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CITIZENSHIP USA, Canada

RESEARCH INTERESTS Language Design, Type Theory, Effects, Semantics, Mathematical Foundations

EDUCATION **University of California, San Diego, CA USA**
Ph.D., Computer Science and Engineering, July 2012
Advised by Associate Professor Sorin Lerner

California Polytechnic State University, San Luis Obispo, CA USA
B.S., Mathematics, and B.S., Computer Science, June 2006

AWARDS Dahl-Nygaard Junior Prize, 2017
Distinguished Artifact Award for Java and Scala’s Type Systems are Unsound, 2016
Microsoft Research Fellowship, 2009

PUBLICATIONS Fabian Muehlboeck and Ross Tate. Java and Scala’s Type Systems are Unsound. *OOP-SLA ’17: Proceedings of the international conference on Object-Oriented Programming, Systems, Languages, and Applications*.

 Nada Amin and Ross Tate. Sound Gradual Typing is Nominally Alive and Well. *OOP-SLA ’16: Proceedings of the international conference on Object-Oriented Programming, Systems, Languages, and Applications*.

 Stephen Longfield, Brittany Nkounkou, Rajit Manohar, and Ross Tate. Preventing Glitches and Short Circuits in High-Level Self-Timed Chip Specifications. *PLDI ’15: Proceedings of the conference on Programming Language Design and Implementation*.

 Ben Greenman, Fabian Muehlboeck, and Ross Tate. Getting F-Bounded Polymorphism into Shape. *PLDI ’14: Proceedings of the conference on Programming Language Design and Implementation*.

 Ross Tate. Mixed-Site Variance. *FOOL ’13: International workshop on Foundations of Object-Oriented Languages*.

 Ross Tate. The Sequential Semantics of Producer Effect Systems. *POPL ’13: Proceedings of the symposium on Principles of Programming Languages*.

 Ross Tate, Alan Leung, and Sorin Lerner. Taming Wildcards in Java’s Type System. *PLDI ’11: Proceedings of the conference on Programming Language Design and Implementation*.

 Ross Tate, Mike Stepp, Zachary Tatlock, and Sorin Lerner. Equality Saturation: a new Approach to Optimization. *LMCS-7(1:10) ’11: Logical Methods in Computer Science*.

 Mike Stepp, Ross Tate, and Sorin Lerner. Equality-based Translation Validator for LLVM. *CAV ’11: Proceedings of the conference on Computer Aided Verification*.

Ross Tate, Juan Chen, and Chris Hawblitzel. Inferable Object-Oriented Typed Assembly Language. *PLDI '10: Proceedings of the conference on Programming Language Design and Implementation*.

Ross Tate, Mike Stepp, and Sorin Lerner. Generating Compiler Optimizations from Proofs. *POPL '10: Proceedings of the symposium on Principles of Programming Languages*.

Ross Tate, Mike Stepp, Zachary Tatlock, and Sorin Lerner. Equality Saturation: a new Approach to Optimization. *POPL '09: Proceedings of the symposium on Principles of Programming Languages*.

INDUSTRY COLLABORATION	Red Hat <i>Type-System Advisor for the Ceylon language design and implementation team</i>
	JetBrains <i>Type-System Advisor for the Kotlin language design and implementation team</i>
GRANTS	NSF CAREER: Gradual Typing for Industry Programming, 2014
GIFTS	JetBrains, 2013: \$30,000 Microsoft Research, 2012: \$15,000
INDUSTRY RESEARCH EXPERIENCE	Microsoft Research , Redmond, WA USA Integrating Effects into Functional Programming Languages <i>Research Intern</i> August 2009 to November 2009 <i>Mentored by Daan Leijen</i>
	Microsoft Research , Redmond, WA USA Type Inference over Assembly Code from Object-Oriented Programs <i>Research Intern</i> July 2008 to October 2008 <i>Mentored by Juan Chen and Chris Hawblitzel</i>
INDUSTRY EXPERIENCE	Treyarch , Santa Monica, CA USA <i>Console Video Game Developer</i> <i>Programming Intern on Spider-Man Web of Shadows</i> July 2007 to Sept. 2007 <i>Game-Play Engineer Intern on Spider-Man 3</i> June 2005 to Sept. 2005
	CustomFlix , San Luis Obispo, CA USA <i>Independent and User Film Production and Marketing Website</i> <i>Junior Software Engineer</i> May 2004 to November 2004
ACADEMIC SERVICE	Organizer PLMW 2015 and 2016 Steering-Committee Member PLMW 2016 to present Program-Committee Member PLDI 2018 POPL 2014