Etienne Leclerc

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EDUCATION

University of Victoria	Victoria, British Columbia
Ph.D in Applied Mathematics	2021–Present
University of Victoria	Victoria, British Columbia
B.S. Honours in Combined Mathematics and Computer Science, with Minor in Statistics	2015–2021
MathPath (Macalester College)	St. Paul, Minnesota
Advanced Summer Mathematics Program for middle-school students	June 2010

LANGUAGES

- **English** (native)
- **French** (native)

COMPLETED RESEARCH EXPERIENCE

NSERC-Funded Research Term
With Boualem Khouider — Summer 2019

- Extending the ODE formulation of a stochastic relaxation formula to an integro-differential system
- A continuation of research undertaken in summer 2018

Honours Project
With Gary McGillivray — Fall 2018-Spring 2019

- Switching mixed graphs
- Also funded by the JCURA Research Award

NSERC-Funded Research Term
With Boualem Khouider — Summer 2018

- A stochastic relaxation for the quasi-equilibrium theory of cumulus convection

CONFERENCES ATTENDED

- **AGU Fall Meeting 2023** — Fall 2023
- **Canadian Meteorological and Oceanographic Society (CMOS) Congress** — Summer 2023
- **MSRI 991 - Integral Equations** — Summer 2022
- **CIRM 2575 Avancés mathématiques dans les flux géophysiques** — Summer 2022
- **AGU Fall Meeting 2021** — Fall 2021
- **Canadian Meteorological and Oceanographic Society (CMOS) Congress** — Summer 2021

- **Workshop on Spatial Organisation of Convection, Clouds and Precipitation**   Summer 2021

- **PIMS Scientific Grand Challenges and New Perspectives in Applied Mathematics: Ocean, Atmosphere and Climate Sciences**   Summer 2019

- **Canadian Undergraduate Math Conference**   Summer 2018

- **UVic Undergraduate Math Conference**   Summers 2017, 2018

Poster Presentations

- **AGU Fall Meeting 2023**   Fall 2023

- **Canadian Meteorological and Oceanographic Society (CMOS) Congress**   Summer 2023

- **CIRM 2575 Avancés mathématiques dans les flux géophysiques**   Summer 2022

- **AGU Fall Meeting 2021**   Fall 2021

- **PIMS Scientific Grand Challenges and New Perspectives in Applied Mathematics: Ocean, Atmosphere and Climate Sciences** at University of Victoria   Summer 2019

- **JCURA Fair** at University of Victoria   Spring 2019

- **Honours Fest 2019** at University of Victoria   Spring 2019
  Top Presenter in Mathematics and Statistics

Talks

- **Toward a Stochastic Relaxation for the Quasi-Equilibrium Theory of Cumulus Parameterization: Multicloud Instability, Multiple Equilibria, and Chaotic Dynamics** at AGU Fall Meeting   Summer 2021

- **Toward a Stochastic Relaxation for the Quasi-Equilibrium Theory of Cumulus Parameterization: Multicloud Instability, Multiple Equilibria, and Chaotic Dynamics** at CMOS Conference   Summer 2021

- **A Whirlwind of Mathematics** at UVic Students in Undergraduate Mathematics Seminars   Spring 2020
  A gentle introduction to fluid dynamics for a general undergraduate audience

- **Switching Homomorphisms on Mixed Graphs** at UVic Discrete Math Seminar   Spring 2019

- **Deriving the Navier-Stokes Equations** at UVic Students in Undergraduate Mathematics Seminars   Spring 2019
  Two part talk

- **A Stochastic Cloud Parametrization** at UVic Undergraduate Math Conference   Summer 2018

- **Minkowski's Theorem** at CMS Math Camp   Summer 2018
  An interactive talk on the geometry of numbers, for engaged high school students

Publications

[1] **E. Leclerc**, G. MacGillivray, and J. Warren, "Switching (m,n)-mixed graphs with respect to Abelian groups", *Manuscript submitted to Theoretical Computer Science*, 2021.

[2] B. Khouider and **E. Leclerc**, "Toward a stochastic relaxation for the quasi-equilibrium theory of cumulus parameterization: Multicloud instability, multiple equilibria, and chaotic dynamics", *Journal of Advances in Modeling Earth Systems*, vol. 11, no. 8, pp. 2474–2502, 2019.

[3] G. MacGillivray and **E. Leclerc**, "Switching (m,n)-edge-coloured mixed graphs", in *Extended Abstract for 2019 Bordeaux Graph Workshop*, Oct. 2019.

Teaching Assistant Work

- **Tutorial Instructor** at University of Victoria   Spring 2024
  Calculus IV (Math 204), Intermediate Calculus for CSC and EOS (Math 202)
- **Tutorial Instructor** at University of Victoria   Fall 2023
  Calculus III (Math 200), Matrix Algebra for Entineers (Math 110)
- **Tutorial Instructor** at University of Victoria   Spring 2023
  Calculus II (Math 101)
- **Math and Stats Assistance Centre Tutor** at University of Victoria   Spring 2023
  Calculus, linear algebra, discrete math and probability, real analysis, statistics
- **Tutorial Instructor** at University of Victoria   Fall 2022
  Calculus III (Math 200)
- **Math and Stats Assistance Centre Head Tutor** at University of Victoria   Fall 2022
  Calculus, linear algebra, discrete math and probability, real analysis, statistics
- **Tutorial Instructor** at University of Victoria   Summer 2022
  Calculus III (Math 200)
- **Math and Stats Assistance Centre Tutor** at University of Victoria   Summer 2022
  Calculus, linear algebra, discrete math and probability, real analysis, statistics
- **Tutorial Instructor** at University of Victoria   Spring 2022
  Calculus III (Math 200)
- **Math and Stats Assistance Centre Tutor** at University of Victoria   Spring 2022
  Calculus, linear algebra, discrete math and probability, real analysis, statistics
- **Math and Stats Assistance Centre Tutor** at University of Victoria   Spring 2022
  Calculus, linear algebra, discrete math and probability, real analysis, statistics
- **Math and Stats Assistance Centre Tutor** at University of Victoria   Fall 2021
  Calculus, linear algebra, discrete math and probability, real analysis, statistics
- **Tutorial Instructor** at University of Victoria   Fall 2021
  Matrix Algebra for Engineers (Math 110), Calculus II (Math 101)
- **Tutorial Instructor** at University of Victoria   Spring 2021
  Calculus II (Math 101)
- **Math and Stats Assistance Centre Tutor** at University of Victoria   Spring 2021
  Calculus, linear algebra, discrete math and probability, real analysis, statistics
- **Marker** at University of Victoria   Fall 2020
  Logic and Foundations (MATH 122), Waves in the Atmosphere and Ocean (MATH 492)
- **Tutorial Instructor** at University of Victoria   Fall 2019
  Calculus I (MATH 100)

- **Math and Stats Assistance Centre Tutor** at University of Victoria   Fall 2018
  Calculus, linear algebra, discrete math and probability, real analysis
- **Marker** at University of Victoria   Spring 2018
  Matrix Algebra I (MATH 211)

Scholarships and Awards

- President's Scholarships   2022, 2023
- NSERC Canadian Graduate Scholarship - Doctorate   2022
- **Governor General's Silver Medal**   2021
- NSERC Canadian Graduate Scholarship - Masters   2021
- Dean's List   2020
- Jarmila Vlasta Von Drak Thouvenelle Scholarship   2020
- President's Scholarships   2019, 2020, 2021
- Ian & Sheila Barrodale Award in Computer Science & Mathematics   2019
- NSERC Undergraduate Student Awards   2018, 2019
- Jamie Cassels Undergraduate Research Award   2018
- Howard Petch Scholarship   2018
- Clara Evelyn Wilson Scholarship   2018
- Boehm Family Award for Excellence in Science   2018
- Angus & Annie MacKay Scholarship   2017
- President's Scholarships   2016, 2017
- University of Victoria Entrance Scholarship   2015
- Rutherford Scholarship   2014

Volunteering, Mentorship

- Graduate Seminar   Fall 2021
  Mentor; helping three other math graduate students design, typeset, and prepare for poster and seminar presentations
- Students in Undergraduate Mathematics and Statistics   Summers 2018, 2019
  Organized, and presented at, a weekly meeting for undergraduate mathematics research students across the department
- CMS Math Camp   Summer 2018
  Presented a talk on Minkowski Lattices to engaged high school students
- UVic Salsa Club   2015–2018
  Volunteer instructor; drilled and staged dance choreographies for performances
- UVic Chess Club   Winter 2015-Spring 2016
  President; included organizing chess tournaments