

# Vincent St-Amour

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- Employment*
- ◇ **McCormick Advisory Council Assistant Professor of Instruction** – Northwestern University, Evanston, IL.  
Computer Science, McCormick School of Engineering.  
September 2018 – Present  
*Teaching and course development for introductory and upper-level classes.*
  - ◇ **Warren Teaching Fellow** – Northwestern University, Evanston, IL.  
Electrical Engineering and Computer Science, McCormick School of Engineering.  
June 2017 – August 2018  
*Move towards a greater emphasis on teaching.*
  - ◇ **Research Assistant Professor** – Northwestern University, Evanston, IL.  
Electrical Engineering and Computer Science, McCormick School of Engineering.  
September 2016 – May 2017  
with Robby Findler  
*Continuation of the next item.*
  - ◇ **Research Associate** – Northwestern University, Evanston, IL.  
Electrical Engineering and Computer Science, McCormick School of Engineering.  
June 2015 – August 2016  
with Robby Findler  
*Co-managing the programming languages group: mentoring, fundraising, strategic planning.*
  - ◇ **Research Intern** – Mozilla Corporation, San Francisco, CA.  
May 2014 – August 2014  
with Shu-yu Guo  
*Research and development work on optimization coaching for JavaScript.*
  - ◇ **Research Assistant** – Université de Montréal, Montréal, Québec.  
Linguistics and Translation, School of Arts and Sciences.  
October 2007 – December 2007  
with Guy Lapalme and Marie-Claude l’Homme  
*Work on XML representations and transformations for a lexicographic dictionary.*
  - ◇ **Developer** – Insum Solutions, Montréal, Québec.  
May 2006 – August 2006  
*Development of entreprise and association management software using Oracle APEX.*
- Education*
- ◇ **Northeastern University**, Boston, MA.  
Ph.D. in Computer Science  
September 2009 – May 2015  
Thesis: *How to Generate Actionable Advice about Performance Problems*  
Under the direction of Matthias Felleisen and Sam Tobin-Hochstadt
  - ◇ **Université de Montréal**, Montréal, Québec.  
B.Sc. with honors in Computer Science  
Dean’s List, School of Arts and Sciences  
August 2006 – April 2009

- ◇ **Collège Jean-de-Brébeuf**, Montréal, Québec.  
Diploma of College Studies – Pure and Applied Sciences  
August 2004 – May 2006
- Teaching*
  - ◇ **Instructor** – Northwestern University – Winter 2017 – Present  
Introduction to Programming Languages: Winter 2017, Spring 2018, Fall 2018  
Introduction to Computer Systems: Fall 2017 (with Nikos Hardavellas), Winter 2018, Spring 2018, Fall 2018
  - ◇ **Teaching Assistant** – Northeastern University – Fall 2009 – Spring 2012  
Compilers: Spring 2012  
Systematic program design (How To Design Programs): Spring 2010, Fall 2010  
Object-oriented design: Fall 2009
  - ◇ **Teaching Assistant** – Camp Informatique – Université de Montréal – Summer 2008, 2009  
Programming Robots in Scheme
  - ◇ **Teaching Assistant** – Université de Montréal – Winter 2009  
Operating systems
  - ◇ **Teaching Assistant** – Collège Jean-de-Brébeuf – Fall 2005  
Information and communication technologies
- Advising*
  - ◇ Shu-Hung You, PhD, Northwestern, Fall 2016 – Present, with Robby Findler
  - ◇ Daniel Feltey, PhD, Northwestern, Fall 2015 – Present, with Robby Findler
  - ◇ Spencer P. Florence, PhD, Northwestern, Fall 2015 – Present, with Robby Findler
  - ◇ Leif Andersen, PhD, Northeastern, Fall 2014 – Present, with Matthias Felleisen
  - ◇ Adrien Tateno, BS, Northwestern, Spring 2016, with Robby Findler
  - ◇ Zavier Henry, BS, Northwestern, Spring 2016, with Robby Findler
  - ◇ Claire Alvis, PhD, Northeastern, Fall 2012 – Fall 2014, with Matthias Felleisen
  - ◇ Josh McGrath, MS, Northeastern, Fall 2013, with Matthias Felleisen
  - ◇ Jim Shargo, BS, Northeastern, Fall 2010 – Spring 2011, with Matthias Felleisen
- Service*
  - ◇ **Organizer / Program Chair** RacketCon 2014, 2015, 2016, 2017
  - ◇ **Committees** OOPSLA 2013 Artifact Evaluation Committee, PLDI 2014 Artifact Evaluation Committee, ManLang 2017 Program Committee, GPCE 2017 Program Committee, DSLDI 2017 Program Committee, PLDI 2017 External Review Committee, Onward! 2018 Program Committee
  - ◇ **Reviewer** ICFP 2011, ICFP 2012, OOPSLA 2013, JFP (2013, 2014), Programming 2017
  - ◇ **Panelist** SPLASH 2016 Programming Languages Mentoring Workshop
  - ◇ **Co-Organizer** Northwestern Computer Science Education Day, May 2016
  - ◇ **Organizer** Programming languages seminars – Northeastern University  
September 2012 – December 2014
  - ◇ **Organizer** Ph.D. seminars – Northeastern University  
May 2011 – September 2011
  - ◇ **Organizer** Programming languages Jr. seminars – Northeastern University  
January 2010 – December 2011
  - ◇ **President** Computer Science Student Association – Université de Montréal  
June 2008 – June 2009
  - ◇ **Vice-President** Computer Science Student Association – Université de Montréal  
January 2007 – February 2008
- Interests*
  - ◇ Programming tools, language and library building, extensible languages, compilers.

- Free Software Development ◇ **Racket (core developer)**  
April 2010 – present  
*Release management.*  
*Performance tools, optimization, and benchmarking.*  
*Typed Racket development and maintenance.*  
*General standard library and infrastructure development and maintenance.*
- ◇ **Firefox**  
May 2014 – August 2014  
*Prototype optimization coach for SpiderMonkey.*  
*Miscellaneous small contributions to SpiderMonkey.*
- ◇ **Scheme Now!**  
January 2007 – April 2007  
*Generic installation script for Scheme systems for use with the Snow package manager.*
- Selectively Reviewed Conference Publications ◇ **Collapsible Contracts: Fixing a Pathology of Gradual Typing**  
Daniel Feltey, Ben Greenman, Christophe Scholliers, Robert Bruce Findler, and Vincent St-Amour  
*Proc. Conf. Object-Oriented Programming Systems, Languages, and Applications 2018*
- ◇ **Unconventional Parallelization of Nondeterministic Applications**  
Enrico Armenio Deiana, Vincent St-Amour, Peter Dinda, Nikos Hardavellas, and Simone Campanoni  
*Proc. Conf. on Architectural Support for Programming Languages and Operating Systems 2018*
- ◇ **Herbarium Racketensis: A Stroll Through the Woods (Functional Pearl)**  
Vincent St-Amour, Daniel Feltey, Spencer P. Florence, Shu-Hung You, and Robert Bruce Findler  
*Proc. International Conf. Functional Programming 2017*
- ◇ **Migratory Typing: Ten Years Later**  
Sam Tobin-Hochstadt, Matthias Felleisen, Robert Bruce Findler, Matthew Flatt, Ben Greenman, Andrew M. Kent, Vincent St-Amour, T. Stephen Strickland, Asumu Takikawa  
*Proc. Summit on Advances in Programming Languages 2017*
- ◇ **Optimization Coaching for JavaScript**  
Vincent St-Amour and Shu-yu Guo  
*Proc. European Conf. on Object-Oriented Programming 2015*
- ◇ **Profile-Guided Meta-Programming**  
William J. Bowman, Swaha Miller, Vincent St-Amour, and R. Kent Dybvig  
*Proc. Conf. on Programming Language Design and Implementation 2015*
- ◇ **Feature-Specific Profiling**  
Vincent St-Amour, Leif Andersen, and Matthias Felleisen  
*Proc. Conf. Compiler Construction 2015*
- ◇ **Experience Report: Applying Random Testing to a Base Type Environment**  
Vincent St-Amour and Neil Toronto  
*Proc. International Conf. Functional Programming 2013*
- ◇ **Optimization Coaching: Optimizers Learn to Communicate with Programmers**  
Vincent St-Amour, Sam Tobin-Hochstadt, and Matthias Felleisen  
*Proc. Conf. Object-Oriented Programming Systems, Languages, and Applications 2012*
- ◇ **Typing the Numeric Tower**  
Vincent St-Amour, Sam Tobin-Hochstadt, Matthew Flatt, and Matthias Felleisen  
*Proc. International Symp. on Practical Aspects of Declarative Languages 2012*

- ◇ **Languages as Libraries**  
Sam Tobin-Hochstadt, Vincent St-Amour, Ryan Culpepper, Matthew Flatt, and Matthias Felleisen  
*Proc. Conf. on Programming Language Design and Implementation 2011*
- ◇ **PICOBIT: A Compact Scheme System for Microcontrollers**  
Vincent St-Amour and Marc Feeley  
*Proc. Symp. on Implementation and Application of Functional Languages 2009*  
Recipient of the Peter J. Landin Award for the best IFL 2009 paper
- Journal Publications*
  - ◇ **Feature-Specific Profiling**  
Leif Andersen, Vincent St-Amour, Jan Vitek, and Matthias Felleisen  
*Transactions on Programming Languages and Systems, 2018*
  - ◇ **POP-PL: A Patient-Oriented Prescription Programming Language**  
Spencer P. Florence, Burke Fetscher, Matthew Flatt, William H. Temps, Vincent St-Amour, Tina Kiguradze, Dennis P. West, Charlotte Niznik, Paul R. Yarnold, Robert Bruce Findler, and Steven M. Belknap  
*Transactions on Programming Languages and Systems, 2018*
- Workshop Publications*
  - ◇ **Languages the Racket Way**  
Daniel Feltey, Spencer P. Florence, Tim Knutson, Vincent St-Amour, Ryan Culpepper, Matthew Flatt, Robert Bruce Findler, and Matthias Felleisen  
*Proc. Language Workbench Challenge 2016*
  - ◇ **Seeing the Futures: Profiling Shared-Memory Parallel Racket**  
James Swaine, Burke Fetscher, Vincent St-Amour, Robert Bruce Findler, and Matthew Flatt  
*Proc. Works. on Functional High-Performance Computing 2012*
  - ◇ **Small Scheme Stack: A Scheme TCP/IP Stack Targeting Small Embedded Applications**  
Vincent St-Amour, Lysiane Bouchard, and Marc Feeley  
*Proc. Scheme and Functional Programming Workshop 2008*
- Posters*
  - ◇ **Soft Dependences**  
Enrico Armenio Deiana, Vincent St-Amour, Peter Dinda, Nikos Hardavellas, and Simone Campanoni  
*Greater Chicago Systems Research Workshop 2017, Parallel Architectures and Compilation Techniques 2017*
  - ◇ **Unconventional Parallelization of Nondeterministic Applications**  
Enrico Armenio Deiana, Vincent St-Amour, Peter Dinda, Nikos Hardavellas, and Simone Campanoni  
*Greater Chicago Systems Research Workshop 2018*
- Talks*
  - ◇ **Optimization Coaching**  
University of Iowa (July 2016)
  - ◇ **Optimization in Typed Racket**  
Inside Racket Seminars (June 2016)
  - ◇ **Optimization Coaching**  
Northwestern University (February 2015)
  - ◇ **Optimization Coaching for JavaScript**  
Mozilla (July 2014)  
<https://air.mozilla.org/optimization-coaching-for-spidermonkey/>
  - ◇ **Optimization Coaching**  
Samsung Research (July 2014)

- ◇ **The Typed Racket Numeric Tower**  
Boston Racket Salon (January 2014)
- ◇ **Optimization Coaching**  
Indiana University Programming Languages Fest (October 2013)
- ◇ **Contract Profiling**  
Racketcon 2013  
<https://www.youtube.com/watch?v=D7uPm3J-o6g>
- ◇ **Optimization Coaching**  
Harvard Programming Languages seminar (October 2012)
- ◇ **Optimization Coaching in DrRacket**  
Racketcon 2012
- ◇ **The Performance Report DrRacket Tool**  
Racketcon 2011 (Lightning Talk)
- ◇ **Where Are You Going with These Types?**  
Symp. on Implementation and Application of Functional Languages 2010
- ◇ **Type-Driven Optimization in Typed Racket**  
Scheme and Functional Programming Workshop 2010 (Lightning Talk)
- ◇ **Small Scheme Stack**  
Montreal Scheme and Lisp User Group (August 2008)
- ◇ **DiCoInfo**  
RALI-OLST Seminar (July 2007)

- Scholarships*
- ◇ NSERC Graduate Scholarship (Fall 2009 – Spring 2013)
  - ◇ SIGPLAN Professional Activities Committee Grant (Fall 2012)
  - ◇ NSERC Undergraduate Student Research Awards (Summer 2007, 2008, 2009)
  - ◇ CAE-Fraser Elliott Fund Excellence Scholarship (Winter 2008)

- Awards*
- ◇ **Associated Student Government Faculty Honor Roll 2018-2019**
  - ◇ **Peter J. Landin Award 2009**, best paper at IFL 2009
  - ◇ **Computer Science Games 2009**, 1<sup>st</sup> place
  - ◇ **Computer Science Games 2008**, 3<sup>rd</sup> place
  - ◇ **Computer Science Games 2007**, 2<sup>nd</sup> place

- Languages*
- Fluent spoken and written French and English