

Alessandro (Alex) Filazzola



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Education

Ph.D. Biology, transfer from M.Sc.

Defended April 2018

York University & National Center for Ecological Analysis and Synthesis

Thesis: Examining multiple mechanisms of positive plant-interactions in desert ecosystems

Supervisor: Dr. Christopher Lortie

Bachelour of Science with Honours, Biology, York University

2008-2012

Awards

- 2017 C.D. Fowle Scholarship in Ecology Grant (\$12,500)
- 2017 Ontario Graduate Scholarship (\$15,000)
- 2017 Ecological Society of America Travel Grant (\$350)
- 2017 Fieldwork Cost Fund (\$2100)
- 2016 Ontario Graduate Scholarship (\$15,000)
- 2016 Fieldwork Cost Fund (\$1700)
- 2015 Queen Elizabeth II Graduate Scholarships in Science & Technology (\$15,000)
- 2015 Fieldwork Cost Fund (\$2500)
- 2014 Fieldwork Cost Fund (\$3500)

Research Experience

Ecological research and data analyst with over 5 years of experience in applied analytics. Summary of skills:

- Experimental Design
- Project management
- Multivariate statistics
- Website building - Wordpress
- Plant & insect identifications
- Grant writing and budgeting
- Frequentist statistics
- Microsoft Office Suite
- Literature reviews
- Risk assessments for organizations
- Species distribution modeling
- R, Git, SQL, HTML, CSS, & PHP
- Conservation management
- Conference planning
- Report writing
- Social media marketing

Graduate researcher

2012 - present

York University, Toronto, Ontario

- **Conservation planning:** Identified areas of critical habitat with the Working Dogs for Conservation and proposed management practices for an endangered lizard species in California.
- **Project managing:** Designed experiments and managed project budgets in collaboration with the Bureau of Land Management, The Nature Conservancy, and the University of California Santa Barbara.
- **Climate modeling:** Identified areas that are sensitive to climate change using species distribution models.
- **Statistical analysis:** Conducted models using *R* to relate climate and local manipulations to community assembly and plant interactions. Statistical tests included GLMMs, regressions, ordinations, species distribution modeling, structural equation modeling, and spatial analyses (<https://github.com/afilazzola>).

- **Computer programming:** Utilized computer software including Microsoft Office, Adobe Creative Suite, and the coding languages, R, SQL, HTML, CSS, & PHP.
- **Science communication:** Written communication includes annual progress reports, research proposals, and peer reviewer publications. Attended ecological conferences regularly and participated in elementary school talks to increase environmental literacy.

Research Coordinator

May 2017 - present

Ontario Climate Consortium Secretariat

- **Report writing:** Translated technical reports on climate change vulnerability to land managers and policy makers.
- **Workshop leader:** Supported workshops with regional stakeholders and aggregated shared knowledge.
- **Communications:** Developed a schedule to released information on the Region of Peel's climate risk.

Contract Researcher – San Joaquin Desert Synthesis

Oct 2017 – Mar 2018

The Nature Conservancy

- **Systematics:** Conducted a systematic review to compile restoration practices for retired agricultural lands.
- **Restoration practices:** Provided recommendations based on the literature for optimal restoration targets and methods to support three indicator species within the San Joaquin Desert.

Honours Thesis

2012

York University, Toronto, Ontario

- **Develop phyto-indicators:** Surveyed vegetation composition to estimate levels of deer herbivory in forests.
- **Conservation management:** Identified characteristics of forests threatened by deer overabundance.

Teaching Experience

Teaching Assistant

2012-present

York University, Toronto, Ontario

- **Tutorial demonstration:** Led weekly instruction of students in undergraduate biology courses.
- **Teaching coordinator:** Supervised teaching assistants, provided supplementary teaching materials, compiled students' grades, and managed administrative issues among students.

2017 Biology I, Teaching Coordinator, York University, 1600 students
 2017 Biology I, Teaching Coordinator, York University, 592 students
 2016 Ecology, Teaching Coordinator, York University, 156 students
 2016 Biology II, Teaching Assistant, York University 110 students
 2015 Ecology, Teaching Coordinator, York University, 168 students
 2015 Biology II, Marker, York University, 120 students
 2015 Biology II, Teaching Assistant, York University, 44 students
 2014 Ecology, Marker, York University, 160 students
 2014 Ecology, Teaching Assistant, York University, 22 students
 2013 Ecology, Teaching Assistant, York University, 45 students
 2013 Experimental Design, Teaching Assistant, York University, 40 students
 2013 Biology II, Teaching Assistant, York University, 45 students.
 2013 Biology II, Grand Compiler of Marks, York University, 1100 students.
 2012 Ecology, Teaching Assistant, York University, 45 students.

R Workshop Leader

2017

- **Workshop leader:** Taught a workshop introducing 30 individuals to R basics, GLMs, and statistics.
- **R package creation:** Created materials including functions, code, and sample datasets to assist users.
- **Workshop promotion:** Secured funding to make it a free event and invited the general public to attend.

Professional Experience

Social Media Manager

2017 - Present

Ecological Society of America, Southwest Chapter

- **Social media:** Promote research, job opportunities, and events for the desert ecology
- **Content creator:** Build materials such as newsletters, highlighting advances in desert ecology

Conference Organizer

2016 - 2018

Association of Graduate Students in Biological Sciences

- **Event planning:** Secured a venue to host the symposium and dinner for 100 individuals.
- **Funding Acquisition:** Reached out to local researchers and organizations for donations to event.
- **Graphic design:** Built the website and made an event program for the attendees.

Web Developer and Social Media Marketer

2015 - 2016

Socialize, Toronto, Ontario

- **Website design:** Developed websites to meet the needs of clients using Wordpress CMS.
- **Social media:** Promoted the client's business or product using Twitter, Facebook, and Google AdWords.
- **Backend developer:** Managed website directories and SQL databases on online servers.

Plenary Talk Organizer and Web Developer

2015

Ontario Ecology, Ethology, and Evolution Colloquium, Toronto, ON

- **Project management:** Created and managed the conference website and social media presence.
- **Event organization:** Contacted plenary speakers and organized their attendance at the symposium.

Peer-reviewed journal articles

Articles published or accepted in peer-reviewed journals.

- 1) **Filazzola, A.**, Liczner, A.R., Westphal, M.F., & Lortie, C.J. (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
- 2) **Filazzola, A.**, Sotomayor, D., & Lortie, C.J. (2018) Modelling the niche space of desert annuals needs to include positive interactions. *Oikos*. 127(2), 264-273.
- 3) Lortie, C.J., Gruber, E., **Filazzola, A.**, Noble, T., & Westphal, M. (2018) The Groot Effect: plant facilitation and desert shrub regrowth following extensive damage. *Ecology and Evolution*. 8(1), 706-715.
- 4) **Filazzola, A.**, Westphal, M., Powers, M., Liczner, A.R., & Lortie, C.J. (2017) Non-trophic interactions in deserts: facilitation, interference, and an endangered lizard species. *Basic and Applied Ecology*. 20, 51-60.
- 5) Liczner, A. R., Sotomayor, D. A., **Filazzola, A.**, & Lortie, C. J. (2017) Germination response of desert annuals to shrub facilitation is species specific but not ecotypic. *Journal of Plant Ecology*, 10, 364-374.
- 6) Ruttan, A., **Filazzola, A.**, & Lortie, C. J. (2016) Shrub-annual facilitation complexes mediate insect community structure in arid environments. *Journal of Arid Environments*, 134, 1-9.
- 7) Lortie, C. J., **Filazzola, A.**, Welham, C., & Turkington, R. (2016) A cost-benefit model for plant-plant interactions: a density-series tool to detect facilitation. *Plant Ecology*, 1-15.
- 8) Lortie, C. J., **Filazzola, A.**, & Sotomayor, D. A. (2016) Functional assessment of animal interactions with shrub-facilitation complexes: a formal synthesis and conceptual framework. *Functional Ecology*, 30, 41-51.
- 9) **Filazzola, A.**, Liczner, A.R., & Ruttan, A. (2016). Old dog, new tricks: advancing facilitation theory in the Mojave Desert. *Mojave National Preserve Science Newsletter*, April, 18-20.
- 10) **Filazzola, A.** and Lortie, C.J. (2014) A systematic review and conceptual framework for the mechanistic pathways of nurse plants. *Global Ecology and Biogeography*, 23, 1335-1345.
- 11) **Filazzola, A.**, Tanentzap, A.J. and Bazely, D.R. (2014) Estimating the impacts of browsers on forest understories using a modified index of community composition. *Forest Ecology and Management*. 313, 10-16.

Articles submitted to peer-reviewed journals.

- 12) **Filazzola, A.**, Lortie, C.J., Westphal, M.F., & Michalet, R. (2018) Positive interactions collapse at both extremes of rainfall continentality because of drought and indirect competition. *Ecology*. *In review*.

- 13) Lortie, C.J., **Filazzola, A.**, Kelsey, R., Hart, A., & Butterfield, H.S. (2018) Better late than never: a synthesis of strategic retirement and restoration of agricultural land for endangered species in the San Joaquin Desert of California. *Ecosphere*. *In review*.
- 14) **Filazzola, A.**, Liczner, A.R., Westphal, M., & Lortie, C.J. (2017) Shrubs facilitate seed bank densities in deserts through directly trapping seeds and indirectly increasing seed production. *Journal of Vegetation Science*. *In review*.

Non-peer reviewed contributions

- 15) **Filazzola, A.**, Lortie, C.J., Westphal, M.F., & Michalet, R. (2018). The facilitator shrub (*Ephedra californica*) supports native plant communities at precipitation extremes in the deserts of California. California Native Plant Society Conference. International oral presentation.
- 16) **Filazzola, A.**, Sotomayor, D., & Lortie, C.J. (2017) Modelling the niche space of desert annuals needs to include positive interactions. Ecological Society of America 102nd Annual Meeting. International oral presentation.
- 17) Lortie, C.J., & **Filazzola, A.**, (2017) Global change, plant-plant interactions, the niche. Ecological Society of America 102nd Annual Meeting. Invited oral presentation.
- 18) **Filazzola, A.**, Sotomayor, D., & Lortie, C.J. (2017) Modelling the niche space of desert annuals needs to include positive interactions. Canadian Society for Ecology and Evolution Annual Conference. International oral presentation.
- 19) **Filazzola, A.**, Liczner, A.R., Westphal, M.F., & Lortie, C.J. (2017) The effect of consumer pressure and abiotic stress on positive plant interactions are mediated by extreme climatic events. Association of Graduate Students in Biology 43rd Annual Symposium. National poster presentation.
- 20) Nivillac, N., Nadeem, U., & **Filazzola, A.** (2017) Teaching Assistants: Creating an effective partnership. Teaching in Focus Conference. York University. National oral presentation.
- 21) **Filazzola, A.**, Liczner, A.R., Westphal, M.F., & Lortie, C.J. (2016) A test of the stress-gradient hypothesis including both abiotic stress and consumer pressure during an extreme drought year. Ecological Society of America 101st Annual Meeting. International oral presentation.
- 22) **Filazzola, A.** (2016). Challenges of scale when examining plant-interactions in arid ecosystems: micro, local, & regional. Invited talk at National Center for Ecological Analysis and Synthesis.
- 23) Lortie, C.J., **Filazzola, A.**, Butterfield, S.H., & Westphal, M.F. (2016) Micro-environmental change as a mechanism to study global change. Ecological Society of America 101st Annual Meeting. International oral presentation.
- 24) Liczner, A.R., **Filazzola, A.**, Westphal, M.F., & Lortie, C.J. (2016) The use of shrubs as a tool for re-establishing native annuals to an invaded arid shrub land. Ecological Society of America 101st Annual Meeting. International oral presentation.
- 25) **Filazzola, A.**, Westphal, M.F., Liczner, A.R., Powers, M., Johnson, B. & Lortie, C.J. (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 100th Annual Meeting. International oral presentation.
- 26) **Filazzola, A.**, Liczner, A.R., Westphal, M.F., & Lortie, C.J. (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. International oral presentation.
- 27) **Filazzola, A.**, & Lortie, C.J. (2014) Variation in cushion traits is determined by feedback effects from beneficiaries. Northern Studies Training Program, York University. National oral presentation.
- 28) **Filazzola, A.**, Liczner, A.R., Westphal, M.F., and Lortie, C.J. (2014) Net plant-plant interactions change in magnitude along gradients of environmental stress and time. CSEE – Genomes to Biomes. National poster presentation.
- 29) Ruttan, A., **Filazzola, A.**, and Lortie, C.J. (2013) Nurse-plant effects on insect abundance and diversity in the Mojave Desert. Entomological Society of Canada – Joint Annual Meeting. National oral presentation.
- 30) Ruttan, A., **Filazzola, A.**, and Lortie, C.J. 2013. Nurse-plant effects on insect abundance and diversity in the Mojave Desert. Entomological Society of Canada – Joint Annual Meeting.

Workshops and R Packages

- 31) **Filazzola, A.**, & Kent, C., (2017). An Introduction to R functions and the Apply family. York University. <https://afilazzola.github.io/Functions.workshop.YorkU2017/>
- 32) Florko, K. & **Filazzola, A.** (2017) Data Visualization Workshop: Using ggplot and ggmap. York University. <https://kflorko.github.io//YorkU.DataViz.2017-6-20/>

- 33) **Filazzola, A.** Florko, K., & VanZuiden, T. (2017) An Introduction to R and Generalized Linear models. York University
<https://afilazzola.github.io//YorkU.GLM.2017-04-28/>
- 34) Sotomayor, D.A., **Filazzola, A.**, Liczner, A.R., & Lortie, C.J. (2016) Workshop: How to Set Up Automated Sensors Arrays for Measuring Micro-Environmental Characteristics and Synthesize to Larger Scales. Ecological Society of America 101st Annual Meeting. Micronet.io.
- 35) **Filazzola, A.**, (2016) Plant-interaction-tools: First release of plant interaction tools. R package
<https://dx.doi.org/10.5281/zenodo.60810>

Media Coverage

- Brooks, H. (2017). Dogs help researchers track down lizard poop. United Press International, Inc.
http://www.upi.com/Science_News/2017/01/31/Dogs-help-researchers-track-down-lizard-poop/3091485886807/
- McLean, S. (2017). Scat sniffer dogs tell researchers a lot about endangered lizards. Science News.
<https://www.sciencedaily.com/releases/2017/01/170131104404.htm>
- John, J. (2017). Sniffing out shrubs' significance for endangered lizards. The Wildlife Society. <http://wildlife.org/sniffing-out-shrubs-significance-for-endangered-lizards/>
- Welle, D. (2017). Sniffing out lizards for conservation. Daily New Egypt.
<http://www.dailynewsegypt.com/2017/02/01/sniffing-out-lizards-for-conservation/>

Online resources

Website: filazzola.info

Github: <https://github.com/afilazzola>

Slideshare: <http://www.slideshare.net/AFilazzola>

Twitter: [@alex_filazzola](https://twitter.com/alex_filazzola)