

Marie-Josée Fortin, FRSC
Curriculum Vitae

BIOGRAPHICAL INFORMATION

Address: Department of Ecology and Evolutionary Biology
University of Toronto, Toronto (Ontario) Canada
Office phone: (416) 946-7886
Email: mariejosee.fortin@utoronto.ca
WWW: <http://fortin.eeb.utoronto.ca>

DEGREES

1992-1994 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

2006-present Full Professor, Department of Ecology and Evolutionary Biology, University of Toronto
2001-2006 Associate Professor (tenured January 2001), Department of Zoology, University of Toronto
2000-2001 Associate Professor, School of Resources and Environmental Management, Simon Fraser University
2000 Associate Professor (tenured June 1 2000), Département de Géographie, Université de Montréal
1997-2000 Assistant Professor, Département de Géographie, Université de Montréal
1994-1997 Assistant Professor, Département de Biologie, Université de Sherbrooke
1985 Lecturer of undergraduate course *Biométrie*, Département de Sciences biologiques, U. de Montréal
2017-present NSERC Strategic Network Lake Pulse Theme-3 Leader.
2016-2017 NSERC CREATE Enviro Implementation Committee Member.
2016-present Cross Appointment, Department of Statistics, University of Toronto
2005-present Cross Appointment, Department of Geography, University of Toronto
2002-present Cross Appointment, Faculty of Forestry, University of Toronto
2002-2005 Summer School Program Director for GEOIDE
(NSERC-NCE: Geomatics for Informed Decisions Centre of Excellence Network)
2001-2002 Associate Scientific Director for GEOIDE Network
(NSERC-NCE: Geomatics for Informed Decisions Centre of Excellence Network)
1998-2003 Environment and Marine Thrust Leader for GEOIDE Network
(NSERC-NCE: Geomatics for Informed Decisions Centre of Excellence Network)
1992-1994 Postdoctoral Fellow, Département de Biologie, Centre d'études nordiques, Université Laval

HONOURS

Distinctions

2017 Distinguished Visiting Professor Fellow: Swiss Federal Institute for Forest, Snow & Landscape Research (Zurich, Switzerland)
2016 Fellow of the Royal Society of Canada
2016-2023 Tier 1 - Canada Research Chair in Spatial Ecology
2012-2015 Distinguished Visiting Professor Fellowship, Science without Borders (CNPq) at INPA (Manaus, Brazil) [One month/per year for three years]
2015 Award for Outstanding Scientific Achievements from *International Association for Landscape Ecology*
2014 2014 Highly Cited Researchers from Thomson Reuters
2013 Distinguished Landscape Ecologist Award from the *US Chapter of the International Association for Landscape Ecology*

Awards

- 2002-2007 Premier's Research Excellence Award, Ontario (PREA)
 2001 Women in Geomatics Mentor Award. GEOIDE 3rd Annual Meeting, Fredericton
 2002, 2003, 2004, 2005, 2006, 2007, 2009, 2010, 2012, 2013, 2014, 2016, 2017: Dean's Excellence Award, Faculty Arts and Science, University of Toronto

Scholarships and Fellowships

- 1993 Cary Summer Research Fellowship in Ecology, The New York Botanical Garden, Institute of Ecosystem Studies, New York. Scientific sponsor: Dr. Charles Canham
 1992-1994 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
 1989-1990 Grant-in-Aid of Research from Sigma Xi, The Scientific Research Society
 1986-1989 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)
 1984-1985 Postgraduate Scholarship from NSERC (Master)

Appointments to Distinguished Councils

- 2015-present The United Nations Environment Programme's World Conservation Monitoring Centre (UNEP-WCMC) Connectivity Conservation committee member
 2015-present Ontario Reptile and Amphibian Research Subcommittee member
 2011 Canadian Parks and Wilderness Society (CPAWS): Scientific committee member for the establishment of guidelines for Marine Protected Areas in Canada
 2008-2010 Ontario Biodiversity Science Forum. Scientific committee member
 2007-2008 NSERC Discovery Accelerator Supplement Life Science Selection Committee (DAS 1070)
 2007-2008 Scientific Advisory Group for Woodland Caribou Critical Habitat
 2001-2004 NSERC Evolution and Ecology Grant Selection Committee (GSC 18)

Adjunct Position at other Universities and Member of Research Centers

- 2011-present Adjunct Professor, UQAM
 2006-present Associate Research Member of the Centre d'étude de la forêt (CEF), UQAM
 2003-present Adjunct Professor, School of Resource and Environmental Management, Simon Fraser University
 2001-present Adjunct Professor, Département des sciences géomatiques, Université Laval
 1996-1997 Adjunct Professor, Département de Biologie, Université Laval
 1995-2002 Adjunct Professor, Département des Sciences du Bois et de la Forêt, Université Laval
 2000-2006 Associate Research Member of the Groupe de Recherche en Écologie Forestière interuniversitaire (GREFi), UQAM
 1995-2006 Regular Research Member of the Centre de Recherche en Biologie Forestière (CRBF), Université Laval
 1994 Visiting Researcher, Department of Ecology and Evolutionary Biology, University of Connecticut

PROFESSIONAL AFFILIATIONS AND ACTIVITIES**Affiliations**

- 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

- 2016-2020 NSERC Strategic Network Lake Pulse: Theme leader
 2015-2017 NSERC CREATE Enviro: Implementation committee member
 2016-2018 Canadian Society of Ecology and Evolution: University of Toronto local member
 2011-2012 Royal Ontario Museum -Schad Conservation grant selection committee
 2006-2007 Canadian Society of Ecology and Evolution: Council Member
 2000-2002 Ecological Society of America's Cooper Award committee

- 1999-2001 Elected Vice-chair of the Statistical Ecology Section of the Ecological Society of America (ESA)
 1995-1997 US-International Association of Landscape Ecology Councilor-at-large
 1997 Internal jury member for evaluating CORPAQ grants
 1993-1994 Secretary of the North American Section of International Association for Vegetation Science

Editorial Services

- 2016-present Editorial board of *Journal of Applied Ecology*
 2015-present Editorial board of *Current Landscape Ecology Reports*
 2015-present Editorial board of *Global Ecology & Biogeography*
 2012-present Editorial board of *Spatial Statistics*
 2007-2013 Assistant editor for *Theoretical Ecology*
 2005-2013 Subject editor for *Ecology and Ecology Monographs*
 2003-2008 Editorial board of *Ecosystems*
 2000-2002 Editorial board of International Association of Landscape Ecology Series; *Cambridge U Press*
 1999-2000 Assistant Editor for *Ecology Letters*
 1999 Associate Editor for *Journal of Agricultural, Biological and Environmental Sciences*
 1998-2002 Subject Editor for *Landscape Ecology*
 1996-2002 Assistant Editor for *Ecoscience*
 1994-1998 Book Review Editor for *Ecoscience*
- 2012 Guest Editor (with S Luque, S Saura) of special feature on *Landscape connectivity analysis for conservation: insights from combining new methods with ecological and genetic data* for *Landscape Ecology*
- 2008 Guest Editor (with GM Jacquez, P Goovaerts) of special feature *Spatial statistics for boundary and patch analysis* for *Environmental and Ecological Statistics*
- 2004-2005 Guest Editor of special feature on *Landscape Ecology Comes of Age* for *Ecology* (Vol. 86, No. 8)
- 2004-2005 Peer-Review for two book chapters (Up-scaling of biological properties and mechanisms to the landscape level. In: *A changing world: challenges for landscape research*. Felix Kienast and Otto Wildi (eds.), Springer; Optimization of Landscape Pattern. In: *Key Topics and Perspectives in Landscape Ecology*. Jianguo Wu and Richard Hobbs (eds.), Cambridge University Press)
- 2002 Guest Editor of special issue on *Spatial Analysis in Ecology: Statistical and Landscape Issues* for *Ecoscience* (Vol. 9, No. 2)

Organizer of International Symposia and Workshops

- 2017 Aquatic ecosystem services in a changing world Symposium at ESA Portland, OR [Organizers: Fortin M-J, P Peres-Neto, S Tomscha]
- 2017 *Canadian protected areas in a changing climate: Across-ecosystem approach*. Symposium at CSEE 2017 Victoria, BC [Organizers: Fortin M-J, C D'Aloia, I Naujokaitis-Lewis]
- 2016 *Canadian protected areas in a changing climate: A cross-ecosystem approach to designing effective networks of protected areas*. Working Group funded by the Canadian Institute of Ecology and Evolution (CIEE), University of Toronto [Organizers: D'Aloia C, I Naujokaitis-Lewis, M-J Fortin]
- 2015 *Marine connectivity studies: A path for biodiversity conservation?* 27th International Congress for Conservation Biology (ICCB) - 4th European Congress for Conservation Biology, Montpellier, France [Organizers: Lett C, C Fauvelot, S Manel, M-J Fortin]
- 2010 *Network theory to conserve and reconnect forested landscapes Symposium*, International Union of Forest Research Organizations (IUFRO)-International Association of Landscape Ecology (IALE) Forest Landscapes and Global Change, New Frontiers in Management, Conservation and Restoration. Bragança, Portugal. [Organizers: Fortin M-J, S Saura]
- 2009 *Spatial Ecology: An integrating framework to study species response to global change*. Symposium. Latin American IALE Conference, Landscape Ecology in Latin America: Challenges and Perspectives. Campos do Jordao, São Paulo, Brazil
- 2006 Co-organizer of GIS Workshop 2007, Innsbruck, Austria
- 2005 *Spatial Statistics at Multiple Scales Special Session*, International Association for Ecology (INTECOL)-Ecological Society of America (ESA), Montréal, Québec [Organizers: Legendre P, M-J Fortin]

- 2005 *Forest Modeling at Multiple Scales: Issues and Solutions* Symposium. 5th North American Forest Ecology Workshop (NAFEW), Aylmer, Québec [Organizers: Fortin M-J, A Fall, C Peng]
- 2005 Geomatics for Informed Decisions-Centre of Excellence Network Summer School, Université Laval
- 2004 Geomatics for Informed Decisions-Centre of Excellence Network Summer School, Carleton University
- 2003 18th Annual Meeting of the US Chapter of the International Association for Landscape Ecology *Beyond Borders – Linking Landscapes*. The Banff Centre, Alberta. 2-6 April 2003 (280 delegates) [Local Host and Program Chair]
- 2003 Geomatics for Informed Decisions-Centre of Excellence Network Summer School, University of Victoria
- 2002 Geomatics for Informed Decisions-Centre of Excellence Network Summer School, University of Toronto at Scarborough
- 1999 *Spatial Statistics for Species Geographical Range Analysis* Symposium, Ecological Society of America, Spokane, USA
- 1998 *Randomization Tests in Ecology* Symposium, International Association for Ecology (INTECOL), Florence, Italy
- 1996 *Permutation Tests in Ecology: How Should We Test Ecological Hypotheses?* Symposium, Ecological Society of America, Providence, USA
- 1994 *Statistical Sampling Design of Aquatic Network Ecosystems at Multiple Scales* Workshop, Center for Analysis of Environmental Change, Oregon State University, Corvallis, USA [Organizers: Bradshaw GA, M-J Fortin, LL Conquest]

REFEREED PUBLICATIONS

Articles

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

I published my research in various journals having all different publication conventions ranging from ecological journals (e.g., *Ecology*), where the order of the authors reflects their contribution to the paper, to more molecular (e.g., *Molecular Ecology*) journals where the senior author is typically last. Hence depending of the paper, my trainees at first authors and I am in either second or last as senior author.

Ruppert JLW, L Vigliola, M Kulbucki, P Labrosse, M-J Fortin, MG Meekan. Human activities as a driver of spatial variation in the trophic structure of fish communities on Pacific coral reefs. *Global Change Biology*.

Dosen J, M-J Fortin, BE Raboy. Restoration Strategies to Improve Connectivity for Golden-Headed Lion Tamarins (*Leontopithecus chrysomelas*) in the Bahian Atlantic Forest, Brazil. *International Journal of Primatology*.

Marcer A, DS Vidigal, PMA James, M-J Fortin, B Méndez-Vigo, WM Hilhorst, L Bentsink, C Alonso-Blanco, FX Picó. 2017. Temperature fine-tunes Mediterranean *Arabidopsis thaliana* life-cycle phenology geographically. *Plant Biology*.

Martensen CA, S Saura, M-J Fortin. 2017. Spatio-temporal connectivity: Assessing the amount of reachable habitat in dynamic landscapes. *Methods in Ecology and Evolution*.

Poisot T, C Guévenex-Julien, M-J Fortin, D Gravel, P Legendre. 2017. Hosts, parasites, and their interactions respond to different climatic variables. *Global Ecology and Biogeography*, 26: 942-951.

Pedersen EJ, PL Thompson, AR Ball, M-J Fortin, TC Gouhier, H Link, C Moritz, H Nenzen, RRE Stanley, ZE Taranu, A Gonzalez, F Guichard, P Pepin. 2017. Signatures of the collapse and incipient recovery of an overexploited marine ecosystem. *Royal Society Open Science*, 4:170215.

Media coverage:

<http://www.ledevoir.com/environnement/actualites-sur-l-environnement/502777/le-difficile-retour-de-la-morue>

Daniel C, MT Ter-Mikaelian, BM Wotton, B Rayfield, M-J Fortin. 2017. Incorporating uncertainty into forest management planning: timber harvest, wildfire and climate change in the boreal forest. *Forest and Ecology Management*, 400: 542-554.

Eger AM, JMR Curtis, M-J Fortin, IM Côté, F Guichard. 2017. Transferability and scalability of species distribution models: A test with sedentary marine invertebrates. *Canadian Journal of Fisheries and Aquatic Science*. 74: 766-788.

Franckowiak RP, M Panasci, K Jarvis, I Acuña-Rodríguez, EL Landguth, M-J Fortin, HH Wagner. 2017. Model selection with multiple regression on distance matrices leads to incorrect inferences. *PLoS ONE*, 12(4): e0175194.

Edge CB, M-J Fortin, N Shrestha, D Lawrie, D Jackson. 2017. Habitat alteration and habitat fragmentation differentially affect beta diversity of stream fish communities. *Landscape Ecology*, 32:647-662.

- Mui AB, B Caverhill, B Johnson, M-J Fortin, Y He. 2017. Using multiple metrics to estimate seasonal landscape connectivity for Blanding's turtles (*Emydoidea blandingii*) in a fragmented landscape. *Landscape Ecology*, 32: 531-546.
- Ciudad C, A Gastón, MC Mateo-Sánchez, JI García-Viñas, C López-Leiva, A Fernández-Landa, M Marchamalo, J Cuevas, B de la Fuente, M-J Fortin, S Saura. 2017. Species' habitat use inferred from environmental variables at multiple scales: how much we gain from high-resolution vegetation data? *International Journal of Applied Earth Observation and Geoinformation*, 55: 1-8.
- Odrizola I, G García-Baquero, M-J Fortin, N Amaia Laskurain, A Aldezabal. 2017. Grazing exclusion unleashes competitive plant responses in Atlantic mountain grasslands. *Applied Vegetation Science*. 20: 50-61.
- Aquilué N, M De Cáceres, M-J Fortin, A Fall, L Brotons. 2017. A spatial allocation procedure to model land-use/land-cover changes: accounting for occurrence and spread processes. *Ecological Modelling*, 344:73-86.
- Linke J, M-J Fortin, S Courtenay, R Cormier. 2017. High-resolution global maps of 21st-century annual forest loss: independent accuracy assessment and application in a temperate forest region of Atlantic Canada. *Remote Sensing of Environment*, 188: 164-176.
- Media coverage:
- <http://www.conservationcouncil.ca/satellite-data-on-miramichi-watershed-forest-loss-validated/>
-
- Borges Matos C, S Aragón, M Nazareth Ferreira da Silva, M-J Fortin, WE Magnusson. 2016. Importance of the matrix in determining small-mammal assemblages in an Amazonian forest-savanna mosaic. *Biological Conservation*, 204: 417-425.
- Daniel C, L Frid, B Sleeter, M-J Fortin. 2016. State-and-transition simulation models: A framework for forecasting landscape dynamics. *Methods in Ecology and Evolution*, 7:1413-1423.
- Media coverage:
- Methods in Ecology & Evolution video: <https://www.youtube.com/watch?v=OsGraznQa3E>
- Edge CB, JE Houlihan, DA Jackson, M-J Fortin. 2016. *Editor's Choice and Meta-Analyses*: The response of amphibian larvae to environmental change is both consistent and variable. *Oikos*, 125: 1700-1711.
- Ruppert JLW, M-J Fortin, MG Meekan. 2016. The ecological role of sharks on coral reefs – Response to Roff et al. *Trends in Ecology & Evolution*, 31: 586-587.
- Mateo-Sánchez M.C., Gastón A., Ciudad C., García-Viñas J.I., Cuevas J., López-Leiva C., Fernández-Landa A., Algeet-Abarquero N., Marchamalo M.-J., Fortin M.-J., Saura S. 2016. Seasonal and yearly changes in species use of the landscape: How do they impact the inferences from multi-scale habitat modeling? *Landscape Ecology*, 31: 1261-1276.
- Ruppert JLW, M-J Fortin, E Gunn, DL Martell. 2016. Conserving woodland caribou habitat while maintaining timber yield: A graph theory approach. *Canadian Journal of Forest Research*, 46: 914-923.
- Poisot T, Gravel D, Leroux S, Wood SA, Fortin M-J, Baiser B, Cirtwill AR, Araújo MB, Stouffer DB. 2016. Synthetic datasets and community tools for the rapid testing of ecological hypotheses. *Ecography*, 39: 402-408.
- Poisot T, Cirtwill A, Cazelles K, Gravel D, Fortin M-J, Stouffer D. 2016. The structure of probabilistic networks. *Methods in Ecology & Evolution*, 7: 303-312.
- Naujokaitis-Lewis I, M-J Fortin. 2016. Temporal variation of biotic factors underpins contemporary range dynamics of congeneric species. *Global Change Biology*, 22: 1201-1213.
- Talluto MV, Boulangeat I, Ameztegui A, Aubin I, Berteaux D, Butler A, Doyon F, Drever CR, Fortin, M-J, Franceschini T, Liénard J, Dan McKenney D, Solarik KA, Strigul N, Thuiller W, Gravel D. 2016. Cross-scale integration of knowledge for predicting species ranges: a metamodeling framework. *Global Ecology and Biogeography*. 25:338-349.
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- Watts AG, VM Lukasik, M-J Fortin, SM Alexander. 2015. Urbanization, grassland, and diet influence coyote (*Canis latrans*) parasitism structure composition. *EcoHealth*, 12: 645-659.
- Legendre P, M-J Fortin, D Borcard. 2015. Should the Mantel test be used in spatial analysis? *Methods in Ecology & Evolution*, 6: 1239-1247.
- Watts A, P Schlichting, S Billerman, B Jesmer, S Micheletti, M-J Fortin, WC Funk, P Hapeman, E Muths, MA Murphy. 2015. How spatio-temporal habitat connectivity affects amphibian genetic structure. *Frontiers in Genetics*, 6: Article 275.
- Jin LS, MW Cadotte, M-J Fortin. 2015. Phylogenetic turnover patterns consistent with niche conservatism in montane plant species. *Journal of Ecology*, 103: 742-749.

- James PMA, Cooke B, Brunet B, Lumley L, Sperling F, Fortin M-J, Quinn V, Sturtevant B. 2015. Life-stage differences in spatial genetic structure in an irruptive forest insect: Implications for dispersal and spatial synchrony. *Molecular Ecology*, 24: 296-309.
- Hall AM, SJ McCauley, M-J Fortin. 2015. Recreational boating, landscape configuration, and habitat structure as drivers of odonate community composition in an island setting. *Insect Conservation and Diversity*, 8: 31-42.
-
- Hornseth ML, AA Walpole, LR Walton, J Bowman, JC Ray, M-J Fortin, DL Murray. 2014. Habitat loss, not fragmentation, drives occurrence patterns of Canada lynx at the southern range periphery. *PLoS ONE* 9(11): e113511. doi:10.1371/journal.pone.0113511.
- Emidio da Silva K, S Venâncio Martins, M-J Fortin, MC Ribeiro, CP de Azevedo, CA Álvares Soares Ribeiro. 2014. Tree species community spatial structure in a terra firme Amazon forest, Brazil. *Bosque* 35: 347-355.
- Norris D, M-J Fortin, WE Magnusson. 2014. Towards monitoring biodiversity in Amazonian forests: how regular samples capture meso-scale altitudinal variation in 25 km² plots. *PLoS ONE* 9(8): e106150. doi:10.1371/journal.pone.0106150.
- Terrail R, Arseneault D, Fortin M-J, Dupuis S, Boucher Y. 2014. An early forest inventory indicates a high accuracy of forest composition data in presettlement land surveys records. *Journal of Vegetation Science*, 25: 691-702.
- Isaak DJ, Peterson EE, Ver Hoef JM, Wenger SJ, Falke JA, Torgersen CE, Sowder C, Steel EA, Fortin M-J, Jordan CE, Ruesch AS, Som N, Monestiez P. 2014. Applications of spatial statistical network models to stream data. *WIREs – Water*, 1:277-294.
- Anstett DN, O'Brien H, Larsen EW, McMullin TR, Fortin M-J. 2014. Dispersal analysis of three *Peltigera* species based on landscape genetics data. *Mycology*, 4: 187-195.
- Hughes JS, M-J Fortin, V Nealis, J Régnière. 2014. Pollen cone production in jack pine: spatial and temporal patterns subject to natural disturbance by the jack pine budworm. *Can. J. For. Res.*, 44: 195-211.
- Saura S, Ö Bodin, M-J Fortin. 2014. *Editor's Choice*: Stepping stones are crucial for species' long-distance dispersal and range expansion through habitat networks. *Journal of Applied Ecology*, 51: 171-182. [Highly cited paper]
- Media coverage:
- Conservation Corridor: <http://www.conservationcorridor.org/2013/10/incorporating-stepping-stones-create-simpler-connectivity-models/>
 - Journal of Applied Ecology Editor's Choice: <http://www.journalofappliedecology.org/view/0/editorschoice511.html>
 - Science for Environmental Policy service of the European Commission: <http://ec.europa.eu/environment/integration/research/newsalert/pdf/368na5.pdf>
- Sturtevant BR, BR Miranda, PT Wolter, PMA James, M-J Fortin, PA Townsend. 2014. Townsend. Forest recovery patterns in response to divergent disturbance regimes in the Border Lakes region of Minnesota (USA) and Ontario (Canada). *Forest Ecology and Management*, 313: 199-211.
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- Rommel TK, M-J Fortin. 2013. Categorical, class-focused map patterns: Characterization and comparison. *Landscape Ecology*, 28: 1587-1599.
- Ruppert JLW, MJ Travers, JP Gilmour, LL Smith, M-J Fortin, MG Meekan. 2013. Caught in the middle: combined impacts of shark removal and coral loss on the fish communities of coral reefs. *PLoS ONE*, 8(9): e74648. doi:10.1371/journal.pone.0074648.
- Media coverage:
- University of Toronto: <http://www.news.utoronto.ca/overfishing-sharks-harming-coral-reefs>
 - The Australian (Newspaper): <http://www.theaustralian.com.au/higher-education/shark-fishers-deprive-coral-of-an-ally/story-e6frgcjx-1226722280405>
 - The Guardian: <http://www.theguardian.com/environment/2013/sep/19/coral-reefs-suffer-hunt-sharks>
 - The Conversation Op-Ed: <http://theconversation.com/killing-sharks-is-killing-coral-reefs-too-18368>
 - Australian Broadcasting Corporation (ABC) Radio: <http://www.abc.net.au/am/content/2013/s3851888.htm>
 - CBC Quirks and Quarks: <http://www.cbc.ca/quirks/2013/09/18/the-soup-that-killed-the-reef/>
 - CBC Radio Canada International: <http://www.rcinet.ca/en/2013/09/23/canadian-study-shows-sharks-important-for-coral-reef-ecosystems/>
 - The Economist: <http://www.economist.com/news/science-and-technology/21586806-sharks-it-seems-are-necessary-ecological-health-coral-reefs-sea>
 - NPR Academic Minute:

- Asia Research News 2014: http://issuu.com/asiaresearchnews/docs/asia_research_news_2014
- De Cáceres M, Brotons L, Aquilué N, Fortin M-J. 2013. The combined effects of land use legacies and novel fire regimes on bird distributions in the Mediterranean. *Journal of Biogeography*, 40: 1535-1547.
- Linke J, GJ McDermid, M-J Fortin, GB Stenhouse. 2013. Relationships between grizzly bears and human disturbances in a rapidly changing multi-use forest landscape. *Biological Conservation*, 166: 54-63.
- Beyer H, Morales J, Murray D, Fortin M-J. 2013. The effectiveness of Bayesian state-space models for estimating behavioural states from movement paths. *Methods in Ecology and Evolution*, 4: 433-441.
- Naujokaitis-Lewis IR, JMR Curtis, L Tischendorf, D Badzinski, K Lindsay, M-J Fortin. 2013. Uncertainties in coupled species distribution–metapopulation dynamics models for risk assessments under climate change. *Diversity and Distributions*, 19: 541-554.
- Brotons L, Aquilué N, de Cáceres M, Fortin M-J, Fall A. 2013. How fire history, fire suppression practices and climate change affect wildfire regimes in Mediterranean landscapes. *PLoS ONE* 8(5): e62392. doi:10.1371/journal.pone.0062392.
- Peterson EE, JM Ver Hoef, DJ Isaak, JA Falke, M-J Fortin, C Jordan, K McNyset, P Monestiez, AS Ruesch, A Sengupta, N Som, A Steel, DM Theobald, CE Torgersen, SJ Wenger. 2013. Modeling dendritic ecological networks in space: An integrated network perspective. *Ecology Letters*, 16: 707-719.
- Wagner HH, M-J Fortin. 2013. A conceptual framework for the spatial analysis of landscape genetic data. *Conservation Genetics*, 14: 253-261.
- Naujokaitis-Lewis I, Y Rico, J Lovell, M-J Fortin, M Murphy. 2013. Implications of incomplete networks on estimation of landscape genetic connectivity. *Conservation Genetics*, 14: 287-298.
- Beyer HL, Ung R, Murray DL, Fortin M-J. 2013. Functional responses, seasonal variation and thresholds in behavioural responses of moose to road density. *Journal of Applied Ecology*, 50: 286-294.
- Cuddington K, Fortin M-J, Gerber L, Leibhold A, O'Connor M, Hastings A, Ray C. 2013. Process-based models are required to manage ecological systems in a changing world. *Ecosphere* 4(2) Art20: 1-12.
- Gil-Tena A, L Brotons, M-J Fortin, F Burel, S Saura. 2013. Assessing the role of landscape connectivity in recent woodpecker range expansion in Mediterranean Europe: forest management implications. *European Journal of Forest Research*, 132: 181-194.

- Windle MJS, GA Rose, R Devillers, M-J Fortin. 2012. Spatio-temporal variations in invertebrate–cod– environment relationships on the Newfoundland–Labrador Shelf, 1995–2009. *Marine Ecology Progress Series*, 469: 263–278.
- Melles S, M-J Fortin, D Badzinski, K Lindsay. 2012. Relative importance of nesting habitat and measures of connectivity in predicting the occurrence of a forest songbird in fragmented landscapes. *Avian Conservation and Ecology* 7 (2): 3. [online] URL: <http://www.ace-eco.org/vol7/iss2/art3/>
- Polakowska AE, M-J Fortin, A Couturier. 2012. Quantifying the spatial relationship between bird species' distributions and landscape feature boundaries in southern Ontario, Canada. *Landscape Ecology*, 27: 1481-1493.
- Weaver JE, TM Conway, M-J Fortin. 2012. An invasive species' relationship with environmental variables changes across multiple spatial scales. *Landscape Ecology*, 27: 1351-1362.
- Dray S, R Péliissier, P Couteron, M-J Fortin, P Legendre, PR Peres-Neto, E Bellier, R Bivand, FG Blanchet, M De Cáceres, A-B Dufour, E Heegaard, T Jombart, F Munoz, J Oksanen, J Thioulouse, HH Wagner. 2012. Community ecology in the age of multivariate multiscale spatial analysis. *Ecological Monographs*, 82: 257–275. [highly cited paper]
- Vepakomma U, D Kneeshaw, M-J Fortin. 2012. Spatial contiguity and continuity of disturbance in boreal forests: Gap persistence, expansion, shrinkage and displacement. *Journal of Ecology*, 100: 1257-1268.
- Fortin M-J, PMA James, A MacKenzie, SJ Melles, B Rayfield. 2012. Spatial statistics, spatial regression, and graph theory in ecology. *Spatial Statistics*, 1:100-109. [Most Downloaded Article in 2013]
- Brotons L, M De Cáceres, A Fall, M-J Fortin. 2012. Incorporating species dispersal and landscape dynamics to the modeling of bird species distribution changes in fire prone mediterranean landscapes. *Ecography*, 35:458-467.
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- Fortin M-J, MRT Dale. 2009. Spatial Autocorrelation. Pp.84-103. In: Fotheringham AS, PA Rogerson (eds.) *The SAGE Handbook of Spatial Analysis*.
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- Fortin M-J. 2004. Commentary. Pp. 66-67. in: Taper, ML, SR Lele, N Lewin-Koh (eds.) *The Nature of Scientific Evidence: Empirical, Statistical, and Philosophical Considerations*. University of Chicago Press.
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- Messier C, Fortin M-J, Schmiegelow F, Doyon F, Cumming SG, Kimmins JP, Seely B, Welham C, Nelson J. 2003. Modelling tools to assess the sustainability of forest management scenarios. Pp. 531-580. in: Burton PJ, Messier C, Smith DW, Adamowicz WL (eds.) *Towards sustainable management of the boreal forest*. NRC Research Press, Ottawa, Canada.
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- Fortin M-J, GM Jacquez, B Shipley. 2002. Computer-Intense methods. Pp. 399-402. in: El-Shaarawi A, WW Piegorsch (eds.) *Encyclopedia of Environmetrics*, Wiley, Chichester.
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- Fortin M-J, MRT Dale, J ver Hoef. 2002. Spatial analysis in ecology. Pp. 2051-2058. in: El-Shaarawi A, WW Piegorsch (eds.) *Encyclopedia of Environmetrics*, Wiley, Chichester.
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- Edwards G, M-J Fortin. 2001. Cognitive view of spatial uncertainty. Pp. 133-157. in: Hunsaker C., Goodchild, M., M Friedl, T Case (eds.) *Spatial Uncertainty in Ecology. Implications for remote sensing and GIS applications*. Springer-Verlag, New York.

- Fortin M-J, G Edwards. 2001. Delineation and Analysis of Vegetation Boundaries. Pp. 158-174. *in: Hunsaker C, Goodchild M, M Friedl, T Case (eds.) Spatial Uncertainty in Ecology. Implications for remote sensing and GIS applications.* Springer-Verlag, New York.
- Fortin M-J, J Gurevitch. 2001. Mantel tests: spatial structure in field experiments. Pp. 308-326. *in: Scheiner SM, J Gurevitch (eds.) Design and Analysis of Ecological Experiments.* Second edition. Oxford University Press, New York.
- Bourgeron PS, M-J Fortin, HC Humphries. 2001. Elements of spatial data analysis in ecological assessments. Pp. 179-199. *in: Jensen ME, PS Bourgeron (eds.) A Guidebook for Integrated Ecological Assessments.* Springer-Verlag.
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- Fortin M-J. 1999. Spatial statistics in landscape ecology. Pp. 253-279. *in: Klopatek, JM, Gardner RH (eds) Landscape Ecological Analysis. Issues and Applications.* Springer-Verlag.
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- Brisson J, A Meilleur, M-J Fortin, A Bouchard. 1997. Edge Effects on Vegetation in Rights-of-Way. Pp. 25-33. *in: Goodrich-Mahoney J (ed.) Environmental Concerns in Rights-of-Way Management.* Environmental Sciences, Economics and Engineering series. Elsevier Science Inc.
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- Girault D, M-J Fortin, F Bonn. 1996. Cartographie des contraintes biophysiques pour les sites d'épandage de boues de la station d'épuration du Lac-Mégantic. Pp. 194-202. *in: Anseau C, C Cloutier, L Vasseur (eds) Perspective écosystémique pour la gestion d'un résidu durable. Les boues d'épuration au Québec.* Les Presses de l'Université de Sherbrooke.
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- Fortin M-J, J Gurevitch. 1993. Mantel tests: spatial structure in field experiments. Pp. 342-359. *in: Scheiner SM, J Gurevitch (eds.) Design and Analysis of Ecological Experiments.* Chapman & Hall, New York.
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- Marquet PA, M-J Fortin, J Pineda, D Wallin, J Clark, J Wu, S Bollens, CM Jacobi, RD Holt. 1993. Ecological and evolutionary consequences of patchiness: a marine-terrestrial perspective. Pp. 277-304. *in: Levin SA, TM Powell, JH Steele (eds.) Patch Dynamics.* Springer-Verlag, Berlin.
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- Simberloff D, P Berthet, V Boy, SH Cousins, M-J Fortin, R Goldburg, LP Lefkovitch, B Ripley, B Scherrer, D Tonkyn. 1987. Novel statistical analyses in terrestrial animal ecology: dirty data and clean questions. Pp. 559-572. *in: Legendre P, L Legendre (eds.) Developments in Numerical Ecology.* NATO ASI Series. Springer-Verlag, Berlin.

Books

- Dale MRT, M-J Fortin. 2014. *Spatial Analysis: A Guide for Ecologists.* 2nd edition. Cambridge University Press.
- Fortin M-J, MRT Dale. 2014. *Spatial Analysis: A Guide for Ecologists.* Cambridge University Press. (translation: X Yang). Higher Education Press, Beijing (Published September 9, 2014; Pp. 304).
- Fortin M-J, MRT Dale. 2005. *Spatial Analysis: A Guide for Ecologists.* Cambridge University Press.

PAPERS PRESENTED AT MEETINGS AND SYMPOSIA

Plenary Speaker

- Fortin M-J. 2016. Network theory to study spatially ecological processes. Québec Centre for Biodiversity Science (QCBS) Symposium, McGill University, Montréal.
- Fortin M-J. 2016. Network theory to study spatially ecological processes. International Statistical Ecology Conference (ISEC) Seattle, WA.
- Fortin M-J. 2006. Landscape connectivity to select protected areas. Ontario Ecology and Ethology Conference (OE3C), Brock University, Ontario.

Keynote Speaker

Kolshorn Lectures-University of Minnesota:

- Public talk: Fortin M-J. 2017. How species persistence is influenced by global change.
 - Research talk: Fortin M-J. 2017. Connectivity for conservation in fragmented landscapes.
- Fortin M-J. 2017. Ecological connectivity research in BC. Marine Ecological Connectivity Workshop (Hosted by CHONeII and CPAWS). Vancouver.
- Fortin M-J. 2017. Connectivity analyses accounting for stepping-stone patches in fragmented landscapes. Conservation Biology Institute, Corvallis, Oregon [Webinar: 110 registered participants].
- Fortin M-J. 2015. Analysis of ecological data: From spatial to spatio-temporal analysis. Spatial Ecology and Conservation 3 Meeting, Bristol, UK.

- Fortin M-J. 2015. Analysis of aquatic ecosystems: The need for spatio-temporal approaches. ACCESS 2015, St. Andrews Biological Station, NB.
- Fortin M-J. 2013. Global change and species distribution. 40th year of Biology; York University.
- 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).
- Fortin M-J. 2011. How to incorporate habitat connectivity in metacommunity models. Community Phylogenetics Workshop, UQAM, Montréal.
- Fortin M-J. 2009. Landscape configuration effects on animal movement. Société Québécoise pour l'Étude Biologique du Comportement (SQÉBC) Trois-Rivières.
- Fortin M-J. 2009. Women as Leaders. Symposium for Women Entering Ecology and Evolution Today (SWEET). CSEE Meeting Halifax.
- Fortin M-J, SJ Melles. 2009. Landscape spatial heterogeneity: scale, modeling and connectivity. Extending Forest Inventory and Monitoring. IUFRO Division 4, Québec.
- 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).
- 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).
- Fortin M-J. 2009. Landscape spatial heterogeneity: Scales, Models and Connectivity. *Spatial Knowledge and Information Canada Meeting* (Fernie, BC).
- Fortin M-J. 2009. Spatial Statistics and Geomatics. *GEOIDE GSN Workshop* (Ryerson University, Toronto).
- Larry Slotdobkin Seminar Series: Ecologist 2010. Department of Ecology & Evolution. State University of New York at Stony Brook:
- Public talk: Fortin M-J. 2010. Species range expansion: A multiscale analysis.
 - Research talk: Fortin M-J. 2010. Selection of protected areas in fragmented landscapes.
- Fortin M-J. 2008. Genetic boundary and connectivity: The importance of landscape ecology and spatial statistics. Landscape Genetics Workshop, Grenoble, France.
- 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:
http://www.ecology.colostate.edu/Distinguished_Ecologists/2007/Fortin/homepagefortin.shtml :
- Fortin M-J. 2007. Spatial analysis: The good, the bad and the ugly.
 - Fortin M-J. 2007. Spatial graph theory: From boundary detection to landscape connectivity.
 - Fortin M-J. 2007. Species spatial requirements to select protected areas.
- Invited Speaker at International Symposia***
- Fortin M-J, Edge E, Jackson DA, Shrestha N. Aquatic ecosystem services at multiple scales: A network perspective. Symposium Aquatic Ecosystem Services in a Changing World. ESA 2017, Portland (OR).
- Darling E, J Maina, T McClanahan, D Mouillot, M-J Fortin, M Krkosek. 2017. Integrating climate risk and refuge into data-driven conservation portfolios for Indo-Pacific coral reefs. Symposium New conservation strategies to sustain coral reefs under climate change. ICCB 2017 SCB.
- Blackford B, C D'Aloia, J Awad-Dosen, M-J Fortin, 2017. Protected areas: How to design resilient networks using connectivity. Canadian protected areas in a changing climate: A cross-ecosystem approach, Symposium. CSEE, Victoria.
- Darling E, J Maina, T McClanahan, M Krkosek, M-J Fortin. 2017. Integrating climate risk and refuge into data-driven portfolios of protected areas. Canadian protected areas in a changing climate: A cross-ecosystem approach, Symposium. CSEE, Victoria.
- Leroux SJ, C Blackford, C Chu, J Curtis, C D'Aloia, E Darling, M-J Fortin, F Guichard, A Martensen, I Naujokaitis-Lewis, B Rayfield, J Sunday, A Xuereb. 2017. Integrating static and dynamic spatial management for biodiversity persistence under climate change. Canadian protected areas in a changing climate: A cross-ecosystem approach, Symposium. CSEE, Victoria.

- Naujokaitis-Lewis I, TG Martin, HP Possingham, M-J Fortin. 2017. Planning for Neo-tropical migratory bird conservation under climate change. Canadian protected areas in a changing climate: A cross-ecosystem approach, Symposium. CSEE, Victoria.
- Bodner K, M-J Fortin; PK Molnár. 2017. Prediction: What is it, why do we do it and how to do it better. Exploring the roles of mechanistic and phenomenological models in ecology, Symposium. CSEE, Victoria.
- Pedersen EJ, PL Thompson, M-J Fortin, TC Gouhier, H Link, C Moritz, H Nenzen, RRE Stanley, ZE Taranu, A Gonzalez, F Guichard, P Pepin. 2017. Dynamics of collapse and recovery in a marine community: insights from multivariate dynamic statistical approaches. Ecological, evolutionary and environmental synthesis in the 21st century, Symposium. CSEE, Victoria.
- Fortin M-J. 2016. Spatial network analysis to study species dispersal. Network Ecology Symposium. International Society of Ecological Modelling Meeting, Baltimore.
- Fortin M-J. 2016. Playing the research game: Bouncing back from rejection and disappointment. CSEE – SWEET (Symposium for Women Entering Ecology & Evolution Today) [Gender diversity policy: the progress, the promise, and the challenges ahead], St. John's, NL.
- Fortin M-J. 2015. Spatial, Directional, and Spatio-Temporal Network in Ecological Studies. Bridge between gene molecules to ecosystems. Centre de recherches mathématiques (CRM), Montréal.
- Xuereb A, J Curtis, I Côté, F Guichard, L Bernatchez, R Daigle, R Bani, M-J Fortin. 2015. Dispersal, connectivity, and genetic structure of the California sea cucumber (*Parastichopus californicus*): Implications for marine management. ICCB, Montpellier, France.
- Fortin M-J, S Saura, Ö Bonin. 2015. A new generalized network model of habitat connectivity accounting for the number of dispersing individuals. IALE Meeting, Portland, OR.
- Fortin M-J, S Saura. 2015. Spatio-temporal analysis is the new frontier in ecological studies. IALE Meeting, Portland, OR.
- Fortin M-J, A Chin, J Linke, R Cormier, C Godin. 2015. Fish connectivity in stream networks. IALE Meeting, Portland, OR.
- Aquilué N, M-J Fortin, C Messier, L Brotons. 2015. Transforming the EU Mediterranean landscape matrix: reversing rural abandonment to reinforce large scale resistance to wildfires. IALE 2105, Portland, OR.
- Daniel C, M-J Fortin. 2015. A meta-modeling framework for integrating stand and landscape processes under climate change in the boreal forest. IALE 2105, Portland, OR.
- Kirby KR, A Camargo Martensen, C Daniel, M-J Fortin. 2015. Spatial patterns of forest fragmentation as indicators social-ecological change in human-dominated tropical landscapes. IALE 2105, Portland, OR.
- Naujokaitis-Lewis I, M-J Fortin. 2015. Spatio-temporal variation of biotic factors underpins contemporary range dynamics of congeneric species. IALE 2105, Portland, OR.
- Watts AG, S Saura, C Jardine, P Leighton, M-J Fortin. 2015. Landscape epidemiology of Lyme disease: How landscape spatial heterogeneity mediates the spread potential of *Ixodes Scapularis* and *Borrelia Burgdorferi*. IALE 2105, Portland, OR.
- Fortin M-J. 2014. Spatial ecology. Mathematical and Statistical Ecology Workshop. Statistical and Applied Mathematical Sciences Institute (SAMSI).
- Fortin M-J. 2013. Landscape spatial heterogeneity: Scale, modeling and connectivity. Biodiversity in a changing world workshop. Centre de Recherches Mathématiques, Université de Montréal.
- Fortin M-J, BR Sturtevant. 2013. Spatially explicit forest management planning: Putting theory into practice. Organized Oral Session. ESA, Minnesota.
- Weaver JE, Conway T, Fortin M-J. 2013. The art and science of transferring species distribution models between ranges. Bio-Geo Environmental Seminar. University of Toronto Mississauga, Mississauga.
- Fortin M-J. 2012. How to test hypotheses using graphs. CSEE Symposium – The structure & dynamics of ecological networks: from genes to ecosystems. CSEE, Ottawa.
- Spear SF, Balkenhol N, Fortin M-J, McRae BH, Scribner K. 2011. Functional connectivity and the resistance surface. In Symposium: The science behind large landscape connectivity initiatives. ICCB, Auckland, New Zealand.
- Fortin M-J, I Naujokaitis-Lewis. 2011. Congruency of predictions between population dynamic and species distribution models under climate change: implications for conservation planning. Symposium: Quantitative tools for identifying critical habitat of endangered species. ICCB, Auckland, New Zealand.
- Fortin M-J. 2010. Spatial graph theory to assess animal movement and limit Disease spread in fragmented landscapes. IUFRO-IALE Forest Landscapes and Global Change, New Frontiers in Management, Conservation and Restoration. Bragança, Portugal.

- Fortin M-J, SF, Spear, N Balkenhol, BH McRae, K Scribner. 2010. Use of resistance surfaces for landscape genetic studies: Considerations for parameterization and analysis. IUFRO-IALE Forest Landscapes and Global Change, New Frontiers in Management, Conservation and Restoration. Bragança, Portugal.
- Fortin M-J. 2010. Spatio-temporal connectivity of malaria. Spatial and Temporal Dynamics of Zoonotic Diseases Symposium. Fields Institute, Toronto.
- Fortin M-J, J Hughes. 2010. Statistics needed to study global change: Which ones to use? Symposium: All You Need to Know is... : Advice from Theorists on Managing Ecosystems in a Changing Climate. ESA, Pittsburgh.
- Fortin M-J, A Fall. 2010. How to compare graphs. Graph, Network, and Circuit Models of Landscape Connectivity Symposium, US-IALE, Athens, Georgia.
- Fortin M-J. 2010. Spatial graph theory to assess animal movement in fragmented landscapes. NICDS workshop on Statistical Methods for Geographic and Spatial Data in the Management of Natural resources, CRM, Université de Montréal.
- Fortin M-J, M-E Grillet. 2009. Spatial ecology: From landscape ecology, landscape epidemiology to landscape genetics. *Spatial Ecology: An integrating framework to study species response to global change*. Symposium. Latin American IALE Conference: Landscape Ecology in Latin America: Challenges and Perspectives. Brazil.
- Sturtevant B, V Quinn, L-E Robert, D Kneeshaw, P James, M-J Fortin, P Wolter, P Townsend, B Cooke. 2009. Can landscape-scale management influence insect outbreak dynamics? A natural experiment for eastern spruce budworm. Special Session *Disturbance interactions during ecological change*. North American Forest Ecology Workshop, Logan, UT.
- James PMA, Sturtevant, BR, Townsend, P, M-J Fortin. 2009. Management legacies and spruce budworm host patterns in Minnesota and adjacent Ontario. Special Session *Disturbance interactions during ecological change*. North American Forest Ecology Workshop, Logan, UT.
- James PMA, BR Sturtevant, P Townsend, P Wolter, M-J Fortin. 2008. Spatial legacies of forest management in spruce budworm host species. Organized Oral Session, ESA, Milwaukee.
- Kneeshaw D, E Doblus-Miranda, BR Sturtevant, P Burton, M-J Fortin, D MacLean, B Cooke, R Man, PMA James, J Hughes. 2008. Synthesis of insect disturbance from a forest's perspective. Organized Oral Session, ESA, Milwaukee.
- Hughes J, M Eng, A Fall, M-J Fortin, A Walton, T Shore, B Riel. 2008. Insect outbreaks in forested landscapes: Spatial patterns and ecosystem responses. *Insect Outbreaks in Forested Landscapes: Spatial Patterns and Ecosystem Responses Symposium*. US-IALE, Madison.
- Fortin M-J, A Fall, N Simon. 2006. Spatial graph theory: From boundary detection to landscape connectivity. *Ecological and evolutionary processes in complex networks Symposium*. ESA, Memphis.
- Fortin M-J. 2005. Landscape connectivity to select protected areas: Overview of new spatial methods. 17th A.D. Latornell Conservation Symposium.
- Fortin M-J, F Csillag. 2005. Delineating cohesive ecological boundaries across scales. *Spatial Statistics at Multiple Scales, Special Session*. INTECOL-ESA, Montréal.
- Fortin M-J. 2005. Spatial legacy effects in multiuse forested landscapes. NCCR (National Centre of Competence in Research) Plant Survival International Conference 2005, Leysin, Switzerland.
- Fortin M-J, F Csillag, M Philibert. 2004. How to determine cohesive ecological boundaries. Joint Statistical Meetings, Toronto.
- Fortin M-J, MRT Dale. 2004. Global to local statistics to analyse watershed at multiple spatial scales. Innovative Approaches Special Session. North American Benthological Society, Vancouver.
- Fortin M-J. 2003. Spatial analysis of heterogeneous landscape. Symposium *Understanding Wild Riverine Fish Populations at Watershed to Regional Scales*, American Fisheries Society, Québec.
- Jordan GJ, M-J Fortin, KP Lertzman, S Karpuk. 2003. Detection of spatio-temporal characteristics of fire disturbance boundaries in a forested landscape and their relationship with riparian zones. US-IALE Meeting, The Banff Centre.
- McIntire E, M-J Fortin. 2003. Spatial complexity within natural disturbance boundary zones: How to measure it and implications for landscape heterogeneity. US-IALE Meeting, The Banff Centre.
- Fortin M-J. 2003. Patch or boundary: New methods to quantify landscape spatial heterogeneity. US-IALE Meeting, The Banff Centre.
- Fall A, M Manseau, D O'Brien, M-J Fortin. 2003. Multi-scale landscape analysis for assessing connectivity of woodland caribou habitat. US-IALE Meeting, The Banff Centre.
- Bélisle M, A Fall, M-J Fortin. 2003. Scaling up gap-crossing decision rules to predict the movements of forest birds in fragmented landscapes. US-IALE Meeting, The Banff Centre.

- Fortin M-J, S Payette, A Fall. 2002. Deforestation in Québec northern boreal forest due to fire regime. 4th International Workshop on Disturbance Dynamics in Boreal Forests Disturbance Processes and Their Ecological Effects in Boreal Forests. University of Northern British Columbia, Prince George, B.C.
- Fortin M-J, A Fall, M Didion. 2002. Intégration de la problématique des feux dans la planification forestière. L'aménagement forestier et le feu, Colloque. Ressources naturelles du Québec, Chicoutimi.
- Fortin M-J, M Philibert, T Remmel, F Csillag. 2001. Sensitivity analysis of boundary detection on spatial features of heterogeneous landscape. The premises and problems with spatial analysis in landscape ecology Symposium. US-IALE, Tempe, Arizona.
- Fortin M-J. 1999. Statistical spatial overlap of boundaries. Spatial Statistics for Species Geographical Range Analysis Symposium. ESA Meetings, Spokane.
- Fortin M-J, T Merrill. 1998. Spatial integration as a tool for conceptual and empirical advance in ecology: Case studies and lessons. First Triennial Vice Presidential Science Symposium: Ecology as a comprehensive science. ESA Meetings, Baltimore.
- Fortin M-J. 1998. Randomization tests in ecology. INTECOL Symposium: Randomization tests in Ecology. Florence, Italy.
- Fortin M-J, GA Bradshaw. 1998. Effects of landscape anisotropy on scaling and sampling design in ecological monitoring. INTECOL Symposium: Statistical data analysis, Florence, Italy.
- Fortin M-J. 1997. Spatial statistics workshop. US-IALE meetings, Duke University, Durham, NC.
- Fortin M-J, P Drapeau. 1997. Biological hypotheses, spatial properties of organisms, and analytical approaches. Network of Centers of Excellence in Sustainable Forest Management. Spatial Data Analysis - Interstands Dynamics Workshop. GREF, UQAM, Montréal.
- Fortin M-J, A Leduc. 1997. The spatial data analysis toolbox: proper tools for specific questions and proper questions for specific tools. Network of Centers of Excellence in Sustainable Forest Management. Spatial Data Analysis - Interstands Dynamics Workshop. GREF, UQAM, Montréal.
- Fortin M-J, GA Bradshaw. 1996. Monitoring landscapes: are objectives commensurate with abilities? Fragmentation and wildlife conservation. Inter-American Institute for Global Change Research, Chile.
- Fortin M-J. 1996. Ecological hypotheses and permutation tests: putting things in order. Permutation tests in ecology: how should we test ecological hypotheses? Symposium, ESA Meeting, Providence, RI.
- Fortin M-J, GA Bradshaw. 1994. Building a conceptual framework to sample aquatic networks across scales. S.D.A.N.A.S. Workshop, Corvallis, Oregon.
- Bradshaw GA, M-J Fortin. 1994. Mapping statistical approaches to current ecological paradigms. S.D.A.N.A.S. Workshop, Corvallis, Oregon.
- Fortin M-J. 1993. Geostatistical analyses of ecological data: a user's perspective. The Practice and Potential of Geostatistics in Ecology Symposium, ESA Meeting, Madison.
- Gurevitch J, M-J Fortin. 1991. Field experiments in community ecology: New perspectives on old problems of scale and structure. Designing Ecological Experiments Symposium, ESA Meeting, San Antonio, Texas.
- Fortin M-J. 1989. Multidimensional edge detection: Methods and examples. Modelling ecotones, boundaries and transition zones Symposium, International Society for Ecological Modelling Meeting, Toronto.
- Fortin M-J. 1989. Reconnaissance de frontières dans une forêt mosaïque. Ecologie des paysages: une approche de l'étude des écosystèmes, ACFAS, Montréal.
- Fortin M-J. 1987. Détection de zones homogènes. Journée ECOTHAU. Université des Sciences et Techniques du Languedoc, Montpellier, France.
- Fortin M-J. 1986. Comment analyser statistiquement des variables écologiques qui sont autocorrélées spatialement? Interrelations entre la biologie et la géomorphologie, ACFAS, Montréal.

INVITED LECTURES

- 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.
- Fortin M-J. 2017. How species persistence is influenced by global change. ETH, Zurich, Switzerland.
- Fortin M-J. 2017. How species persistence is influenced by global change. University of Zurich, Zurich, Switzerland.
- Fortin M-J. 2017. How species persistence is influenced by global change. WSL, Zurich, Switzerland.
- Fortin M-J. 2017. How species persistence is influenced by global change. Department of Biology, Université de Lausanne, Lausanne, Switzerland.
- Fortin M-J. 2017. How species persistence is influenced by global change. European Commission, Joint Research Centre, Ispra, Italy.

- Fortin M-J. 2017. How species persistence is influenced by global change. Department of Biology, Université de Lyon 1 – CNRS, Lyon, France.
- Fortin M-J. 2017. How species persistence is influenced by global change. Department of Biometry and Environmental System Analysis, University of Freiburg, Germany.
- Fortin M-J. 2017. Network theory to study ecological processes. (Invited by the Biology Graduate Students Association) Concordia University, Montréal.
- Fortin M-J. 2017. Network theory to study ecological processes. University of Florida, Gainesville, FL.
- 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.
- Fortin M-J. 2016. Network theory to study ecological processes. Université du Québec en Outaouais (UQO), Ripon, Québec.
- Fortin M-J. 2016. Connectivity for conservation in forested ecosystems. NSERC CREATE Forest Complexity Modelling-Summer School, Biological Station, Université de Montréal.
- Fortin M-J. 2015. Landscape genetics. Universidade Estadual Paulista, Rio Claro, Brazil.
- Fortin M-J. 2015. Species range of birds. Universidade Federal do Amapá, Macapá, Brazil.
- Fortin M-J. 2015. Species range of birds. INPA, Manaus, Brazil.
- Fortin M-J. 2014. Spatial Ecology: From conservation, epidemiology to genetics. McGill University.
- Fortin M-J. 2014. Spatial Ecology, landscape epidemiology and landscape genetics. Environment Canada (Ottawa).
- Fortin M-J. 2013. Global change and species distribution. Queen's University.
- Fortin M-J. 2012. Landscape and genetic connectivity based on graph theory. York University.
- Fortin M-J. 2012. Landscape and genetic connectivity based on graph theory. Brock University.
- Fortin M-J. 2011. Spatial graph theory for boundary detection to landscape connectivity. São Paulo Summer School on Ecological Networks (São Paulo, Brazil).
- Fortin M-J. 2011. Graphs for ecologists. São Paulo Summer School on Ecological Networks (São Paulo, Brazil).
- Fortin M-J. 2011. Species range expansion and global change. Carleton University, Ottawa.
- Fortin M-J. 2011. Species range expansion and global change. Guelph University, Ontario.
- 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.
- 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.
- Fortin M-J. 2010. Use of resistance surfaces for landscape genetic studies. Dalhousie University, NS.
- Fortin M-J. 2010. La diversité génétique environnementale et la théorie des graphes: l'importance du paysage. Université Laval.
- Fortin M-J. 2010. L'expansion de l'aire de répartition: une étude à plusieurs échelles Université de Sherbrooke.
- Fortin M-J. 2010. Use of resistance surfaces for landscape genetic studies. Western University, Ontario.
- 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.
- Fortin M-J. 2008. Spatial graph theory: From boundary detection to habitat connectivity. Department of Fish & Wildlife Resources, University of Idaho.
- Fortin M-J. 2008. Species spatial requirements to select protected areas. Department of Fish & Wildlife Resources, University of Idaho.
- Fortin M-J. 2008. Spatial graph theory: From boundary detection to habitat connectivity. Department of Biology, Queen's University.
- Fortin M-J. 2008. La théorie des graphes: de la détection des frontières à la connectivité des habitats. Département de Biologie, Université Laval.
- Fortin M-J. 2008. Spatial graph theory: From boundary detection to landscape connectivity. Center for Spatial Analysis, McMaster University.
- Fortin M-J. 2007. Spatial graph theory: From boundary detection to landscape connectivity. Department of Biology, McGill University.
- Fortin M-J. 2007. Spatial graph theory: From Boundary detection to landscape connectivity. Department of Statistics, The University of Auckland, New Zealand.
- Fortin M-J. 2007. Species spatial requirements to to select protected areas. The Ecology Center, The University of Queensland, Australia.
- Fortin M-J. 2007. Spatial graph theory: From boundary detection to landscape connectivity. School of Botany, University of Melbourne, Australia.

- Fortin M-J. 2007. Species spatial requirements to select protected areas. School of Botany, University of Melbourne, Australia.
- Fortin M-J. 2007. Spatial graph theory: From boundary detection to landscape connectivity. Sierra Legal, Toronto.
- Fortin M-J. 2006. Spatial graph theory: From boundary detection to landscape connectivity. Department of EEB, University of Toronto.
- Fortin M-J. 2006. L'analyse spatiale des données écologiques: les mythes et les défis. Département des Sciences Biologiques, Université du Québec à Montréal.
- Fortin M-J. 2006. Spatial graph theory: From boundary detection to landscape connectivity. Department of Biology, University of Ottawa.
- Fortin M-J. 2006. Spatial graph theory: From boundary detection to landscape connectivity. Biology Department, Concordia University.
- Fortin M-J, B Rayfield. 2006. Determining protected areas in multiple-uses landscapes: a spatial analysis perspective. Biology Department, Carleton University.
- Fortin M-J. 2006. Determining protected areas in multiple-uses landscapes: a spatial analysis perspective. Watershed Ecosystems Graduate Program, Trent University.
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- Fortin M-J. 2005. Ecology and null models. Neutral Model: Simulation Algorithms for Spatial Pattern Recognition Workshop. Biomedware, Ann Arbor, MI.
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