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HEATHER MILLER

Citizenship	USA	
Research Interests	Programming language and library design; language support for concurrency and distribution; type systems; reactive programming	
Education	<i>EPFL, Lausanne, Switzerland</i> Ph.D. in Computer Science Advisor: Martin Odersky	2009 – 2011 –
	<i>University of Miami, Coral Gables, FL</i> BSEE in Electrical Engineering, Audio Engineering, <i>with honors</i> , May 2009	2006 – 2009
	<i>Cooper Union for the Advancement of Science and Art, New York, NY</i>	2004 – 2006
Service	<i>Committees:</i> Scala 2014 (co-chair), Scala 2013 (co-chair) <i>Reviewer</i> for: ECOOP 2013	
Publications	Functional Programming For All! Scaling a MOOC for Students And Professionals Alike Heather Miller, Philipp Haller, Lukas Rytz, Martin Odersky <i>ACM SIGSOFT International Conference on Software Engineering</i>	ICSE 2014
	RAY: Integrating Rx and Async for Direct-Style Reactive Streams Philipp Haller, Heather Miller <i>Workshop on Reactivity, Events and Modularity</i>	REM 2013
	Instant Pickles: Generating Object-Oriented Pickler Combinators for Fast and Extensible Serialization Heather Miller, Philipp Haller, Eugene Burmako, Martin Odersky <i>ACM SIGPLAN Conference on Object Oriented Programming, Systems, Languages and Applications</i>	OOPSLA 2013
	FlowPools: A Lock-Free Deterministic Concurrent Dataflow Abstraction Aleksandar Prokopec, Heather Miller, Tobias Schlatter, Philipp Haller, Martin Odersky <i>International Workshop on Languages and Compilers for Parallel Computing</i>	LCPC 2012
	Tools and Frameworks for Big Learning in Scala: Leveraging the	BigLearn 2011

Language for High Productivity and Performance

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 , <i>Functional Programming Principles in Scala</i>	2012 – 2014
	Popular Coursera MOOC on functional programming in Scala, with >100,000 participants to date	
	<ul style="list-style-type: none"> Lead TA organizing a team of graduate students, editing lecture videos, managing content production, designed course exercises with cloud-hosted grading, etc Created extensive course evaluations with interactive visualizations; an experience report has been accepted for publication at ICSE'14 	
	Instructor , <i>Scala as a Research Tool</i>	2013
	ECOOP Tutorial	
	Lead Teaching Assistant , <i>Programming Principles</i>	2012
	EPFL Undergraduate course on functional and logic programming	
	Teaching Assistant , <i>Programming Principles</i>	2011
	EPFL Undergraduate course on functional and logic programming	
Open Source	Scala Programming Language , <i>member of the Scala team</i>	2011 –
	<ul style="list-style-type: none"> Scala Spores (Scala Improvement Proposal SIP-21), <i>project lead</i> novel type-based abstraction for using closures safely in concurrent and distributed environment 	

- **Scala Pickling**, *project lead*
novel framework for fast, boilerplate-free, extensible serialization
- **Scala Futures and Promises** (Scala Improvement Proposal SIP-14), *team member*
unified non-blocking concurrency substrate for
Scala, Akka, Play, and others
- **Scala Documentation**, *creator, lead maintainer*
a central website for community-driven documentation for
the Scala programming language and core libraries
- **Scaladoc**, *co-maintainer*
documentation tool for Scala's official API documentation

Selected Talks

Academese to English: Scala's Type System, Dependent Types and What It Means To You New York, NY, USA. March 1, 2014	<i>NEScala 2014</i>
Instant Pickles: Generating Object-Oriented Pickler Combinators for Fast and Extensible Serialization Indianapolis, IN, USA. October 30, 2013	<i>OOPSLA 2013</i>
PL Abstractions for Distributed Programming: Pickle Your Spores! Bloomington, IN, USA. October 25, 2013	<i>Indiana University (invited)</i>
Spores: Distributable Functions in Scala St. Louis, MO, USA. September 19, 2013	<i>Strange Loop 2013</i>
Open Issues in Dataflow Programming Montpellier, France. July 1, 2013	<i>LaME 2013 (invited)</i>
Scala as a Research Tool Montpellier, France. July 1, 2013	<i>ECOOP 2013 Tutorial</i>
On Pickles & Spores: Improving Scala's Support for Distributed Programming New York, NY, USA. June 12, 2013	<i>ScalaDays 2013</i>
Futures & Promises in Scala 2.10 Philadelphia, PA, USA. April 2, 2013	<i>PhillyETE 2013 (invited)</i>