Darien DeWolf

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Citizenship: Canadian

Education

Ph.D. Mathematics *October 2017*
Dalhousie University, Halifax, N.S.

M.Sc. Mathematics *October 2013*
Dalhousie University, Halifax, N.S.

B.Sc. (Hons.) Mathematics *May 2012*
Mount Saint Vincent University, Halifax, N.S.

Professional Certificates

Programming for Data Science: R (for experienced programmers) *October 2022*
The Institute for Statistics Education, Arlington, VA, USA

Publications (peer-reviewed)

MacDonald-Spracklin, R., **DeWolf, D.**, Thompson, K. Sex-specific effects of simultaneous alcohol and cannabis use on heart rate. **Submitted**.

Howe Simpson, Cecile Duval, **Darien DeWolf**, Braden Sullivan, Florian Rispe, Florian Hernandez, Guy Earle, Richard Price, Daniel Labrie. Distribution of cusp deflections in dental resin restored aluminium tooth models with a Class II MOD cavity. **Submitted**.

Darien DeWolf, Balakrishnan Viswanathan. Using Series to Construct Pythagorean Triples. *Mathematics Teacher: Learning and Teaching PK-12*. **In press**.

Thompson, K., **DeWolf, D.**, MacDonald-Spracklin, R., Frank, D., & Cooper, S. #Cheers: An examination of user-generated alcohol advertising on Instagram. *Substance Use & Misuse*. 58(2):204-210, 2023. https://doi.org/10.1080/10826084.2022.2151826.

Darien DeWolf, Balakrishnan Viswanathan. Extending Fibonacci's Method for Computing Pythagorean Triples. *International Journal of Mathematics and Computer Science*. 17(2):839–845, 2022.

Thompson, K., Ivany, M., Davis-MacNevin, P., **DeWolf, D.**, Teehan, M., & Stewart, S. A multilevel investigation of individual and residence risk factors on student drinking. *Canadian Journal of Behavioural Science*. 54(1):62–72, 2022. http://dx.doi.org/10.1037/cbs0000277.

Darien DeWolf, Charles C. Edmunds. Commutation Semigroups of Finite Metacyclic Groups with Trivial Centre. *Semigroup Forum*. 100:765–789, 2020.
https://doi.org/10.1007/s00233-020-10097-3.

Darien DeWolf, Dorette Pronk. A Double Categorical Representation of Etendues. *Cahiers de Topologie et Géométrie Différentielle Catégoriques*. 61(1):3–56, 2020.

Darien DeWolf, Dorette Pronk. The Ehresmann-Schein-Nambooripad Theorem for inverse categories. *Theory and Applications of Categories*. 33:813–831, 2018.

Darien DeWolf, Charles Edmunds, Christopher Levy. On commutation semigroups of dihedral groups. *Semigroup Forum*. 87:467–488, 2013. https://doi.org/10.1007/s00233-013-9483-x.

Publications (non-peer-reviewed)

Darien DeWolf. Logistic Regression in Python. *Noodle Education, Data Science Stream*, 2023, https://www.noodle.com/articles/logistic-regression-in-python.

Darien DeWolf, Dorette Pronk. On Double Inverse Semigroups, 2016. arXiv: 1501.03690.

Employment

Assistant Professor: Mathematics and Statistics	*August 2022 – Present*
St. Francis Xavier University, Antigonish, N.S.	
Research Scientist: SHEA Lab	*May 2020 – Present*
St. Francis Xavier University, Antigonish, N.S.	
Assistant Professor: Mathematics and Computer Science	*January 2021 – June 2022*
Brandon University, Brandon, M.B.	
Assistant Professor: Mathematics and Statistics	*August 2017 – December 2020*
St. Francis Xavier University, Antigonish, N.S.	
Part-Time Faculty	*July 2014 – August 2018*
Mount Saint Vincent University, Halifax, N.S.	
Statistics Lab Instructor	*January 2014 – April 2014*
Mount Saint Vincent University, Halifax, N.S.	
Graduate Teaching Assistant	*September 2012 – April 2014*
Dalhousie University, Halifax, N.S.	

Students Supervised

Mallory Long, Simon Maltby, and Miranda Wallace	*November 2022 – Present*
COMAP Mathematical Modelling Competition, St. Francis Xavier University	
Shallom Soyombo, Hishaam Patel, and Kyle Gardiner	*October 2021 – Present*
Urban/Rural Divides in Quality of Life of Nova Scotians, Brandon University	
Joshua Beaudin	*April-August 2021*
BURC Summer Research Student, Brandon University	
Maxwell Jennings	*May 2019*
B.Sc. Honours Thesis in Mathematics, St. Francis Xavier University	

Awards and Scholarships

Brandon University Research Council Award	**Brandon University**
February 2021 – February 2023: $7,500.00	
Project: Restriction Categories for Topology and Computation	
University Research, Publication, Teaching Award	**St. Francis Xavier University**
June 2020: $1,648.94	
Nomination: Faculty Outstanding Teaching Award	**St. Francis Xavier University**
February 2019, February 2020	
Izaak Walton Killam Predoctoral Scholarship	**Dalhousie University**
September 2016: $25,000, September 2015: Honorary	
Nova Scotia Graduate Scholarship	**Dalhousie University**
September 2014 and 2015: Honorary	

NSERC CGS-D3 Research Scholarship   **Dalhousie University**
September 2013, 2014 and 2015: $35,000 per year

Dalhousie University President's Award   **Dalhousie University**
September 2013 and 2014: Tuition Waver

NSERC CGS-M Research Scholarship   **Dalhousie University**
December 2012: $17,500

Presentations and Talks

International

Left cancellative categories and groupoids   *May 30, 2022*
International Workshop: Groups, Rings, Lie and Hopf Algebras
Memorial University of Newfoundland, St. John's, NFLD, Canada

Restriction Monads without Elements   *July 14, 2021*
Mathematical Congress of the Americas 2021
Universidad de Buenos Aires, Buenos Aires

Two Dimensional Inverse Semigroups/Categories   *December 18, 2020*
Antwerp Algebra Colloquium (Invited Speaker)
University of Antwerp, Antwerp, Belgium

Groupoids Associated to Join Inverse Categories   *July 13, 2018*
International Category Theory Conference
University of the Azores, Azores, Portugal

An Element-Based Reformulation of Restriction Monads   *July 20, 2017*
International Category Theory Conference
University of British Columbia, Vancouver, BC, Canada

An Element-Based Reformulation of Restriction Monads   *June 8, 2017*
Foundational Methods in Computer Science
University of Ottawa, Ottawa, ON, Canada

Restriction Monads and Their Algebras   *December 4, 2016*
Union College Mathematics Conference
Union College, Schenectady, NY, USA

Restriction Monads   *August 11, 2016*
International Category Theory Conference
Dalhousie and Saint Mary's Universities, Halifax, NS, Canada

Restriction Monads and Category Objects   *June 4, 2016*
Foundational Methods in Computer Science
University of British Columbia, Vancouver, BC, Canada

Inverse Restriction Categories and Their Groupoids   *June 6, 2015*
Foundational Methods in Computer Science
Colgate University, Hamilton, NY, USA

On Double Inverse Semigroups   *June 6, 2014*
Foundational Methods in Computer Science
University of Calgary, Calgary, AB, Canada

National

The Equivalence of Ordered Groupoids and   *June 10, 2019*
Left Cancellative Categories Using Double Categories
CMS Summer Meeting 2019
University of Regina, Regina, S.K.

Groupoids Associated to Join Inverse Categories   *June 4, 2018*
CMS Summer Meeting 2018
University of New Brunswick, Fredericton, N.B.

Regional

Sets, Posets, and Quantifiers   *November 25, 2019*
Seminar
St. Francis Xavier University, Antigonish, N.S.

A Comparison Lemma for Ehresmann Sites   *March 26, 2019*
@Cat Seminar
Dalhousie University, Halifax, N.S.

Introduction to Categories   *November 19, 2018*
Seminar
St. Francis Xavier University, Antigonish, N.S.

Monads as Models of Computation   *January 15, 2018*
Seminar
St. Francis Xavier University, Antigonish, N.S.

Restriction Bicategories: Two Approaches   *October 24, 2017*
@Cat Seminar
Dalhousie University, Halifax, N.S.

Restriction Monads and Their Algebras   *November 15, 2016*
@Cat Seminar
Dalhousie University, Halifax, N.S.

Restriction Categories and Monads   *November 27, 2015 (Part I)*
Dalhousie Mathematics Graduate Seminar   *December 4, 2015 (Part II)*
Dalhousie University Halifax, N.S.

Partial Functions and Categories of Partial Maps   *October 24, 2015*
Science Atlantic
Acadia University, Wolfville, N.S.

Double Groups and Semigroups   *October 4, 2014*
Science Atlantic
University of New Brunswick, St. John, N.B.

On Commutation Semigroups of Dihedral Groups   *March 13, 2013*
Honours Seminar
Dalhousie University, Halifax, N.S.

On Commutation Semigroups of Dihedral Groups   *October 13, 2012*
Science Atlantic
Mount Allison University, Sackville, N.B.

Courses Taught

St. Francis Xavier University
Assistant Professor, 38 courses

Antigonish, N.S.

August 2022 – Present, August 2017 – December 2020

- Stat 101: Introductory Statistics (12 sections)
- Stat 333: Introductory Probability Theory (2 sections)
- Math 002: University Math Preparation for Professional Programs (2 sections)
- Math 102: Mathematical Concepts II (1 section)
- Math 105: Business Mathematics (5 sections)
- Math 106: Calculus I (2 sections)
- Math 107: Calculus II (4 sections)
- Math 121: Calculus I for Engineers (1 section)
- Math 122: Calculus II for Engineers (1 section)
- Math 354: Modern Algebra I (4 sections)
- Math 454: Modern Algebra II (2 sections)
- Math 499: Introductory Category Theory (2 sections)
- Math 499: Mathematical Logic (1 section)

Brandon University
Assistant Professor, 11 courses

Brandon, M.B.

January 2021 – June 2022

- Math 62.171: Introductory Statistics (4 sections)
- Math 62.252: Applied Linear Algebra (2 sections)
- Math 62.272: Applied Statistics (2 sections)
- Math 62.290: Calculus III (1 section)
- Math 62.456: Graph Theory (1 section)
- CSCI 62.499: Type Theory and AGDA (1 student)

Mount Saint Vincent University
Part-Time Faculty Member, 16 courses

Halifax, N.S.

July 2014 – August 2018

- Math 1102: Precalculus I (1 section)
- Math 1103: Precalculus II (1 section)
- Math 1113: Introductory Calculus I (1 section)
- Math 1114: Introductory Calculus II (1 section)
- Math 2208: Introductory Statistics I (3 sections)
- Math 2209: Introductory Statistics II (7 sections)
- Math 2225: Mathematical Proof (1 section)
- Math 3326: Abstract Algebra II (1 section)

Academic Service Activities

Saint Francis Xavier University

- Data Science Programming Committee, Department of Mathematics and Statistics, September 7, 2022 – Present.
- Communication Committee, Department of Mathematics and Statistics, September 7, 2022 – Present.
- Science Atlantic Representative for Mathematics and Statistics, September 7, 2022 – Present.
- Science Atlantic Representative for Mathematics and Statistics, September 6, 2018 – December 31, 2020.
- Team Captain, StFX Science Atlantic Mathematics Competition, September 6, 2018 – December 31, 2020.

– Poster Judge, StFX Student Research Day, March 21, 2019.

– Recording Secretary, Mathematics and Statistics Division, September 6, 2018 – July 1, 2019.

– Ad-Hoc Committee, Report on Student/Faculty Engagement in the Department of Mathematics, Statistics, and Computer Science, February – March 2018.

– Recording Secretary, Department of Mathematics, Statistics, and Computer Science, August 30, 2017 – September 13, 2018.

Science Atlantic

– Chair, Division of Mathematics and Statistics, October 14, 2022 – Present.

– Judge of Contributed Talks, Mt. Allison University, October 14 – 15, 2022.

– Judge of Contributed Talks, St. Mary's University, October 31 – November 1, 2020.

– Marker of Mathematics Competition, St. Mary's University, October 31 – November 1, 2020.

– Judge of Contributed Talks, Dalhousie University, October 25 – 26, 2019.

– Judge of Contributed Talks, Université de Moncton, October 12 – 13, 2018.

– Judge of Contributed Talks, University of New Brunswick, Fredericton, October 13 – 14, 2017.

Brandon University

– Chair, IESSC Faculty of Science Working Group, April 2022 – June 2022.

– Indigenous Education Senate Subcommittee, September 2021 – June 2022.

– Curriculum & Academic Planning Senate Subcommittee, July 2021 – June 2022.

– Co-chair and Co-creator of Brandon University Category Theory Seminar, January 2021 – June 2022.

– Search Committee: Tenure Track Computer Science Position, December 2021.

– Search Committee: Term Computer Science Position, July 2021.

– Search Committee: Tenure Track Computer Science Position, May 2021.

– Cayley Competition Training for High School Student in Brandon, January 2021 – August 2021.

Conference Organization

– Co-organizer at Science Atlantic Mathematics, Statistics and Computer Science Conference 2021, hosted online by St. Francis Xavier University, October 22 – 24, 2021.

– Session Co-organizer at CMS Summer Meeting 2019, University of Regina, *Categorical Approaches to Topology and Geometry*, June 7 – 10, 2019.

– Session Co-organizer at CMS Summer Meeting 2018, University of New Brunswick, Fredericton, *Categories and Topology*, June 1 – 4, 2018.

– Organizer and Chair for AARMS/DMSGSA Summer School 2016 Student Conference, July 23, 2016.

Professional Development

– Take22: Academic Accommodations. Brandon University, November 26, 2021.

– Take22: Critical and Creative Thinking Resource. Brandon University, November 19, 2021.

– Take22: Supporting Neurodiverse Students. Brandon University, November 5, 2021.

– Introduction to Pressbooks, Campus Manitoba, October 28, 2021.

– Open Education 101, Campus Manitoba, October 26, 2021.

– Brandon University Teaching Enhancement Conference: A Wider Welcome, Brandon University, September 1, 2021.

- Atlantic Universities Teaching Showcase Conference, University of Prince Edward Island, October 19, 2019.
- Mental Health First Aid Canada: Adults who Interact with Youth Aged 12-24, July 10 and 16, 2019.
- Spring Teaching Event at X, St. Francis Xavier University, May 23 – 24, 2019.
- Member of the Canadian Mathematical Society.
- Member of the American Mathematical Society.

Journal Refereeing

- Mathematics Teacher: Learning and Teaching PK–12.

Community Service

- Antigonish County Adult Learning Association (ACALA), September 2019 to Present: volunteer mathematics tutor for adult learners and Member of the Board.
- Kangaroo Mathematics Competition training and invigilator, Winter 2019 and Winter 2020.

Dalhousie Mathematics and Statistics Graduate Students' Association

- President, September 2015 – September 2016.
- Lett Bursary Representative, September 2013 – September 2015.
- Department Liaison, September 2012 – September 2013.

Math Circles Nova Scotia

- In-School Presenter, September 2013 – June 2014.