Chair 2013-2014, 2012-2013.
- Graduate student admissions chair, 2013-2014, 2012-2013.
- Faculty advisor to CommuniTech (Penn undergraduate service organization). 2012-present.
- Faculty advisor to  $\Lambda\Omega\epsilon$  International Engineering and Technical Science Sorority. 2012-present.
- Diversity hiring committee chair, 2012-2013.
- CIS seminar series coordinator, 2011-2012.
- Faculty Council, 2010-2012.
- Academic Performance Committee, 2004-present.
- Penn CIS Undergraduate Women's club (WiCS), 2002-present.
- Penn CIS Graduate Women's club (CISters), 2002-present.
- CIS seminar organizer, 2011-2012.
- CIS 120 reform, 2009-2010.
- Back-up Care Committee, 2009.
- Senior Design Project Judge, 2006.
- Freshman Advisor, 2003.
- Graduate Admissions Committee, 2003-2004.
- Curriculum Committee, 2002-2003.

## Outreach

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- SRC@ICFP 2014 student research competition, selection committee.
- Workshop co-founder: (with Kathleen Fisher and Ron Garcia) Programming Language Mentoring Workshop (PLMW 2012) Philadelphia, PA, January 24, 2012.
- Programming Contest co-organizer:
  - 2004, Seventh Annual ICFP programming contest
  - 2000, Third Annual ICFP Programming Contest
- Panelist/Speaker:
  - WICS high school day for girls, April 2014, April 2013, April 2012
  - Teaching Haskell in Academia and Industry (panel). Haskell Symposium, September 2013
  - Graduate Student Professional Seminars March 2013, March 2012
  - SWE Graduate Section Inspiration Lunch Talk, April 20, 2012
  - Philadelphia Area Aspirations in Computing Award presentation, March 21, 2012
  - Penn AWE Pre-Orientation, Aug 31, 2011
  - CRA-W/CDC Programming Languages Summer School, UT Austin, May 2007.
  - Women in Science and Engineering Conference, Princeton, February 2006.

## Funding

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1. *CIF: Small: Rich-Type Inference for Functional Programming*  
Weirich (PI). NSF 1319880, \$450,000, 9/2013-8/2016.
2. *SPARCS: Synthesis of Platform-aware Attack-Resilient Control Systems*  
Lee (PI), Sokolsky, Pappas, Michael, Mangharam, Weirich, Alur, Tabuada. DARPA, \$5.5 million total, 8/2012-8/2016.

3. *CCF-SHF Small: Beyond Algebraic Data Types: Combinatorial Species and Mathematically-Structured Programming*  
Weirich (PI). NSF 1218002, \$325,840, 8/2012-8/2015.
4. *Student Travel Support for Programming languages Mentoring Workshop (PLMW 2012)*  
Weirich (PI). NSF \$15,900, 11/2011.
5. *SHF: Small: Dependently-Typed Haskell*  
Weirich (PI). NSF 1116620, \$496,785, 8/2011-8/2014.
6. *SHF: Small: Dependently-Typed Haskell REU* Weirich (PI). NSF 1116620, \$6,000, 8/2011-8/2014.
7. *SHF: Large: Collaborative Research: TRELLYS:Community-Based Design and Implementation of a Dependently Typed Programming Language*  
Weirich (Penn), Stump (University of Iowa), Sheard (Portland State University). NSF 0910786, \$2.1 million total. 2009-2014.
8. *Networks Opposing Botnets*  
Smith (PI), Pierce, Zdancewic, Loo, Weirich, Felton, Rexford, Walker, Morrisett, Welsh. ONR, \$400,000 (Penn), 2009-2012.
9. *Computer Science Study Panel, Phase II*  
Weirich (PI), Zdancewic. DARPA, \$500,000, 2008-2010.
10. *Collaborative Research: CT-T: Manifest Security*  
University of Pennsylvania. Pierce (PI), Weirich, Zdancewic. Carnegie Mellon University. Pfenning (PI), Harper, Crary. NSF \$1 million total, 2007-2011.
11. *A Practical Dependently-Typed Functional Programming Language* Weirich (PI). NSF, \$200,000. 2007-2009.
12. *Computer Science Study Panel, Phase I*  
Weirich. DARPA, \$99,411. 2007-2008.
13. *CRI: Machine Assistance for Programming Languages Research*  
Weirich (PI), Pierce, Zdancewic. NSF \$200,000, 2006-2008.
14. *CAREER: Type-Directed Programming in Object-Oriented Languages* Weirich (PI), NSF CCF-0347289: \$400,000, 2003-2008.

## Invited Talks and Technical Presentations

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1. *Depending on Types.*  
Keynote address, International Conference on Functional Programming (ICFP). September 2014 (Forthcoming)
2. *Combining Proofs and Programs.*  
Certification of High-level and Low-level programs. Paris, France, July 7, 2014
3. *Programming Up-to Congruence.*  
WG 2.8, Aussios, France, October 14, 2013

4. *The pleasure and pain of advanced type systems.*  
Invited speaker, Facebook Faculty Summit. Menlo Park, CA, August 6, 2013
5. *Paradoxical Typecase.*  
WG 2.8, Anapolis, MD, November 7, 2012
6. *A POPLmark retrospective: Using proof assistants in programming language research.*  
Invited speaker, LFMTTP 2012: 7th International Workshop on Logical Frameworks and Meta-languages: Theory and Practice, Copenhagen, Denmark, September 9, 2012
7. *Dependently-typed programming in GHC.*  
Invited speaker, FLOPS 2012: Eleventh International Symposium on Functional and Logic Programming, Kobe, Japan, May 25, 2012
8. *Binders Unbound.*  
The 16th ACM SIGPLAN International Conference on Functional Programming, ICFP 2012 Tokyo Japan, September 21, 2011
9. *Combining Proofs and Programs.*  
Dependently Typed Programming, Shonan Seminar 007, Shonan Village, Japan, September 16, 2011
10. *Combining Proofs and Programs.*  
Joint invited speaker for Rewriting Techniques and Applications (RTA 2011) and Typed Lambda Calculi and Applications (TLCA 2011) Novi Sad, Serbia, June 1, 2011
11. *Combining Proofs and Programs in Trellys.*  
Plenary Address, MFPS 27. Pittsburgh, PA. May 26, 2011
12. *Generic Binding and Telescopes.*  
WG 2.8, Marble Falls, TX. March 11, 2011
13. *ICFP 2010 Program Chair's report.*  
Baltimore, MD. September 27, 2010
14. *Dependent types and program equivalence.*  
University of Strathclyde. Glasgow, Scotland. April 30, 2010
15. *Generic Programming with Dependent Types.*  
IFIP 2.11, St. Andrews, Scotland. March 1-3, 2010
16. *Dependent types and program equivalence.*  
University of Nottingham. Nottingham, England. February 5, 2010
17. *Trellys Status Report.*  
PLPV Discussion. Madrid, Spain. January 19, 2010
18. *A POPLmark retrospective: Using proof assistants in programming language research.*  
University of Cambridge Computer Laboratory Wednesday Seminars. Cambridge, England. December 2, 2009

19. *Dependent types and program equivalence.*  
Semantics Lunch, University of Cambridge Computer Laboratory. Cambridge, England.  
November 2, 2009
20. *Haskell Symposium 2009 Program Chair's report.*  
Edinburgh, Scotland. September 3, 2009
21. *Doing dependent types wrong without going wrong.*  
IFIP WG 2.8, Frauenchiemsee, Germany, June 2009
22. *Adventures in Dependently-Typed Metatheory.*  
IFIP WG 2.11, Mountain View CA. April 15, 2009
23. *Engineering Formal Metatheory*  
Computer Science Colloquium, City University of New York Graduate Center. New York, NY. February 2, 2009
24. *First-class Polymorphism for Haskell.*  
IFIP WG 2.8, Park City, UT. June 19, 2008
25. *Engineering Formal Metatheory.*  
Princeton University, Princeton NJ, USA. November 19, 2007
26. *Machine Assistance for Programming Language Research.*  
Cornell University, Ithaca, NY, USA. October 12, 2007
27. *Formal Reasoning About Programs and Programming Languages.*  
National Security Agency. Fort Meade, MD, USA.  
July 20, 2007
28. *Engineering Aspects of Formal Metatheory.*  
Harvard University, Boston MA, USA. June 1, 2007
29. *Dependently-Typed Languages.*  
Working session summary. IFIP WG 2.11, Portland, OR, October 2006
30. *Simple Unification-Based Type Inference for GADTs.*  
International Conference on Functional Programming (ICFP). Portland, OR. September 2006
31. *RepLib: A Library for Derivable Type Classes.*  
Haskell Workshop. Portland, OR. September 2006
32. *Parametricity and GADTs.*  
IFIP Working Group 2.8 (Functional Programming). Boston, MA. July 2006
33. *Practical Type Inference for Advanced Type Systems.*  
International Federation for Information Processing (IFIP) Working Group 2.11, Dagstuhl, Wadern, Germany. January 2006
34. *Boxy Types: Inference for Higher-rank Types and Impredicativity.*  
International Federation for Information Processing (IFIP) Working Group 2.8, Kalvi Manor, Estonia. October 2005



35. *A Core Language for Generalised Algebraic Datatypes.*  
International Federation for Information Processing (IFIP) Working Group 2.8, West Point, USA. November 2004
36. *A Design for Type-directed Java.*  
Programming Languages Seminar, Yale University, New Haven, CT. October 1, 2004
37. *2004 ICFP Programming Contest Results.*  
(Presented jointly with Benjamin Pierce and Steve Zdancewic) International Conference on Functional Programming, Snowbird, UT. September 20, 2004
38. *A Core Language for Generalised Algebraic Datatypes.*  
Dagstuhl Seminar 04381: Dependently Typed Programming, Wadern, Germany. September 12, 2004
39. *A Design for Type-Directed Java.*  
Microsoft Research Lab, Cambridge, UK. August 31, 2004
40. *A Design for Type-Directed Java.*  
Workshop on Object-Oriented Developments (WOOD '04). London, UK, August 2004
41. *Unifying Nominal and Structural Ad-hoc Polymorphism.*  
International Federation for Information Processing (IFIP) Working Group 2.8, Coffs Harbour, Australia. January 2003
42. *Unifying Nominal and Structural Ad-hoc Polymorphism.*  
Computer Science Colloquium, City University of New York Graduate Center. New York, NY. October 30, 2003
43. *Boxes Go Bananas: Parametric Higher-Order Abstract Syntax in System F.*  
Laboratory for Secure Systems Seminar, Stevens Institute of Technology. Hoboken, NJ. May 5, 2003
44. *Run-time type analysis in Haskell with an Awful Lot of Newtypes.*  
International Federation for Information Processing (IFIP) Working Group 2.8, Crans-Montana, Switzerland. January 2003
45. *Polytypic Programming and Intensional Type Analysis.*  
New Jersey Programming Languages Seminar. University of Pennsylvania, Philadelphia, PA. September 20, 2002
46. *Programming with Types.*  
OHSU/Oregon Graduate Institute, Beaverton, OR. February 11, 2002
47. *Programming with Types.*  
University of Oregon, Eugene, OR. February 15, 2002
48. *Programming with Types.*  
University of Pennsylvania, Philadelphia, PA. February 19, 2002
49. *Programming with Types.*  
University of Virginia, Charlottesville, VA. February 28, 2002

50. *Programming with Types*.  
University of Maryland, College Park, MD. March 4, 2002
51. *Programming with Types*.  
Northeastern University, Boston, MA. March 13, 2002
52. *Programming with Types*.  
University of California, San Diego, CA. March 15, 2002
53. *Programming with Types*.  
Purdue University, West Lafayette, IN. March 25, 2002
54. *Programming with Types*.  
University of Michigan, Ann Arbor, MI. March 27, 2002
55. *Programming with Types*.  
University of Texas, Austin, TX. April 2, 2002
56. *Higher-order Intensional Type Analysis*.  
European Symposium on Programming (ESOP '02). Grenoble, France, April 2002
57. *Programming with Types*.  
University of Colorado at Boulder, CO. April 16, 2002
58. *Programming with Types*.  
Pennsylvania State University, State College, PA. April 19, 2002
59. *Programming with Types*.  
Massachusetts Institute of Technology, Boston, MA. April 25, 2002
60. *Programming with Types*.  
Rice University, Houston TX. April 29, 2002
61. *Run-Time Type Analysis and Program Verification*.  
Research, Careers and Computer Science: A Maryland Symposium. University of Maryland, College Park, MD. November 2001
62. *Polytypic Programming and Intensional Type Constructor Analysis*.  
International Federation for Information Processing (IFIP) Working Group 2.8, Are, Sweden. April 2001
63. *Encoding Intensional Type Analysis*.  
European Symposium on Programming (ESOP '01). Genova, Italy. April 2001
64. *Resource Bound Certification*. Harvard University, Boston, MA. February 2001
65. *Functional Pearl: Type-Safe Cast*. International Conference on Functional Programming. Montreal, Canada. September 2000
66. *Resource Bound Certification*. IBM Research, Hawthorne, NY. June 2000
67. *Resource Bound Certification*. ACM Symposium on Principles of Programming Languages (POPL '00). Boston, MA, USA. January 2000

68. *Flexible Type Analysis*.  
International Conference on Functional Programming (ICFP '99). Paris, France, September 1999
69. *Type Analysis and Typed Compilation*.  
Princeton University, Princeton, NJ. June 1999
70. *Intensional Polymorphism in Type-Erasure Semantics*.  
International conference on Functional Programming (ICFP '98). Baltimore, MD, USA, September 1998

## Tutorials

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- *Designing Dependently-Typed Programming Languages*.  
Oregon Programming Languages Summer School: Types, Logic, and Verification. Eugene OR, USA. June 2014
- *Why You Should Care About Dependent Types*.  
Programming Languages Mentoring Workshop. San Diego, CA, January 21, 2014
- *Designing Dependently-Typed Programming Languages*.  
Oregon Programming Languages Summer School: Types, Logic, and Verification. Eugene OR, USA. July 2013
- *Computational Flags*  
Swarthmore CATALYST Conference for 7th/8th graders, March 2012
- *Generic Programming with Dependent Types*.  
Spring School on Generic and Indexed Programming. Oxford, England. March 2010
- *Coq for Programming Language Metatheory*.  
Oregon Programming Languages Summer School on Logic and Theorem Proving in Programming Languages. University of Oregon, July 2008
- *Using Proof Assistants for Programming Language Research or, How to write your next POPL paper in Coq*.  
POPL Tutorial, Jan 2008
- *Getting started in PL design research*.  
CRA-W/CDC Programming Languages Summer School. UT Austin, May 2007
- *Career paths: How to get started in academia or industry*.  
CRA-W/CDC Programming Languages Summer School. UT Austin, May 2007

## Refereed Conference and Workshop Publications

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- [1] Joachim Breitner, Richard A. Eisenberg, Simon Peyton Jones, and Stephanie Weirich. Safe zero-cost coercions for Haskell. In *The 19th ACM SIGPLAN International Conference on Functional Programming*, ICFP '14, September 2014. To appear.
- [2] Richard A. Eisenberg, Dimitrios Vytiniotis, Simon Peyton Jones, and Stephanie Weirich. Closed type families with overlapping equations. In *POPL 2014: 41st ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages*, pages 671–683, San Diego, CA, USA, January 2014.
- [3] Chris Casinghino, Vilhelm Sjöberg, and Stephanie Weirich. Combining proofs and programs in a dependently typed language. In *POPL 2014: 41st ACM SIGPLAN-SIGACT*

*Symposium on Principles of Programming Languages*, pages 33–45, San Diego, CA, USA, 2014.

- [4] Stephanie Weirich, Justin Hsu, and Richard A. Eisenberg. System FC with explicit kind equality. In *Proceedings of The 18th ACM SIGPLAN International Conference on Functional Programming*, ICFP '13, pages 275–286, Boston, MA, September 2013.
- [5] Miroslav Pajic, Nicola Bezzo, James Weimer, Rajeev Alur, Rahul Mangharam, Nathan Michael, George J. Pappas, Oleg Sokolsky, Paulo Tabuada, Stephanie Weirich, and Insup Lee. Towards synthesis of platform-aware attack-resilient control systems: extended abstract. In *HiCoNS '13: Proceedings of the 2nd ACM international conference on High confidence networked systems*, pages 75–76, New York, NY, USA, 2013. ISBN 978-1-4503-1961-4. doi: <http://doi.acm.org/10.1145/2461446.2461457>.
- [6] Richard A. Eisenberg and Stephanie Weirich. Dependently typed programming with singletons. In *Haskell Symposium*, pages 117–130, Copenhagen, Denmark, September 2012.
- [7] Chris Casinghino, Vilhelm Sjöberg, and Stephanie Weirich. Step-indexed normalization for a language with general recursion. In *Fourth workshop on Mathematically Structured Functional Programming (MSFP '12)*, pages 25–39, 2012.
- [8] Vilhelm Sjöberg, Chris Casinghino, Ki Yung Ahn, Nathan Collins, Harley D. Eades III, Peng Fu, Garrin Kimmell, Tim Sheard, Aaron Stump, and Stephanie Weirich. Irrelevance, heterogenous equality, and call-by-value dependent type systems. In *Fourth workshop on Mathematically Structured Functional Programming (MSFP '12)*, pages 112–162, 2012.
- [9] Garrin Kimmell, Aaron Stump, Harley D. Eades III, Peng Fu, Tim Sheard, Stephanie Weirich, Chris Casinghino, Vilhelm Sjöberg, Nathan Collins, and Ki Yung Ahn. Equational reasoning about programs with general recursion and call-by-value semantics. In *Sixth ACM SIGPLAN Workshop Programming Languages meets Program Verification (PLPV '12)*, pages 15–26, 2012.
- [10] Brent A. Yorgey, Stephanie Weirich, Julien Cretin, Simon Peyton Jones, Dimitrios Vytiniotis, and José Pedro Magalhães. Giving Haskell a promotion. In *Seventh ACM SIGPLAN Workshop on Types in Language Design and Implementation (TLDI '12)*, pages 53–66, 2012.
- [11] Stephanie Weirich, Brent A. Yorgey, and Tim Sheard. Binders unbound. In *Proceeding of the 16th ACM SIGPLAN International Conference on Functional Programming*, ICFP '11, pages 333–345, New York, NY, USA, 2011. ISBN 978-1-4503-0865-6. URL <http://doi.acm.org/10.1145/2034773.2034818>.
- [12] Stephanie Weirich, Dimitrios Vytiniotis, Simon Peyton Jones, and Steve Zdancewic. Generative type abstraction and type-level computation. In *POPL 11: 38th ACM SIGACT-SIGPLAN Symposium on Principles of Programming Languages, January 26–28, 2011. Austin, TX, USA.*, pages 227–240, January 2011.
- [13] Tim Sheard, Aaron Stump, and Stephanie Weirich. Language-based verification will change the world. In *2010 FSE/SDP Workshop on the Future of Software Engineering Research*, pages 343–348, November 2010. Position paper.

- [14] Aaron Stump, Vilhelm Sjöberg, and Stephanie Weirich. Termination casts: A flexible approach to termination with general recursion. In *Workshop on Partiality and Recursion in Interactive Theorem Provers*, pages 76–93, Edinburgh, Scotland, July 2010.
- [15] Michael Greenberg, Benjamin Pierce, and Stephanie Weirich. Contracts made manifest. In *37th ACM SIGACT-SIGPLAN Symposium on Principles of Programming Languages (POPL)*, pages 353–364, Madrid, Spain, January 2010.
- [16] Limin Jia, Jianzhou Zhao, Vilhem Sjöberg, and Stephanie Weirich. Dependent types and program equivalence. In *37th ACM SIGACT-SIGPLAN Symposium on Principles of Programming Languages (POPL)*, pages 275–286, Madrid, Spain, January 2010.
- [17] Stephanie Weirich and Chris Casinghino. Arity-generic type-generic programming. In *ACM SIGPLAN Workshop on Programming Languages Meets Program Verification (PLPV)*, pages 15–26, January 2010.
- [18] Aaron Bohannon, Benjamin C. Pierce, Vilhelm Sjöberg, Stephanie Weirich, and Steve Zdancewic. Reactive noninterference. In *16th ACM Conference on Computer and Communications Security*, pages 79–90, November 2009.
- [19] Dimitrios Vytiniotis, Stephanie Weirich, and Simon Peyton Jones. FPH: first-class polymorphism for Haskell. In *ICFP 2008: The 13th ACM SIGPLAN International Conference on Functional Programming*, pages 295–306, Victoria, BC, Canada, September 2008.
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