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## HEATHER MILLER

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

### 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

|   |             |
|---|-------------|
| <b>Lead Teaching Assistant</b> , <i>Functional Programming Principles in Scala</i><br>Popular Coursera MOOC on functional programming in Scala,<br>with >100,000 participants to date | 2012 – 2014 |
| <b>Instructor</b> , <i>Scala as a Research Tool</i><br>ECOOP Tutorial   | 2013        |
| <b>Lead Teaching Assistant</b> , <i>Programming Principles</i><br>EPFL Undergraduate course on functional and logic programming   | 2012        |
| <b>Teaching Assistant</b> , <i>Programming Principles</i><br>EPFL Undergraduate course on functional and logic programming  | 2011        |

#### Open Source

#### Selected Talks

|   |                     |
|---|---------------------|
| <b>Academese to English: Scala's Type System, Dependent Types and What It Means To You</b><br>New York, NY, USA. March 1, 2014                          | <i>NEScala 2014</i> |
| <b>Instant Pickles: Generating Object-Oriented Pickler Combinators for Fast and Extensible Serialization</b><br>Indianapolis, IN, USA. October 30, 2013 | <i>OOPSLA 2013</i>  |

**PL Abstractions for Distributed Programming:  
Pickle Your Spores!**

Bloomington, 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)*