Lauren C. Ponisio

Contact Information

Department of Biology
Institute of Ecology and Evolution
Data Science Initiative
University of Oregon, Eugene, OR

E-mail: lponisio@uoregon.edu
Google scholar Website / Github

Academic appointments

2020 – Assistant Professor, Department of Biology, University of Oregon
2017-2020 – Assistant Professor, Department of Entomology, University of California Riverside
2016-2017 – Moore/Sloan Data Science Postdoctoral Fellow, Berkeley Institute for Data Science

Education

2016 – Doctorate of Philosophy, Department of Environmental Science Policy and Management, University of California Berkeley
2011 – Master of Science, Biology, Stanford University
2010 – Bachelor of Science, Biology, Honors in Ecology and Evolution, Stanford University

Fellowships & awards (selected)

2016 — Global Food Initiative 30 Under 30 in Food Systems
2016 — Moore/Sloan Data Science Postdoctoral Fellowship
2014 — National Institute for Food and Agriculture Fellowship
2014 — Garden Club of America Centennial Pollinator Fellowship
2014 — National Geographic Society Early Career Award
2014 — NSF GROW fellowship for study at U. São Paulo with P. Guimaraes
2011 — National Science Foundation Graduate Fellowship

Grants

[1] 2020 — National Science Foundation: Reconciling the interaction patterns of highly functional and resistant ecological communities. **PI L. Ponisio**, CO-PI S. Jha: 1 million

[2] 2017-2021 — Foundation for Food and Agricultural Research: The effect of floral foraging traits on exposure of crop pollinators to the multiple interacting stressors of pesticides, parasites and inadequate nutrition, **PI L. Ponisio**, Co-PI Q. McFrederick, Co-PI S.H. Woodard: $993,594

[3] 2020 — USDA National Institute for Food and Agriculture: Ecological intensification for a productive oak-hazelnut savannah landscape, PI Hallet, L., **Co-PI L. Ponisio**, Co-PI Silva, L.: $500,000

[4] 2020 — USDA National Institute for Food and Agriculture: SmartCage: new automated system for collecting flight cage data on pollinators. PI-E. Rankin Wilson, **Co-PI L. Ponisio**, Co-PI Q. McFrederick, Co-PI N. Rafferty : $60,000

[5] 2019-2021 — USDA National Institute for Food and Agriculture: Identifying Barriers And Incentives To Adopting Bee-Friendly Management Practices On Pollinator-Dependent Farms PI-Jennie Durant (postdoc) **Co-PI L. Ponisio**: $164,856

[6] 2019-2021 —Hong Kong Research Council: Global consequences of land-use intensification for bee diversity, PI T. Bonebrake, **Co-PI L. Ponisio**: $90,000

[7] 2019-2021 —Organic Center Grant: Meta-analysis of soil health PI T. Bowles, **Co-PI L. Ponisio**: $29,000

[8] 2014-2016 — USDA National Institute for Food and Agriculture: Restoring stable pollinator communities and service provision in agricultural landscapes, **PI L. Ponisio** (graduate student), Co-PI C. Kremen: $79,000

Publications

Ponisio lab * Postdoc, ** undergraduate

In in review/revision

[1] Cohen, H.*, Smith, G.P.*, Sardinas, H., Zorn, J., McFrederick, Q.S., Woodard, S.H., **Ponisio, L.C.** Mass-flowering crops attract bees, amplifying parasitism (in revision, *Proceedings of the Royal Society B: Biological Sciences*)

[2] Cohen, H.*, **Ponisio, L.C.**, Russell, K., McFrederick, Q.M., Philpott, S.M. Floral context determines parasite and pathogen outcomes for wild bees. (in revision *Molecular Ecology*)

[3] Mason, S.C. Jr., Shirey, V., **Ponisio, L.C.**, Gelhaus, J. Responses from bees, butterflies, and ground beetles to different fire characteristics: A global meta-analysis. In revision, *Biological Conservation*

Published/in press

[4] Smith, G.P.*, Gardner, J., Gibbs, J, Griswold, T. , Hauser, M., Yanega D., **Ponisio, L.C.** Sex-associated differences in the network roles of pollinators (in press, *Ecosphere*)

[5] Durant, J.* & **Ponisio, L.C.** Regional, honey-bee centered approach needed to incentivize grower adoption of bee-friendly practices in agriculture (in press, *Frontiers in Sustainable Agriculture*)

[6] Gaiarsa, M.P.*, Kremen, C., **Ponisio, L.C**. 2021. Pollinator interaction flexibility across scales affects patch colonization and occupancy, (early online, *Nature Ecology and Evolution*)

[7] S. H. Woodard, S. Federman, R. R. James, B. N. Danforth, T. L. Griswold, D. Inouye, Q. S. McFrederick, L. Morandin, D. L. Paul, E. Sellers, J. P. Strange, M. Vaughan, N. M. Williams, M. G. Branstetter, C. Burns, J. Cane, A. B. Cariveau, D. P. Cariveau, A. Childers, C. Childers, D. L. Cox-Foster, E. C. Evans, K. K. Graham, K. Hackett, K. T. Huntzinger, R. E. Irwin, S. Jha, S. P. Lawson, C. Liang, M. M. López-Uribe, A. Melathopoulos, H. M.C. Moylett, C. Otto, **L. C. Ponisio**, L. L. Richardson, R. Rose, R. Singh, W. Wehling. 2020. Toward a U.S. national program for monitoring native bees. *Biological Conservation.* 252: 108821

[8] **Ponisio, L.C**., 2020. Interaction flexibility and pyrodiversity increase pollinator population resistance, *Ecology and Evolution* https://doi.org/10.1002/ece3.6210

[9] **Ponisio, L.C.**, de Valpine, P., Michaud, P., Turek, D. 2020. Boosting MCMC performance for complex hierarchical models using NIMBLE *Ecology and Evolution* https://doi.org/10.1002/ece3.6053

[10] **Ponisio, L.C.**, Valdovinos, F.S., Allhoff, K.T., Gaiarsa M.P.*, Barner, B., Guimaraes, P.R. Jr., H. Hembry, D.H., Morrison, B., Gillespie, R. 2019. A network perspective for community assembly. *Front. Ecol. Evol.* 7:103

[11] **Ponisio, L.C.**, de Valpine, P., M'Gonigle, L.K., and Kremen, C. 2019. Proximity of restored hedgerows interacts with local floral diversity and species' traits to shape long-term pollinator metacommunity dynamics. *Ecology Letters* 22:1048-1060

[12] Kremen, C. M'Gonigle, L.K., and **Ponisio, L.C.** 2018. Pollinator community assembly tracks changes in floral resources as restored hedgerows mature in agricultural landscapes. *Front. Ecol. Evol.* 6:170

[13] **Ponisio, L.C.**, Gariarsa, M.*, and Kremen, C. 2017. Major network reorganizations punctuate the assembly of plant-pollinator communities. 2017. *Ecology Letters*, 20:1261-1272

[14] Wilkin, K.M., **Ponisio, L.C.**, Fry, D.L., Tubbesing, C. , Potts, J.B., Stephens, S.L. 2017. Fire hazard reduction has drawbacks for biodiversity. *Fire Ecology*, 13:105-136

[15] **Ponisio, L.C.** and M'Gonigle, L.K. 2017. Coevolution leaves a weak signal on ecological networks. *Ecosphere* 8(4):e01798

[16] **Ponisio, L.C.** and Ehrlich, P.R. 2016. Diversification, Yield and a New Agricultural Revolution: Problems and Prospects. *Sustainability*, 8(11):1118

[17] Karp D., Moses, R., Gennet, S., Jones, M., Joseph, S., M'Gonigle, L., **Ponisio, L.C.**, Snyder, W., and Kremen, C. 2016. Farming Practices for Food Safety Threaten Pest-Control Services to Fresh Produce, *Journal of Applied Ecology* 53:1402–1412

[18] Sardiñas, H., Tom, K.**, **Ponisio, L.C.**, Kremen, C. 2016. Sunflower (*Helianthus annuus*) pollination in California's Central Valley is limited by native bee nest site location. *Ecological Applications* 26(2):438–447

[19] Sardiñas, H., **Ponisio, L.C.** and Kremen, C. 2016. Hedgerow restoration does not enhance indicators of nest-site habitat quality or nesting rates of ground-nesting bees, *Restoration Ecology* 24(4):499–505

[20] **Ponisio, L.C.**, Wilkin, K., M'Gonigle, L., Kulhanek, K.**, Cook, L.**, Thorp, R., Griswold, T., Kremen, C. 2016. Pyrodiversity begets plant-pollinator community biodiversity. *Global Change Biology* 22(5):1794–1808 **(This publication received media attention from NBC)**

[21] **Ponisio, L.C.** and Kremen, C. 2016. System-level approach is needed to evaluate the transition to more sustainable agriculture. *Proceedings of the Royal Society: B* 283:20152913

[22] Leong, M., **Ponisio, L.C.**, Kremen, C., Thorp, R., Roderick, G. 2016. Temporal dynamics of global change: bee community phenology in urban, agricultural, and natural landscapes. *Global Change Biology* 22:1046–1053

[23] **Ponisio, L.C.**, M'Gonigle, L.K, Kremen, C. 2016. On-farm habitat restoration curbs biotic homogenization in intensive agricultural landscape, *Global Change Biology*, 22(2):704–715

[24] M'Gonigle, L.K, **Ponisio, L.C.**, Kremen, C. 2015. Habitat restoration enhances pollinator diversity in agriculture, *Ecological Applications*, 25(6):1557–1565

[25] **Ponisio, L.C.**, M'Gonigle, L.K., Mace, K. Palomino, J., de Valpine, P., Kremen, C. 2014. Diversification practices reduce organic to conventional yield gap. *Proceedings of the Royal Society: B*, 282(1799): 20141396 **(This publication received media attention from outlets such as CNBC, Huffingtonpost and the Union of Concerned Scientists)**

[26] Bonebrake, T.C., **Ponisio, L.C**, Boggs. C.L. and Ehrlich, P.R. 2010. More than just indicators: Tropical butterfly ecology and conservation. *Biological Conservation*, 143(8): 1831-1841

Software

[27] Goldstein, B.R., Daniel Turek, D., **Ponisio, L.C.** and de Valpine, P. 2019. nimbleEcology: Distributions for Ecological Models in 'nimble'. R package version 0.1.0. https://CRAN.R-project.org/package=nimbleEcology

Book chapters

[28] Kremen, C., Albrech, M., **Ponisio, L.C.**, Restoring pollinator communities and pollination services in hedgerows in intensively-managed agricultural landscapes. Chapter, *Ecology Hedgerows and Field Margins.* Eds. J.Dover.

[29] Mission and Relevance of National Parks, *Science for Parks, Parks for Science: the next century*, section editor. University of Chicago Press

Popular Science Publications

[30] Cannot see the forest for the bees, *National Geographic*

[31] Organic farming techniques are closing gap on conventional yields, *The Conservation*

[32] Changing the face of agriculture, *Landscapes for People, Food and Nature*

PROFESSIONAL COURSES

- 2016 - Software Carpentry Instructor Certification
- 2016 - Santa Fe Institute Complex Systems Summer School
- 2013 - The Bee Course, American Museum of Natural History
- 2011 - São Paulo Advanced Science School on Ecological Networks

PRESENTATIONS

Invited

- 2021 - Landscape Ecology, virtual
- 2020 - Entomological Society of America, virtual
- 2020 - The Wildlife Society, virtual
- 2020 - Ecological Society of America, virtual
- 2019 - Entomological Society of America, St. Louis, MO
- 2019 - International Association of Wildland Fire, Tucson, AZ
- 2019 - Half Earth Day Workshop and Symposium, E.O. Wilson Foundation, Berkeley, CA
- 2019 - Latin American Pollinator Conference, Buenos Aires, Argentina
- 2019 - University of Michigan Center for Complex Systems, Ann Arbor, MI
- 2019 - Chicago Botanical Garden, Chicago, IL
- 2019 - Institute for Ecology and Evolution, University of Oregon
- 2018 - International Congress of Entomology, Vancouver, Canada
- 2018 - National Academy of Sciences, Drexel, departmental seminar, Philadelphia, Pennsylvania
- 2018 - The Fields Institute Workshop on Pollinators and Pollination Modeling, Toronto, Canada
- 2017 - UC Santa Barbara invited seminar, Santa Barbara, California
- 2017 - Santa Fe Institute Complex Systems Seminar
- 2017 - International Society of Mediterranean Ecology, Seville, Spain
- 2016 - US Regional Association of the International Association for Landscape Ecology, Asheville, North Carolina
- 2016 - Center for Agroforestry at the University of Missouri, Columbia, Missouri
- 2015 - Society of Conservation Biology Conference, Montpelier, France
- 2015 - Ecological Society of America Meeting, Baltimore, Maryland

Academic

- 2019 - New Phytologist Conference, Zurich Switzerland
- 2018 - Symbiosis Conference, Yosemite, California
- 2018 - Entomological Society of America, Denver, Colorado
- 2018 - Ecological Networks, Uppsala, Sweden item 2016 - Data Science Summit, New York, New York
- 2016 - XXV International Congress of Entomology, Orlando, Florida
- 2016 - Bay Area Conservation Biology Society Symposium, Stanford, California
- 2014 - Entomological Society of America Meeting, Portland, Oregon
- 2014 - Ecological Society of America Meeting, Sacramento, California
- 2014 - International Association of Wildland Fire, Missoula, Montana
- 2011 - Ecological Society of America meeting, Austin, Texas

Managers/policy

- 2021- The impacts of fire on bees, CA, California Research Conservation District Webinar
- 2021-Restoring Habitat for Pollinators, Environment for the Americas
- 2018 - How Science is Saving Bees, presentation to congressional staff during Pollinator Week, Washington D.C.
- 2016 - Farming for Beneficials, Xerces Society and General Mills event, Williams, California
- 2016 - Grass Up, Organic Valley hosted event for connecting rangeland mangers with scientists, Oakland, California
- 2015 - Parks for science, science for parks, Berkeley, California

- 2014 - Grower workshop on pollinators at Colusa Country Fair, Colusa, California
- 2014 - Workshop for the best management practices for pollinators in California for the Forest and Park Service, Tiburon California
- 2014 - California Fire Science Consortium, Yosemite, California

Public outreach & education

- 2021-The Wild World of Bees: The wild bees of agriculture, Oregon Bee Project
- 2021-Curious: Bees in the trees, and everywhere else-Jefferson Public Radio
- 2021-Wildfires Open Forests for Wildlife and Research – NPR All Things Considered
- 2020-Descanso Gardens Native bee day
- 2020-Panel: 7th Grade Girls in STEM, UC Riverside
- 2020-Bee biologist can't stop buzzing about her work – CBS Los Angeles
- 2019-Pollinator Festival RCD
- 2019-Panel: Women in Science panel, UC Riverside
- 2018, 2019- A tale of two bees, Promoting engagement, retention and success in STEM (PERSIST) talk
- 2018-California Alliance for Minority Participation (CAMP) talk
- 2014-Comparing organic and conventional yields-Food Chain Radio
- 2014-Comparing organic and conventional yields –German Public Radio

Working groups

- 2021 - NCEAS The future of synthesis science
- 2019 - Modeling bee and ant global distributions, E.O. Wilson Foundation
- 2018 - Santa Fe Institute Workshop on Next Generation of Ecological Networks
- 2018 - USDA National Native Bee Monitoring Workshop, Shepherdstown, West Virginia

Academic service

University/department Service

- 2020-current – UO Biology Admissions Committee
- 2019-2020 – UCR Undergraduate Awards Committee
- 2018– UCR Biology Admissions Committee
- 2017-2020 – UCR Undergraduate Grants Committee
- 2017-2020 – UCR Outreach Departmental Committee
- 2017-2020 – Entomology Museum Departmental Committee
- 2017-2019 – Seminar Departmental Committee

Reviewing

- **Editorial activities**: Review Editor for Frontiers in Sustainable Food Systems (2018-current)
- **Peer review**: manuscripts for *Science*, *PNAS*, *Ecology Letters*,*Ecology*, *Ecology Letters*, *Annuals of Botany*, *Proceedings of the Royal Society B*, *Oecologia*, *Conservation Letters*, *Biological Conservation*, *Conservation Biology*, *Global Change Biology* and *Biodiversity and Conservation*, *New Phytologist*, *Plos one*, *Ecological Monographs*, *Nature Communications*.
- **Grants**:
  - JRS Biodiversity Foundation (2017)
  - ad hoc grants for the NSF (PCE) (2018, 2019, 2020, 2021)
  - NSF PCE panel (2019, 2020, 2021)
- **Awards Committees**: ESA Sustainability Awards Committee (2017–present), 2021-2024 Chair

Teaching

Pedagogical training

- 2018 - Summer Institute on Scientific Teaching (UCSD)
- 2018 - NSF Transforming STEM Teaching Faculty Learning Program (UCR)

Professor, University of Oregon

- Data 101: Intro to Data Science (2021, Winter)

Professor, University of California Riverside

- NASC 093: Freshman Seminar in Natural Sciences (2019, fall, 100% FTE)
- Ent 250: Graduate seminar on bee biology (team taught) (2019, winter)
- Ent 249: Quantitative skills for reproducible science (2019, fall, 100% FTE)
- Biol 005c: Ecology section of Biology Core (5 quarters 50% FTE), 2018 (winter), 2019 (winter, spring), 2020 (winter, spring)