

Dr. Amanda Liczner

Postdoctoral Research Fellow
University of Guelph
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FELLOWSHIPS

Postdoctoral Research Fellow

University of Guelph

Supervisor: Dr. Nigel Raine

Research topic: Impacts of environmental stressors on bumble bee movement.

May 2021 – current

Postdoctoral Research Fellow

University of British Columbia Okanagan, BRAES Institute

Supervisors: Dr. Jason Pither, Dr. Adam Ford, Dr. Lael Parrot, Dr. Josie Hughes,
Dr. Richard Pither

Research topic: Connectivity conservation challenges in landscape ecology

Sept 2020-Feb 2022

EDUCATION

PhD in Biology

York University, Toronto, ON

Supervisor: Dr. Sheila Colla

“The conservation management and ecology of Northeastern North American bumble bees.”

2020

MSc in Biology

York University, Toronto, ON

Supervisor: Dr. Christopher Lortie

“Nursing back to health: Shrubs facilitate the restoration of native forbs with reductions in non-native competition in an invaded arid shrubland.”

2016

BSc (Specialized Honors) in Biology

York University, Toronto, ON

Supervisor: Dr. Christopher Lortie

Honors thesis: *“A desert nurse plant (Larrea tridentata) facilitates the germination and seed characteristics of winter annuals in California.”*

2014

PUBLICATIONS

Under Preparation

2. **Liczner AR**, Bowman J, Hughes J, Fletcher R, Ford A, Hall K, Mitchalak J, Parrot L, Pither R, Rayfield B, Wittische J, Pither J. 2022. Recent advances and remaining challenges in connectivity conservation.
1. **Liczner AR**, Richardson L, Schuster R, Colla SR. 2022. Conservation planning for native bumble bees under current and future climate scenarios.

Published

10. **Liczner AR**, MacPhail VP, Woollett (Smith) DA, Richards NL, Colla SR. 2021. Training and usage of detection dogs to better understand bumble bee nesting habitat: Challenges and opportunities. PLoS ONE 16(5): e0249248
9. **Liczner AR**, Colla SR. 2020. One-size does not fit all: Bumble bee conservation requires landscape-scale and species-specific habitat considerations. Journal of Insect Conservation and Diversity. 13(6): 558-570
8. **Liczner AR**, Colla SR. 2019. A systematic review of the nesting and overwintering habitat of bumble bees globally. Journal of Insect Conservation. 23 (5-6): 787-801
7. **Liczner AR**, Filazzola A, Westphal M, Lortie CJ. 2019. Shrubs facilitate native forb re-establishment in an invaded arid shrubland. Journal of Arid Environments. 17 (103998): 1-9
6. Filazzola A, **Liczner AR**, Westphal M, Lortie CJ. 2019. Shrubs indirectly increase desert seedbanks through facilitation of the plant community. PloS One. 14 (4): e0215988
5. Gibson SD, **Liczner AR**, Colla SR. 2019. Conservation Conundrum: At-risk bumble bees (*Bombus* spp.) show preference for invasive tufted vetch (*Vicia cracca*) while foraging in protected areas. Journal of Insect Science. 19 (2): 1-10
4. Filazzola A, **Liczner AR**, Westphal M, Lortie CJ. 2018 The effect of consumer pressure and abiotic stress on positive plant interactions are mediated by extreme climatic events. New Phytologist 217 (1): 140-150
3. Filazzola, A, Westphal M, Powers M, **Liczner AR**, Woollett DAS, Johnson B, Lortie CJ. 2017. Non-trophic interactions in deserts: Facilitation, interference, and an endangered lizard species. Basic and Applied Ecology 20 (1): 51-61
2. **Liczner AR**, Sotomayor DA, Filazzola A, Lortie CJ. 2017 Germination response of desert annuals to shrub facilitation is species specific but not ecotypic. Journal of Plant Ecology 10 (2): 364-374
1. **Liczner AR**, Lortie CJ. 2014. A global meta-analytic contrast of cushion-plant effects on plants and on arthropods. Peerj, 2: e265

CONFERENCE PRESENTATIONS

23. **Liczner AR**, Elizabeth Franklin, Nigel Raine*. 2022. She moves in mysterious ways: tracking bumble bee queen movement to identifying critical habitat gaps. Joint Entomological Society of America and Canadian Entomological Society Annual Meeting. Vancouver, British Columbia, Canada. Oral Presentation
22. **Liczner AR***, Elizabeth Franklin, Nigel Raine. 2022. Impacts of systemic insecticide exposure on the movement ecology of bumble bee queens. Joint Canadian Society of Ecology and Evolution (CSEE) and Ecological Society of America (ESA) conference. Montreal, Quebec. Oral Presentation.
21. **Liczner AR***, MacKell S. 2021. Does soil temperature determine bumble bee queen emergence timing? Canadian Society for Ecology and Evolution (CSEE) Annual Conference. Virtual. Oral Presentation.
20. **Liczner AR***, Richardson L, Schuster R, Colla SR. 2021. Conservation priority areas for Canadian bumble bee species under current and future climate scenarios. Canadian Parks Collective for Innovation and Leadership (CPCIL) Research Summit. Virtual Conference. Eposter.
19. **Liczner AR***, Richardson L, Schuster R, Colla SR. 2020. Conservation priority areas for Canadian bumble bee species under current and future climate scenarios. BeeCon 2020. Virtual Conference. Oral presentation.
18. **Liczner AR***, Richardson L, Schuster R, Colla SR. 2020. Conservation priority areas for Canadian bumble bee species under current and future climate scenarios. North American Congress for Conservation Biology Conference. Virtual Conference. Oral presentation.

17. **Liczner AR***, MacPhail V, Colla SR. 2019. Using detection dogs to find bumble bee nests: Lessons learned. Credit Valley Research Colloquium. Mississauga, Ontario. Oral Presentation.
16. **Liczner AR***, MacPhail V, Colla SR. 2019. Using detection dogs to find bumble bee nests: Lessons learned. BOMBUSS 2.0. Toronto, Ontario. Oral Presentation.
15. **Liczner AR**, Colla SR*. 2019. Think big: Landscape-scale habitat variables are more important than local-scale factors for determining at-risk bumble bee habitat. International Pollinator Conference University of California Davis, Sacramento, California. Poster Presentation
14. **Liczner AR***, Colla SR. 2019. Think big: Landscape-scale habitat variables are more important than local-scale factors for determining at-risk bumble bee habitat. 45th Annual Association of Graduate Students in the Biological Sciences Symposium. Toronto, Ontario. Poster Presentation
13. **Liczner AR***, Colla SR. 2018 Using citizen scientists and detection dogs to locate bumble bee nests. BeeCon. Toronto, Ontario. Oral Presentation
12. **Liczner AR***, Colla SR. 2018 Determining the habitat for at-risk bumble bee species in Southern Ontario. Society for Conservation Biology North American Congress for Conservation Biology Conference. Toronto, Ontario. Oral Presentation.
11. **Liczner AR***, Colla SR. 2018 Determining the habitat for at-risk bumble bee species in Southern Ontario. Canadian Society for Ecology and Evolution Conference. Guelph, Ontario. Poster Presentation.
10. **Liczner AR***, Colla SR. 2017. Assessing at-risk bumble bee habitat in Ontario for the conservation of declining species. Canadian Society for Ecology and Evolution Conference. Victoria, British Columbia
9. **Liczner AR***, Colla SR. 2017. Assessing at-risk bumble bee habitat in Ontario for the conservation of declining species. BeeCon. Toronto, Ontario. Poster Presentation
8. Filazzola A*, **Liczner AR**, Westphal MF, Lortie CJ. 2017. The effect of consumer pressure and abiotic stress on positive plant interactions are mediated by extreme climatic events 43rd Annual Association for Graduate Students in the Biological Sciences Symposium. Toronto, Ontario. Poster Presentation.
7. **Liczner AR***, Colla SR. 2017. Assessing at-risk bumble bee habitat in Ontario for the conservation of declining species. 43rd Annual Association of Graduate Students in Biology Symposium. Toronto, Ontario. Poster Presentation.
6. **Liczner AR***, Sotomayor DA, Filazzola A, Lortie CJ. 2016 Germination response of desert annuals to shrub facilitation is species specific but not ecotypic. York University Biology Day Conference. Toronto, Ontario. Poster Presentation.
5. Filazzola A*, **Liczner AR**, Westphal MF, Lortie CJ. 2016. A test of the stress-gradient hypothesis including both abiotic stress and consumer pressure during an extreme drought year. Ecological Society of America Conference. Fort Lauderdale, Florida. Oral Presentation
4. **Liczner, AR***, Filazzola, A, Lortie, CJ. 2016. The use of shrubs as a tool for re-establishing native annuals to an invaded arid shrub land. Ecological Society of America Conference. Fort Lauderdale, Florida. Oral Presentation.
3. Filazzola A*, Westphal MF, Liczner AR, Powers M, Johnson B, Lortie CJ. 2015. The realized niche of the endangered blunt-nosed leopard lizard is determined by an interplay between native shrub cover and invasive grass abundance. Ecological Society of America Conference. Baltimore, Maryland. Oral Presentation.
2. Filazzola A*, **Liczner AR**, Westphal MF, Lortie CJ. 2015. The habitat of the endangered Blunt-nosed leopard lizard is determined by an interplay between native shrub cover and invasive grass abundance. Conservation Conference California Natural Plant Society. San Jose, California. Oral Presentation
1. **Liczner AR***. 2014. Cushion plant effects on seed germination in an alpine environment. Northern Studies Training Program Symposium. Toronto, Ontario. Oral Presentation.

*Presenting author

INVITED PRESENTATIONS

Liczner AR*. 2021. Conservation of bumble bees and landscape connectivity. University of Calgary Department Seminar Series.

Liczner AR*, Colla SR. 2019. On a quest for bee nests. High Park Nature Centre Wild Bee Series. Oral Presentation.

*Presenting author

AWARDS

Susan Mann Dissertation Scholarship York University <i>One of nine scholarships awarded at York University</i> Awarded \$22,500	2020
Natural Sciences and Engineering Research Council of Canada Postgraduate Scholarship (NSERC-PGS D) York University <i>One of ten NSERC scholarships awarded at York University,</i> Awarded \$42,000	2018-2020
Ontario Graduate Scholarship York University <i>Declined to accept NSERC-PGS D</i>	2018-2019
Vanier Canada Graduate Scholarship—Nominated York University <i>Nominated by York University for the Vanier Scholarship</i>	2018
Ontario Graduate Scholarship York University <i>One of five award winners in the Dept. of Biology,</i> Awarded \$15,000	2017-2018
Research/Fieldwork Cost Fund York University <i>Internal award determined by the Faculty of Graduate Studies</i> Awarded \$2,380	2017-2019
Graduate Development Fund York University <i>Internal award determined by the Faculty of Graduate Studies</i> Awarded \$600	2016-2017
The Carswell Scholarship York University <i>One of six award winners in the Faculty of Science</i> Awarded \$10,000	2016-2017
Ontario Graduate Scholarship York University <i>One of nine award winners in the Dept. of Biology</i> Awarded \$15,000	2016-2017
Graduate Development Fund	2016

York University June 2016

Internal award determined by the Faculty of Graduate Studies,

Awarded \$750

Research Cost Fund

2015-2017

York University

Internal award determined by the Faculty of Graduate Studies

Awarded \$960

York Graduate Scholarship

2014-2015

York University

Entrance scholarship awarded by the Dept. of Biology,

Awarded \$6,000

RESEARCH GRANTS

Ontario Species at Risk Stewardship Program

2019-2020

Ontario Ministry of Environment, Conservation and Parks

Awarded \$25,717

VOLUNTEER EXPERIENCE AND COMMUNITY INVOLVEMENT

A. Departmental/Faculty

Committee on Teaching and Learning Graduate Student representative

2018-2020

Faculty of Science, York University, Toronto, Ontario

One of two graduate student representatives giving input on TA training initiatives and adjudicating teaching awards

AGSBS Communications Officer

2019-2020

Association of the Graduate Students in the Biological Sciences (AGSBS), York University, Toronto, Ontario

Responsible for maintaining the AGSBS social media accounts, and website

AGSBS Department of Biology Student Representative

2018-2019

Association of the Graduate Students in the Biological Sciences (AGSBS), York University, Toronto, Ontario

Responsible for representing graduate student interests to the Dept. of biology

AGSBS Symposium Committee Chair

2017-2018

Association of the Graduate Students in the Biological Sciences (AGSBS), York University, Toronto, Ontario.

Lead the planning of the annual biology graduate student symposium including organizing meetings, securing funding, and promoting the event attended by 110 participants

AGSBS Symposium Committee Member

2016-2017

Association of the Graduate Students in the Biological Sciences (AGSBS), York University, Toronto, Ontario

Organized the annual biology graduate student symposium for 100 attendees

Canadian Society for Ecology and Evolution (CSEE) Student Representative

2016-2020

York University, Toronto, Ontario

York University graduate student representative for CSEE, encouraging York student involvement and

distributing information about the society.

OE3C Symposium Committee Organizer

2014-2015

Ontario Ecology, Ethology, and Evolution Colloquium, York University, Toronto, Ontario

Organized the annual provincial symposium Ontario Ecology, Ethology, and Evolution Colloquium with ~140 attendees.

B. Non-departmental

Canadian Society of Ecology and Evolution (CSEE) volunteer organizer

March – August 2021

University of British Columbia Okanagan, Kelowna, British Columbia.

Volunteer member of the social media and communications, and program development committees for the 2021 virtual CSEE conference.

Pacific Ecology and Evolution Conference 2021 Virtual Presentation Judge

University of British Columbia Okanagan, Kelowna, British Columbia

February 2021

Student presentation judge for a virtual conference for universities in Western Canada and the United States of America.

NACCB 2020 contributed symposium organizer

July 2020

North American Congress for Conservation Biology virtual conference

Lead organizer for a contributed symposium titled “Prioritization in Conservation: Tools and Considerations.”

C. Non-academic

Bumble Bee Watch Expert Identifier

2021- Current

Bumble bee Watch

Volunteer expert bumble bee identifier for Northeastern North American bumble bees,

BioBlitz Planning Committee Organizer – Chair

2017

Organized York University’s first BioBlitz event. Educated members of the York University community (120 participants) on species identification, biodiversity, and conservation.

Bumble Bee Conservation Outreach Volunteer

2017

City Cider Festival, Toronto, Ontario

Educated children and adults (1200 event participants) about bumble bee conservation and encouraged involvement in bumble bee monitoring citizen science projects.

Bumble Bee Conservation Outreach Volunteer

2017

General Mercer Junior Public School, Toronto, Ontario

Educated children (50) and adults (30) about bumble bee conservation and encouraged involvement in bumble bee monitoring citizen science projects.

D. Reviewer service

Insect Conservation and Diversity (4), Plant Ecology (3), Journal of Natural History (3), Oikos (2), Restoration Ecology (2) Annals of the Entomological Society of America (1), Ecology (1), Ecological Entomology (1), Insects Sociaux (1) Nature Sustainability (1), Scientific Reports (1)

TEACHING EXPERIENCE

A. Guest Lectures

BIOL 306 Ecology of Animals University of British Columbia Okanagan, 40 students <i>Bumble Bee Ecology and Conservation</i>	2021
BIOL1001 Biology II—Evolution, Ecology, Biodiversity and Conservation Biology York University, 500 students <i>Life History Traits and Bumble Bee Ecology</i>	2019
DATT4010 Physical Computing III: Environmental Sensing and Art, York University, 50 students <i>Importance of Environmental Monitoring for Restoration Science.</i>	2017

B. Teaching Assistantships

Laboratory Coordinator—BIOL 1000 3.0 Biology I—Cells, Molecular Biology and Genetics York University, Fall 2019, 2400 students	
Laboratory Demonstrator—BIOL 2010 3.0 Plant Biology York University, Winter 2019, 20 students	
Laboratory Coordinator—BIOL 1000 3.0 Biology I—Cells, Molecular Biology and Genetics York University, Fall 2018, 2400 students	
Laboratory Coordinator – BIOL 1001 3.0 Biology II— Evolution, Ecology, Biodiversity and Conservation Biology York University, Winter 2018, 2000 students	
Laboratory Coordinator – BIOL 2050 3.0 Ecology York University, Fall 2017, 180 students	
Laboratory Coordinator – BIOL 1001 3.0 Biology II- Evolution, Ecology, Biodiversity and Conservation Biology York University, Winter 2017, 2100 students	
Laboratory Demonstrator – BIOL 2050 3.0 Ecology York University Fall 2016, 24 students	
Marker – BIOL 2050 3.0 Ecology York University, Fall 2016, 200 students	
Laboratory Coordinator – BIOL 1001 3.0 Biology II—Evolution, Ecology, Biodiversity and Conservation Biology York University, Summer 2016, 500 students	
Laboratory Demonstrator – BIOL 2050 3.0 Ecology York University Fall 2015, 44 students	
Laboratory Demonstrator – BIOL 1001 3.0 Biology II -Evolution, Ecology, Biodiversity and Conservation Biology York University, Summer 2015, 40 students	

MEDIA COVERAGE AND OTHER PUBLICATIONS

Anam Khan. 2021. Where do bumble bees buzz overwinter? Guelph Today.

<https://www.guelphtoday.com/grounded/where-do-bumble-bees-buzz-in-the-winter-4470216>

Leah Gerber. 2021 Tiny radio transmitters tracking effects of pesticides on bumblebees. The Waterloo Record.

<https://www.therecord.com/news/waterloo-region/2021/09/02/tiny-radios-tracking-effect-of-pesticides-on-bumblebees-in-cambridge-study-by-university-of-guelph-researchers.html>

Amanda Liczner. 2018. Buzzing down the house: An Update. Nature Conservancy of Canada Blog

Amanda Liczner. 2017. Buzzing down the house: Determining the habitat for declining bumble bee species. Nature Conservancy of Canada Blog

Kate Allen 2017. Climate change and the great global species shakeup. Toronto Star. December 9, 2017 <http://projects.thestar.com/climate-change-global-species-shakeup/>

Collaborators

A. Current projects

Dr. Nigel Raine	Professor	University of Guelph
Dr. Jason Pither	Associate Professor	University of British Columbia Okanagan
Dr. Adam Ford	Assistant Professor	University of British Columbia Okanagan
Dr. Lael Parrot	Professor	University of British Columbia
Dr. Josie Hughes	Research Scientist	Environment and Climate Change Canada
Dr. Richard Pither	Physical Scientist	Environment and Climate Change Canada
Sarah MacKell	Lead Biologist – Native Pollinator Initiative	Wildlife Preservation Canada
Dr. Sheila Colla	Assistant Professor	York University
Dr. Leif Richardson	Postdoctoral Research Associate	University of Vermont
Dr. Richard Schuster	Postdoctoral Fellow	Carleton University
Dr. Deborah Woollett	Co-Founder and Director	Working Dogs for Conservation
Dr. Ngaio Richards	Forensics and Field Specialist	Working Dogs for Conservation
Victoria MacPhail	PhD Student	York University

B. Past projects

Shelby Gibson	PhD Student	York University
Alessandro Filazzola	Postdoctoral Fellow	University of Alberta
Diego Sotomayor	Principal Professor	Universidad Nacional Agraria La Molina
Michael Powers	Biologist	Bureau of Land Management Salinas Field Office
Dr. Michael Westphal	Biologist	Bureau of Land Management Salinas Field Office
Brent Johnson	Park Biologist	U.S.A. National Park Service Pinnacles National Park
Dr. Christopher Lortie	Professor	York University