

# Paulette Koronkevich

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## Education

- Current **University of British Columbia**, Vancouver, BC, Canada  
Software Practices Lab  
*PhD in Computer Science*
- August 2021 **University of British Columbia**, Vancouver, BC, Canada  
Software Practices Lab  
*MSc in Computer Science*
- May 2019 **Indiana University**, Bloomington, Indiana, USA  
School of Informatics, Computing, and Engineering  
*Bachelor's of Science in Computer Science*  
MINORS: Mathematics, Slavic Studies

## Thesis

- 2021 *ANF Preserves Dependent Types up to Extensional Equality*  
**Paulette Koronkevich**  
*UBC Electronic Theses and Dissertations (ETDs) 2008+*  
[DOI](#)

## Publications

- 2022 *ANF Preserves Dependent Types up to Extensional Equality*  
**Paulette Koronkevich**, Ramon Rakow, Amal Ahmed, William J. Bowman  
*Journal of Functional Programming*  
[DOI](#)
- 2021 *PLIERS: A Process that Integrates User-Centered Methods into Programming Language Design*  
Michael Coblenz, Gauri Kambhatla, **Paulette Koronkevich**, Jenna L. Wise, Celeste Barnaby, Joshua Sunshine, Jonathan Aldrich, and Brad A. Myers.  
*ACM Transactions on Computer-Human Interaction (TOCHI) 2021*  
[ACM DL](#)
- 2020 *Obsidian: Typestate and Assets for Safer Blockchain Programming*  
Michael Coblenz, Reed Oei, Tyler Etzel, **Paulette Koronkevich**, Miles Baker, Yannick Bloem, Brad A. Myers, Joshua Sunshine, and Jonathan Aldrich.  
*ACM Transactions on Programming Languages and Systems (TOPLAS) 2020*  
[ACM DL](#)

## Honors & Awards

- May 2022 [Maria Klawe Service Award](#)
- 2022 Second place at Principles of Programming Languages (POPL 2022) Student Research Competition
- 2019-2021 UBC CS Merit Scholarship
- 2019 NSF Graduate Research Fellowship  
*unable to receive funding at Canadian institution, however.*
- 2015-2019 Indiana University Cox Scholarship  
*given to ~40 incoming IU students for high academic performance along with a part-time job, and are required to maintain this throughout their undergraduate degree.*
- 2015-2019 School of Informatics, Computing, and Engineering Dean's List  
*given for maintaining a GPA above 3.7.*
- 2018 Second place at Systems, Programming, Languages, and Applications: Software for Humanity (SPLASH 2018) Student Research Competition
- 2018 Cornell, Maryland, and Max Planck Pre-Doctoral Research School (CMMRS) Travel Award
- 2017 First place at the SICE Research & Projects Symposium  
*presented my compilers course project: One Weird Trick to Compile Call/cc.*
- 2017 Programming Languages Mentoring Workshop (PLMW) at the International Conference on Functional Programming (ICFP) Travel Award

## Presentations

- 2022 *Dependent-type-preserving Memory Allocation*  
Presented at: Principles of Programming Languages (POPL 2022) Student Research Competition.
- 2021 *The ANF Translation Preserves Dependent Types up to Extensional Equality*  
Presented at: [Languages, Systems, and Data \(LSD\) Seminar](#) at UC Santa Cruz.
- 2019 *Reigniting Fuse, an Online Partial Evaluator for Scheme*  
Presented at: Scheme Workshop at the International Conference on Functional Programming (ICFP).
- 2018 *Obsidian in the Rough: A Case Study Evaluation of a New Blockchain Programming Language*  
Presented at: Midwest Programming Languages Summit (MWPLS); Systems, Programming, Languages, and Applications: Software for Humanity (SPLASH) Student Research Competition.

## Research Experience

2019 Undergraduate thesis with Professor Sam Tobin-Hochstadt, developing a partial evaluator for linklets in the Racket language.

Summ. 2018 **Carnegie Mellon University**, Pittsburgh, Pennsylvania

- Conducted a case study evaluation of a blockchain programming language, Obsidian.
- Contributed to a new feature of the language as a result of this evaluation.
- Wrote and presented the work with a student research competition submission and poster.

Spring 2018 **Indiana University**, Bloomington, Indiana

- Contributed to a current research compiler, Gibbon, which optimizes traversals over tree data structures.
- Extended the current language from a first order language to a higher order language.
- Wrote a final report summarizing the work, citing the primary resources found and used.

## Work Experience

Summ. 2019 **Galois Inc**, Portland, Oregon  
*Software Engineering/Research Intern*

- Built a system which generated random tests for an API based on a high-level specification.
- Developed a prototype of a typechecker for an advanced type system.

2016-2019 **Indiana University**, Bloomington, Indiana  
*IU Peer Coach*

- Assisted all students with registering, scheduling, and planning classes.
- Held 8-10 appointment and drop-in hours to provide support for students one on one.
- Organized degree-planning workshops to help inform and prepare incoming students.

Summ. 2017 **JPMorgan Chase & Co**, Chicago, Illinois  
*Tech Analyst Intern*

- Learned about various software development tools and the SDLC.
- Refactored an existing application to prepare it for cloud deployment.
- Recreated the user interface into a portable widget.

## Teaching

Spring 2022	CPSC 411 - Compilers
Fall 2021	CPSC 311 - Programming Languages
Fall 2020	CPSC 509 - Programming Languages (graduate course)
Spring 2019	CSCI-C 211 - Introduction to Computer Science
Fall 2018	CSCI-C 311 - Programming Languages & EDUC-X 152 Mapping Your Future
Spring 2018	CSCI-B 490 - Dependent Types
Fall 2017	CSCI-C 311 - Programming Languages
Spring 2017	CSCI-C 211 - Introduction to Computer Science, making <a href="#">instructional videos</a> .
Fall 2016	CSCI-C 211 - Introduction to Computer Science
Spring 2016	CSCI-C 211 - Introduction to Computer Science

## Service

2022-2023	Served on Graduate Affairs Committee for the Computer Science Department at UBC.
2020-2022	President of UBC Computer Science Graduate Student Association (CSGSA).
2019-2021	Events director for UBC Women in Computer Science (WiCS).
2018-2022	Student Volunteer at International Conference on Functional Programming (ICFP) 2018-2022, Programming Language Design and Implementation (PLDI) 2019-2020, and Principle of Programming Languages (POPL) 2020-2022.
2019	VP Social for UBC Computer Science Graduate Student Association.
2018	Organizational Committee for Opportunities for Undergraduate Research in Computer Science (OurCS), held at Indiana University in 2018. <i>Also served on a student research panel.</i>