Chris Brimacombe

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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 with distinction

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

Articles

- 11. Gelmi-Candusso TA, <u>Brimacombe C</u>, Ménard GC, Fortin M-J. *Building urban predator-prey networks using camera traps.* Food Webs, 2023, e00305.
- 10. <u>Brimacombe C</u>, Corless RM, Zamir M. *Elliptic cross sections in blood flow regulation*. AIMS Mathematics, 2023, 8(10): 23108–23145.
- 9. <u>Brimacombe C</u>, Bodner K, Michalska-Smith M, Poisot T, Fortin M-J. *Shortcomings of reusing species interaction networks created by different sets of researchers*. PLOS Biology, 2023, 21(4): e3002068.
- 8. <u>Brimacombe C</u>, 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. <u>Brimacombe C</u>, 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, <u>Brimacombe C</u>, Fortin M-J, Molnár P. Why body size matters: How larger fish ontogeny shapes ecological network topology. Oikos, 2022, 2022(3): e08569.
- 5. <u>Brimacombe C</u>, 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, <u>Brimacombe C</u>. *Network ecology in dynamic landscapes*. Proceedings of the Royal Society B, 2021, 288(1949): 20201889.
- 3. <u>Brimacombe C</u>, Bodner K, Fortin M-J. *Inferred seasonal interaction rewiring of a freshwater stream fish network*. Ecography, 2021, 44(2): 219–230.
- 2. Bodner K, <u>Brimacombe C</u>, 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, <u>Brimacombe C</u>, 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, <u>Brimacombe C</u>, 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 ecology and management.* pp. 685–717. Springer, 2023.

Non-Peer Reviewed

1. <u>Brimacombe C</u>. PLOS Biology's behind the paper: Why we can't tell apart different types of species interaction networks. 2023.

Presentations

10.	Shortcomings of reusing species interaction networks created by different sets of researchers Brimacombe C, Bodner K, Michalska-Smith M, Poisot T, Fortin M-J Ecological Society of America, Portland, Oregon	2023
9.	Seasonal interactions and rewiring in freshwater stream fish networks Brimacombe C, Bodner K, Fortin M-J Gordon Conference, Easton, Massachusetts	2023
8.	Shortcomings of reusing species interaction networks created by different sets of researchers <u>Brimacombe C</u> , Bodner K, Michalska-Smith M, Poisot T, Fortin M-J Species Interaction Journal Club (Uof T), Toronto, Ontario	2023
7.	Empirical networks are messy: Inferential networks and their use across space and time Brimacombe C Ecological Society of America, Montréal, Québec	(Invited) 2022
6.	Are modularity, specialization, or nestedness linked to seasonal climatic variability in bipartite networks across large spatial extents? Brimacombe C, Bodner K, Michalska-Smith MJ, Gravel D, Fortin M-J Ecological Society of America, Montréal, Québec	2022
5.	Do bipartite networks exhibit structural patterns across large spatial extents? Brimacombe C, Bodner K, Michalska-Smith MJ, Gravel D, Fortin M-J Canadian Society for Ecology and Evolution Annual Meeting, Online	2021
4.	The importance of ecological networks Brimacombe C Atwood Graduate Research Conference, Toronto, Ontario	2021
3.	Seasonal interactions and rewiring in freshwater stream fish networks Brimacombe C, Bodner K, Fortin M-J Ecological Society of America, Online	2020
2.	Blood flow in tubes of elliptic cross section Brimacombe C, Corless RM, Zamir M UWO Undergraduate Applied Math Research Conference, London, Ontario	2018
1.	Blood flow in tubes of elliptic cross section Brimacombe C, Corless RM, Zamir M UWO Undergraduate Applied Math Research Conference, London, Ontario	2017

Honours and Awards

Ontario Graduate Scholarship (\$15,000)	2024
Peter Abrams Prize	2023
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)	2019-2023
EEB430H: Modeling in Ecology and Evolutionary Biology (UofT)	Fall 2019
BIO2244: Analysis and Interpretation of Biological Data (UWO)	2014-2015

Volunteer Service

Organizer for the short course on forecasting and decision-making (UofT)	Summer 2023
Health and safety representative (UofT)	2020-2021
Representative of the undergraduate society of applied math (UWO)	2016-2018

Reviewer

Methods in Ecology and Evolution Global Ecology and Biogeography (2) Ecology Letters (2) Communications Biology

Skills

Programming: Maple, R, Matlab, and Python

Document presentation: Microsoft Office, LATEX, and the Adobe suite