

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. Département de Biologie and Centre d'études nordiques, Université Laval.
Supervisor: Dr. Serge Payette
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
2000 Associate Professor (tenured June 2000), Département de Géographie, Université de Montréal
1997-00 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, modelling, and managing Canada's ecosystem services for sustainability and resilience. NSERC Strategic Partnership Grants for Networks—Theme-3 Co-Leader
2017- 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
1993 Cary Summer Research Fellow Cary Institute of Ecosystem Studies, New York

HONOURS

Distinctions

2019 I am 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 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

Adjunct Position at other Universities

- 2017- Adjunct Professor, Dalhousie University
2018-21 Adjunct Professor, Queens University
2011- Adjunct Professor, McGill University
1995-02 Adjunct Professor, Département des Sciences du Bois et de la Forêt, Université Laval

Member of Research Centers

- 2018- Member of the Centre for Urban Environments, University of Toronto at Mississauga

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

Canadian Society of Ecology and Evolution (CSEE), Ecological Society of America (ESA)
Society of Conservation Biology (SCB), US-International Association of Landscape Ecology (US-IALE)

Executive Committees

- 2020- Canadian Institute of Ecology and Evolution: Board Member

Editorial Services

- 2021- Advisory Board for *Landscape Ecology*
 2019- Editorial board for *Oecologia*

Guest Editor

- 2020-21 Guest editor (with Hof A, Montoro M, Tremblay J, Fortin M-J) special issue on *Using landscape simulation models to help balance conflicting goals in changing forests* for *Frontiers in Ecology and Evolution*
 2020 Guest editor (with Collevatti, RG, M-J Fortin, MC Ribeiro) of special issue on *Landscape Genetics and Genomics on the Anthropocene* for *Frontiers in Genetics*

Organizer

- 2023 *Predictive Ecology*. Gordon Research Conference [Chairs: Houlahan J, M-J Fortin]
 2021 Virtual ResNet Carbon Monitoring Workshop [with Schwantes A, Firkowski C, Fortin, M-J, Gonzalez, A]
 2020 IALE-NA Annual Meeting Virtual Remote Conference, Symposium (S-01) Integrated approaches for transdisciplinary landscape modelling [Organizers: Costanza J, M-J Fortin, B Rayfield]
 2020 *Forecasting in the Anthropocene: Addressing uncertainty in complex-systems using theory, modelling and applied science*. Working Group funded by the Canadian Institute of Ecology and Evolution (CIEE), University of Toronto [Organizers: Bodner K, C Firkowski, M-J Fortin]

SCHOLARLY AND PROFESSIONAL WORK**REFEREED PUBLICATIONS**

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

My trainees are 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. McLeod A, Leroux S, Gravel D, Chu C, Cirtwill A, Fortin M-J, Galiana N, Poisot T, Wood S. Sampling and asymptotic network properties of spatial multi-trophic networks. *Oikos*
2. 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*
3. Bertrand P, Bêty J, Yoccoz NG, Fortin M-J, Strøm H, Steen H, Kohler J, Harris S, Patrick S, Chastel O, Blévin P, Moholdt G, Maton J, Descamps S. 2021. Fine-scale spatial segregation in a pelagic seabird driven by differential use of tidewater glacier fronts in Svalbard. *Scientific Reports*
4. Matutini F, J Baudry, M-J Fortin, G Pain, J Pithon. 2021. Integrating landscape resistance and multi-scale predictor of habitat selection for amphibian distribution modelling at large scale. *Landscape Ecology*
5. 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. Bridging the divide between ecological forecasts and environmental decision-making. *Ecosphere*
6. 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
7. 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
8. 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
9. 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
10. 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
11. 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

12. Fortin M-J, Dale MRT, Brimacombe C. 2021. Network ecology in dynamic landscapes. *Proceedings of the Royal Society B: Biological Sciences* 288 (1949):20201889
13. 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
14. 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
15. 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
16. 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
17. Brimacombe C, Bodner K, Fortin M-J. 2021. Inferred seasonal interaction rewiring of a freshwater stream fish network. *Ecography*, 44:219-230
18. 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/>
19. 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, Gido 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

20. 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
21. 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
22. 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
23. 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
24. 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
25. 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
26. 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
27. Jin LS, D Yin, M-J Fortin, M Cadotte. 2020. The mechanisms generating community phylogenetic patterns change with spatial scale. *Oecologia* 193:655-664
28. 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
29. 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

30. Bodner K, M-J Fortin, P Molnár. 2020. Making predictive modelling ART: Accurate, Reliable and Transparent. *Ecosphere* 11(6):e03160
31. Edge C, M-J Fortin. 2020. Habitat network topology influences the importance of ecological traps in metapopulations. *Ecosphere* 11(5):e03146
32. 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
33. 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
34. 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/>
35. 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
36. 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
37. 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

38. 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
39. 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
40. 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
41. 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
42. 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 Muttaqin, 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](#)
43. 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
44. 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
45. 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/>

46. 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
 47. 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
 48. 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
 49. 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
 50. 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
 51. 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**]
 52. 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
 53. 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
 54. 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**]
 55. [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
 56. 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
 57. 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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58. [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
 59. [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
 60. 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
 61. [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
 62. 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
 63. [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
 64. 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
 65. 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
 66. [Daniel CJ](#), BM Sleeter, L Frid, M-J Fortin. 2018. Integrating continuous stocks and flows into state-and-transition simulation models of landscape change. *Methods in Ecology and Evolution* 9:1133-1143

67. Xuereb A, L Benestan, E Normandeau, JM Curtis, RM Daigle, L Bernatchez, M-J Fortin. 2018. Asymmetric oceanographic processes mediate connectivity and population genetic structure, as revealed by RADseq, in a highly dispersive marine invertebrate (*Parastichopus californicus*). *Molecular Ecology* 27:2347-2364
68. Gaggiotti O, Chao A, Peres-Neto P, Chiu Chun-Huo, Edwards C, Fortin M-J, Jost L, Richards C, Selkoe K. 2018. Diversity from genes to ecosystems: A unifying framework to study variation across biological metrics and scales. *Evolutionary Applications* 11:1176-1193
69. Ver Hoef J, Peterson E, Hooten M, Hanks E, Fortin M-J. 2018. Spatial autoregressive models for statistical inference from ecological data. *Ecological Monographs* 88:36-59
70. Ruppert JLW, L Vigliola, M Kulbucki, P Labrosse, M-J Fortin, MG Meekan. 2018. Human activities as a driver of spatial variation in the trophic structure of fish communities on Pacific coral reefs. *Global Change Biology* 24:e67-e76
71. Galiana N, Lurgi M, Claramunt-Lopez B, Fortin M-J, Leroux S, Cazelles K, Gravel D, Montoya JM. 2018. The spatial scaling of species interaction networks. *Nature Ecology & Evolution* 2(5):782
72. Watt GA, RA Fleming, SM Smith, M-J Fortin. 2018. Spruce budworm (*Choristoneura fumiferana* Clem.) defoliation promotes vertical fuel continuity in Ontario's boreal mixedwood forest. *Forests* 9(5) 256: <https://doi.org/10.3390/f9050256>
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Books

1. Dale MRT, M-J Fortin. 2021. *Quantitative Analysis of Ecological Networks*. Cambridge University Press
2. Fletcher R, M-J Fortin. 2019. *Spatial Ecology and Conservation Modeling: Applications with R*. Springer
3. Dale MRT, M-J Fortin. 2014. *Spatial Analysis: A Guide for Ecologists*. 2nd edition. Cambridge U Press
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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* (Ferne, 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

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| 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 |