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HEATHER MILLER

Citizenship

USA

Research Interests

Programming language design and implementation for distributed programming. I'm interested in using type systems to facilitate the design of new, functional distributed systems.

Education

***EPFL**, Lausanne, Switzerland* *2009 –*
Ph.D. in Computer Science
Advisor: Martin Odersky *2011 –*

***University of Miami**, Coral Gables, FL* *2006 – 2009*
BSEE in Electrical Engineering, Audio Engineering, *with honors, May 2009*

***Cooper Union for the Advancement of Science and Art**, New York, NY* *2004 – 2006*

Service

Committees: Scala 2014 (co-chair), Scala 2013 (co-chair)

Reviewer for: ECOOP 2013

Publications

Functional Programming For All! Scaling a MOOC for Students And Professionals Alike *ICSE 2014*
Heather Miller, Philipp Haller, Lukas Rytz, Martin Odersky
ACM SIGSOFT International Conference on Software Engineering

RAY: Integrating Rx and Async for Direct-Style Reactive Streams *REM 2013*
Philipp Haller, Heather Miller
Workshop on Reactivity, Events and Modularity

Instant Pickles: Generating Object-Oriented Pickler Combinators for Fast and Extensible Serialization *OOPSLA 2013*
Heather Miller, Philipp Haller, Eugene Burmako, Martin Odersky
ACM SIGPLAN Conference on Object Oriented Programming, Systems, Languages and Applications

FlowPools: A Lock-Free Deterministic Concurrent Dataflow Abstraction *LCPC 2012*
Aleksandar Prokopec, Heather Miller, Tobias Schlatter,
Philipp Haller, Martin Odersky
International Workshop on Languages and Compilers for Parallel Computing

Tools and Frameworks for Big Learning in Scala: Leveraging the Language for High Productivity and Performance   *BigLearn 2011*
Heather Miller, Philipp Haller, Martin Odersky
NIPS Workshop on Parallel and Large-Scale Machine Learning

Parallelizing Machine Learning – Functionally: A Framework and Abstractions for Parallel Graph Processing   *Scala 2011*
Philipp Haller, Heather Miller
Scala Workshop

Awards		
US National Science Foundation Graduate Research Fellowship	*2011 – 2014*
EPFL Outstanding Teaching Award	*2012*
EPFL Computer Science Fellowship	*2009 – 2010*
Most Outstanding Audio Engineering Student, University of Miami	*2009*
Most Outstanding Eta Kappa Nu Student, University of Miami	*2009*
Information Technology Scholarship, University of Miami	*2006 – 2009*
John Farina Family Scholarship, University of Miami	*2006 – 2009*
Eta Kappa Nu	*2008*
Tau Beta Pi	*2008*
SMART US Department of Defense Scholarship Alternate	*2007*
Cooper Union Full Tuition Scholarship	*2004 – 2006*

Teaching Experience

Lead Teaching Assistant, *Functional Programming Principles in Scala*   *2012 – 2014*
Popular Coursera MOOC on functional programming in Scala, with >100,000 participants to date

Instructor, *Scala as a Research Tool*   *2013*
ECOOP Tutorial

Lead Teaching Assistant, *Programming Principles*   *2012*
EPFL Undergraduate course on functional and logic programming

Teaching Assistant, *Programming Principles*   *2011*
EPFL Undergraduate course on functional and logic programming

Open Source

Scala Programming Language, *member of the Scala team*   *2011 –*
　　　Scala Documentation Czar
　　　Futures and Promises Library
　　　Scala Pickling

Selected Talks

Academese to English: Scala's Type System, Dependent Types and What It Means To You   *NEScala 2014*
New York, NY, USA. March 1, 2014

Instant Pickles: Generating Object-Oriented Pickler   *OOPSLA 2013*

Combinators for Fast and Extensible Serialization
Indianapolis, IN, USA. October 30, 2013

PL Abstractions for Distributed Programming:
Pickle Your Spores!
Blooimington, IN, USA. October 25, 2013

Indiana University (invited)

Spores: Distributable Functions in Scala
St. Louis, MO, USA. September 19, 2013

Strange Loop 2013

Open Issues in Dataflow Programming
Montpellier, France. July 1, 2013

LaME 2013 (invited)

Scala as a Research Tool
Montpellier, France. July 1, 2013

ECOOP 2013 Tutorial

On Pickles & Spores: Improving Scala's Support
for Distributed Programming
New York, NY, USA. June 12, 2013

ScalaDays 2013

Futures & Promises in Scala 2.10
Philadelphia, PA, USA. April 2, 2013

PhillyETE 2013 (invited)