

Marie-Josée Fortin, Ph.D., F.R.S.C., University Professor

Curriculum Vitae

BIOGRAPHICAL INFORMATION

Address Department of Ecology and Evolutionary Biology, University of Toronto, Toronto (ON) Canada
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DEGREES

1992-94 Postdoctoral Fellow *Paleoecology and Disturbance Ecology*. Département de biologie and Centre d'études nordiques, Université Laval. Supervisor: Dr. Serge Payette
1993 Cary Summer Research Fellow Cary Institute of Ecosystem Studies, New York. Scientific sponsor: Dr. Charles Canham
1992 PhD *Detection of ecotones: definition and scaling factors*. Department of Ecology and Evolution, State University of New York at Stony Brook, USA. Advisor: Dr. Robert R. Sokal
1986 MSc *Analyse spatiale de la répartition des phénomènes écologiques: Méthodes d'analyse spatiale, théorie de l'échantillonnage*. Département de Sciences biologiques, Université de Montréal. Advisor: Dr. Pierre Legendre
1983 BSc Département de Sciences biologiques, Université de Montréal

POSITIONS

2020- University Professor, Department of Ecology and Evolutionary Biology, University of Toronto
2006- Full Professor, Department of Ecology and Evolutionary Biology, University of Toronto
2001-06 Associate Professor (tenured January 2001), Department of Zoology, University of Toronto
2000-01 Associate Professor, School of Resources and Environmental Management, Simon Fraser University
1999 Associate Professor (tenured June 2000), Département de Géographie, Université de Montréal
1997-99 Assistant Professor, Département de Géographie, Université de Montréal
1994-97 Assistant Professor, Département de Biologie, Université de Sherbrooke
1985 Lecturer of undergraduate course *Biométrie*, Département de Sciences biologiques, U. de Montréal

Appointments

2019- ResNet: A network for monitoring, modeling, and managing Canada's ecosystem services for sustainability and resilience. NSERC Strategic Partnership Grants for Networks—Theme-3 Co-Leader
2017-22 Lake Pulse. NSERC Strategic Partnership Grants for Networks—Theme-3 Leader, Scientific Committee Member
2016-17 NSERC CREATE Enviro Implementation Committee Member
2016- Cross Appointment, Department of Statistics, University of Toronto
2005-21 Cross Appointment, Department of Geography, University of Toronto
2002-19 Cross Appointment, Faculty of Forestry, University of Toronto
2002-05 Summer School Program Director for GEOIDE (NSERC-NCE: Geomatics for Informed Decisions Centre of Excellence Network)
2001-02 Associate Scientific Director for GEOIDE Network (NSERC-NCE: Geomatics for Informed Decisions Centre of Excellence Network)
1998-03 Environment and Marine Thrust Leader for GEOIDE Network (NSERC-NCE: Geomatics for Informed Decisions Centre of Excellence Network)
1994 Visiting Researcher, Department of Ecology and Evolutionary Biology, University of Connecticut

HONOURS

Distinctions

2022 Top scientists ranking for Ecology and Evolution in Canada (34/1000) and the World (497/1000)
2019 In the top 0.01% of all 7 million scientists worldwide, across all disciplines (Ioannidis et al. 2019: PLoS Biol 17, e3000384)
2017 Distinguished Visiting Professor Fellow: Swiss Federal Institute for Forest, Snow & Landscape Research (Zurich, Switzerland)
2016 Fellow of the Royal Society of Canada

- 2016-23 Tier 1 - Canada Research Chair in Spatial Ecology
 2012-15 Distinguished Visiting Professor Fellowship, Science without Borders (CNPq) at INPA (Manaus, Brazil)
 [One month/per year for three years]
 2014 2014 Highly Cited Researchers in Environment/Ecology from Thomson Reuters

Awards

- 2021 JJ Berry Smith Doctoral Supervision Award, University of Toronto
 2019 Canadian Society for Ecology and Evolution (CSEE) President's Award
 2015 Outstanding Scientific Achievements Award from *International Association for Landscape Ecology*
 2013 Distinguished Landscape Ecologist Award from the *International Association for Landscape Ecology-US Chapter* (Since 2019 the International Association for Landscape Ecology-US Chapter as been renamed as the International Association for Landscape Ecology-North America
<http://www.ialena.org/awards.html>)
 2002-07 Premier's Research Excellence Award, Ontario (PREA)
 2001 Women in Geomatics Mentor Award. GEOIDE 3rd Annual Meeting, Fredericton
 2016, -17, -18, -19, -20, -21, -22 Dean's Excellence Award, Faculty Arts and Science, University of Toronto
 2012, -13, -14 Dean's Excellence Award, Faculty Arts and Science, University of Toronto
 2009, -10 Dean's Excellence Award, Faculty Arts and Science, University of Toronto
 2002, -03, -04, -05, -06 Dean's Excellence Award, Faculty Arts and Science, University of Toronto

Scholarships and Fellowships

- 2017 Visiting Professor Fellowship (Swiss Federal Institute for Forest, Snow & Landscape Research)
 1993 Cary Summer Research Fellowship in Ecology. The New York Botanical Garden, Institute of Ecosystem Studies, New York. Scientific sponsor: Dr. Charles Canham
 1992-94 FCAR Postdoctoral Fellowship, Département de Biologie, Centre d'études nordiques, Université Laval. Advisor: Dr. Serge Payette
 1991 Sigma Xi Travel Award, The Scientific Research Society
 1989-90 Grant-in-Aid of Research from Sigma Xi, The Scientific Research Society
 1986-89 Postgraduate Scholarship from NSERC (PhD)
 1987 France-Québec Visiting Fellowship, Laboratoire d'Hydrobiologie Marine, Dr. Michel Amanieu, Montpellier, France (2 months)
 1985 France-Québec Visiting Fellowship, Laboratoire d'Hydrobiologie Marine, Dr. Michel Amanieu, Montpellier, France (4 months)
 1984-85 Postgraduate Scholarship from NSERC (Master)

Appointments to Distinguished Councils

- 2020- Member of the CIEE Management Board
 2019-21 Member of the advisory board for the Quebec Centre for Biodiversity Science (McGill U)
 2015- The United Nations Environment Programme's World Conservation Monitoring Centre (UNEP-WCMC) Connectivity Conservation committee member
 2015-20 Ontario Reptile and Amphibian Research Subcommittee member
 2011-14 Canadian Parks and Wilderness Society (CPAWS): Scientific committee member for the establishment of guidelines for Marine Protected Areas in Canada
 2008-10 Ontario Biodiversity Science Forum. Scientific committee member
 2007-08 NSERC Discovery Accelerator Supplement Life Science Selection Committee (DAS 1070)
 2007-08 Scientific Advisory Group for Woodland Caribou Critical Habitat, Environment Canada
 2001-04 NSERC Evolution and Ecology Grant Selection Committee (GSC 18)

SCHOLARLY AND PROFESSIONAL WORK

REFEREED PUBLICATIONS

Names underlined are my trainees (graduate students, postdoc fellows or interns)

My trainees are the first author, and I am in either the second or last position as the senior author.

I published my research in various journals having all different publication conventions ranging from ecological, methodological or genetic journals where the order of the authors reflects their contribution to the paper or where the senior author is typically last (or second last if co-advisor).

1. [Song C](#), Simmons BI, Fortin M-J, Gonzalez A. 2022. Generalism drives abundance: a computational causal discovery approach. *PLoS Computational Biology*
2. [Greiner A](#), Andrello M, Darling E, Krkošek M, Fortin M-J. 2022. Limited spatial rescue potential for coral reefs lost to future global warming. *Global Ecology and Biogeography*
3. Strydom T, Bouskila S, Banville F, Barros C, Caron D, Dalla Riva GV, Farrell MJ, Fortin M-J, Hemming V, Mercier B, Pollock LJ, Runghen R, Poisot T. 2022. Food web reconstruction through phylogenetic transfer of low-rank network representation. *Methods in Ecology and Evolution*
4. [Brimacombe C](#), Bodner K, Fortin M-J. 2022. How network size strongly determines trophic specialization: a technical comment on Luna et al. (2022). *Ecology Letters* 26:1914-1916
5. Mina M, Messier C, Duveneck M, Fortin M-J, Aquilué N. 2022. Managing for the unexpected: building resilient forest landscapes to cope with global change. *Global Change Biology* 28:4323-4341
6. [Deutsch E](#), Fortin M-J, Cardille JA. 2022. Assessing the current water clarity status of ~ 100,000 lakes across southern Canada: A remote sensing approach. *The Science of the Total Environment* 826:153971
7. [Bodner K](#), [Brimacombe C](#), Fortin M-J, Molnar P. 2022. Why body size matters: how larger fish ontogeny shapes ecological network topology. *Oikos* 2022(3):e08569
8. Galiana N, Lurgi M, Bastazini V, Bosch J, Cagnolo L, Cazelles K, Claramunt B, Emer C, Fortin M-J, Grass I, Hernández-Castellano C, Jauker F, Leroux S, McCann K, McLeod A, Montoya D, Mulder C, Osorio-Canadas S, Reverte S, Rodrigo A, Steffan-Dewenter I, Traveset A, Valverde S, Vázquez D, Wood S, Gravel D, Roslin T, Thuiller W, Montoya JM. 2022. Ecological network complexity scales with area. *Nature in Ecology and Evolution* 6:307-314
9. Felipe-Lucia MR, Guerrero A, Alexander S, Ashander J, Baggio JA, Barnes M, Bodin Ö, Bonn A, Fortin M-J, Friedman R, Gephart J, Helmstedt KJ, Keyes A, Kroetz K, Massol F, Poccock M, Sayles J, Thompson R, Wood S, Dee LE. 2022. Conceptualizing ecosystem services as social-ecological networks. *Trends in Ecology & Evolution* 37: 211-222
10. [Firkowski CR](#), PL Thompson, A Gonzalez, MW Cadotte, M-J Fortin. 2022. Multi-trophic metacommunity interactions mediate asynchrony and stability in fluctuating environments. *Ecological Monographs* 92:e01484

11. [Bodner K](#), [Firkowski CR](#), Bennett J, Brookson C, Dietze M, Green S, Hughes J, Kerr J, Kunegel-Lion M, Leroux S, McIntire E, Molnár P, Simpkins C, Tekwa E, Watts A, Fortin M-J. 2021. Bridging the divide between ecological forecasts and environmental decision-making. *Ecosphere* 12:e03869
12. McLeod A, Leroux S, Gravel D, Chu C, Cirtwill A, Fortin M-J, Galiana N, Poisot T, Wood S. 2021. Sampling and asymptotic network properties of spatial multi-trophic networks. *Oikos* 130: 2250-2259
13. Bertrand P, Bêty J, Yoccoz NG, Fortin M-J, Strøm H, Steen H, Kohler J, Harris S, Patrick S, Chastel O, Blévin P, Hop, H, Moholdt G, Maton J, Descamps S. 2021. Fine-scale spatial segregation in a pelagic seabird driven by differential use of tidewater glacier fronts. *Scientific Reports* 11:22109
14. Matutini F, J Baudry, M-J Fortin, G Pain, J Python. 2021. Integrating landscape resistance and multi-scale predictor of habitat selection for amphibian distribution modelling at large scale. *Landscape Ecology* 36:3557-3571
15. [Firkowski CR](#), [Schwantes A](#), Fortin, M-J, Gonzalez A. 2021. Monitoring social-ecological networks for biodiversity and ecosystem services in human-dominated landscapes. *Facets* 6:1670-1692
16. Hof AR, Montoro Girona M, Fortin M-J, Tremblay JA. 2021. Editorial: Using landscape simulation models to help balance conflicting goals in changing forests. *Frontiers in Ecology and Evolution* 9: 795736
17. Sturtevant BR, Fortin M-J. 2021. Understanding and modeling forest disturbance interactions at the landscape level. Special issue: Using landscape simulation models to help balance conflicting goals in changing forests. *Frontiers in Ecology and Evolution* 9: Article 653647
18. Zhu X, Munno K, Grbic J, Werbovski L, Bikker J, Ho A, Guo E, Sedlak M, Sutton R, Box C, Lin D, Gilbreath A, Holleman R, Fortin M-J, Rochman C. 2021. Holistic assessment of microplastics and other anthropogenic microdebris in an urban bay sheds light on their sources and fate. *ACS ES&T Water* 1, 6:1401–1410
19. [Bani R](#), Marleau J, Fortin M-J, Daigle R, Guichard F. 2021. Dynamic larval dispersal can mediate the response of marine metapopulations to multiple climate change impacts. *Oikos* 130:989-1000
20. [Xuereb A](#), [D'Aloia C](#), [Andrello M](#), Bernatchez L, Fortin M-J. 2021. Incorporating putatively neutral and adaptive genomic data into marine conservation planning. *Conservation Biology* 35:909-920
21. [Blackford C](#), Krkošek M, Fortin M-J. 2021. A data-limited modeling approach for conserving connectivity in Marine Protected Area Networks. *Marine Biology* 168:art86
22. Fortin M-J, Dale MRT, [Brimacombe C](#). 2021. Network ecology in dynamic landscapes. *Proceedings of the Royal Society B: Biological Sciences* 288 (1949):20201889

23. Metzger J-P, Fidelman P, Sattler C, Schröter B, Maron M, Eigenbrod F, Fortin M-J, Hohlenwerger C, Rhodes J. 2021. Connecting governance interventions to ecosystem services provision: a social-ecological network approach. *People and Nature* 3:266-280
24. Deutsch ES, JA Cardille, T Koll-Egyed, M-J Fortin. 2021. Landsat 8 lake water clarity empirical algorithms: Large-scale calibration and validation using government and citizen science data from across Canada. *Remote Sensing* 13:1257
25. Larsen S, Comte L, Filipe AF, Fortin M-J, Jacquet C, Ryser R, Tedesco P, Brose U, Eros T, Giam X, Irving K, Ruhi A, Sharma S, Olden J. 2021. The geography of metapopulation synchrony in dendritic river networks. *Ecology Letters* 24:791-801
→ Media coverage: https://www.idiv.de/en/news/news_single_view/1902.html
26. Rayfield B, V Paul, F Tremblay, M-J Fortin, C Hely, Y Bergeron. 2021. Influence of habitat availability and fire disturbance on the northern range boundary of eastern white cedar (*Thuja occidentalis* L.). *Journal of Biogeography* 48:394-404
27. Brimacombe C, Bodner K, Fortin M-J. 2021. Inferred seasonal interaction rewiring of a freshwater stream fish network. *Ecography*, 44:219-230
28. Mina M, C Messier, M Duveneck, M-J Fortin, N Aquilué. 2021. Network analysis can guide resilience-based management in forest landscapes under global change. *Ecological Applications* 31:e2221
→ Media coverage: <https://www.actualites.uqam.ca/2020/gestion-forestiere-mal-adaptee-changements-climatiques/>
<https://www.esa.org/blog/2020/09/02/the-need-for-smarter-management-for-more-resilient-forests/>
29. Comte L, Carvajal J, Tedesco P, Giam X, Brose U, Eros T, Filipe A, Fortin M-J, Irving K, Jacquet C, Larsen S, Sharma S, Ruhi A, Becker F, Casatti L, Castaldelli G, Dala-Corte R, Davenport S, Franssen N, García-Berthou E, Gavioli A, Guido K, Jimenez-Segura L, Leitão R, McLarney B, Meador J, Milardi M, Moffatt D, Occhi T, Pompeu P, Propst D, Pyron M, Salvador G, Stefferud J, Sutela T, Taylor C, Terui A, Urabe H, Vehanen T, Vitule J, Zeni J, Olden J. 2021. RivFishTIME: A global database of fish time-series to study global change ecology in riverine systems. *Global Ecology and Biogeography* 30:38-50

30. Andrews S, Fortin M-J, Leroux SJ. 2020. Modelling the spatial-temporal distributions and associated determining factors of a keystone pelagic fish. *ICES Journal of Marine Science* 77:2776-2789
31. Morán-Ordóñez A, A Gil-Tena, M de Cáceres, A Duane, CA Guerra, I Geijzendorffer, M-J Fortin, L Brotons. 2021. Future impact of climate extremes in the Mediterranean: soil erosion projections when fire and extreme rainfall meet. *Land Degradation & Development* 31: 3040-3054
32. Laubmeier A, Cazelles B, Cuddington K, Erickson KD, Fortin M-J, Ogle K, Wikle CK, Zhu K, Zipkin E. 2020. Ecological dynamics: integrating empirical, statistical, and analytical methods. *Trends in Ecology & Evolution* 35:1090-1099
33. Kelly LT, Giljohann KM, Duane A, Aquilué N, Archibald S, Batllori E, Bennett AF, Buckland ST, Canelles Q, Clarke MF, Fortin M-J, Hermoso V, Herrando S, Keane RE, Lake FK, McCarthy MA, Morán-Ordóñez A, Parr CL, Pausas JG, Penman TD, Regos A, Rumpff L, Santos JL, Smith AL, Syphard AD, Tingley MW, Brotons L. 2020. Fire and biodiversity in the Anthropocene. *Science* 370 (6519):eabb0355
34. Vernouillet A, Fortin M-J, Fiola M-L, Villard M-A. 2020. Do female songbirds avoid a mammalian nest predator when selecting their nest site? *Frontiers in Ecology and Evolution* 8:407
35. Morin S, Bowman J, Marrotte R, Fortin M-J. 2020. Fine-scale habitat selection by sympatric Canada lynx and bobcat. *Ecology and Evolution* 10:9396-9409
36. Robert L-E, Sturtevant B, Kneeshaw D, James P, Fortin M-J, Wolter P, Townsend P, Cooke B. 2020. Forest landscape structure governs the cyclic-eruptive spatial dynamics of forest tent caterpillar outbreaks. *Ecosphere* 11(8):e03096
37. Jin LS, D Yin, M-J Fortin, M Cadotte. 2020. The mechanisms generating community phylogenetic patterns change with spatial scale. *Oecologia* 193:655-664
38. Erős T, L Comte, AF Filipe, A Ruhi, PA Tedesco, U Brose, M-J Fortin, X Giam, K Irving, C Jacquet, S Larsen, S Sharma, JD Olden. 2020. Effects of nonnative species on the stability of riverine fish communities. *Ecography* 43:1156-1166
39. Brice M-H, S Vissault, W Vieira, D Gravel, P Legendre, M-J Fortin. 2020. Moderate disturbances accelerate forest transition dynamics under climate change in the temperate-boreal ecotone of eastern North America. *Global Change Biology* 26:4418-4435
40. Bodner K, M-J Fortin, P Molnár. 2020. Making predictive modelling ART: Accurate, Reliable and Transparent. *Ecosphere* 11(6):e03160

41. Edge C, M-J Fortin. 2020. Habitat network topology influences the importance of ecological traps in metapopulations. *Ecosphere* 11(5):e03146
42. Aquilué N, É Filotas, D Craven, M-J Fortin, L Brotons, C Messier. 2020. Evaluating forest resilience to global threats using functional response traits and network properties. *Ecological Applications* 30(5):e02095
43. Andrello M, De Villemereuil P, Carboni M, Busson D, Fortin M-J, Gaggiotti O, Till-Bottraud I. 2020. Accounting for stochasticity in demographic compensation along the elevational range of an alpine plant. *Ecology Letters* 23:870-880
44. Huang J-L, M Andrello, A Camargo Martensen, S Saura, D-F Liu, J-H He, M-J Fortin. 2020. Importance of spatio-temporal connectivity to maintain species experiencing range shifts. *Ecography* 43:591-603
→ Media coverage: <http://conservationcorridor.org/2020/05/spatio-temporal-range-shifts/>
45. Aquilué N, Fortin M-J, Messier C, Brotons L. 2020. The potential of agricultural conversion to shape forest fire regimes in Mediterranean landscapes. *Ecosystems* 23:34-51
46. Terrail R, Morin-Rivat J, de Lafontaine G, Fortin M-J, Arseneault D. 2020. Effects of 20th-century settlement fires on landscape structure and forest composition in Eastern Québec, Canada. *Journal of Vegetation Science* 31:42-50
47. Bargelt L, M-J Fortin, D Murray. 2020. Assessing connectivity and the contribution of private lands to protected area networks in the United States. *PLoS ONE* 15(3):e0228946

48. Brice M-H, K, Cazelles, P Legendre, M-J Fortin. 2019. Disturbances amplify tree community responses to climate change in the temperate-boreal ecotone. *Global Ecology Biogeography* 8:1668-1681
49. Frishkoff LO, DL Mahler, M-J Fortin. 2019. Integrating over uncertainty in spatial scale of response within multispecies occupancy models yields more accurate assessments of community composition. *Ecography* 42:2132-2143
50. Billerman SM, BR Jesmer, AG Watts, PE Schlichting, M-J Fortin, WC Funk, P Hapeman, E Muths, MA Murphy. 2019. Testing theoretical metapopulation conditions with genotypic data from boreal chorus frogs. *Canadian Journal of Zoology* 97:1042-1053
51. Terrail R, Dupuis S, Danneyrolles V, Fortin M-J, Boucher Y, Arseneault D. 2019. *Editors' Award for 2019*. Reorganization of tree assemblages over the last century in the northern hardwoods of eastern Canada. *Applied Vegetation Science* 22:474-483
52. Darling ES, TR McClanahan, J Maina, G Gurney, NAJ Graham, F Januchowski-Hartley, JE Cinner, C Mora, CC Hicks, E Maire, M Puotinen, WJ Skirving, M Adjeroud, G Ahmadi, R Arthur, AG Bauman, M Beger, M Berumen, L Bigot, J Bouwmeester, A Brenier, T Bridge, E Brown, SJ Campbell, S Cannon, B Cauvin, C Allen Chen, J Claudet, V Denis, S Donner, E Estradivari, N Fadli, DA Feary, D Fenner, H Fox, EC Franklin, A Friedlander, J Gilmour, C Goiran, J Guest, J-PA Hobbs, AS Hoey, P Houk, S Johnson, S Jupiter, M Kayal, C-Y Kuo, J Lamb, MAC Lee, J Low, N Muthiga, E Muttuqaqin, Y Nand, KL Nash, O Nedlic, JM Pandolfi, S Pardede, L Penin, L Ribas-Deulofeu, Z Richards, TE Roberts, KS Rodgers, CD Mohd Safuan, E Sala, G Shedrawi, TM Sin, P Smallhorn-West, JE Smith, B Sommer, PD Steinberg, M Sutthacheep, CHJ Tan, GJ Williams, S Wilson, T Yeemin, JF Bruno, M-J Fortin, M Krkosek, D Mouillot. 2019. Social-environmental drivers inform strategic management of coral reefs in the Anthropocene. *Nature Ecology & Evolution* 3:1341-1350 [**Highly Cited Paper**]
→ Media coverage: [CNN](#), [Forbes](#) and [Radio Australia](#); [News and Views perspective](#) by Simon Brandl; Nature Ecology and Evolution blog on, [Big data and bigger collaborations](#)
53. de Aguiar MAM, EA Newman, MM Pires, JD Yeakel, C Boettiger, LA Burkle, D Gravel, PR Guimarães Jr., JL O'Donnell, T Poisot, M-J Fortin, D H Hembry. 2019. Revealing biases in the sampling of ecological interaction networks. *PeerJ* 7: e7566 DOI 10.7717/peerj.7566
54. Huot Y, CA Brown, G Potvin, D Antoniadis, HM Baulch, BE Beisner, S Bélanger, S Brazeau, H Cabana, JA Cardille, PA del Giorgio, I Gregory-Eaves, M-J Fortin, AS Lang, I Laurion, R Maranger, YT Prairie, JA Rusak, PA Segura, R Siron, JP Smol, RD Vinebrooke, DA Walsh. 2019. The NSERC Canadian Lake Pulse Network: A national assessment of lake health providing science for water management in a changing climate. *Science of the Total Environment* 695:133668
55. Albouy C, P Archambault, W Appeltans, MB Araújo, K Cazelles, AR Cirtwill, M-J Fortin, SJ Leroux, L Pellissier, T Poisot, DB Stouffer, S Wood, D Gravel. 2019. The marine fish food web is globally connected. *Nature Ecology & Evolution* 3:1153-1161
→ Media coverage: <https://www.quebecscience.qc.ca/sciences/les-10-decouvertes-de-2019/carte-interactions-entre-poissons/>
56. Lesneski KC, D'Aloia CC, Fortin M-J, Buston PM. 2019. Disentangling the spatial distributions of a sponge-dwelling fish and its host sponge. *Marine Biology* 166(5):66

57. Martínez-Minaya J, Conesa D, Fortin M-J, Alonso-Blanco C, Picó X, Marcer A. 2019. A hierarchical Bayesian Beta regression approach to study the effects of geographic genetic structure and spatial autocorrelation on species distribution range shifts. *Molecular Ecology Resources* 19:923-943
58. Peterson E, Hanks E, Hooten M, Ver Hoef J, Fortin M-J. 2019. Spatially-structured statistical network models for landscape genetics. *Ecological Monographs*, 89 (2):e01355
59. De Cáceres M, Coll L, Legendre P, Allen R, Wiser S, Fortin M-J, Condit R, Hubbell S. 2019. Trajectory analysis in community ecology. *Ecological Monographs* 89 (2):e01350
60. Nathan LR, N Mamoozadeh, HR Tumas, S Gunselman, K Klass, A Metcalfe, C Edge, L Waits, P Spruell, E Lowery, E Connor, A Bearlin, M-J Fortin, E Landguth. 2019. A spatially-explicit, individual-based demogenetic simulation framework for evaluating hybridization dynamics. *Ecological Modelling* 401:40-51
61. Messier C, J Bauhus, F Doyon, F Maure, R Sousa-Silva, P Nolet, M Mina, N Aquilué, M-J Fortin, K Puettmann. 2019. The functional complex network approach to foster forest resilience to global change. *Forest Ecosystems* 6:21 [**Highly Cited Paper+Hot Paper**]
62. Šimová P, V Moudrý, J Komárek, K Hrach, M-J Fortin. 2019. Fine scale waterbody data improve prediction of waterbird occurrence despite coarse species data. *Ecography* 42:511-520
63. Bani R, M-J Fortin, R Daigle, F Guichard. 2019. Dispersal traits interact with dynamic connectivity to affect metapopulation growth and stability. *Theoretical Ecology* 12:111-127
64. Rivkin LR, Santangelo J, Alberti M, Aronson M, de Keyser C, Diamond S, Fortin M-J, Frazee L, Gorton A, Hendry A, Liu Y, Losos J, MacIvor S, Martin R, McDonnell M, Miles L, Munshi-South J, Ness R, Newman A, Stothart M, Theodorou P, Thompson K, Verrelli B, Whitehead A, Winchell K, Johnson M. 2019. A roadmap for urban evolutionary ecology. *Evolutionary Applications* 12:384-398 [**Highly Cited Paper**]
65. D'Aloia CC, I Naujokaitis-Lewis, C Blackford, C Chu, J Curtis, E Darling, F Guichard, SJ Leroux, AC Martensen, B Rayfield, J Sunday, A Xuereb, M-J Fortin. 2019. Coupled networks of permanent protected areas and dynamic conservation areas for biodiversity conservation under climate change. *Frontiers in Ecology and Evolution* 7:27
66. Bastin L, N Gorelick, S Saura, M-J Fortin, G Dubois, B Bertzky, J-F Pekel. 2019. Inland surface waters in protected areas globally: current coverage and 30-year trends. *PloS ONE* 14(1):e0210496
67. Delmas E, M Besson, M-H Brice, L Burkle; G Dalla Riv, M-J Fortin, D Gravel, P Guimaraes, D Hembry, E Newman, J Olesen, M Pires, J Yeakel, T Poisot. 2019. Analyzing ecological networks of species interactions. *Biological Reviews* 94:16-36 [**Highly Cited Paper**]
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68. D'Aloia C, Xuereb A, Fortin M-J, Bogdanowicz S, Buston P. 2018. Limited dispersal explains the spatial distribution of siblings in a reef fish population. *Marine Ecology Progress Series* 607:143-154
69. Xuereb A, CM Kimber, JMR Curtis, L Bernatchez, M-J Fortin. 2018. Putatively adaptive genetic variation in the giant California sea cucumber (*Parastichopus californicus*) as revealed by environmental association analysis of RADseq data. *Molecular Ecology* 27:5035-5048
70. Robert L-E, Sturtevant BR, Cooke BJ, James PMA, Fortin M-J, Townsend PA, Wolter PT, Kneeshaw D. 2018. Landscape host abundance and configuration regulate periodic outbreak behavior in spruce budworm (*Choristoneura fumiferana* Clem.). *Ecography* 41:1556-1571
71. Watts AG, S Saura, C Jardine, P Leighton, L Werden, M-J Fortin. 2018. Host functional connectivity and the spread potential of Lyme disease. *Landscape Ecology* 33:1925-1938
72. Bauman D, M-J Fortin, T Drouet, S Dray. 2018. Optimizing the choice of a spatial weighting matrix in eigenvector-based methods. *Ecology* 99:2159-66
73. Chin ATM, J Linke, M Boudreau, M-H Thériault, SC Courtenay, R Cormier, M-J Fortin. 2018. Beta diversity changes in estuarine fish communities due to environmental change. *Marine Ecology Progress Series* 603:161-173
74. Dalongeville A, M Andrello, D Mouillot, S Lobreaux, M-J Fortin, F Lasram, J Belmaker, D Rocklin, S Manel. 2018. Geographic isolation and larval dispersal shape seascape genetic patterns differently according to spatial scale. *Evolutionary Applications* 11:1437-1447
75. Draheim HM, JA Moore, M-J Fortin, KT Scribner. 2018. Beyond the snapshot: Landscape genetic analysis of time series data reveal responses of American black bears to landscape change. *Evolutionary Applications* 11:1219-1230
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PAPERS PRESENTED AT MEETINGS AND SYMPOSIA

Plenary Speaker

1. Fortin M-J. 2019. Ecological networks in dynamic landscapes. CSEE President's Award Talk. Fredericton, NB
2. Fortin M-J. 2018. Playing the research game: Bouncing back from rejection and disappointment. Biology Graduate Research Symposium 2018. Queen's University, Kingston
3. Fortin M-J. 2018. Écologie spatiale de l'échelle locale à régionale. Colloque du Centre d'étude de la forêt, Université Laval, Québec
4. Fortin M-J. 2016. Network theory to study spatially ecological processes. Québec Centre for Biodiversity Science (QCBS) Symposium, McGill University, Montréal
5. Fortin M-J. 2016. Network theory to study spatially ecological processes. International Statistical Ecology Conference (ISEC) Seattle, WA
6. Fortin M-J. 2006. Landscape connectivity to select protected areas. Ontario Ecology and Ethology Conference (OE3C), Brock University, Ontario

Keynote Speaker

1. Fortin M-J. 2021. Ecological networks in dynamic landscapes. Virtual Oikos Finland 2021 Conference.
2. Fortin M-J. 2019. Ecological networks in dynamic landscapes. Summer School in Biodiversity Modelling (BIOS²; August 22nd, Orford Musique, Quebec)
3. Fortin M-J. 2018. Conundrum of Connectivity for Conservation. Connectivity conservation: from science to solutions. Symposium. Quebec Center for Biodiversity Science. Concordia University
4. Fortin M-J. 2018. Spatial ecology: from local to regional scales. Biology Graduate Research Symposium 2018. Queen's University, Kingston

Kolshorn Lectures-University of Minnesota:

5. Public talk: Fortin M-J. 2017. How species persistence is influenced by global change. University of Minnesota
6. Research talk: Fortin M-J. 2017. Connectivity for conservation in fragmented landscapes. Univ. of Minnesota
7. Fortin M-J. 2017. Ecological connectivity research in BC. Marine Ecological Connectivity Workshop (Hosted by CHONeII and CPAWS). Vancouver
8. Fortin M-J. 2017. Connectivity analyses accounting for stepping-stone patches in fragmented landscapes. Conservation Biology Institute, Corvallis, Oregon [Webinar: 110 registered participants]
9. Fortin M-J. 2015. Analysis of ecological data: From spatial to spatio-temporal analysis. Spatial Ecology and Conservation 3 Meeting, Bristol, UK
10. Fortin M-J. 2015. Analysis of aquatic ecosystems: The need for spatio-temporal approaches. ACCESS 2015, St. Andrews Biological Station, NB
11. Fortin M-J. 2013. Global change and species distribution. 40th year of Biology; York University
12. Fortin M-J. 2011. Species geographical range shifts due to global change: adding the temporal dimension to species distribution models. Field Institute: Biomathematics & Biostatistics (BioM&S) symposium at the University of Guelph (April 28, 2011)
13. Fortin M-J. 2011. How to incorporate habitat connectivity in metacommunity models. Community Phylogenetics Workshop, UQAM, Montréal

Larry Slotdobkin Seminar Series: Ecologist 2010. Department of Ecology & Evolution. State University of New York at Stony Brook:

14. Public talk: Fortin M-J. 2010. Species range expansion: A multiscale analysis. SUNY Stony Brook

15. Research talk: Fortin M-J. 2010. Selection of protected areas in fragmented landscapes. SUNY Stony Brook
 16. Fortin M-J. 2009. Landscape configuration effects on animal movement. Société Québécoise pour l'Étude Biologique du Comportement (SQÉBC) Trois-Rivières
 17. Fortin M-J. 2009. Women as Leaders. Symposium for Women Entering Ecology and Evolution Today (SWEEET). CSEE Meeting Halifax
 18. Fortin M-J, SJ Melles. 2009. Landscape spatial heterogeneity: scale, modeling and connectivity. Extending Forest Inventory and Monitoring. IUFRO Division 4, Québec
 19. Fortin M-J, A Polawoska, S Payette. 2009. Will Climate Change Affect the Boreal-Tundra Ecotone? *Ecological and Evolutionary Implications of Climate Change Symposium*. (Lakehead University, Thunder Bay)
 20. Fortin M-J, H Asselin, S Payette. 2009. Climate Change & Species Distribution: How Fast Can Plant Move? *Ecological and Evolutionary Implications of Climate Change Symposium*. (Lakehead University, Thunder Bay)
 21. Fortin M-J. 2009. Landscape spatial heterogeneity: Scales, Models and Connectivity. *Spatial Knowledge and Information Canada Meeting* (Fernie, BC)
 22. Fortin M-J. 2009. Spatial Statistics and Geomatics. *GEOIDE GSN Workshop* (Ryerson University, Toronto)
 23. Fortin M-J. 2008. Genetic boundary and connectivity: The importance of landscape ecology and spatial statistics. Landscape Genetics Workshop, Grenoble, France
 24. Devillers R, Mostafavi MA, Fortin M-J, Rose G. 2008. GeoCod – Integrating fisheries and environmental data for a better understanding of spatial and temporal changes of four key species in the NW Atlantic region. Keynote address at the Northwest Atlantic Fisheries Organisation (NAFO) Scientific Council Meeting. Halifax (NS), Canada, June 2008
- Distinguished Ecologists Seminar Series 2007, Graduate Degree Program in Ecology, Colorado State University:
25. Fortin M-J. 2007. Spatial analysis: The good, the bad and the ugly. Colorado State University
 26. Fortin M-J. 2007. Spatial graph theory: From boundary detection to landscape connectivity. Colorado State U
 27. Fortin M-J. 2007. Species spatial requirements to select protected areas. Colorado State University

Panelist

- | | |
|------|--|
| 2021 | Resilient Aquatic and Terrestrial Ecosystems Roundtable [SC2050 / CS2050 (EC/EC)] |
| 2021 | Landscape Analysis, 13th Canadian Science Policy Conference, Building Forward Better (November 18) |
| 2021 | Mitacs Panel Discussion. FAS, University of Toronto (March 31) |
| 2021 | From Species-Environment Relationships to Animal Movement. Canadian Section/Ontario Chapter of The Wildlife Society (March 13) |
| 2009 | <i>Steps to Success in an Academic Career: Academic Choices and Challenges Workshop</i> , University of Toronto (April 16) |
| 2005 | <i>Career in Academia: A Workshop for Women Graduate Students and Post Docs</i> (March 3, 2005), University of Toronto |
| 2004 | <i>New Faculty Orientation Session Agenda</i> (September 2nd, 2004), University of Toronto |

INVITED LECTURES

1. Fortin M-J. 2022. Bridging the divide between ecological forecasts and environmental decision-making. Canadian Enviro-Eco Decision and Risk Group
2. Fortin M-J. 2022. Ecological networks in dynamic landscapes. EBIO Seminar Series, University of Colorado Boulder
3. Fortin M-J. 2021. Forest Resilience to Climate Change and Disturbances: From Tree Functional Traits to Forest Stand Network's Properties. Centre for Global Change Science, University of Toronto
4. Fortin M-J. 2021. Ecological networks in dynamic landscapes. Talkboctopus: A Virtual Complex Systems & Data Science Seminar Series, Vermont Complex Systems Center.
5. Fortin M-J. 2020. Ecological networks in dynamic landscapes. University of Alberta, Edmonton
6. Fortin M-J. 2020. Monitoring ecosystem services. McGill University-Macdonald Campus
7. Fortin M-J. 2020. Écologie spatiale: l'importance des échelles spatio-temporelles. Université de Montréal, Montréal
8. Fortin M-J. 2019. Ecological networks in dynamic landscapes. Ryerson University, Toronto
9. Fortin M-J. 2019. Ecological networks in dynamic landscapes. York University, Toronto
10. Fortin M-J. 2019. Ecological networks in dynamic landscapes. National Wildlife Research Centre Seminar Series, Ottawa

11. Fortin M-J. 2017. Connectivity for conservation in fragmented landscapes. Department of Biology, Memorial University
12. Fortin M-J. 2017. Connectivité pour la conservation. IRSTEA (Institut National de Recherche en Sciences et Technologies pour l'Environnement et l'Agriculture) Montpellier, France
13. Fortin M-J. 2017. How species persistence is influenced by global change. ETH, Zurich, Switzerland
14. Fortin M-J. 2017. How species persistence is influenced by global change. University of Zurich, Zurich, Switzerland
15. Fortin M-J. 2017. How species persistence is influenced by global change. WSL, Zurich, Switzerland
16. Fortin M-J. 2017. How species persistence is influenced by global change. Department of Biology, Université de Lausanne, Lausanne, Switzerland
17. Fortin M-J. 2017. How species persistence is influenced by global change. European Commission, Joint Research Centre, Ispra, Italy
18. Fortin M-J. 2017. How species persistence is influenced by global change. Department of Biology, Université de Lyon 1 – CNRS, Lyon, France
19. Fortin M-J. 2017. How species persistence is influenced by global change. Department of Biometry and Environmental System Analysis, University of Freiburg, Germany
20. Fortin M-J. 2017. Network theory to study ecological processes. (Invited by the Biology Graduate Students Association) Concordia University, Montréal
21. Fortin M-J. 2017. Network theory to study ecological processes. University of Florida, Gainesville, FL
22. Fortin M-J. 2016. Connectivity for conservation in forested ecosystems. Ecology, Evolution and Conservation of Forest Biodiversity Graduate Course (Invited by the graduate students), Oregon State University, Corvallis, Oregon
23. Fortin M-J. 2016. Network theory to study ecological processes. Université du Québec en Outaouais (UQO), Ripon, Québec
24. Fortin M-J. 2016. Connectivity for conservation in forested ecosystems. NSERC CREATE Forest Complexity Modelling-Summer School, Biological Station, Université de Montréal
25. Fortin M-J. 2015. Landscape genetics. Universidade Estadual Paulista, Rio Claro, Brazil
26. Fortin M-J. 2015. Species range of birds. Universidade Federal do Amapá, Macapá, Brazil
27. Fortin M-J. 2015. Species range of birds. INPA, Manaus, Brazil
28. Fortin M-J. 2014. Spatial Ecology: From conservation, epidemiology to genetics. McGill University
29. Fortin M-J. 2014. Spatial Ecology, landscape epidemiology and landscape genetics. Environment Canada (Ottawa)
30. Fortin M-J. 2013. Global change and species distribution. Queen's University
31. Fortin M-J. 2012. Landscape and genetic connectivity based on graph theory. York University
32. Fortin M-J. 2012. Landscape and genetic connectivity based on graph theory. Brock University
33. Fortin M-J. 2011. Spatial graph theory for boundary detection to landscape connectivity. São Paulo Summer School on Ecological Networks (São Paulo, Brazil)
34. Fortin M-J. 2011. Graphs for ecologists. São Paulo Summer School on Ecological Networks (São Paulo, Brazil)
35. Fortin M-J. 2011. Species range expansion and global change. Carleton University, Ottawa
36. Fortin M-J. 2011. Species range expansion and global change. Guelph University, Ontario
37. Fortin M-J. 2011. Use of resistance surfaces for landscape genetic studies. Institute for Applied Ecosystems Studies, US Forest Service, Northern Research Station, Rhinelander, WI
38. Fortin M-J. 2011. Species geographical range shifts due to global change: adding the temporal dimension to species distribution models. National Forest Office, Rhinelander, WI
39. Fortin M-J. 2010. Use of resistance surfaces for landscape genetic studies. Dalhousie University, NS
40. Fortin M-J. 2010. La diversité génétique environnementale et la théorie des graphes: l'importance du paysage. Université Laval
41. Fortin M-J. 2010. L'expansion de l'aire de répartition: une étude à plusieurs échelles Université de Sherbrooke
42. Fortin M-J. 2010. Use of resistance surfaces for landscape genetic studies. Western University, Ontario
43. Fortin M-J. 2009. Conservation of biodiversity: Too few or too much data? It is all a question of scale! Department of Biology, McGill University
44. Fortin M-J. 2008. Spatial graph theory: From boundary detection to habitat connectivity. Department of Fish & Wildlife Resources, University of Idaho
45. Fortin M-J. 2008. Species spatial requirements to select protected areas. Department of Fish & Wildlife Resources, University of Idaho

46. Fortin M-J. 2008. Spatial graph theory: From boundary detection to habitat connectivity. Department of Biology, Queen's University
47. Fortin M-J. 2008. La théorie des graphes: de la détection des frontières à la connectivité des habitats. Département de Biologie, Université Laval
48. Fortin M-J. 2008. Spatial graph theory: From boundary detection to landscape connectivity. Center for Spatial Analysis, McMaster University
49. Fortin M-J. 2007. Spatial graph theory: From boundary detection to landscape connectivity. Department of Biology, McGill University
50. Fortin M-J. 2007. Spatial graph theory: From Boundary detection to landscape connectivity. Department of Statistics, The University of Auckland, New Zealand
51. Fortin M-J. 2007. Species spatial requirements to select protected areas. The Ecology Center, The University of Queensland, Australia
52. Fortin M-J. 2007. Spatial graph theory: From boundary detection to landscape connectivity. School of Botany, University of Melbourne, Australia
53. Fortin M-J. 2007. Species spatial requirements to select protected areas. School of Botany, University of Melbourne, Australia
54. Fortin M-J. 2007. Spatial graph theory: From boundary detection to landscape connectivity. Sierra Legal, Toronto
55. Fortin M-J. 2006. Spatial graph theory: From boundary detection to landscape connectivity. Department of EEB, University of Toronto
56. Fortin M-J. 2006. L'analyse spatiale des données écologiques: les mythes et les défis. Département des Sciences Biologiques, Université du Québec à Montréal
57. Fortin M-J. 2006. Spatial graph theory: From boundary detection to landscape connectivity. Department of Biology, University of Ottawa
58. Fortin M-J. 2006. Spatial graph theory: From boundary detection to landscape connectivity. Biology Department, Concordia University
59. Fortin M-J, B Rayfield. 2006. Determining protected areas in multiple-uses landscapes: a spatial analysis perspective. Biology Department, Carleton University
60. Fortin M-J. 2006. Determining protected areas in multiple-uses landscapes: a spatial analysis perspective. Watershed Ecosystems Graduate Program, Trent University
61. Fortin M-J. 2006. Processes, Spatial patterns, scales and their interactions: A spatial analysis perspective. Uncertainty in Ecological Analysis Workshop. Mathematical Biosciences Institute, The Ohio State University
62. Fortin M-J. 2005. Ecology and null models. Neutral Model: Simulation Algorithms for Spatial Pattern Recognition Workshop. Biomedware, Ann Arbor, MI
63. Fortin M-J. 2005. Différentes méthodes de mesure des propriétés spatiales des écosystèmes forestiers. *Modélisation spatiale dans le cadre des sciences géomatiques, géographiques et forestières*. AGÉOFOR (Association des étudiants gradués en géomatique, géographie et foresterie de l'Université Laval), Université Laval
64. Fortin M-J. 2005. Structural to Functional Landscape Connectivity. Swiss Federal Institute for Forest, Snow and Landscape Research (WSL)
65. Fortin M-J. 2004. From structural to functional landscape connectivity. Department of Biology, McMaster University
66. Fortin M-J. 2003. Synergistic impacts of fire and harvesting in boreal forest: A landscape modeling approach, Ecology, Evolutionary Biology and Behaviour Program, Michigan State University (co-sponsored by NSF BioComplexity Program)
67. Fortin M-J. 2003. Structural and functional properties of forest edges, Ecology, Evolutionary Biology and Behaviour Program, Michigan State University (co-sponsored by NSF BioComplexity Program)
68. Fortin M-J. 2001. Bird responses to landscape fragmentation: from the data to the model. Department of Biology, University of Toronto at Mississauga
69. Fortin M-J. 2001. Bird responses to landscape fragmentation: from the data to the model. Biology Department, Carleton University, Ottawa
70. Fortin M-J. 2001. Bird responses to landscape fragmentation: from the data to the model. Department of Zoology, University of Toronto
71. Fortin M-J. 2001. Spatial relationship between bird and vegetation sharp and soft boundaries. Ecology, Evolution and Biodiversity Seminar, University of British Columbia, Vancouver

72. Fortin M-J. 1997. How to assess the spatial relationships between ecological boundaries. University of Connecticut, Storrs
73. Fortin M-J. 1997. Les effets de l'anisotropie du paysage sur les campagnes d'échantillonnage. GRIL, Université de Montréal
74. Fortin M-J. 1997. Cartographie des contraintes biophysiques pour les sites d'épandage de boues de la station d'épuration du Lac-Mégantic. Vivre avec les risques? De l'analyse à la prévention. 2e Colloque en Environnement, Université de Montréal
75. Fortin M-J. 1997. How to quantify spatial overlap between vegetation and environmental boundaries. College of Forestry, Fish and Wildlife, University of Idaho, Moscow, Idaho
76. Fortin M-J. 1997. Ecological hypotheses and randomization tests. Biomathematics Program and Department of Zoology, North Carolina State University, Raleigh, NC
77. Fortin M-J. 1997. Ecological hypotheses and randomization tests. Department of Zoology, UBC, Vancouver
78. Fortin M-J. 1997. How to assess spatial relationships between ecological boundaries. Department of Zoology, UBC, Vancouver
79. Fortin M-J. 1997. Comment quantifier la relation spatiale entre des frontières écologiques? GREF, UQAM, Montréal
80. Fortin M-J. 1996. Analyse multidimensionnelle de données écologiques. Agriculture Canada, St-Jean-sur-Richelieu
81. Fortin M-J. 1996. Analyses spatio-temporelles de données écologiques. Jardin Botanique, Université de Montréal
82. Fortin M-J. 1996. How to assess spatial relationships between ecological boundaries. Department of Zoology, University of Toronto
83. Fortin M-J. 1996. Comment quantifier la relation spatiale entre des frontières écologiques. Département de mathématique, UQAM, Montréal
84. Fortin M-J. 1995. How to compare vegetation and environmental boundaries. Department of Biology, St-Mary's University, Halifax
85. Fortin M-J. 1995. Analyses spatio-temporelles de données écologiques: de la végétation au saumon. Conférences du Centre de Recherche en Biologie Forestière, Université Laval, Sainte-Foy
86. Fortin M-J. 1995. Comment délimiter de façon significative des frontières entre des communautés végétales à partir de données de terrain. Centre d'Écologie Fonctionnelle et Évolutive, C.N.R.S., Montpellier, France
87. Fortin M-J. 1994. Delineation of ecotones: ecological, geographical and statistical problems. Department of Biology, University of New Mexico, Albuquerque
88. Fortin M-J. 1994. How to compare vegetation and environmental boundaries. Department of Biology, University of New Mexico, Las Cruces
89. Fortin M-J. 1994. Délimitation de frontières: problèmes écologiques, problèmes géographiques et problèmes statistiques. Département de Géographie et CARTEL, Université de Sherbrooke, Sherbrooke
90. Fortin M-J. 1994. L'analyse de la distribution spatiale des feux du nord du Québec. Centre de Recherche en Géomatique, Université Laval, Sainte-Foy
91. Fortin M-J. 1993. Délimitation de frontières: problèmes écologiques, problèmes géographiques et problèmes statistiques. 8ième Colloque de Statistique. Département de mathématiques et de statistiques, Université Laval
92. Fortin M-J. 1993. Effects of spatial autocorrelation in ecological studies. Canadian Wildlife Service, Vancouver
93. Fortin M-J. 1993. Effects of spatial autocorrelation in ecological studies. Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, Tennessee
94. Fortin M-J. 1993. Délimitation de frontières: problèmes statistiques, géographique et écologiques. Département de géographie, Université de Montréal
95. Fortin M-J. 1993. Detection of ecotones: ecological and statistical problems. Savannah River Ecology Laboratory, Wetlands Ecology Division, South Carolina
96. Fortin M-J. 1992. Sugar maple decline in southern Québec. Laboratory of Tree-Ring Research, University of Arizona, Tuscon, Arizona
97. Fortin M-J. 1992. Detection of ecotones: ecological and statistical problems. Department of Ecology and Evolution, University of Arizona, Tuscon, Arizona
98. Fortin M-J. 1992. Effects of scaling factors in ecological measures of spatial autocorrelation. Department of Forest Science, Corvallis, Oregon

TRAINING**POSTDOCTORAL FELLOWS SUPERVISED****Research Associate**

2018 Andrelo M. Landscape genomics. Department of EEB, University of Toronto

Postdoctoral Fellows

2021- Schwantes A. Monitoring ecosystem services. Department of EEB, University of Toronto
 2020- Song C. Spatial species interactions. McGill/UofT.
 2020- Firkowski C. How to monitor ecosystem services. McGill/UofT.
 2019- Gelmi-Candusso T. Mobile species in the GTA. Department of EEB, University of Toronto

Alumni

2021-22 Baines C. Dispersal in network of habitat patches. Department of EEB, University of Toronto
 2019-21 Deutsch E. Lake health assessed by environmental conditions. Department of EEB, University of Toronto
 [Advisor: M-J Fortin; Co-Advisor: J Cardille-McGill University]
 2019-21 Livingstone S. Structural connectivity for Canadian Protected Areas. Department of EEB, University of
 Toronto
 2018-20 Chin A. Natural heritage system evaluation 10 years after.
 →{MITACS TRCA-UofT Postdoc; Research Scientist TRCA}
 2017-20 Franckowiak R. NSERC Strategic Program. Landscape genomics of Arctic Seabirds. [Advisor: V
 Friesen-Queens University; Co-Advisor: M-J Fortin]
 →{Cornell University Postdoc}
 2019-20 Schwantes A. Monitoring ecosystem services. Department of EEB, University of Toronto
 →{Maternity leave}
 2018 D'Aloia C. Protection of multiple species. Department of EEB, University of Toronto
 →{Assistant Professor, University of Toronto at Mississauga}
 2011-17 Kirby K. Ecological and socio-economic connectivity of crop. Department of EEB, University of Toronto
 [EEB fellow]
 →{Research Scientist, Max Planck Institute for the Science of Human History, Germany}
 2016-18 Darling E. NSERC Banting. Department of EEB, University of Toronto [Advisor: M Krkošek; Co-
 Advisor: M-J Fortin]
 →{Conservation Scientist, Wildlife Conservation Society}
 2016-17 Frishkoff L. EEB Fellow. Department of EEB, University of Toronto [Advisor: L Mahler; Co-Advisor:
 M-J Fortin]
 →{Assistant Professor, University of Texas Arlington}
 2015-16 D'Aloia C. Optimizing marine protected areas for multiple species. EEB, University of Toronto
 →{Postdoctoral Scholar, Woods Hole Oceanographic Institution}
 2013-16 Edge C. Road ecology in the GTA. Department of EEB, University of Toronto
 →{Research Scientist, Canadian Forest Service}
 2014-15 Daigle R. Modeling larvae dispersal for optimizing marine protected areas. Department of EEB,
 University of Toronto
 →{Research Scientist, DFO}
 2011-15 Linke J. Modelling Biodiversity with Landcover Gradients. Department of EEB, University of Toronto.
 [NSERC PDF (2011-2015)]
 →{Science Coordinator, *ABBY-NET*}
 2012-14 O'Farrill G. Functional connectivity in dynamic landscape. Department of EEB, University of Toronto.
 [FQNRT PDF (2012-2014)]
 →{Project Coordinator, Commission for Environmental Cooperation}
 2011-12 Montané F. Effects of climate change on boreal forest C sequestration in Ontario. Department of EEB,
 University of Toronto. [OMNR (2011)]
 2011 Leighton P. Functional connectivity to analyse Lyme disease. Department of EEB, University of Toronto.
 [FQNRT PDF (2011-2013)]
 →{Associate Professor, Université de Montréal}
 2010-11 Beyer H. Ecological process modelling using a Bayesian state-space framework. Department of EEB,
 University of Toronto. [NSERC DAS (2010-2011)]
 →{Research Scientist, University of Queensland, Australia}

- 2009-10 McCauley S. Dispersal of invertebrates. EEB [Advisor: L Rowe, Co-Advisor: M-J Fortin] [NSERC DAS (2009-2010)]
→ {Associate Professor, University of Toronto at Mississauga}
- 2009-11 Vepakomma U. Forest spatial structure analysis using morphological mathematics. Department of EEB. [FQRNT Fellow]
→ {Senior Scientist in Remote Sensing at FPInnovations}
- 2007-09 Strecker A. A multi-scale comparison of trait linkages to environmental and spatial variables in fish communities across a large freshwater lake [Advisor: B Shuter, Co-Advisors: P Abrams, D Jackson, M-J Fortin]
→ {Associate Professor, Director of Institute for Watershed Studies, Western Washington University}
- 2002 Fall A. Harvesting modeling at the landscape scale using LANDIS and SELES. School of Resources and Environmental Management, Simon Fraser University
- 2000 Bélisle M. Bird movement modeling at the landscape scale. Département des sciences du bois et de la forêt, Université Laval [Advisor: A Desrochers; Co-Advisor: M-J Fortin]
→ {Professor, Université de Sherbrooke}
- 2000 Hély C. Fire behaviour analysis using PFAS. Département de géographie, Université de Montréal [Advisor: M-J Fortin; Co-Advisor: Y Bergeron]
→ {CNRS, Université de Montpellier}
- 1997 Cassady St-Clair C. Movement of bird over fragmented boreal forest. Département des sciences du bois et de la forêt, Université Laval [Advisor: A Desrochers; Co-Advisor: M-J Fortin]
→ {Professor, University of Alberta}
- 1996 Manseau M. Movement of wolves over fragmented boreal landscape. Département des sciences du bois et de la forêt, Université Laval [Advisor: A Desrochers; Co-Advisor: M-J Fortin]
→ {Senior Research Scientist, Parks Canada}

THESIS SUPERVISED

PhD Students

- 2020 Rodriguez P. Ecosystem services monitored using a network framework. Department of EEB, University of Toronto
- 2020 Goldman J. Cumulative effects of disturbances in forested ecosystems, John H. Daniels Faculty of Architecture, Landscape, and Design, University of Toronto [Advisor: P James, Co-advisor: M-J Fortin] (NSERC award holder)
- 2019 Wall N. Local versus regional connectivity in the design of networks of protected areas. John H. Daniels Faculty of Architecture, Landscape, and Design, University of Toronto [Advisor: P James, Co-advisor: M-J Fortin]
- 2019 Brimacombe C. Spatial modelling of epidemiological data. Department of EEB, University of Toronto (OGS, NSERC award holder)
- 2017 Greiner A. Resilience of multiply stable ecosystems in relation to climate change Department of EEB, University of Toronto [Advisor: M Krkošek, Co-advisor: M-J Fortin] (NSERC Alexander Graham Bell award holder)
- 2013- Purcell MC. Phylogeographic analysis of North American moose. Department of Biology, Trent University [Advisor: P Wilson; Co-Advisor, M-J Fortin]

Graduated

- 2016-21 Peller T. Applying meta-ecosystem theory to heterogeneous marine systems: trophic regulation, coexistence, and ecosystem functions. Department of Biology, McGill University [Advisor: F Guichard; Co-Advisor: M-J Fortin]
- 2018-21 Donelle L. Metacommunity and ecological network. Department of EEB, University of Toronto (Vanier award holder) {withdraw}
- 2016-21 Andrews S. Moving targets: Safeguarding migratory species in a changing ocean. Department of Biology, Memorial University of Newfoundland [Advisor: S Leroux; Co-Advisor: M-J Fortin]
- 2016-21 Bodner K. Parasitism, predation & prediction: modelling variations in ecological interactions from mechanisms to networks. Department of EEB, University of Toronto [Advisor: P Molnár; Co-Advisor: M-J Fortin]

- 2016-20 Brice M-H. Dynamique spatio-temporelle des forêts dans l'écotone boréal-tempéré en réponse aux changements globaux. Département de sciences biologiques, Université de Montréal [Advisor: P Legendre; Co-Advisor: M-J Fortin] (NSERC award holder)
→ {Research Scientist Jardin Botanique, Ville de Montréal}
- 2015-20 Firkowski C. Multi-trophic metacommunity responses to disturbances in a heterogeneous world. Department of EEB, University of Toronto. [Advisor: M-J Fortin; Co-advisor: M Cadotte]
→ {McGill-UofT ResNet Postdoc}
- 2014-20 Bani R. Marine metapopulations: when dispersal traits interact with ocean currents in varying environments. Department of Biology, McGill University [Advisor: F Guichard; Co-Advisor: M-J Fortin]
→ {Postdoctoral Fellow, School of Aquatic and Fishery Sciences, University of Washington}
- 2014-18 Chin A. Fish community responses to the land use change and environmental variability in estuaries. Department of EEB, University of Toronto.
→ {MITACS TRCA-UofT Postdoc; Research Assistant TRCA}
- 2013-18 Xuereb A. Dispersal, connectivity, and population genetic structure in the sea. Department of EEB, University of Toronto. [NSERC Alexander Graham Bell Canada Graduate Scholarship (2014-2017), NSERC Michel]
→ {MITACS Université Laval Postdoc}
- 2013-18 Aquilué Junyent N. Managing forest landscapes under global changes: Simulation models for scenario evaluation. Département des sciences biologiques, UQAM [Advisor: C Messier, Co-Advisors: L Brontons, M-J Fortin]
→ {Research Associate CREF}
- 2012-17 Daniel C. Incorporating uncertainty into projections of landscape change. Department of EEB, University of Toronto. (NSERC Alexander Graham Bell Canada Graduate Scholarship 2013-2016; NSERC CREATE Forest Complexity Modeling 2012-2015)
→ {Systems Ecologist, Apex Resource Management}
- 2012-17 Camargo Martensen A. Spatio-Temporal Connectivity in Dynamic Tropical Fragmented Landscapes. Department of EEB, University of Toronto (Connaught Scholarship, UofT 2011-2015)
→ {Associate Professor, Natural Science Center, Federal University of São Carlos, Brazil}
- 2011-16 Price G. Phylogeography and genetic structure of moose (*Alces alces*) populations in Ontario, Canada. Trent University [Advisors: P Wilson/B Saville; Co-Advisor: M-J Fortin]
→ {Lecturer, University of Alberta}
- 2011-15 Watts A. Effects of landscape spatial heterogeneity on host-parasite ecology. Department of EEB, University of Toronto (OGS award holder)
→ {Research Scientist, Bluedot; ESRI}
- 2011-15 Jin L. A spatio-temporal phylogenetic approach to community ecology. Department of EEB, University of Toronto. [Advisor: M Cadotte; Co-advisor: M-J Fortin]
→ {Program Director, Seattle & Remote Programs at Insight Data Science}
- 2010-15 Hall A. Anthropogenic impacts on multihabitat species and applications for conservation. Department of EEB, University of Toronto
→ {Aquatic Ecologist at Defenders of Wildlife; Denver}
- 2009-15 Naujokaitis-Lewis I. Influence of climatic and non-climatic factors on range dynamics and conservation priorities of long-distance migratory birds. Department of EEB, University of Toronto. (OGS, NSERC award holder)
→ {Research Scientist, Environment Climate Change Canada}
- 2009-13 Terrail R. Influence de la colonisation sur les transformations du paysage forestier depuis l'époque préindustrielle dans l'est du Québec (Canada) Département de biologie, UQAR. [Advisor: D Arseneault; Co-Advisor: M-J Fortin]
- 2007-13 Ruppert J. Top-predators as structuring agents in dynamic marine environments. Department of EEB, University of Toronto. (OGS, NSERC Alexander Graham Bell award holder)
→ {Research Scientist, TRCA}
- 2008-12 Weaver J. Invasive species distribution models: Issues of scale, sample selection bias, transferability and predictions. Department of Geography, University of Toronto (NSERC award holder)
→ {Assistant Director for Instructional Practice and Technology, Caltech - Center for Teaching, Learning & Outreach}
- 2006-12 Hughes J. Patterns and processes in forest insect population dynamics. Department of EEB, University of Toronto (NSERC Alexander Graham Bell award holder)

- {Research Scientist, Environment Climate Change Canada}
- 2004-09 Rayfield B. Maintaining habitat connectivity for conservation. Department of EEB, University of Toronto (NSERC Alexander Graham Bell award holder)
→ {Spatial Ecologist, Apex Resource Management }
- 2004-09 James P. Interacting Disturbances in the boreal forest and the importance of spatial legacies at multiple scales. Faculty of Forestry, University of Toronto (NSERC award holder)
→ {Associate Professor, University of Toronto }
- 2002-07 Melles S. Effects of forest connectivity, habitat availability, and intraspecific biotic processes on range expansion: Hooded Warbler (*Wilsona citrina*) as a model species. Department of EEB, University of Toronto (OGS award holder)
→ {Associate Professor, Toronto Metropolitan University }
- 2000-06 Orzanco MG. Fusion de l'information forestière issue de différentes sources pour améliorer la fiabilité locale d'une carte forestière. Département de sciences géodésiques, Université Laval [Advisor: K Lowell; Co-Advisor: M-J Fortin] (Funded by GEOIDE Network)
- 1999-02 Jordan G. Space, time and uncertainty in forest boundaries detection and management. School of Resource and Environmental Management, Simon Fraser University
→ {Assistant Professor, Trinity Western University }
- 1994-01 Lavoie L. Dynamique de la régénération après feu dans le sud de la forêt boréale québécoise. Département de biologie, Université de Sherbrooke [Advisor: M-J Fortin; Co-Advisor: L Sirois] (NSERC award holder)
- 1996-00 Bélisle M. Influence de la composition et de la configuration du paysage sur le mouvement des oiseaux forestiers. Département des sciences du bois et de la forêt, Université Laval [Advisor: A Desrochers; Co-Advisor: M-J Fortin] (NSERC award holder)
→ {Professor, Université de Sherbrooke }

Master Students

- 2021 Zdasiuk B. Department of EEB, University of Toronto
- 2021 Schwarz A. Department of EEB, University of Toronto [Advisor: E Darling; Co-advisor: M-J Fortin]

Graduated:

- 2020-21 Dimitrov N. Understanding the effects of fox movement on the spread of sarcoptic mange in urban settings – An individual-based modelling approach. Department of EEB, University of Toronto
- 2018-20 Ziebarth K. Beta diversity of amphibians and reptiles in Ontario. Department of EEB, University of Toronto [Advisor: N Rollison, Co-advisor: M-J Fortin]
- 2017-19 Turner R. Seabirds landscape genomics. Department of Biology, Queen's University [Advisor: V Frisen; Co-Advisor: M-J Fortin]
→ {Canadian Wildlife Service, Research Assistant }
- 2016-19 MacFarlane S. Animal movement in fragmented landscapes. Department of EEB, University of Toronto
→ {Ontario Nature, GIS Assistant }
- 2016-19 Morin S. Lynx and bobcat movement in Ontario. Department of Biology, Trent University [Advisor: J Bowman; Co-Advisor: M-J Fortin]
→ {PhD Student, Carleton University }
- 2016-18 Bargelt L. Assessing connectivity of protected area networks and the role of private lands in the United States. Department of Biology, Trent University [Advisor: D Murray; Co-Advisor: M-J Fortin]
- 2015-18 Blackford C. Connectivity coarse-filter to select marine protected areas. Department of EEB, University of Toronto [Advisor: M-J Fortin; Co-advisor: M Krkošek]
- 2014-16 Dorsen-Awad J. Restoration strategies to improve species movement in the Atlantic Forest. Department of EEB, University of Toronto [Advisor: B Raboy, co-advisor: M-J Fortin]
- 2009-11 Ung R. Moose movement and space occupancy within their home range in Southern Ontario. Department of EEB, University of Toronto
- 2008-10 Polakowska A. Quantifying the spatial relationship between landcover heterogeneity and species' distributions. Department of EEB, University of Toronto
- 2007-10 Brand A. Incorporating the effects of data quality and quantity on modeling density dependence. Trent University [Advisor: D Murray; Co-Advisor: M-J Fortin]
- 2006-09 Holmes K. (withdraw) Bird community as indicators of coastal wetland health at the landscape level. Department of EEB, University of Toronto

- 2005-07 Biesiada M. Spatial analysis of mountain pine beetle in BC from 1995 to 2002. Department of Geography, University of Toronto
- 2005-07 MacKenzie A. Walk the Line: Consequences of Linear Features to Eastern Wolves (*Canis Lycaon*). Department of EEB, University of Toronto → {Ontario Parks, Director of Pinery Park}
- 2002-05 Hernandez P. Spatially explicit distribution models for predicting species occurrences. Department of Zoology, University of Toronto [Funded by NatureServe]
- 2000-04 Ziga S. La configuration spatiale des feux de forêts à l'échelle du peuplement forestier et du paysage. Département de géographie, Université du Québec à Montréal [Advisor: B St-Onge; Co- Advisor: M-J Fortin]
- 2000-03 St-Pierre C. Distribution analysis of ungulates in Northern Ellesmere Island. School of Resource and Environmental Management, Simon Fraser University
- 2000-03 Goldrup J. Evaluation of the effects of habitat fragmentation on winter distribution of elk (*Cervus elaphus*) and moose (*Alces alces*) in the Prince Albert national park area, Saskatchewan. School of Resource and Environmental Management, Simon Fraser University
- 2000-03 Didion M. Improving forest management decisions by modeling landscape disturbance impacts on forest age structure dynamics. School of Resource and Environmental Management, Simon Fraser University. [Funded by Sustainable Forest Management Network]
→ {Research Scientist, WSL}
- 2000-02 Philibert M. Effect of spatial and statistical conditions on boundary detection across scales. Department of Geography, Simon Fraser University [Primary Advisor: N Schuurman; Secondary Advisor: M-J Fortin] [Funded by GEOIDE Network]
→ {Associate Professor, UQAM}
- 1999-02 Farley G. Intégration des conditions d'habitat pour la faune en forêt boréale aménagée: potentiels et limites d'un outil d'aide à la décision pour une gestion durable des territoires forestiers. Maîtrise en Environnement, Université du Québec à Montréal [Advisor: P Drapeau; Co-Advisor: M-J Fortin]. [Funded by Sustainable Forest Management Network]
- 1998-01 Kelly D. Bird community responses to two different harvesting scenarios. School of Resources and Environmental Management, Simon Fraser University
- 1999-00 St-Louis V. L'hétérogénéité spatiale des microhabitats forestiers affecte-t-elle la délimitation des territoires de la paruline bleue (*Dendroica caerulescens*) et de la paruline couronnée (*Seiurus aurocapillus*)? Département de sciences biologiques, Université de Montréal [Advisor: M-J Fortin; Co-Advisor: A Desrochers] [Funded by FCAR-Équipe]
- 1998-00 Graillon P. Cartographie biophysique du grand écosystème de Kouchibouguac, Nouveau-Brunswick. Maîtrise en Environnement, Université de Sherbrooke [Advisor: M-J Fortin; Co-Advisor: L Provencher]
- 1997-98 Asselin H. Répartition spatiale de la régénération coniférienne après feu et coupe dans le sud-ouest de la forêt boréale québécoise à plusieurs échelles d'observation. Département de sciences biologiques, Université de Montréal [Advisor: M-J Fortin; Co-Advisor: Y Bergeron]. [Funded by Sustainable Forest Management Network]
→ {Professor, CRC en foresterie autochtone, UQAT}
- 1997-98 Delage V. Comparaison des assemblages d'oiseaux chanteurs dans les parcelles résiduelles de tourbières exploitées à ceux des tourbières naturelles. Département de sciences biologiques, Université de Montréal [Advisor: M-J Fortin; Co-Advisor: A Desrochers]
- 1996-98 Moreau É. La réglementation sur les normes d'intervention en milieu forestier et la protection d'éléments de forêts matures. Maîtrise en Environnement, Université de Sherbrooke
- 1995-97 Drolet B. Variation des assemblages d'oiseaux chanteurs selon la structure du paysage de la sapinière boréale exploitée. Département des sciences du bois et de la forêt, Université Laval [Advisor: A Desrochers; Co-Advisor: M-J Fortin]
- 1994-96 De Serres L. Variations temporelles des pertes en phosphate dans un petit bassin versant agricole au Québec. Maîtrise en Environnement, Université de Sherbrooke