

# Dr Amanda Liczner

Postdoctoral Research Fellow  
University of Guelph  
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## FELLOWSHIPS

May 2021 – current

### Postdoctoral Research Fellow

University of Guelph  
Supervisor: Dr. Nigel Raine  
Research topic: Impacts of environmental stressors on bumble bee movement.

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### Postdoctoral Research Fellow

Sept 2020-Jan 2021

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

## EDUCATION

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### PhD in Biology

2020

York University, Toronto, ON  
Supervisor: Dr. Sheila Colla  
*“The conservation management and ecology of Northeastern North American bumble bees.”*

### MSc in Biology

2016

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.”*

### BSc (Specialized Honors) in Biology

2014

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.”*

## PUBLICATIONS

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### A. Under Review

1. **Liczner AR**, Richardson L, Schuster R, Colla SR. 2021. Conservation planning for native bumble bees under current and future climate scenarios. *Ecological Applications Under Review EAP20-0790*

### B. Published

1. **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*

2. **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
2. **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
3. **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
4. 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
6. 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
7. 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
8. **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
9. **Liczner AR**, Lortie CJ. 2014. A global meta-analytic contrast of cushion-plant effects on plants and on arthropods. *Peerj*, 2: e265

## CONFERENCE PRESENTATIONS

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1. **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.
2. **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.
3. **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.
4. **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.
5. **Liczner AR\***, MacPhail V, Colla SR. 2019. Using detection dogs to find bumble bee nests: Lessons

learned. BOMBUSS 2.0. Toronto, Ontario. Oral Presentation.

6. **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
7. **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
8. **Liczner AR\***, Colla SR. 2018 Using citizen scientists and detection dogs to locate bumble bee nests. BeeCon. Toronto, Ontario. Oral Presentation
9. **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.
10. **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.
11. **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
12. **Liczner AR\***, Colla SR. 2017. Assessing at-risk bumble bee habitat in Ontario for the conservation of declining species. BeeCon. Toronto, Ontario. Poster Presentation
13. 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.
14. **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.
15. **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.
16. 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
17. **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.
18. 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.

19. 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
20. **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

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**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

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

York University  
*Internal award determined by the Faculty of Graduate Studies*  
Awarded \$600

**The Carswell Scholarship** 2016-2017

York University  
*One of six award winners in the Faculty of Science*  
Awarded \$10,000

**Ontario Graduate Scholarship** 2016-2017

York University  
*One of nine award winners in the Dept. of Biology*  
Awarded \$15,000

**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

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**Ontario Species at Risk Stewardship Program** 2019-2020

Ontario Ministry of Environment, Conservation and Parks  
Awarded \$25,717

## VOLUNTEER EXPERIENCE AND COMMUNITY INVOLVEMENT

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### 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.*

**PEEC 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**

**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**

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

**TEACHING EXPERIENCE**

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**A. Guest Lectures**

BIOL 306 Ecology of Animals 2021  
University of British Columbia Okanagan, 40 students  
*Bumble Bee Ecology and Conservation*

BIOL1001 Biology II—Evolution, Ecology, Biodiversity and Conservation Biology 2019  
York University, 500 students  
*Life History Traits and Bumble Bee Ecology*

DATT4010 Physical Computing III: Environmental Sensing and Art, 2017  
York University, 50 students  
*Importance of Environmental Monitoring for Restoration Science.*

**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

Laboratory Demonstrator – BIOL 2050 3.0 Ecology

York University, Fall 2014, 40 students

## **MEDIA COVERAGE AND OTHER PUBLICATIONS**

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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**

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### **A. Current projects**

Dr. Nigel Raine

Dr. Jason Pither

Professor

Associate Professor

University of Guelph

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