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CITIZENSHIP	USA	
RESEARCH INTERESTS	Secure compilation; compiler verification; dependent types; meta-programming; language semantics and design	
CURRENT POSITION	<ul style="list-style-type: none"> <li>◇ University of British Columbia (Vancouver, BC, Canada) <span style="float: right;"><i>Jan. 2019 – Present</i></span></li> <li>Assistant Professor</li> </ul>	
EDUCATION	<p><b>Northeastern University</b>, Boston, MA <span style="float: right;"><i>2012 – 2018</i></span>          PhD in Computer Science, <i>Nov. 2018</i>          Thesis: <i>Compiling with Dependent Types</i>          Advisor: Amal Ahmed          Committee: Matthias Felleisen, Greg Morrisett, Stephanie Weirich, Mitchell Wand</p> <p><b>Indiana University</b>, Bloomington, IN <span style="float: right;"><i>2007 – 2012</i></span>          MS in Computer Science, <i>May 2012</i>          BS in Computer Science, <i>May 2011</i></p>	
POSITIONS	<p><b>Faculty</b></p> <ul style="list-style-type: none"> <li>◇ University of British Columbia (Vancouver, BC, Canada) <span style="float: right;"><i>Jan. 2019 – Present</i></span></li> <li>Assistant Professor</li> </ul> <p><b>Research Internships</b></p> <ul style="list-style-type: none"> <li>◇ INRIA (Paris, France) <span style="float: right;"><i>Oct. – Dec. 2017</i></span></li> <li>Supervisor: Cătălin Hrițcu and Amal Ahmed</li> <li>◇ Cisco Systems (Durham, NC, USA) <span style="float: right;"><i>May – Aug. 2013</i></span></li> <li>Supervisor: R. Kent Dybvig</li> <li>◇ Pervasive Technology Institute, Indiana University (Bloomington, IN, USA) <span style="float: right;"><i>Sept. – Dec. 2010</i></span></li> </ul> <p><b>Visiting Positions</b></p> <ul style="list-style-type: none"> <li>◇ Institut Henri Poincaré (Paris, France) <span style="float: right;"><i>May – July 2014</i></span></li> <li>Trimester on Semantics of Proofs and Certified Mathematics</li> </ul>	
AWARDS	<p>Northeastern University CCIS Outstanding Service Award <span style="float: right;"><i>2017</i></span>          ACM Student Research Competition, Grand Finalist <span style="float: right;"><i>2017</i></span>          POPL Student Research Competition, First Place <span style="float: right;"><i>2017</i></span>          Northeastern University Fellowship <span style="float: right;"><i>2012 – 2016</i></span></p>	

GRANTS	◇ UBC <i>Small TLEF Innovation and Pilot: Teaching systematic compiler design.</i> PI: William J. Bowman; Co-PI: Ronald Garcia. \$16223	2019–2020
	◇ NSERC <i>Discovery Launch: Compilers that preserve and enforce invariants and proofs.</i> PI: William J. Bowman. \$12500	2019–2024
	◇ NSERC <i>Discovery: Compilers that preserve and enforce invariants and proofs.</i> PI: William J. Bowman. \$165000	2019–2024
ADVISING	<b>Current Ph.D. Students</b>	
	◇ Aarti Kashyap Secure models of micro-architectures with caching and speculation.	<i>since Sept. 2019</i>
	◇ Adam T. Geller Indexed Types for WebAssembly.	<i>since Sept. 2019</i>
	<b>Graduated MS.c Students</b>	
	◇ Adam T. Geller Thesis Title: Indexed Types for Faster and Safer WebAssembly.	<i>Aug. 2019</i>
	<b>Current MS.c Students</b>	
	◇ Jonathan Chan Dependent-type-preserving compilation.	<i>Aug. 2019</i>
	◇ Lily Bryant Dependent-type-preserving compilation.	<i>Aug. 2019</i>
	◇ Paulette Koronkevich Dependent-type-preserving compilation and extensional type theory.	<i>Aug. 2018</i>
	<b>Graduated B.S. Honours Students</b>	
	◇ Jonathan Chan Honours Thesis: Practical Sized Typing for Coq.	<i>May. 2019</i>
	<b>Ph.D. Dissertation Committees</b>	
	◇ Joey Eremondi	<i>2022 (Anticipated)</i>
	◇ Felipe Bañados Schwerter	<i>2022 (Anticipated)</i>
	<b>MS.c Thesis Reader</b>	
◇ Do Nhat Minh	<i>2019</i>	

MANUSCRIPTS (UNPUBLISHED)	<b>ANF Preserves Dependent Types Up to Extensional Equality</b> Paulette Koronkevich, Ramon Rakow, Amal Ahmed, and William J. Bowman	2021
	<b>Indexed Types for Faster WebAssembly</b> Adam T. Geller, Justin P. Frank, William J. Bowman	2021
	<b>Practical Sized Types for Coq</b> Jonathan Chan and William J. Bowman	2019
PUBLICATIONS (CONFERENCES)	<b>Dependent Type Systems as Macros</b> Stephen Chang, Michael Ballantyne, Milo Turner, and William J. Bowman <i>ACM SIGPLAN Symposium on Principles of Programming Languages</i>	POPL 2021
	<b>Typed Closure Conversion of the Calculus of Constructions</b> William J. Bowman, and Amal Ahmed <i>ACM SIGPLAN Conference on Programming Language Design and Implementation</i>	PLDI 2018
	<b>Type-Preserving CPS Translation of <math>\Sigma</math> and <math>\Pi</math> Types is Not Not Possible</b> William J. Bowman, Youyou Cong, Nick Rioux, and Amal Ahmed <i>ACM SIGPLAN Symposium on Principles of Programming Languages</i>	POPL 2018
	<b>Fully Abstract Compilation via Universal Embedding</b> Max S. New, William J. Bowman, and Amal Ahmed <i>ACM SIGPLAN International Conference on Functional Programming</i>	ICFP 2017
	<b>Noninterference for Free</b> William J. Bowman, and Amal Ahmed <i>ACM SIGPLAN International Conference on Functional Programming</i>	ICFP 2015
	<b>Profile Guided Meta-Programming</b> William J. Bowman, Swaha Miller, Vincent St-Amour, and R. Kent Dybvig <i>ACM SIGPLAN Conference on Programming Language Design and Implementation</i>	PLDI 2015
PUBLICATIONS (WORKSHOPS)	<b>Compilation as Multi-Language Semantics</b> William J. Bowman <i>Workshop on Principles of Secure Compilation</i>	PriSC 2021
	<b>Dependently Typed Assembly for Secure Compilation</b> William J. Bowman <i>Workshop on Principles of Secure Compilation</i>	PriSC 2018
	<b>Only Control Effects and Dependent Types</b> Youyou Cong, William J. Bowman <i>Workshop on Higher-Order Programming with Effects</i>	HOPE 2017
	<b>Growing a Proof Assistant</b> William J. Bowman <i>Workshop on Higher-Order Programming with Effects</i>	HOPE 2016
	<b>Dagger Traced Symmetric Monoidal Categories and Reversible Programming</b> William J. Bowman, Roshan P. James, and Amr Sabry <i>Workshop on Reversible Computation</i>	RC 2011

INVITED PRESENTATIONS	<p><b>Cur: Designing a Less Devious Proof Assistant?</b> Invited talk at Seminar for Foundations of Mathematics and Theoretical Computer Science, Faculty of Mathematics and Physics, University of Ljubljana.</p> <p><i>Mentoring Panel</i> Invited panel at Programming Languages Mentoring Workshop (PLMW) at POPL</p> <p><b>Do Compilers Respect Programmers?</b> Invited Talk at Harvard University</p> <p><b>Do Compilers Respect Programmers?</b> Invited Talk at University of British Columbia</p> <p><b>Do Compilers Respect Programmers?</b> Invited Talk at Utah University</p>	<p><i>June 2020</i></p> <p><i>Jan. 2020</i></p> <p><i>Apr. 2018</i></p> <p><i>Mar. 2018</i></p> <p><i>Feb. 2018</i></p>
SERVICE	<p><b>Program committees:</b> POPL 2021, TFP 2019 (<b>co-general chair</b>), ICFP 2018 Student Research Competition (<b>chair</b>), ACM SIGPLAN Workshop on Formal Techniques for Java-like Programs (FTfJP) 2018, Workshop on Principles of Secure Compilation (PriSC) 2018,</p> <p><b>Organizing committees:</b> TFP 2020 (symposium chair), Logic Mentoring Workshop (LMW) 2019</p> <p><b>Reviewer</b> for: Journal of the ACM (Jan. 2020), TOPLAS (Jan. 2021), US NSF FM/PL Small Panel member (Jan. 2020), LICS external reviewer (Feb. 2018), POPL external reviewer (Aug. 2018)</p> <p><b>Editor:</b> Proceedings of Trends in Functional Programming (TFP) 2019, LNCS 12053, editor.</p>	
UNIVERSITY SERVICE	<ul style="list-style-type: none"> <li>◇ Graduate Affairs Committee, UBC,</li> <li>◇ Ad-hoc Committee on Workload, UBC,</li> <li>◇ Governor General’s Gold Medal Selection Panel, UBC,</li> <li>◇ Graduate Recruiting Committee, UBC,</li> <li>◇ Ad-hoc Committee on CS Teaching Demand, UBC,</li> <li>◇ Graduate Recruiting Committee, UBC,</li> <li>◇ PhD Admissions Committee, Northeastern University</li> <li>◇ Organizer, Northeastern Programming Languages Seminar</li> </ul>	<p><i>Sep. 2020–Present</i></p> <p><i>Sep. 2020–Dec 2020</i></p> <p><i>Feb. 2020</i></p> <p><i>Jan. 2020–May 2020</i></p> <p><i>Mar. 2019–May 2019</i></p> <p><i>Jan. 2019–May 2019</i></p> <p><i>2016</i></p> <p><i>2015 – 2017</i></p>
DECLINED SERVICE REQUESTS	<ul style="list-style-type: none"> <li>◇ PC Member, Tool Demonstration Track for Automated Software Engineering (ASE 2021)</li> <li>◇ Chair, Artifact Evaluation Committee for Principles of Programming Languages (POPL 2021)</li> <li>◇ Reviewer, Journal of Functional Programming (JFP)</li> <li>◇ PC Member, Student Research Competition for Principles of Programming Languages (POPL 2019)</li> </ul>	<p><i>Jan. 2021</i></p> <p><i>Feb. 2020</i></p> <p><i>Sept. 2020</i></p> <p><i>Oct. 2018</i></p>

TEACHING EXPERIENCE	<b>University of British Columbia</b>	
	◇ Instructor, <i>Introduction to Compiler Construction</i>	<i>Jan 2021</i>
	Undergraduate course on compiler design and construction	
	◇ Instructor, <i>Programming Language Principles</i>	<i>Sep. 2020</i>
	Graduate course on programming languages theory	
	◇ Instructor, <i>Topics in Programming Languages: Compiler Theory</i>	<i>Jan 2020</i>
	PhD topics course on compiler correctness	
	◇ Instructor, <i>Topics in Programming Languages: Compiler Theory</i>	<i>Jan 2019</i>
	PhD topics course on compiler correctness	
	<b>Northeastern University</b>	
	◇ Teaching assistant, <i>Intensive Principles of Programming Languages</i>	<i>Fall 2015</i>
	PhD course on programming language theory	
	◇ Head teaching assistant, <i>Fundamentals of Computer Science</i>	<i>Fall 2013 – Spring 2014</i>
	Undergraduate course on programming	
<b>Indiana University</b>		
◇ Teaching assistant, <i>Compiler design and construction</i>	<i>Spring 2012</i>	
Undergraduate course on compilers		
◇ Teaching assistant, <i>Introduction to Programming I</i>	<i>Fall 2010 – Fall 2011</i>	
Undergraduate course on programming		
◇ Teaching assistant, <i>Data Structures</i>	<i>Spring 2009</i>	
Undergraduate course on data structures		