

EVAN C. FRICKE

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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, Kenya and Tanzania

PROFESSIONAL APPOINTMENTS

- 9/18 – Postdoctoral Fellow, National Socio-Environmental Synthesis Center (SESYNC)
Computational synthesis: Using seed dispersal network models to understand biotic and anthropogenic constraints on vegetation shifts under global change
Collaborating mentor: Jens-Christian Svenning, Aarhus University.
- 3/15 – 8/18 Postdoctoral Researcher, Department of BioSciences, Rice University & Department of Ecology, Evolution, and Organismal Biology, Iowa State University. Advisor: Haldre Rogers

PUBLICATIONS

- 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. **Journal of Ecology**. *In press*. *Shared lead authorship with graduate student mentee.
- Phillip J. Dugger, Pedro G. Blendinger, Katrin Böning-Gaese, Lackson Chama, Marta Correia, D. Matthias Dehling, Carine Emer, Nina Farwig, Evan C. Fricke, Mauro Galetti, Daniel García, Ingo Grass, Ruben Heleno, Fábio A. F. Jacomassa, Kim McConkey, Marcia C. Muñoz, Eike L. Neuschulz, Larissa Nowak, Augusti Piratelli, Marco A. Pizo, Marta Quitián, Susanna Rodríguez-Echeverría, Haldre S. Rogers, Román A. Ruggera, Francisco Saavedra, Mariano S. Sánchez, Vinicio Santillán, Dana G. Schabo, Fernanda Ribero da Silva, Sérgio Timóteo, Anna Traveset, Maximilian G. R. Vollstädt, Matthias Schleuning. Seed-dispersal networks are more specialized in the Neotropics than in the Afrotropics. **Global Ecology and Biogeography**. *In press*.
- Monika Egerer*, Evan C. Fricke, Haldre S. Rogers (2018) Seed dispersal as an ecosystem service: Frugivore loss leads to decline of a socially valued plant, *Capsicum frutescens*. **Ecological Applications**, 28, 655-667. *Graduate student mentee

PUBLICATIONS (CONTINUED)

- Evan C. Fricke, Joshua J. Tewksbury, Haldre S. Rogers (2018) Defaunation leads to interactions deficits, not interaction compensation, in an island seed dispersal network. **Global Change Biology**, 24, e190-e200.
- Sofia Gripenberg, Jadranka Rota, Jorma Kim, S. Joseph Wright, Nancy C. Garwood, Evan C. Fricke, J. P. Salminen (2018) Seed polyphenols in a diverse tropical plant community. **Journal of Ecology**, 106, 87-100.
- 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.
- 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

- 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 revision.*
- Ethan B. Linck*, Evan C. Fricke, Haldre S. Rogers. Varied abundance and functional diversity across the bird communities of the Mariana Islands. *In revision.* *Graduate student mentee.
- Evan M. Rehm, Evan C. Fricke, John Bender, Julie Savidge, Haldre S. Rogers. Animal movement drives variation in seed dispersal distance in a plant-animal network. *In revision.*

MANUSCRIPTS IN REVIEW

Clare Aslan, Noelle Beckman, Haldre Rogers, Judith Bronstein, Damaris Zurell, Florian Hartig, Katriona Shea, Liba Pejchar, Mike Neubert, John Poulsen, Janneke HilleRisLambers... Evan C. Fricke and 22 other authors. Employing plant functional groups to advance seed dispersal ecology and conservation. *In review*.

Rebecca S. Snell, Noelle G. Beckman, Evan C. Fricke, Bette A. Loiselle, Carolina S. Carvalho, Landon R. Jones, Nathanael I. Lichti, Nicky Lustenhouwer, Sebastian Schreiber and 13 other authors. The consequences of intraspecific variation in seed dispersal for recruitment, populations and communities. *In review*.

FUNDING AND AWARDS

2018 – 2020 National Socio-Environmental Synthesis Center (SESYNC) Postdoctoral Fellowship, Immersion Program.

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

- 2018, 2015 Instructor, Tropical Ecology and Conservation in the Mariana Islands. University of Guam. Field course with 15 university students and natural resource managers. 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

- 2018 Consequences of defaunation and the mutualistic rewilding of Guam. *Invited seminar*. Aarhus University.
- 2018 Coexistence in a forest where plants don't move. *Invited talk*. Ecological Society of America. New Orleans, LA.
- 2018 Plant enemies, mutualists, and the maintenance of forest diversity. *Invited seminar*. Smithsonian Tropical Research Institute. Ancón, Panama.
- 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.
- 2015 Mutualistic strategy tradeoffs determine seed dispersal network structure and increase robustness to coextinction. Frugivory and Seed Dispersal Meeting. South Africa.
- 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, Annapolis, MD
- 2016 *Participant*. Bayesian statistics for ecologists. Colorado State Univ., Fort Collins, CO

PROFESSIONAL SERVICE

Journal Referee:

Acta Oecologia
American Naturalist
American Journal of
Botany
Annals of Botany
Biotropica

Ecology
Ecology Letters
Functional Ecology
Journal of Ecology
Journal of Animal Ecology
Oikos

Micronesica
Microbial Ecology
Plant and Soil
Plos One

Society Membership:

American Ornithological Union
Association of Tropical Biology and Conservation
British Ecology Society
Ecological Society of America

Grant Reviewer:

National Science Foundation