

Leithen K. M'Gonigle
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Appointments

2021– Associate Professor, Simon Fraser University, Burnaby, Canada
2018–2021 Assistant Professor, Simon Fraser University, Burnaby, Canada
2015–2017 Assistant Professor, Florida State University, Tallahassee, USA
2012–2014 NSERC Postdoctoral Fellow, University of California, Berkeley, USA

Education

2005–2011 PhD, Zoology, University of British Columbia, Vancouver, Canada
2000–2005 BSc, Mathematics (honours with distinction), University of Victoria, Victoria, Canada

Grants / Fellowships / Scholarships

2021 BC Parks Living Labs (\$20,000 CAD)
2020 Genome BC (\$249,100 CAD)
PI: V. Marlatt, M. Cleveland, Collaborators: J. Anderson, L. M'Gonigle
2020 BC Parks Living Labs (\$20,000 CAD; Declined due to COVID-19)
2019–2021 NSERC, New Frontiers in Research Fund (\$233,091 CAD; NFRFE-2018-00517)
PI: T. Soma, Co-PIs: J. Bulkan, D. Lepofsky, L. M'Gonigle
2018–2023 NSERC, Discovery Grant (\$177,500 CAD)
2015 First Year Assistant Professor Award, Florida State University (\$20,000 USD)
2012 NSERC Postdoctoral Fellowship (PDF) (\$80,000 CAD)
2011 Dan David Prize (\$15,000 USD)
2007 NSERC Canada Graduate Scholarship, doctoral (CGS-D) (\$70,000 CAD)
2005 NSERC Canada Graduate Scholarship, masters (CGS-M) (\$42,000 CAD)

Publications (* denotes equal contribution)

41. Garcia, K., E. M. Olimpi, L. K. M'Gonigle, D. S. Karp, E. Wilson-Rankin, C. Kremen, and D. J. Gonthier, 2023. Semi-natural habitats on organic strawberry farms and in surrounding landscapes promote bird biodiversity and pest control potential. *Agric. Ecosyst. Environ.* **347**:108353
40. *Johnson, S. A., H. M. *Jackson, H. Noth, and L. K. M'Gonigle, 2023. Positive impact of post-fire environment on bumble bees not explained by habitat variables in a remote forested ecosystem. *Ecol. Evol.* **13**:9743
39. Shirey, V., R. Khelifa, L. K. *M'Gonigle, and L. M. *Guzman, 2023. Occupancy-detection models with museum specimen data: promise and pitfalls. *Methods Ecol. Evol.* **14**:402–414
38. Cenzer, M. L. and L. K. M'Gonigle, 2022. Co-evolution of dormancy and dispersal in spatially auto-correlated landscapes. *Evolution* **76**:2769–2777
37. Sciligo, A. R., L. K. M'Gonigle, and C. Kremen, 2022. Local crop diversification enhances pollinator visitation to strawberry and may improve pollination and marketability. *Front. Sustain. Food Syst.* **6**:941840

36. Jackson, H. M., S. A. Johnson, L. A. Morandin, L. L. Richardson, L. M. *Guzman, and L. K. *M'Gonigle, 2022. Climate change winners and losers among North American bumble bees. *Biol. Lett.* **18**:20210551
35. Greenspoon, P. B., H. G. Spencer, and L. K. M'Gonigle, 2022. Epigenetic induction may speed up or slow down speciation with gene flow. *Evolution* **76**:1170–1182
34. Olimpi, E. M., H. Daly, K. Garcia, V. M. Glynn, D. J. Gonthier, C. Kremen, L. K. M'Gonigle, and D. S. Karp, 2022. Interactive effects of multiscale diversification on farmland bird stress. *Conserv. Biol.* **36**:e13902
33. Khelifa, R., H. Mahdjoub, L. K. M'Gonigle, and C. Kremen, 2021. Integrating high-speed videos in capture-mark-recapture studies of insects. *Ecol. Evol.* **11**:6033–6040
32. Bigman, J. S., L. K. M'Gonigle, N. C. Wegner, and N. K. Dulvy, 2021. Respiratory capacity is twice as important as temperature in driving patterns of metabolic rate across the vertebrate tree of life. *Sci. Adv.* **7**:eabe5163
31. Guzman, L. M., S. A. Johnson, A. O. Mooers, and L. K. M'Gonigle, 2021. Using historical data to estimate bumble bee occurrence: variable trends across species provide little support for community-level declines. *Biol. Conserv.* **257**:109141
30. Lange, E., K. A. Hughes, J. Travis, and L. K. M'Gonigle, 2021. Can you trust who you see? The evolution of socially-cued anticipatory plasticity. *Am. Nat.* **197**:e129–e142
29. Beausoleil, M., L. O. Frishkoff, L. K. M'Gonigle, J. A. M. Raeymaekers, S. A. Knutie, L. De León, S. K. Huber, J. A. Chaves, D. H. Clayton, J. A. H. Koop, J. Podos, D. Sharpe, A. P. Hendry, and R. D. H. Barrett, 2019. Temporally varying disruptive selection in the medium ground finch (*Geospiza fortis*). *Proc. R. Soc. B* **286**:20192290
28. Ponisio, L. C., P. de Valpine, L. K. M'Gonigle, and C. Kremen, 2019. Proximity of restored hedgerows interacts with local floral diversity and species' traits to shape long-term pollinator metacommunity dynamics. *Ecol. Lett.* **22**:1048–1060
27. Cenzer, M. L. and L. K. M'Gonigle, 2019. Local adaptation in dispersal in multi-resource landscapes. *Evolution* **73**:648–660
26. *Kremen, C., L. K. *M'Gonigle, and L. C. Ponisio, 2018. Pollinator community assembly tracks changes in floral resources as restored hedgerows mature in agricultural landscapes. *Front. Ecol. Evol.* **6**:170
25. DuVal, E. H., C. C. Vanderbilt, and L. K. M'Gonigle, 2018. The spatial dynamics of female choice in an exploded lek generate benefits of aggregation for experienced males. *Anim. Behav.* **143**:215–225
24. Ponisio, L. C. and L. K. M'Gonigle, 2017. Coevolution leaves a weak signal on ecological networks. *Ecosphere* **8**:e01798
23. M'Gonigle, L. K., N. M. Williams, E. Lonsdorf, and C. Kremen, 2017. A tool for selecting plants when restoring habitat for pollinators. *Conserv. Lett.* **10**:105–111
22. Frishkoff, L. O., P. de Valpine, and L. K. M'Gonigle, 2017. Phylogenetic occupancy models integrate imperfect detection and phylogenetic signal to analyze community structure. *Ecology* **98**:198–210
21. Frishkoff, L. O., D. S. Karp, J. R. Flanders, J. Zook, E. A. Hadley, G. C. Daily, and L. K. M'Gonigle, 2016. Climate change and habitat conversion favour the same species. *Ecol. Lett.* **22**:1081–1090
20. Karp, D. S., R. Moses, S. Gennet, M. S. Jones, S. Joseph, L. K. M'Gonigle, L. C. Ponisio, W. E. Snyder, and C. Kremen, 2016. Agricultural practices for food safety threaten pest control services for fresh produce. *J. Appl. Ecol.* **54**:1402–1412
19. Ponisio, L. C., K. Wilkin, L. K. M'Gonigle, K. Kulhanek, L. Cook, R. Thorp, T. Griswold, and C. Kremen, 2016b. Pyrodiversity begets pollinator biodiversity. *Glob. Chang. Biol.* **22**:1794–1808

18. Ponisio, L. C., L. K. M'Gonigle, and C. Kremen, 2016a. On-farm habitat restoration counters biotic homogenization in intensively managed agriculture. *Glob. Chang. Biol.* **22**:704–715
17. M'Gonigle, L. K., L. C. Ponisio, K. Cutler, and C. Kremen, 2015. Habitat restoration promotes pollinator persistence and colonization in intensively-managed agriculture. *Ecol. Appl.* **25**:1557–1565
16. Kleijn, D., R. Winfree, I. Bartomeus, L. G. Carvalheiro, M. Henry, R. Isaacs, A. M. Klein, C. Kremen, L. K. M'Gonigle, R. Rader, T. H. Ricketts, N. M. Williams, N. L. Adamson, J. S. Ascher, A. Báldi, P. Batáry, F. Benjamin, J. C. Biesmeijer, E. J. Blitzer, R. Bommarco, M. R. Brand, V. Bretagnolle, L. Button, D. P. Cariveau, R. Chifflet, J. F. Colville, B. N. Danforth, E. Elle, M. P. D. Garratt, F. Herzog, A. Holzschuh, B. G. Howlett, F. Jauker, S. Jha, E. Knop, K. M. Krewenka, V. Le Féon, Y. Mandelik, E. A. May, M. G. Park, G. Pisanty, M. Reemer, V. Riedinger, O. Rollin, M. Rundlöf, H. S. Sardiñas, J. Scheper, A. R. Sciligo, H. G. Smith, I. Steffan-Dewenter, R. Thorp, T. Tscharntke, J. Verhulst, B. F. Viana, B. E. Vaissière, R. Veldtman, C. Westphal, and S. G. Potts, 2015. Delivery of crop pollination services is an insufficient argument for wild pollinator conservation. *Nat. Commun.* **6**
15. Kremen, C. and L. K. M'Gonigle, 2015. Small-scale restoration in intensive agricultural landscapes supports more specialized and less mobile pollinator species. *J. Appl. Ecol.* **52**:602–610
14. Ponisio, L. C., L. K. M'Gonigle, K. C. Mace, J. Palomino, P. de Valpine, and C. Kremen, 2015. Diversification practices reduce organic to conventional yield gap. *Proc. R. Soc. B.* **282**:20141396
13. Greenspoon, P. B. and L. K. M'Gonigle, 2014. Host-parasite interactions and the evolution of non-random mating. *Evolution* **68**:3570–3580
12. *Frishkoff, L. O., D. S. *Karp, L. K. M'Gonigle, C. D. Mendenhall, J. Zook, C. Kremen, E. A. Hadly, and G. C. Daily, 2014. Loss of avian phylogenetic diversity in neotropical agricultural systems. *Science* **345**:1343–1346
11. M'Gonigle, L. K. and P. B. Greenspoon, 2014. Allee effects and species coexistence in an environment where resource abundance varies. *J. Theor. Biol.* **361**:61–68
10. Ball-Damerow, J. E., L. K. M'Gonigle, and V. H. Resh, 2014b. Local and regional factors influencing assemblages of dragonflies and damselflies (Odonata) in California and Nevada. *J. Insect. Conserv.* **18**:1027–1036
9. Ball-Damerow, J. E., L. K. M'Gonigle, and V. H. Resh, 2014a. Changes in occurrence, richness, and biological traits of dragonflies and damselflies (Odonata) in California and Nevada over the past century. *Biodivers. Conserv.* **23**:2107–2126
8. Greenspoon, P. B. and L. K. M'Gonigle, 2013b. The evolution of mutation rate in an antagonistic coevolutionary model with maternal transmission of parasites. *Proc. R. Soc. B.* **280**:20130647
7. Greenspoon, P. B. and L. K. M'Gonigle, 2013a. Can positive frequency dependence facilitate plant coexistence? *Trends. Ecol. Evol.* **28**:317–318
6. M'Gonigle, L. K., R. Mazzucco, S. P. Otto, and U. Dieckmann, 2012. Sexual selection enables long-time coexistence despite ecological equivalence. *Nature* **484**:506–509
5. M'Gonigle, L. K. and S. P. Otto, 2011. Ploidy and the evolution of parasitism. *Proc. R. Soc. B.* **278**:2814–2822
4. Matthews, B., L. J. Harmon, L. K. M'Gonigle, K. B. Marchinko, and H. Schaschl, 2010. Sympatric and allopatric divergence of MHC genes in threespine stickleback. *PLoS ONE* **5**:10948
3. M'Gonigle, L. K. and R. G. FitzJohn, 2010. Assortative mating and spatial structure in hybrid zones. *Evolution* **64**:444–455
2. M'Gonigle, L. K., J. J. Shen, and S. P. Otto, 2009. Mutating away from your enemies: the evolution of mutation rate in a host-parasite system. *Theor. Popul. Biol.* **75**:301–311

1. Barrett, R. D. H., L. K. M'Gonigle, and S. P. Otto, 2006. The distribution of beneficial mutations under strong selection. *Genetics* **174**:2071–2079

Invited seminars

- 2022 Department of Entomology, University of Manitoba, Winnipeg, Canada
- 2019 Lasqueti Island Nature Conservancy, Lasqueti Island, Canada
- 2019 Dept of Biological Sciences, Washington State University, Vancouver, USA
- 2018 The Biology Dept, Western Washington University, Bellingham, USA
- 2018 Biodiversity Research Center, University of British Columbia, Vancouver, Canada
- 2018 Dept of Biology, University of Ottawa, Ottawa, Canada
- 2017 Dept of Biology, University of Florida, Gainesville, Florida
- 2017 Dept of Biological Sciences, Simon Fraser University, Burnaby, Canada
- 2016 Center for Ecology, Evolution and Biogeochemistry, EAWAG, Dübendorf, Switzerland
- 2015 Gordon Research Conference "Speciation", Ventura, California, USA
- 2014 ESA, The Entomological Society of America, Portland, Oregon, USA
- 2014 Dept of Entomology and Nematology, University of California, Davis, Davis, California, USA
- 2014 California Dept of Food and Agriculture, Sacramento, California, USA
- 2014 Dept of Biological Science, Florida State University, Tallahassee, Florida, USA
- 2013 Dept of Biology, San Francisco State University, San Francisco, California, USA
- 2013 PBESA, Pacific Branch of the Entomological Society of America, Stateline, Nevada, USA
- 2012 Dept of Integrative Biology, University of California, Berkeley, Berkeley, California, USA
- 2012 School of Environmental Studies, University of Victoria, Victoria, British Columbia, Canada
- 2012 Dept of Biology, University of Victoria, Victoria, British Columbia, Canada
- 2012 Dept of Biological Sciences, Stanford, Palo Alto, California, USA

Contributed talks/posters

- 2020 ASN, American Society of Naturalists, Pacific Grove, California, USA
- 2018 SSE/ASN/ESEB/SSB, Joint Congress on Evolutionary Biology, Montpellier, France
- 2018 EVO-WIBO, Evolutionary Biology in the Pacific Northwest, Port Townsend, USA
- 2017 CSEE, Canadian Society for Ecology and Evolution, Victoria, Canada
- 2017 E&E Seminar, Florida State University, Tallahassee, Florida, USA
- 2016 ASN, American Society of Naturalists, Pacific Grove, California, USA
- 2014 ESA, Ecological Society of America, Sacramento, California, USA
- 2014 ASN, American Society of Naturalists, Pacific Grove, California, USA
- 2012 SSE/ESEB/CSEE, Joint Congress on Evolutionary Biology, Ottawa, Canada
- 2011 BLISS, University of British Columbia, Vancouver, Canada
- 2010 SSE, Evolution 2010, Portland, Oregon, USA
- 2010 EVO-WIBO, Evolutionary Biology in the Pacific Northwest, Port Townsend, USA
- 2009 UBC/SFU/UVic Ecology & Evolution Retreat, Squamish, Canada
- 2009 Evolution in Metapopulations, La Fouly, Switzerland
- 2009 ESEB, European Society for Evolutionary Biology 12th Congress, Turin, Italy
- 2009 SSE, Evolution 2009, Moscow, Idaho, USA
- 2009 Zoology Graduate Student Symposium, Vancouver, Canada
- 2008 CSEE, Canadian Society for Ecology and Evolution, Vancouver, Canada
- 2008 EVO-WIBO, Evolutionary Biology in the Pacific Northwest, Port Townsend, USA
- 2008 Zoology Graduate Student Symposium, Vancouver, Canada
- 2007 UBC/SFU/UVic Ecology & Evolution Retreat, Squamish, Canada

2006 EVO-WIBO, Evolutionary Biology in the Pacific Northwest, Port Townsend, USA
2005 UBC/SFU/UVic Ecology & Evolution Retreat, Squamish, Canada

Teaching

2022 Evolution, BISC 300
2022 Quantitative Methods, BISC 869
2021 Population Dynamics, BISC 407
2021 Population Dynamics, BISC 838
2020 Evolution, BISC 300
2020 Quantitative Methods, BISC 869
2019 2×Population Dynamics, BISC 407
2018 Quantitative Methods, BISC 869
2017 Biology II, honors, BSC-2011, Florida State University
2016 Biomathematics, BSC-4933/BSC-5936, Florida State University
2015 Biomathematics, BSC-4933/BSC-5936, Florida State University

Supervision

Postdoctoral

2020–2022 Dr. Rassim Khelifa (University of British Columbia, SNF Early Postdoc Mobility Fellowship)
2019–2022 Dr. Melissa Guzman (SFU, Lieber Ero Postdoctoral Fellowship)
2016–2017 Dr. Meredith Cenzer (Florida State University)

PhD

2022– Batoule Hyjazie (UBC)
2018– Sarah Johnson (SFU)
2018– Elijah Reyes (SFU)

Msc

2021– Emma Green (SFU)
2021– Hanna Jackson (SFU)
2016–2017 Dalton Stanfield (Florida State University)

BSc

2022 Keiran Maskell (Independent research project, SFU)
2021 Savita Owens-Frank (NSERC-USRA, SFU)
2020 Hutton Noth (NSERC-USRA, SFU)
2020 Hanna Jackson (NSERC-USRA, SFU)
2019 Rowan Rampton (VPR-USRA, SFU)
2019 Jack Hall (NSERC-USRA, SFU)
2018 Finnerty Cunliffe (NSERC-USRA, SFU)
2017 Anna Wuest (Directed studies, Florida State University)
2015–2016 Samuel Bedgood, (Honours thesis, Florida State University)
2012 Kendall Calhoun (RA, “Biology Scholars Program”, UC Berkeley)
2012 Karin Nguyen (RA, “CalNERDS”, UC Berkeley)
2012 Dylan Baker (RA, UC Berkeley)
2012 Janelle Dorcy (RA, UC Berkeley)
2006–2007 Jane Shen (honours thesis, University of British Columbia)

Supervisory committees

- 2022– Raven Barbera (MSc)
- 2022– Ramis Rafay (PhD)
- 2021– Wade VanderWright (MSc)
- 2019– Philippe Fernandez-Fournier (PhD)
- 2018– Hannah Watkins (PhD)
- 2018–2022 Debora Obrist (PhD)
- 2019–2021 Griffin Dare (MSc)
- 2018–2021 Joanna Enns (MSc)
- 2018–2020 Tara Mulloy (MSc)
- 2018–2020 Karl Seitz (MSc)
- 2016–2019 Will Booker (PhD, Florida State University)
- 2015–2020 Micaiah Ward (PhD, Florida State University)

Qualifying / Defense examiner

- 2022 Nicolas Muñoz (PhD defense internal, SFU)
- 2020 Adam Blake (PhD defense internal, SFU)
- 2020 Andrew Simon (MSc defense external, University of Victoria)
- 2019 Allison Dennert (PhD qualifying exam, SFU)
- 2019 Kyle Chezik (PhD defense internal, SFU)
- 2018 David Hope (PhD defense internal, SFU)
- 2018 Kyle Bobiwash (PhD defense internal, SFU)
- 2018 Michelle Toshack (MSc defense internal, SFU)

Defense chair

- 2022 Natalie Dinsdale (PhD)
- 2021 Rachel Walls (PhD)
- 2020 Laura Kroesen (MSc)
- 2019 Dennis Quach (MSc)
- 2019 Richard Johnston-Gonzalez (PhD)

Service

Reviewing:

External reviewer and panelist for NSF

Peer-reviewer for:

Agric. Ecosyst. Environ. • *Am. Nat.* • *J. Appl. Ecol.* • *Biodivers. Conserv.* • *Biol. Conserv.* • *Biol. Invasions* • *BMC Evol. Biol.* • *Can. J. Zool.* • *Curr. Zool.* • *Divers. Distrib.* • *Ecology* • *Ecol. Appl.* • *Ecol. Monogr.* • *Ecosphere* • *J. Environ. Manage.* • *Evolution* • *Evol. Biol.* • *Evol. Ecol.* • *For. Ecol. Manag.* • *Front. Ecol. Evol.* • *Funct. Ecol.* • *Genetics* • *Insect Conserv. Divers.* • *Landsc. Ecol.* • *Mol. Ecol.* • *Nature* • *Nat. Commun.* • *PLoS ONE* • *Proc. Natl. Acad. Sci. U.S.A.* • *Proc. Royal Soc. B* • *J. Theor. Biol.* • *Theor. Popul. Biol.*

Admin:

2022– Tenure and Promotion Committee (SFU)
2021 Co-chair, Canadian Society for Ecology and Evolution annual meeting
2020–2022 Chair, Departmental Scholarships Committee (SFU)
2018–2020 Tenure and Promotion Committee (SFU)
2016–2017 Ecology and Evolution seminar series (Florida State University)
2008–2011 DeltaTea seminar series (University of British Columbia)
2009 The meaning and role of theory in evolutionary biology (University of British Columbia)
2008 Canadian Society for Ecology and Evolution annual meeting (Vancouver)
2006–2008 Dirt Lunch seminar series (University of British Columbia)
2006 American Genetics Association “Genetics of Speciation” (University of British Columbia)