

ERIN KATHLEEN MCKENNA MEGER

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Postdoctoral Research Fellow

Université du Québec à Montréal jointly with Loyola University Chicago

Languages: English, French, Python, MATLAB, C

Website: erinmegermath.com

Memberships: AMS, MAA, CMS, SIAM, AWM

Citizenship: Canada, U.S.

Education

PHD MATHEMATICS, RYERSON UNIVERSITY, 2020
 Course Instructor Apprenticeship (Calculus 1)
 SEDA UK Certified Graduate Professional Development in Teaching Program Level 2

MSc APPLIED MATHEMATICS, RYERSON UNIVERSITY, 2016

BSc HONOURS MATHEMATICS, WILFRID LAURIER UNIVERSITY, 2014

Academic Positions

2020-2021 POSTDOC FELLOW - Université du Québec à Montréal, Loyola University Chicago
 Laboratoire d'Algebre, de Combinatoire et d'Informatique Mathematique (LACIM)
 Computational Biology and Evolution Lab (Dr. V. Reinharz)

2020 POST-DOCTORAL RESEARCH FELLOW - Mount Allison University
 Department of Mathematics and Computer Science (Dr. M.E. Messinger)

2018-2020 CONTRACT TEACHING FACULTY - Wilfrid Laurier University

Research Interests

Combinatorics; Graph Theory; Network Modelling; Structural Graph Theory; Applied Combinatorics; Extremal Graph Theory; Probabilistic Network Modelling; Bioinformatics; Theoretical Computer Science

Publications and Theses

6: SUBMITTED P. Devlin, **E. Meger**, A. Raz; *Explorer-Director game on graphs* arXiv:2104.09451 (2021+).

5: SUBMITTED D. Cox, **E. Meger**, M.E. Messinger; *Eternal domination at a distance* arXiv:2104.03835 (2021+).

4: P. Devlin, J. Kepner, A. Luo, **E. Meger**; Hybrid Power-Law Models of Network Traffic. *IEEE International Parallel Distributed Processing Symposium Workshops – Graphs, Architectures, Programming, and Learning* (2021).

3: A. Bonato, H. Chuangpishit, S. English, B. Kay, **E. Meger**; The Iterated Local Model for Social Networks; *Discrete Applied Mathematics* 284 (2020): 556-571.

2: A. Bonato, **E. Meger**; Iterated Global Models for Social Networks; *International Workshop on Algorithms and Models for the Web-Graph*, pp. 135-144. Springer (2020).

1. **E. Meger**, W. Freeman, A. Ludbrook, E. Meger, M. Schwartz; M. Glynn; *Open Moments* Ryerson University, ISBN: 978-1-77417-016-8 (2020).

THESIS: **E. Meger**; *Iterated Models for Social Networks*; Ryerson University; Ph.D. Thesis. (2019)

THESIS: **E. Meger**; *Cops, Robbers, and Barricades*; Ryerson University; M.Sc. Thesis. (2016)

IN PREPARATION: S. English, T. Masarik, G. McCourt, E. Meger S. Spiro, M. Ross; *Excluding Small Cycles in Saturation Games* (Expected May 2020).

IN PREPARATION: F. Kenter, E. Meger; *A Forbidden Minors Result for the Game of Cops and Robbers* (Expected June 2020).

Invited Talks, Workshops, and Conference Organization

- 2021 SIAM DM 21 - Virtual
 MINI-SYMPOSIUM ORGANIZER: Women in Graph Theory
 CANADAM - Virtual
 EVENT ORGANIZER: Women in Math Networking Events
- 2020 ATLANTIC GRAPH THEORY SEMINAR SERIES
 LACIM COMBINATORICS SEMINAR - UQAM
 COMBINATORICS SEMINAR - UC San Diego
 COMBINATORICS SEMINAR - Yale University
 JOINT MATH MEETING - CU Denver
 SPECIAL SESSION: Extremal and Probabilistic Combinatorics
- 2019 CMS WINTER MEETING 2019 - Fields Institute
 SESSION ORGANIZER: Graph Searching

- NETWORK SEMINAR - City University of New York
- COMBINATORICS, ALGEBRA, AND TOPOLOGY SEMINAR - US Naval Academy
- COMBINATORICS SEMINAR - University of Vermont
- OPEN EDUCATION CONFERENCE 2019 - Phoenix, AZ
- DISCRETE SEMINAR - University of Colorado Denver
- ANALYSIS SEMINAR - University of Denver
- MIDSUMMER COMBINATORIAL WORKSHOP GENA AND ROBERT DAY
- Charles University in Prague
- WC2 SYMPOSIUM - St. Petersburg Polytechnic University
WORKSHOP FACILITATOR: Empowering Diverse Voices through Open Education
- GRADUATE RESEARCH WORKSHOP IN COMBINATORICS - University of Kansas
- LEARNING AND TEACHING CONFERENCE - Ryerson University
- GRAPHS @ RYERSON - Ryerson University
- GRAPHS AND MATROIDS SEMINAR - University of Waterloo
- 2018 LEARNING AND TEACHING CONFERENCE - Ryerson University
CONFERENCE MODERATOR
- 2016 SIAM DISCRETE MATH '16 - Georgia State University
INVITED MINISYMPOSIUM: Cops and Robbers
- 2015 GRADUATE SEMINAR - McGill University
APPLIED COMBINATORICS SUMMER SCHOOL - PIMS, University of Saskatchewan
- 2013 WOMEN AND MATH PROGRAM - Institute for Advanced Study

Other Conferences and Contributed Talks

- 2021 CONNECTING WOMEN IN MATHEMATICS ACROSS CANADA - CMS Meeting
WOMEN IN COMBINATORICS AND REPRESENTATION THEORY
DISCRETE MATH DAYS - Williams College
- 2019 TESS 2019 - eCampus Ontario
SUMMER COMBO 2019 - University of Vermont
CANADAM - Simon Fraser University

6th LAKE MICHIGAN WORKSHOP ON COMBINATORICS AND GRAPH THEORY
- Western Michigan University

- 2018 GRAPH SEARCHING CANADA - University of Regina
SIAM DISCRETE MATH '18 - University of Colorado Denver
- 2017 GRADUATE SEMINAR - University of Waterloo
GRADUATE SEMINAR - Ryerson University
- 2016 GRAPH SEARCHING CANADA - Dalhousie University
- 2015 GRASTA-MAC - Universite de Montreal
CANADAM - University of Saskatchewan
- 2014 CANADIAN UNDERGRADUATE MATHEMATICS CONFERENCE - Carleton University
GODSIL 65 - University of Waterloo
ONTARIO COMBINATORICS WORKSHOP - The Fields Institute
- 2013 CANADIAN UNDERGRADUATE MATHEMATICS CONFERENCE - Universite de Montreal

Scholarships and Prizes

- 2020 SIAM EARLY CAREER TRAVEL AWARD \$885
RYERSON TRAVEL FUNDING FOR GRADUATE STUDENTS \$500
- 2019-2020 RYERSON GRADUATE SCHOLARSHIP \$15,000
- 2019 RYERSON TRAVEL FUNDING FOR GRADUATE STUDENTS \$1,000
GRWC STUDENT TRAVEL GRANT \$550
RYERSON INTERNATIONAL TRAVEL AWARD \$2,500
GRWC STUDENT TRAVEL STIPEND \$700
WESTERN MICHIGAN STUDENT TRAVEL GRANT \$450
- 2018 YSGS LEADERSHIP AWARD IN COMMUNITY ENGAGEMENT & CITY BUILDING
\$1,000 Ryerson University
- 2018-2019 ONTARIO GRADUATE SCHOLARSHIP \$15,000 Ryerson University
- 2018 RYERSON TRAVEL FUNDING FOR GRADUATE STUDENTS \$1,500

2017-2018 MATHEMATICS GRADUATE AWARD \$5,400 Ryerson University
 RYERSON GRADUATE FELLOWSHIP \$2,600 Ryerson University

2017 RYERSON TRAVEL FUNDING FOR GRADUATE STUDENTS \$1,000

2016-2017 GRADUATE RESEARCH STUDENTSHIP \$7,488 University of Waterloo
 MATH DOMESTIC GRADUATE STUDENT AWARD \$2,000 University of Waterloo

2016 RYERSON TRAVEL FUNDING FOR GRADUATE STUDENTS \$1,000

2015-2016 RYERSON GRADUATE FELLOWSHIP \$5,200 Ryerson University

2015 RYERSON TRAVEL FUNDING FOR GRADUATE STUDENTS \$550

2014-2015 QEII GRADUATE SCHOLARSHIP IN SCIENCE AND TECHNOLOGY
 \$15,000 Ryerson University

2013 WOMEN IN SCIENCE TRAVEL GRANT \$500 Wilfrid Laurier University

Academic Service

2019-Present WOMEN IN COMBINATORICS - Initiator and Co-ordinator

2019-2020 OPEN EDUCATION RESEARCH FELLOW - Open Ed Group

2019 MATH CHAIR SEARCH COMMITTEE, elected - Ryerson University

2013-2016 PROGRAM SECRETARY, selected - Women and Math, Institute for Advanced Study

2013-2014 FACULTY OF SCIENCE POLICIES & PETITIONS COMMITTEE, selected - Laurier
 FACULTY OF SCIENCE DIVISIONAL COUNCIL, elected - Wilfrid Laurier University
 MATHEMATICS DEPARTMENT - IN - COUNCIL, elected - Wilfrid Laurier University

Referee

Banff International Research Station Programs – Equity Diversity and Inclusion Reviewer

Teaching Experience

2018-2020 CONTRACT TEACHING FACULTY - Wilfrid Laurier University

Semester	Course
Fall 2020	MA238 T1, T2 Discrete Mathematics, Tutorial Instructor
Spring 2019	CP493 Directed Research, Project Supervisor
Winter 2019	CP367 A Introduction to System Programming, Course Coordinator
Fall 2018	SC101 A, B Essential Skills for Mathematics, Co-Coordinator

2018 COURSE DESIGN - Ryerson University

MTH260 Introduction to mathematical reasoning and proof-writing
Topics include delta-epsilon proofs, number theory, and geometry

PROFESSOR'S ASSISTANT - AIMS Cameroon

Facilitated experiential learning components during lectures
Generated course documents, coordinated marking with TA's

2014-2019 GRADUATE TEACHING ASSISTANT - Ryerson University

Semester	Courses
Spring 2019	MTH510 Numerical Analysis MTH425 Differential Equations and Vector Calculus
Winter 2019	MTH599 Foundations of Mathematical Thought
Fall 2018	AM8002 Graduate Discrete Mathematics
Spring 2018	MTH240 Calculus 2 for Engineers
Winter 2017	MTH310 Calculus 2
Fall 2017	MTH560 Problem Solving MTH270 Calculus 1
Winter 2016	MTH312 Differential Equations and Vector Calc MTH607 Graph Theory
Fall 2015	MTH525 Real Analysis MTH108 Linear Algebra MTH131 Modern Math 1 (Calc 1 for Science)
Winter 2015	MTH231 Modern Math 2 (Calc 2 for Science) MTH210 Discrete Math 2 MTH607 Graph Theory MTH617 Algebra
Fall 2014	MTH131 Modern Math 1 (Calc 1 for Science) MTH110 Discrete Math 1

2016-2017 GRADUATE TEACHING ASSISTANT - University of Waterloo

Semester	Courses
Fall 2016	MATH138 Calculus II
Winter 2017	MATH 138 Calculus II

2012-2014 INSTRUCTOR ASSISTANT - Wilfrid Laurier University

Semester	Courses
Winter 2014	MA104 Calculus 2 for Math
Fall 2014	MA201/MA205 Calculus 3 and Differential Equation
Winter 2013	MA104 Calculus 2 for Math
Fall 2013	MA104 Calculus 2 for Math
Winter 2012	MA101 Calculus 2 for Science