

Ben G. Weinstein

weinsteb@oregonstate.edu
www.benweinstein.weebly.com
2619 NE Flanders, Portland, Oregon

EDUCATION

Ph.D. Ecology and Evolution, Stony Brook University	2016
B.S. Biology, University of Richmond	2010
School for International Training, Ecology and Conservation, Ecuador	2007

ACADEMIC POSITIONS

Postdoctoral Scholar, Marine Mammal Institute, Oregon State University	2016 - present
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RESEARCH INTERESTS

- Niche overlap and the co-occurrence of related species
- The phenology of plant-pollinator interactions
- Hierarchical Bayesian models for community ecology
- Automation and computer vision for ecological monitoring

SOFTWARE DEVELOPMENT

My research includes development of new quantitative and computational methods for ecological analysis. My code and data are available on [Github](#). I believe making data and tools available is my responsibility as a member of the scientific community.

[MotionMeerkat](#) – Computer vision program for finding animals in video. Weinstein (2015).

[AlienR](#) – R package for predicting species interactions from ecological data. Weinstein, B. Cazelles, K. Poisot, T., Gravel, D., & I. Bartomeus. *In development*.

GRANTS AND AWARDS

2017	Segment Open Source Fellowship (\$24,000)
2016	Committee for Science and Exploration, National Geographic Society, Co-investigator. #9952- 16 (\$20,000)
2016	eScience Data Science Fellowship. University of Washington (\$150,000). <i>Declined</i>
2016	Best Student Talk – International Statistical Ecology Conference
2015	NSF Graduate Data Science Workshop. University of Washington (\$1,000)
2014	High Performance Cloud Computing Workshop, National Institute for Mathematical & Biological
2013	Synthesis. Travel Award. (\$1,000)
2013	Committee for Science and Exploration, National Geographic Society, Co-investigator. #9382- 13 (\$20,000)
2013	Graduate Research Fellowship, National Science Foundation (\$125,000)
2012	XSEDE High Performance Computing Account (100,000 CPU Hours)
2012	Student Travel Award, International Biogeography Society (\$500)
2011	Slobodkin Award, Stony Brook University (\$750)
2009	Robert Smart Undergraduate Fellowship, University of Richmond (\$4,000)
2008	University of Richmond Summer Research Fellowship (\$3,500)
2008	Best Student Speaker. Virginia Herpetological Society (\$200)

PUBLICATIONS – Total citations: 74, H-index: 4, i10: 3

1. Davidson, A. D., Shoemaker, K. T., **Weinstein, B. G.**, Costa, G. C., Brooks, T. M., Ceballos, G., Radeloff, V. C., Rondinini, C. and C. H. Graham. Geography of current and future global mammal extinction risk. *PlosONE*. *Accepted*.
2. **Weinstein, B. G.**, Parra, J. L, and C. H. Graham. Reduced co-occurrence among closely related hummingbird species. *PlosONE*. *Accepted*.
3. **Weinstein, B. G.** and A. S. Friedlaender. 2017. Dynamic foraging by a top marine predator in a polar marine environment. *Oecologia*. 1: 1-9
4. **Weinstein, B. G.** and C. H. Graham. 2017. Traits, abundance, and the detectability of species interaction networks. *Foodwebs*. 11: 17-25.
5. **Weinstein, B. G.**, Double, M, Gales, N., Johnston D.W., and Friedlaender, A. S. 2017. Identifying overlap between humpback whale foraging grounds and the Antarctic krill fishery. *Biological Conservation*. 210: 184-191.
6. Graham, L. **Weinstein, B. G.**, Supp, S. and C. H. Graham. Taxonomic, phylogenetic and functional dimensions of no-analog assemblages. 2017. *Diversity and Distributions*. 00:1-11.
7. **Weinstein, B. G.**, and C. H. Graham. Persistent bill and corolla matching despite shifting temporal resources in tropical hummingbird-plant interactions. 2017. *Ecology Letters*. 20: 326-335.
8. Penone, C.*, **Weinstein, B. G.***, Graham, C. H., Hedges, S. B., Rondinini, C., Davidson, A. and C. G. Costa. 2016. Global mammal betadiversity reveals convergence between isolated forest assemblages. *Proceeding of the Royal Academy B: Biological Sciences*. 283: 20161028.
* authors contributed equally
9. Cruzan, M.B, **Weinstein, B. G.**, Grasty, M. R., Kohn, B., Schroyer, T and Pamela G. Thompson. 2016. Small Unmanned Aerial Vehicles (Micro-UAVs -Drones) in Plant Ecology. *Applications in Plant Sciences*. 4: 1600041.
10. **Weinstein, B. G.** and Graham, C. H. 2016, Evaluating broad scale patterns among related species using resource experiments in tropical hummingbirds. *Ecology*, 97: 2085-2093.
11. Lessard, J.P., **Weinstein, B.G.**, Borregaard, M.K., Marske, K.A., Martin, D.R., McGuire, J.A., Parra, J.L., Rahbek, C. and Graham, C.H., 2016. Process-Based Species Pools Reveal the Hidden Signature of Biotic Interactions Amid the Influence of Temperature Filtering. *The American Naturalist*, 187:75-88.
12. **Weinstein, B. G.** 2015. MotionMeerkat: integrating motion video detection and ecological monitoring. *Methods in Ecology and Evolution* 6:357–362. * Highlighted in [Monitoring Wildlife Virtual Issue](#)
13. **Weinstein, B. G.**, Tinoco, B., Parra, J. L., Brown, L. M., McGuire, J. A., Stiles, F. G., and C. H. Graham. 2014. Taxonomic, Phylogenetic, and Trait Beta Diversity in South American Hummingbirds. *The American Naturalist* 184:211–224.
14. Salisbury, D. S., and **B. G. Weinstein**. 2014. Cultural Diversity in the Amazon Borderlands: Implications for Conservation and Development. *Journal of Borderlands Studies* 1:37–41.

Book Review

1. **Weinstein, B. G.**, and H. J. Lynch. 2015. Book Review: A Primer in Biological Data Analysis and Visualization Using R. *Quarterly Review of Biology* 90:17–18.

In Review

1. A computer vision for ecology. **Weinstein, B. G.** *Journal of Animal Ecology*.
*invited synthesis as part of consideration for the young investigator award.

PRESENTATIONS AND WORKING GROUPS

- 2017 'Persistent trait-matching in dynamic tropical hummingbird assemblages', ESA
- 2017 'Bayesian Models for Ecological Theory and Conservation', Boise State University
- 2016 Working Group: Inferring species interaction networks, University of Sherbrooke
- 2016 'Analyzing ecological networks through time', Winfree Lab, Rutgers
- 2016 'Modeling humpback whale movement in dynamic landscapes', Palmer Antarctica Long Term Ecological Research Meeting, Rutgers
- 2016 'Hierarchical N-mixture models for species interactions', International Statistical Ecology Conference (ISEC), University of Washington
- 2015 'Connecting local and broad scale occurrence patterns using resource experiments', IALE World Congress of Landscape Ecology
- 2015 'MotionMeerkat and Ecological Video Analysis', ESA
- 2015 'Available resources and trait-matching in a tropical pollinator community', ESA
- 2015 'Hummingbird trait-matching and nestedness', Betts Lab, Oregon State University
- 2015 'Harnessing Computer Vision for Ecological Monitoring'. Society for Northwest Vertebrate Biology
- 2014 'Colibris y Flores del Norte De Ecuador'. Dept. of Biology, University de Azuay, Ecuador
- 2014 'Hummingbird niche overlap at multiple scales', Wilcove Lab, Princeton University
- 2014 'Reduced co-occurrence of related hummingbird species', Species Distribution Modeling Group, American Museum of Natural History
- 2012 'Hummingbird taxonomic, phylogenetic and trait diversity', International Biogeography Society
- 2009 'Cultural geography of protected areas in Amazonia', American Association of Geographers

PROFESSIONAL EXPERIENCE

- 2011 Field Biologist – Bird Surveys, U.S Forest Service, California
- 2010 Molecular and Spatial Ecology Technician. Kozak Lab, University of Minnesota
- 2010 Field Assistant - Bird Surveys, Hubbard Brook Experimental Forest, NH
- 2007 Field Assistant – Bird Surveys, Institute for Bird Populations, Yosemite National Park
- 2006 Field Assistant – Bird Surveys, Rocky Mountain Biological Lab, CO
- 2005 Field Assistant – Bird Surveys, Chester River Research Center, MD

TEACHING EXPERIENCE

- 2017 Instructor. Geohackweek, eScience Center, UW.
- 2017 Instructor. Geospatial analysis in R. GIS in Action Conference Workshop
- 2016 Instructor. Geohackweek, eScience Center, UW.
- 2016 Instructor. Software Carpentry Workshop (Fall), eScience Center, University of Washington.
- 2016 Instructor. Software Carpentry Workshop (Spring), eScience Center, University of Washington.
- 2015 Instructor. Pacific Northwest National Laboratory. Software Carpentry Workshop
- 2015 Assistant Instructor. Oregon Health and Science University. Data Carpentry Workshop
- 2015 Assistant Instructor. Washington State University. Software Carpentry Workshop
- 2015 Software Carpentry Instructor Course
- 2014 Instructor, Introduction to Statistical Computing Graduate Seminar
- 2011 Lab Instructor, Bio 204: Fundamentals of Scientific Inquiry

Service

Reviewer

Methods in Ecology and Evolution (4), Global Ecology and Biogeography (3), Ecography (2), Journal of Biogeography (2), Functional Ecology (2), Oecologica (1), Global Ecology and Conservation (1), Ecology and Evolution (1), Scientific Reports (1), Ecology (1), Journal of Tropical Ecology (1), Functional Ecology (1), Journal of Field Ornithology (1), Environmental Monitoring and Assessment (1), Journal of Zoology (1).

Organizer, Computer Vision for Ecology, Ignite Session, Ecological Society of America, 2015.

Organizer, Phenology in a Community Context, Oral Symposium, Ecological Society of America, 2017.

Pertinent Skills

Languages: English, Spanish

Programming Languages

Advanced: R, Python, Git ([Github: bw4sz](#)), Amazon Web Services, Google Cloud Platform

Intermediate: Unix, Bash

Novice: HTML, D3