

Chris Brimacombe

Email: chris.brimacombe@mail.utoronto.ca

Education

University of Toronto (UofT)	2019–
PhD in Ecology and Evolutionary Biology	
Supervisor: Fortin M-J	
University of Western Ontario (UWO)	2015–2018
BSc (Hons) in Applied Mathematics <i>with distinction</i>	
Supervisors: Zamir M and Corless R	
University of Ottawa	2008–2012
BSc (Hons) in Biology with a Specialization in Ecology	
Supervisors: Leroux S and Findlay CS	

Publications

Under Review

1. **Brimacombe C**, Corless RM, Zamir M. *Elliptic cross sections in blood flow regulation*. SIAM Applied Mathematics.

Articles

9. **Brimacombe C**, Bodner K, Michalska-Smith M, Poisot T, Fortin M-J. *Shortcomings of reusing species interaction networks created by different sets of researchers*. PLOS Biology.
8. **Brimacombe C**, Bodner K, Michalska-Smith MJ, Gravel D, Fortin M-J. *No strong evidence that modularity, specialization, or nestedness are linked to seasonal climatic variability in empirical bipartite networks*. Global Ecology and Biogeography, 2022, 31(12): 2510-2523.
7. **Brimacombe C**, Bodner K, Fortin M-J. *How network size strongly determines trophic specialization: A technical comment on Luna et al. (2022)*. Ecology Letters, 2022, 25(8): 1914–1916.
6. Bodner K, **Brimacombe C**, Fortin M-J, Molnár P. *Why body size matters: How larger fish ontogeny shapes ecological network topology*. Oikos, 2022, 2022(3): e08569.
5. **Brimacombe C**, Corless RM, Zamir M. *Computation and applications of Mathieu functions: A historical perspective*. SIAM Review, 2021, 63(4): 653–720.
4. Fortin M-J, Dale MRT, **Brimacombe C**. *Network ecology in dynamic landscapes*. Proceedings of the Royal Society B, 2021, 288(1949): 20201889.
3. **Brimacombe C**, Bodner K, Fortin M-J. *Inferred seasonal interaction rewiring of a freshwater stream fish network*. Ecography, 2021, 44(2): 219–230.
2. Bodner K, **Brimacombe C**, Chenery ES, Greiner A, McLeod AM, Penk SR, Vargas Soto JS. *Ten simple rules for tackling your first mathematical models: A guide for graduate students by graduate students*. PLOS Computational Biology, 2021, 17(1): e1008539.
1. Leroux SJ, **Brimacombe C**, Khair S, Benidickson J, Findlay CS. *Legislative correlates of the size and number of protected areas in Canadian jurisdictions*. Biological Conservation, 2015, 191: 375–382.

Book Chapters

1. Filotas É, Aquilué N, **Brimacombe C**, Drapeau P, Keeton W, Kneeshaw D, Messier C, Witté I, Fortin M-J. Editors: Girona MM, Morin H, Gauthier S, Bergeron Y. In *Boreal Forests in the Face of Climate Change. Network framework for forest management*. pp. 685–717. Springer, 2023.

Presentations

9. *Seasonal interactions and rewiring in freshwater stream fish networks*. Gordon Conference, 2023.
8. *Shortcomings of reusing species interaction networks created by different sets of researchers*. Species Interaction Journal Club (UofT), 2023.
7. *Empirical networks are messy: Inferential networks and their use across space and time*. Ecological Society of America, 2022.
6. *Are modularity, specialization, or nestedness linked to seasonal climatic variability in bipartite networks across large spatial extents?* Ecological Society of America, 2022.
5. *Do bipartite networks exhibit structural patterns across large spatial extents?* Canadian Society for Ecology and Evolution Annual Meeting, 2021.
4. *The importance of ecological networks*. Atwood Graduate Research Conference, 2021.
3. *Seasonal interactions and rewiring in freshwater stream fish networks*. Ecological Society of America, 2020.
2. *Blood flow in tubes of elliptic cross section*. UWO Undergraduate Applied Math Research Conference, 2018.
1. *Blood flow in tubes of elliptic cross section*. UWO Undergraduate Applied Math Research Conference, 2017.

Honours and Awards

Ontario Graduate Scholarship (\$15,000)	2023
School of Graduate Studies Conference Grant (\$460)	2022
Queen Elizabeth II Graduate Scholarship (\$15,000)	2022
Ontario Graduate Scholarship (\$15,000)	2021
A. Murray Fallis Graduate Award In Zoology (\$3,617)	2020
Minns Family Bursary In Ecology and Evolution (\$196)	2020
Canada Graduate Scholarship-Master's (\$22,333)	2020
Frederick P. Ide Award In Ecology And Evolutionary Biology (\$870)	2019
Best poster at Undergraduate Applied Math Research conference (\$100)	2018
UWO Science undergraduate pre-thesis award (\$4,500)	2016

Invited Working Group

Predicting Networks Over Space (Université de Montréal)	2022
---	------

Workshops

Complex Networks Winter Workshop (University of Vermont @ Québec City)	2019
--	------

Teaching (TA)

EEB365H1 S: Topics in Applied Conservation Biology (UofT)	2019–2022
---	-----------

EEB430H: Modeling in Ecology and Evolutionary Biology (UofT)
BIO2244: Analysis and Interpretation of Biological Data (UWO)

Fall 2019
2014–2015

Skills

Programming: Maple, R, Matlab, and Python
Document presentation: Microsoft Office, L^AT_EX, and the Adobe suite

Volunteer Service

Course on Forecasting and Decision-Making	2023
Health and Safety Representative (UofT)	2020–2021
Undergraduate Society of Applied Math (UWO)	2016–2018

Reviewer

Methods in Ecology and Evolution, Global Ecology and Biogeography, Ecology Letters, and Communications Biology