Darien DeWolf Curriculum Vitae January 2025

Department of Mathematics and Statistics St. Francis Xavier University Antigonish, Nova Scotia B2G 2W5

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Citizenship: Canadian

EDUCATION

- 2017 Ph.D. Mathematics, Dalhousie University
- 2013 M.Sc. Mathematics, Dalhousie University
- 2012 B.Sc. (Hons.) Mathematics, Mount Saint Vincent University

PROFESSIONAL APPOINTMENTS

2024-present	Adjunct of the Faculty of Graduate Studies, Dalhousie University
2023–present	Assistant Professor (Tenure Track), St. Francis Xavier University
2022–2023	Assistant Professor (Limited Term), St. Francis Xavier University
2021–2022	Assistant Professor (Limited Term), Brandon University
2020–present	Research Scientist, SHEA Lab
2017–2020	Assistant Professor (Limited Term), St. Francis Xavier University
2014–2018	Part-Time Faculty, Mount Saint Vincent University

PUBLICATIONS

Refereed Journal Articles

2025 K. Thompson, M. C. Watt, D. DeWolf, and R. MacDonald-Spracklin, "Sex Differences in Indicators of Mental and Cardiovascular Health in Cannabis-Using Undergraduates," *Emerging Adulthood*, vol. 13, no. 1, pp. 118–130, 2025, doi: <u>https://doi.org/10.1177/21676968241287390</u>.

- H. Simpson, C. Duval, D. DeWolf, B. Sullivan, R. Price, and D. Labrie,
 "Comparative Study of the Shrinkage Behaviour of Three Bulk-fill Resin-based
 Composites Using the Aluminium Tooth Model with a MOD Cavity," *Dental Materials Journal*, 2024. To appear.
- 2023 **D. DeWolf** and B. Viswanathan, "Using Series to Construct Pythagorean Triples," *Mathematics Teacher: Learning and Teaching PK-12*, vol. 116, no. 7, pp. 533–538, 2023, doi: <u>10.5951/MTLT.2022.0239</u>.
- K. Thompson, D. DeWolf, R. MacDonald-Spracklin, D. Frank, and S. Cooper,
 "#Cheers: An Examination of User-Generated Alcohol Advertising on Instagram,"
 Substance Use & Misuse, vol. 58, no. 2, pp. 204–210, 2023, doi:
 10.1080/10826084.2022.2151826.
- 2022 **D. DeWolf** and B. Viswanathan, "Extending Fibonacci's Method for Computing Pythagorean Triples," *IJMCS*, vol. 17, no. 2, pp. 839–845, 2022.
- K. Thompson, M. Ivany, P. Davis-MacNevin, D. DeWolf, M. Teehan, and S. Stewart, "A Multilevel Investigation of Individual and Residence Risk Factors on Student Drinking," *Canadian Journal of Behavioural Science / Revue canadienne des* sciences du comportement, vol. 54, no. 1, pp. 62–72, 2022, doi: <u>10.1037/cbs0000277</u>.
- 2020 **D. DeWolf** and D. Pronk, "A Double Categorical View on Representations of Etendues," *Cahiers de Topologie et Géométrie Différentielle Catégoriques*, vol. 61, no. 1, pp. 3–56, 2020.
- 2020 **D. DeWolf** and C. C. Edmunds, "Commutation Semigroups of Finite Metacyclic Groups with Trivial Centre," *Semigroup Forum*, vol. 100, no. 3, pp. 765–789, 2020, doi: <u>10.1007/s00233-020-10097-3</u>.
- 2018 **D. DeWolf** and D. Pronk, "The Ehresmann-Schein-Nambooripad Theorem for Inverse Categories," *Theory and Applications of Categories*, vol. 33, no. 27, pp. 813–831, 2018.

2013 **D. DeWolf**, C. Edmunds, and C. Levy, "On Commutation Semigroups of Dihedral Groups," *Semigroup Forum*, vol. 87, no. 2, pp. 467–488, 2013, doi: <u>10.1007/s00233-013-9483-x</u>.

Manuscripts Under Review

- 2024 B. Viswanathan, **D. DeWolf**, "Closed-form Representations of the Coulomb Integral over Hydrogenic Orbitals," *Journal of Mathematical Chemistry*. Submitted September 2024.
- 2024 R. MacDonald-Spracklin, **D. DeWolf**, and K. Thompson, "Mode Matters: Investigating the Associations Between Mode of Cannabis Use and Self-Reported Physical and Psychological Effects," *Substance Use & Misuse*. Submitted September 2024.
- 2024 R. MacDonald-Spracklin, **D. DeWolf**, and K. Thompson, "An Investigation of the Event-Specific Effects of Simultaneous Alcohol and Cannabis Use on Heart Rate," *Addictive Behavior Reports*. Submitted August 2024.

Other Publications

- 2023 **D. DeWolf**, "Logistic Regression in Python," 2023, *Noodle Education, Data Science Stream*. Available: <u>https://resources.noodle.com/articles/logistic-regression-in-python/</u>.
- 2017 **D. DeWolf**, "Restriction Category Perspectives of Partial Computation and Geometry," Ph.D. Thesis, Dalhousie University, Halifax, Nova Scotia, 2017.
- 2016 **D. DeWolf** and D. Pronk, "On Double Inverse Semigroups," 2016, *arXiv*: arXiv:1501.03690. doi: <u>10.48550/arXiv.1501.03690</u>.
- 2013 **D. DeWolf**, "On Double Inverse Semigroups," M.Sc. Thesis, Dalhousie University, Halifax, Nova Scotia, 2013.
- 2012 **D. DeWolf**, "Commutation Semigroups of Dihedral Groups of Order 2n, Where n is Even," B.Sc. Thesis, Mount Saint Vincent University, Halifax, Nova Scotia, 2012.

AWARDS AND HONOURS

2024	University Research and Publication Award, St. Francis Xavier University	\$1683
2024	Nominated for Faculty Outstanding Teaching Award, St. Francis Xavier University	
2023	University Research, Publication, Teaching Award, St. Francis Xavier University	\$1571
2020	University Research, Publication, Teaching Award, St. Francis Xavier University	\$1649
2020	Nominated for Faculty Outstanding Teaching Award, St. Francis Xavier University	

GRANTS AND FELLOWSHIPS

2025	Restriction Monads, MITACS Globalink Research Internships	\$15,000
2025	Interchange Near Rings, MITACS Globalink Research Internships	\$15,000
2023–2025	Restriction Categories as Models of Partiality in Geometry, Topology, and Computation, University Council for Research UCR- A Award, St. Francis Xavier University	\$6,000
2024	Restriction Monads, MITACS Globalink Research Internships	\$22,500
2023–2024	Opportunities for Change: Exploring Nova Scotians' Quality of Life and Wellbeing, Research Nova Scotia Intentional Initiatives Award (with Drs. Kyran Cupido, Derrick Lee, and Megan MacGillivray)	\$22,481
2023	Faculty Start-Up Grant, St. Francis Xavier University	\$10,000
2021–2022	Restriction Categories for Topology and Computation, Brandon University Research Council Award, Brandon University	\$7,500
2015–2016	Izaak Walton Killam Predoctoral Scholarship, Dalhousie University	\$25,000
2014–2015	Nova Scotia Graduate Scholarship, Dalhousie University	(honorary)
2013–2015	NSERC CGS-D3 Research Scholarship	\$105,000
2013–2014	Dalhousie University President's Award	\$17,598

2012–2013 NSERC CGS-M Research Scholarship

Organizational Activity

- 2021 Co-organizer, Science Atlantic Mathematics, Statistics, and Computer Science Conference, St. Francis Xavier University, Canada
- 2019 Co-organizer of session "Categorical Approaches to Topology and Geometry," Canadian Mathematical Society Summer Meeting, University of Regina, Canada
- 2018 Co-organizer of session "Categories and Topology," Canadian Mathematical Society Summer Meeting, University of New Brunswick Fredericton, Canada
- 2016 Organizer, AARMS Summer School Student Conference, Dalhousie University, Canada

International Talks

- 2022 "Left Cancellative Categories and Groupoids," International Workshop: Groups, Rings, Lie and Hopf Algebras, Memorial University of Newfoundland, Canada.
- 2021 (Invited Talk) "Restriction Monads Without Elements," Mathematical Congress of the Americas, Universidad de Buenos Aires, Buenos Aires, Argentina.
- 2020 (Invited Talk) "Two Dimensional Inverse Semigroups/Categories," Antwerp Algebra Colloquium, University of Antwerp, Belgium.
- 2018 "Groupoids Associated to Join Inverse Categories," International Category Theory Conference, University of the Azores, Portugal.
- 2017 "An Element-Based Reformulation of Restriction Monads," International Category Theory Conference, University of British Columbia, Canada.
- 2017 "An Element-Based Reformulation of Restriction Monads," Foundational Methods in Computer Science, University of Ottawa, Canada.
- 2016 "Restriction Monads and Their Algebras," Union College Mathematics Conference, Union College, USA.
- 2016 "Restriction Monads," International Category Theory Conference, Dalhousie and Saint Mary's Universities, Canada.

- 2016 "Restriction Monads and Category Objects," Foundational Methods in Computer Science, University of British Columbia, Canada.
- 2015 "Inverse Restriction Categories and Their Groupoids," Foundational Methods in Computer Science, Colgate University, USA.
- 2014 "On Double Inverse Semigroups," Foundational Methods in Computer Science, University of Calgary, Canada.

National Talks

- 2019 (Invited Talk) "The Equivalence of Ordered Groupoids and Left Cancellative Categories Using Double Categories," Canadian Mathematical Society Summer Meeting, University of Regina, Canada.
- 2018 (Invited Talk) "Groupoids Associated to Join Inverse Categories", Canadian Mathematical Society Summer Meeting, University of New Brunswick Fredericton, Canada.

Regional Talks

- 2019 "Sets, Posets, and Quantifiers," Seminar, St. Francis Xavier University, Canada.
- 2019 "A Comparison Lemma for Ehresmann Sites," @Cat Seminar, Dalhousie University, Canada.
- 2018 "Introduction to Categories," Seminar, St. Francis Xavier University, Canada.
- 2018 "Monads and Models of Computations," Seminar, St. Francis Xavier University, Canada.
- 2017 "Restriction Bicategories: Two Approaches," @Cat Seminar, Dalhousie University, Canada.
- 2016 "Restriction Monads and Their Algebras," @Cat Seminar, Dalhousie University, Canada.
- 2015 "Restriction Categories and Monads, Part II," Dalhousie Mathematics Graduate Seminar, Dalhousie University, Canada.
- 2015 "Restriction Categories and Monads, Part I," Dalhousie Mathematics Graduate Seminar, Dalhousie University, Canada.
- 2015 "Partial Functions and Categories of Partial Maps," Science Atlantic Mathematics, Statistics, and Computer Science Conference, Acadia University, Canada.

- 2013 "Double Groups and Semigroups," Science Atlantic Mathematics, Statistics, and Computer Science Conference, University of New Brunswick St. John, Canada.
- 2013 "On Commutation Semigroups of Dihedral Groups," Honours Seminar, Dalhousie University, Canada.
- 2012 "On Commutation Semigroups of Dihedral Groups," Science Atlantic Mathematics, Statistics, and Computer Science Conference, Mount Allison University, Canada.

STUDENT SUPERVISION

- 2024–2025 David Zeidler (co-supervised with Dr. Dorette Pronk), Master's Thesis, Mathematics, Dalhousie University
- 2023–2024 Diba Aminshayanjahromi (co-supervised with Dr. James Hughes), Master's Thesis, Computer Science, St. Francis Xavier University
- 2024 Simon Maltby (co-supervised with Dr. Kyran Cupido), NSERC USRA, St. Francis Xavier University
- 2024 Jaclyn MacNeil, UCR Summer Research Student, St. Francis Xavier University
- 2024 Sai Rakshith Somasundaram, MITACS Globalink Research Intern, St. Francis Xavier University
- 2024 José Ramírez-Goméz, MITACS Globalink Research Intern, St. Francis Xavier University
- 2024 Namay Bedi Verma, MITACS Globalink Research Intern, St. Francis Xavier University
- 2024 Samantha Brooks (co-supervised with Drs. Kyran Cupido, Derrick Lee, and Megan MacGillivray), Research Nova Scotia Intentional Initiative Research Assistant
- 2024 Simon Maltby (co-supervised with Dr. Kyran Cupido), Honour's Thesis, Mathematics, St. Francis Xavier University
- 2021 Joshua Beaudin, BURC Summer Research Student, Brandon University
- 2019 Maxwell Jennings, Honour's Thesis, Mathematics, St. Francis Xavier University

COURSES TAUGHT

St. Francis Xavier University (2017–2020, 2022–present)

Course Code	Course Name	Sections
STAT 101	Introductory Statistics	19
STAT 333	Introductory Probability Theory	3
MATH 002	University Math Preparation for Professional Programs	3
MATH 102	Mathematical Concepts II	1
MATH 105	Business Mathematics	5
MATH 106	Calculus I	2
MATH 107	Calculus II	4
MATH 121	Calculus I for Engineers	2
MATH 122	Calculus II for Engineers	1
MATH 354	Modern Algebra I	6
MATH 454	Modern Algebra II	3
MATH 499	Introductory Category Theory	2
MATH 499	Mathematical Logic	1

Brandon University (2021–2022)

Course Code	Course Name	Sections
MATH 62.171	Introductory Statistics	4
MATH 62.252	Applied Linear Algebra	2
MATH 62.272	Applied Statistics	2
MATH 62.290	Calculus III	1
MATH 62.456	Graph Theory	1
MATH 62.499	Type Theory and AGDA	1

Mount Saint Vincent University (2014–2018)

Course Code	Course Name	Sections
MATH 1102	Precalculus I	1

MATH 1103	Precalculus II	1
MATH 1113	Introductory Calculus I	1
MATH 1114	Introductory Calculus II	1
MATH 2208	Introductory Statistics I	3
MATH 2209	Introductory Statistics II	7
MATH 2225	Mathematical Proof	1
MATH 3326	Abstract Algebra II	1

UNIVERSITY SERVICE

St. Francis Xavier University (2017–2020, 2022–present)

2024–Present	Selection Committee, Assistant Professor (Tenure Track), Department of Mathematics and Statistics
2024–Present	Chair, Committee on Nominations
2023–Present	Committee on Nominations
2022–Present	Science Atlantic Representative, Department of Mathematics and Statistics
2022–Present	Data Science Committee, Department of Mathematics and Statistics
2024	Selection Committee, Assistant Professor (Limited Term), Department of Mathematics and Statistics
2024	Selection Committee, Assistant Professor (Limited Term), Department of Mathematics and Statistics
2022–2023	Communications Committee, Department of Mathematics and Statistics
2023	Selection Committee, Assistant Professor (Limited Term), Department of Mathematics and Statistics
2023	Selection Committee, Assistant Vice President, Student Affairs
2023	Departmental Representative/Organizer for StFX Open House
2022	Departmental Representative/Organizer for StFX Open House

Darien DeWolf	Curriculum Vitae
2018–2020	Science Atlantic Representative, Department of Mathematics and Statistics
2018–2020	Mathematics Competition Training, Department of Mathematics and Statistics
2019	Poster Judge, Student Research Day
2018–2019	Recording Secretary, Mathematics and Statistics Division
2017–2018	Recording Secretary, Department of Mathematics, Statistics, and Computer Science
2018	Ad-Hoc Committee on Student-Faculty Engagement, Department of Mathematics, Statistics, and Computer Science

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Brandon University (2021–2022)

2022	Chair, Indigenous Education Senate Subcommittee Faculty of Science Working Group
2021–2022	Indigenous Education Senate Subcommittee
2021–2022	Curriculum and Academic Planning Senate Subcommittee
2021–2022	Co-chair, Brandon University Category Theory Seminar
2021	Selection Committee, Assistant Professor (Tenure Track), Department of Mathematics and Computer Science
2021	Selection Committee, Assistant Professor (Limited Term), Department of Mathematics and Computer Science
2021	Selection Committee, Assistant Professor (Tenure Track), Department of Mathematics and Computer Science
2021	Cayley Competition Training, Department of Mathematics and Computer Science

PROFESSIONAL SERVICE

2024–Present Chair, Governance and Policy Committee, Science Atlantic

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2024-Present	Endowment Grants Committee, Canadian Mathematical Society	
2023–Present	Board Member, Science Atlantic	
2022-Present	Chair, Mathematics and Statistics Division, Science Atlantic	
2021-Present	Manuscript Reviewer, Mathematics Teacher: Learning and Teaching PK-1	2
2017–Present	Judge of Contributed Talks, Science Atlantic Mathematics, Statistics, and Computer Science Conference	t
2019–2020	Trainer and Invigilator, Kangaroo Mathematics Competition	
2015–2016	President, Dalhousie Mathematics and Statistics Graduate Students' Association	
2013–2015	Lett Bursary Representative, Dalhousie Mathematics and Statistics Graduate Students' Association	
2013–2014	In-School Presenter, Math Circles Nova Scotia	
2012–2013	Department Liaison, Dalhousie Mathematics and Statistics Graduate Students' Association	

COMMUNITY SERVICE

2024–Present	Governance Committee, Canadian Association for Community Living Antigonish
2023–Present	Board Member, Canadian Association for Community Living Antigonish
2023–Present	Governance Committee, Antigonish County Adult Learning Association
2022–Present	Board Member, Antigonish County Adult Learning Association
2019–Present	Volunteer Math Tutor, Antigonish County Adult Learning Association

PROFESSIONAL DEVELOPMENT

2024 arXiv Accessibility Forum

2024	Kairos Blanket Exercise, St. Francis Xavier University
2024	Anti-Black Racism Training, St. Francis Xavier University
2024	Course on Research Ethics based on the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2: CORE 2022)
2023	Using Co-curricular Content Integrated Into Core courses to Increase Student Grades, Success, and Retention, Science Atlantic
2023	Designing and Implementing Open Research Policies in Nova Scotia, Science Atlantic
2023	arXiv Accessibility Forum
2023	Kairos Blanket Exercise, St. Francis Xavier University
2023	Dalhousie Conference on University Teaching and Learning, Dalhousie University
2022	Programming for Data Science: R (for experienced programmers), The Institute for Statistics Education, Arlington, VA, USA.
2022	EDIA Panel: Advocacy in STEM Spaces: A Fireside Chat, Science Atlantic Leadership Meeting, Science Atlantic
2021	Take22: Academic Accommodations. Brandon University
2021	Take22: Critical and Creative Thinking Resource. Brandon University
2021	Take22: Supporting Neurodiverse Students. Brandon University
2021	Introduction to Pressbooks, Campus Manitoba
2021	Open Education 101, Campus Manitoba
2021	Brandon University Teaching Enhancement Conference: A Wider Welcome, Brandon University
2019	Association of Atlantic Universities Teaching Showcase, University of Prince Edward Island
2019	Mental Health First Aid Canada: Adults who Interact with Youth Aged 12-24, St. Francis Xavier University
2019	Spring Teaching Event at X, St. Francis Xavier University

- 2013 Gamification: What is it, and how can I use it?
- 2013 Teaching Students with Learning Disabilities in Your Class
- 2013 Lunch and Learn: Turning Technologies Clicker System
- 2013 Addressing Student Disruptions in the Classroom
- 2013 Design Tips for Your Blackboard OWL Space
- 2012 Assessment as a Learning Tool
- 2012 Millennials: Who Are They, How Are They Different, and Why Do We Care?
- 2012 Active Learning in the Classroom
- 2012 Support for Curriculum Mapping at Dalhousie
- 2012 How do we learn?
- 2012 Teaching Assistant Professional Development Days

PROFESSIONAL MEMBERSHIPS AND AFFILIATIONS

- 2021–Present American Mathematical Society
- 2019–Present Canadian Mathematical Society
- 2018–Present TeX Users Group