

Geoffrey Legault

Professional Experience

- 2022 - present Data Scientist, Customer Data Science Team
Getty Images
- 2019 - 2021 Postdoctoral Fellow, Department of Forest & Conservation Sciences
University of British Columbia
- 2017 - 2019 Postdoctoral Research Associate, Department of Biology
University of North Carolina at Chapel Hill

Education

- 2014 - 2017 Ph.D., Ecology and Evolutionary Biology, *University of Colorado at Boulder*
- 2011 - 2013 Graduate Program in Biology, *University of Calgary* (transferred to Boulder)
- 2009 - 2011 M.Sc., Environmental Science, *University of Toronto*
- 2006 - 2009 B.Sc., *University of Toronto*

Publications († denotes undergraduate student)

11. H.A. Woods, **G. Legault**, J.G. Kingsolver, S. Pincebourde, A.A. Shah, B.G. Larkin. (2022) Climate-driven thermal opportunities and risks for leaf miners in aspen canopies. *Ecological Monographs* e1544 [link](#)
10. T. Dallas, B.A. Melbourne, **G. Legault**, A. Hastings. (2021) Initial abundance and stochasticity influence competitive outcome in communities. *Journal of Animal Ecology* 90(7): 1691-1700 [link](#)
9. **G. Legault**, M.E. Bitters, A. Hastings, B.A. Melbourne. (2020) Interspecific competition slows range expansion and shapes range boundaries. *Proceedings of the National Academy of Sciences of the United States of America* 117(43): 26854-26860 [link](#)
8. **G. Legault**, J.G. Kingsolver. (2020) A stochastic model for predicting age and mass at maturity of insects. *The American Naturalist* 196: 227-240. [link](#)
7. M. Bullock†, **G. Legault (Corresponding author)**, B.A. Melbourne. (2020) Interspecific chemical competition between *Tribolium castaneum* and *Tribolium confusum* reduces fecundity and hastens development time. *Annals of the Entomological Society of America* 113(3): 216-222 [link](#)
6. **G. Legault**, J.W. Fox, B.A. Melbourne. (2019) Demographic stochasticity alters expected outcomes in experimental and simulated non-neutral communities. *Oikos* 128(12): 1704-1715 [link](#)
5. **G. Legault**, B.A. Melbourne. (2019) Accounting for environmental change in continuous-time stochastic population models. *Theoretical Ecology* 12(1): 31-48 [link](#) 
4. Contributing author (2018) "Direct and indirect drivers of land degradation and restoration" in *Assessment Report on Land Degradation and Restoration*. Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) [link](#)
3. **G. Legault**, M. Cusa†. (2015) Temperature and delayed snowmelt jointly affect the vegetative and reproductive phenologies of four sub-Arctic plants. *Polar Biology* 38: 1701-1711 [link](#)
2. J.W. Fox, **G. Legault**, D.A. Vasseur, J. Einarson. (2013) Nonlinear effect of dispersal rate on spatial synchrony of predator-prey cycles. *PLoS ONE* 8(11): e379527 [link](#)
1. **G. Legault**, A.E. Weis. (2013) The impact of snow accumulation on a heath spider community in a sub-Arctic landscape. *Polar Biology* 36: 885-894 [link](#)

Submitted

A.L. Parker, A.M. Albright[†], J.G. Kingsolver, **G. Legault**. Predicting age and mass at maturity from feeding behavior and diet in *Manduca sexta*: An empirical test of a life history model

Consulting (paid)

2021 - 2022 Statistical analyses of CWS-Ontario grassland birds
Canada Wildlife Service, Environment and Climate Change Canada

Awards / Grants

2017 Dissertation Completion Fellowship, *University of Colorado at Boulder*
2015 Volterra prize for best poster, *ESA Theory Section*
2015 EBIO Department Research Grant, *University of Colorado at Boulder* (**\$2,300**)
2011 1st prize for student poster, *Canadian Society for Ecology & Evolution*
2010 NSERC Northern Research Internship (**\$9,250**)
2010 Northern Scientific Training Program (**\$2,900**)
2010 Northern Research Fund, *Churchill Northern Studies Centre* (**\$1750**)

Teaching Experience

Instructor

2019 Current Issues in Ecology, *University of North Carolina at Chapel Hill*
- Group project course for E3P graduate students
- Project: Analysis of the drivers of insect diversity based on NEON data
2018 Current Issues in Ecology, *University of North Carolina at Chapel Hill*
- Project: Meta-analysis of the effects of agricultural abandonment on plant diversity

Guest Lecturer

Biology 669: Simulating ecology, Graduate course, *University of North Carolina at Chapel Hill*

Teaching Assistant

2015 Principles of Ecology; General Biology II, *University of Colorado at Boulder*
2014 General Biology I, *University of Colorado at Boulder*
2013 Conservation Biology, *University of Calgary*
2012 Conservation Biology; Quantitative Biology II, *University of Calgary*
2011 Introduction to Ecology, *University of Toronto*
2010 Adaptation and Biodiversity, *University of Toronto*

Mentoring

M. Cusa (Undergraduate, 2009-2011)	Field research on sub-Arctic plant phenology - Legault & Cusa 2015, Polar Biology
M. Bullock (Undergraduate, 2016-2018)	Funded UROP project on chemical competition - Bullock et al. 2020, AESA
M. Riley (Undergraduate, 2016-2017)	Laboratory project on spatial evolution - Research presented at 2017 ESA conference
A. Fong (Undergraduate, 2019-2020)	Project on B.C. climate projections - Published on http://stateofwine.org/mapping/
T. Amuwo (Undergraduate, 2020-2021)	Project on B.C. climate projections - Published on http://stateofwine.org/mapping/
P. Autio (Undergraduate, 2020-2021)	Project on predicting wine quality - Presented as poster at terclim2022
S. Collins (Undergraduate, 2021-2022)	Deep Learning to predict Brix content of grapes

Presentations

Invited

- "Linking theory and experiments to understand range dynamics". *Département de sciences biologiques, Université de Montréal* (April 2021)
- "The effects of interspecific competition on range boundaries during experimental invasions". *Department of Biology, San Diego State University* (November 2020)
- "A stochastic model for predicting age and size at maturity of insects" (Poster). *The Society of Population Ecology Conference, Kyoto Japan* (September 2019)

Contributed

- *Ecological Society of America Meeting, Salt Lake City USA* (August 2020)
- *Internal Seminar Series, University of British Columbia, Vancouver Canada* (February 2020)
- *Ecological Society of America Meeting, New Orleans USA* (August 2018)
- *Evolution Meeting, Austin USA* (June 2016)
- *Ecological Society of America Meeting, Baltimore USA* (August 2015)
- *Ecological Society of America Meeting, Sacramento USA* (August 2014)
- *Ecological Society of America Meeting, Portland USA* (August 2012)
- *Canadian Society for Ecology & Evolution Meeting, Ottawa Canada* (July 2012)
- *Canadian Society for Ecology & Evolution Meeting, Banff Canada* (May 2011)

Media

- Interview for *Phare Ouest*, segment *Pause Planète*, Radio-Canada (French) (September 2021)

Professional Activities

Reviewer

Acta Biotheoretica, American Naturalist, Ecology, Ecology Letters, Evolutionary Applications, Functional Ecology, Mathematical Biosciences, National Geographic Society, Nature Plants, Oecologia, Oikos, Polar Biology, Proceedings of the Royal Society B: Biological Sciences, Science

Service

- 2019-2021 Organizer
[LETS](#) (League of Extraordinary Theoreticians) Discussion Group, *UCB*
- 2016-2017 Graduate student member-at-large
Undergraduate Research Opportunities Program Advisory Board, *UCB*
- 2016-2017 Graduate student representative
Fungal Biologist Faculty Search Committee, *UCB*
- 2016-2017 Graduate student representative
Inclusive Excellence Committee, *UCB*

Outreach

- 2019 Classroom demonstration of complete metamorphosis in insects
Creedmoor Elementary School of the Arts, Creedmoor NC
- 2019 Classroom demonstration of complete metamorphosis in insects
C. G. Credle Elementary, Oxford NC

Skills

- **Quantitative:** Probability theory, Mathematical optimization, Linear algebra, Differential and Integral calculus
- **Computer languages:** Python, SQL, git, R, Stan, Maxima, Lisp, \LaTeX
- **Miscellaneous:** Remote field work, Canadian Firearms Safety Course (CFSC), Phenological monitoring, sub-Arctic plant identification