

EVAN C. FRICKE

Ecology, Evolution & Organismal Biology
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EDUCATION

- 2011 – 2015 Ph.D., Department of Biology, University of Washington
Thesis: *Benefits of seed dispersal for plant populations and species diversity*
Advisor: Joshua Tewksbury
- 2007 – 2011 A.B. in Biology with Spanish minor, *magna cum laude*, Bowdoin College
Advisors: Nathaniel Wheelwright and Damon Gannon
- School for Field Studies, Spring 2010, Wildlife Ecology and Conservation in
Kenya and Tanzania

PROFESSIONAL APPOINTMENTS

- 9/15 – Postdoctoral Researcher, Department of Ecology, Evolution, and Organismal
Biology, Iowa State University
Advisor: Haldre Rogers
- 3/15 – 9/15 Postdoctoral Researcher, Department of BioSciences, Rice University
Advisor: Haldre Rogers

PUBLICATIONS

- Evan C. Fricke, Joshua J. Tewksbury, Haldre S. Rogers (2017) Defaunation leads to interactions
deficits, not interaction compensation, in an island seed dispersal network. **Global
Change Biology**, *in press*.
- Sofia Gripenberg, Jadranka Rota, Jorma Kim, S. Joseph Wright, Nancy C. Garwood, Evan C.
Fricke, J. P. Salminen (2017) Seed polyphenols in a diverse tropical plant community.
Journal of Ecology, *in press*.
- Evan C. Fricke, Joshua J. Tewksbury, Elizabeth M. Wandrag & Haldre S. Rogers (2017)
Mutualistic strategies minimize coextinction in plant-disperser networks. **Proceedings of
the Royal Society B** 284, 20162302.
- Evan C. Fricke & S. Joseph Wright (2017) Measuring the demographic impact of conspecific
negative density dependence. **Oecologia** 184, 259-266.
- Haldre S. Rogers, Eric Buhle, Janneke HilleRisLambers, Evan C. Fricke, Ross Miller, Joshua J.
Tewksbury (2017) Effects of an invasive predator cascade to plants via mutualism
disruption. **Nature Communications** 8, 14557.

PUBLICATIONS (CONTINUED)

- Evan C. Fricke & S. Joseph Wright (2016) The mechanical defense advantage of small seeds. **Ecology Letters** 19, 987-991.
- Evan C. Fricke, David C. Haak, Douglas J. Levey, & Joshua J. Tewksbury (2016) Gut passage and secondary metabolites alter the source of predation for bird-dispersed chili seeds. **Oecologia** 181, 905-910.
- Evan C. Fricke, Katherine M. Blizzard, Damon P. Gannon, & Robert A. Mauck (2015) Model of burrow selection predicts pattern of burrow switching by Leach's Storm-Petrels. **Journal of Field Ornithology** 86, 326-336.
- Evan C. Fricke, Joshua J. Tewksbury & Haldre S. Rogers (2014) Multiple natural enemies cause distance-dependent mortality at the seed-to-seedling transition. **Ecology Letters** 17, 539-598.
- Evan C. Fricke, Melissa J. Simon, Karen M. Reagan, Douglas J. Levey, Jeffrey A. Riffell, Tomás A. Carlo & Joshua J. Tewksbury (2013) When condition trumps location: seed consumption by fruit-eating birds removes pathogens and predator attractants. **Ecology Letters** 17, 1031-1036.

MANUSCRIPTS IN REVISION OR REVIEW

- Monika Egerer*, Evan C. Fricke, Haldre S. Rogers. Seed dispersal as an ecosystem service: Frugivore loss leads to decline of a socially valued plant, *Capsicum frutescens*. *In revision*, **Ecological Applications**. *Graduate student mentee
- Ethan B. Linck, Evan C. Fricke, Haldre S. Rogers. Varied abundance and functional diversity across the bird communities of the Mariana Islands. *In review*, **The Wilson Journal of Ornithology**.
- Evan C. Fricke, Joshua J. Tewksbury, Haldre S. Rogers. Linking intra-specific trait variation and plant function: seed size mediates performance trade-offs within species. *In review*, **Functional Ecology**.
- Manuscripts in final preparation (available upon request) –
- Evan C. Fricke*, John Bender*, Evan M. Rehm, Haldre S. Rogers. Functional outcomes of mutualistic network interactions: a community-scale study of frugivore gut passage on germination. *Shared lead authorship with graduate student mentee.
- Phillip J. Dugger, Pedro Blendinger, Matthias Dehling, Carine Emer, Evan C. Fricke, Daniel García, Ingo Grass, Ruben Heleno, Marta Quitian, Fernanda Ribeiro, Mariano Sánchez, Francisco Saavedra, Sergio Timoteo, Anna Traveset, Matthias Schleuning and others. Structural differences between Neotropical and Afrotropical seed dispersal networks.
- Haldre S. Rogers, Brittany R. Cavazos, Ann Marie Gawel, Alexander Karnish, Courenay A. Ray, Evan C. Fricke. The impact of frugivore gut passage on germination and implications for conservation.

FUNDING AND AWARDS

- 2012 – 2015 National Science Foundation Graduate Research Fellowship; \$138,000
- 2011 – 2012 University of Washington Program on Climate Change Fellowship; \$32,000
- 2017 NSF REU Supplement \$15,000
- 2014 Robert T. Paine Experimental Field Ecology Award; \$4960
- 2013 Organization for Tropical Studies Davidson-Cristoph Award
- 2012 University of Washington Biology Department Field Ecology Award; \$2750
- 2011 Macomber Prize (Outstanding Senior in Biology, Bowdoin College)
- 2010 NSF REU, Mountain Research Station, University of Colorado Boulder
- 2010 Moulton Prize (Outstanding Junior in Biology, Bowdoin College)
- 2009 Research Fellow, Bowdoin Scientific Station, Kent Island, New Brunswick

MENTORING

Supervision and mentorship of 33 undergraduate researchers, including 22 women, 11 Pacific Islanders, and 7 from other underrepresented groups. A sample of research mentees (with competitive research funding and current positions):

Monika Egerer – Project: assessing the cultural, economic, and ecological impact of disperser loss via its effect on wild chilies in the Mariana Islands. Current position: Ph.D. student and NSF Graduate Research Fellow at University of California Santa Cruz.

Sheela Turbek – Project: comparing the effect of niche processes and conspecific density dependence on plant survival at the seed to seedling transition. Current position: Ph.D. student and NSF Graduate Research Fellow at University of Colorado.

Victoria Shimizu – Project: measuring the effect of distance-dependent mortality agents. Current position: Undergraduate at University of Washington. Competitive funding: Frye-Hotson-Rigg award from University of Washington Department of Biology.

TEACHING

- 2015 Instructor, Tropical Ecology and Conservation in the Mariana Islands. University of Guam. 15 undergraduate and graduate students. Students designed, executed, and analyzed the results of independent field research projects.
- 2014 Teaching Assistant, Biology 180: Introductory Biology. University of Washington. 48 undergraduate students in two lab sections.
- 2014 Guest Lecturer, Environmental Science and Resource Management. University of Washington 150: Wildlife in the Modern World. 150 undergraduate students.
- 2012 Instructor, Introduction to R. University of Washington. Short course for 15 graduate students.

SELECTED PRESENTATIONS

- 2017 Intraspecific trait variation and coexistence: seed size mediates trade-offs within species. *Invited talk*. Ecological Society of America. Portland, OR.
- 2017 Mutualistic networks in the Anthropocene. *Invited seminar*. University of Canberra, Institute of Applied Ecology, Canberra, ACT.
- 2017 Most resilient but hardest hit: Are large-seeded plant species most vulnerable to coextinction? Association of Tropical Biology and Conservation. Merida, Mexico.
- 2016 Mutualistic strategies minimize coextinction in plant-disperser networks. Ecological Society of America Meeting. Fort Lauderdale, FL.
- 2016 From coexistence to coextinction: predicting impacts of mutualism disruption. Iowa State University, Department of Ecology, Evolution & Organismal Biology. Ames, IA.
- 2015 Mutualistic strategy tradeoffs determine seed dispersal network structure and increase robustness to coextinction. Frugivory and Seed Dispersal Meeting. South Africa.
- 2014 The relative importance of natural enemy types for distance-dependent mortality at the seed-to-seedling transition. Ecological Society of America Meeting. Sacramento, CA.
- 2013 Density-independent dispersal benefits and strong impacts of weak density dependence: Exceptions or rules? *Invited talk*. Association of Tropical Biology and Conservation. San José, Costa Rica.

INVITED PARTICIPATION

- 2017 *Session Co-organizer*. Consequences of individual variation in dispersal for recruitment, populations, and communities. Organized Oral Session convened at the Ecological Society of America Meeting, Portland, OR
- 2016 *Participant*. Seed dispersal workshop. SESYNC – The National Socio-Environmental Synthesis Center, Baltimore, MD
- 2016 *Participant*. Bayesian statistics for ecologists. Colorado State Univ., Fort Collins, CO

PROFESSIONAL SERVICE

Journal Referee:

American Journal of Botany
Biotropica
Ecology
Functional Ecology
Journal of Ecology

Journal of Animal Ecology
Micronesica
Microbial Ecology
Plant and Soil
Plos One

Society Membership:

American Ornithological Union
Association of Tropical Biology & Conservation
Ecological Society of America

Grant Reviewer:

National Science Foundation