

## Tadashi Fukami

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Associate Professor  
Department of Biology  
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### Appointments

2015-present Associate Professor, Department of Biology, Stanford University  
2008-2015 Assistant Professor, Department of Biology, Stanford University  
2006-2008 Assistant Professor, Department of Zoology, University of Hawaii at Manoa

### Professional preparation

2003-2005 Marsden Fund Postdoctoral Fellow, Landcare Research, New Zealand  
2005 Japan Society for the Promotion of Science Postdoctoral Fellow, University of Tokyo  
2003 Ph.D., Ecology and Evolutionary Biology, University of Tennessee, Knoxville  
1998 Master's degree, Wildlife Biology, University of Tokyo  
1996 Bachelor's degree, Biology, Waseda University, Tokyo

### Peer-reviewed research publications

\*Students, postdocs, and technicians supervised or co-supervised by me

In press Sprockett, D.\*, **Fukami, T.**, and Relman, D. A. (in press) Role of priority effects in the early-life assembly of the gut microbiota. *Nature Reviews Gastroenterology & Hepatology*

In press Toju, H., Vannette, R. L.\*, Gauthier, M. P. L.\*, Dhimi, M. K.\*, and **Fukami, T.** (in press) Priority effects can persist across floral generations in nectar microbial metacommunities. *Oikos*

In press Wittmann, M. J.\* and **Fukami, T.** (in press) Eco-evolutionary buffering: rapid evolution facilitates regional species coexistence despite local priority effects. *American Naturalist*

2017 Brandt, A. J.\*, Lee, W. G., Tanentzap, A. J., Hayman, E., **Fukami, T.**, and Anderson, B. J. (2017) Evolutionary priority effects persist in anthropogenically created habitats, but not through non-native plant invasion. *New Phytologist* 215: 865-876.

2017 **Fukami, T.**, Nakajima, M., Fortunel, C., Fine, P. V. A., Baraloto, C., Russo, S. E., and Peay, K. G. (2017) Geographical variation in community divergence: insights from tropical forest monodominance by ectomycorrhizal trees. *American Naturalist* 190: S105-S122.

- 2017 Knowlton, J. L.\*, Flaspohler, D. J., Paxton, E. H., **Fukami, T.**, Giardina, C. P., Gruner, D. S., and Wilson Rankin, E. E.\* (2017) Movements of four native Hawaiian birds across a naturally fragmented landscape. *Journal of Avian Biology* 48: 921-931.
- 2017 Leopold, D. R.\*, Wilkie, J. P., Dickie, I. A., Allen, R. B., Buchanan, P. K., and **Fukami, T.** (2017) Priority effects are interactively regulated by top-down and bottom-up forces: evidence from wood decomposer communities. *Ecology Letters* 20: 1054-1063
- 2017 Letten, A. D.\*, Ke, P. -J.\*, and **Fukami, T.** (2017) Linking modern coexistence theory and contemporary niche theory. *Ecological Monographs* 87: 161-177.
- Selected for the ESA Theoretical Ecology Section's award for the best paper in theoretical ecology
  - Recommended by Da-Yong Zhang, Faculty of 1000 Biology
- 2017 Schaeffer, R. N.\*, Vannette, R. L.\*, Brittain, C., Williams, N. M., and **Fukami, T.** (2017) Non-target effects of fungicides on nectar-inhabiting fungi of almond flowers. *Environmental Microbiology Reports* 9: 79-84.
- 2017 Vannette, R. L.\* and **Fukami, T.** (2017) Dispersal enhances beta diversity in nectar microbes. *Ecology Letters* 20:901-910.
- 2016 Brandt, A. J., Tanentzap, A. J., Leopold, D. R.\*, Heenan, P. B., **Fukami, T.**, and Lee, W. G. (2016) Precipitation alters the strength of evolutionary priority effects in forest community assembly of pteridophytes and angiosperms. *Journal of Ecology* 104: 1673-1681.
- Selected as Editor's Choice
- 2016 Dhami, M. K.\*, Hartwig, T., and **Fukami, T.** (2016) Genetic basis of priority effects: insights from nectar yeast. *Proceedings of the Royal Society B: Biological Sciences* 283: 20161455.
- 2016 **Fukami, T.**, Mordecai, E. A., and Ostling, A. (2016) A framework for priority effects. *Journal of Vegetation Science* 27: 655-657.
- 2016 Li, S. P., Cadotte, M. W., Meiners, S. J., Pu, Z., **Fukami, T.**, and Jiang, L. (2016) Convergence and divergence in a long-term old-field succession: the importance of spatial scale and species abundance. *Ecology Letters* 19: 1101-1109.
- 2016 Moeller, H. V.\*, Dickie, I. A., Peltzer, D. A., and **Fukami, T.** (2016) Hierarchical neighbor effects on mycorrhizal community structure and function. *Ecology and Evolution* 6: 5416-5430.
- 2016 Sikes, B. A., Hawkes, C. V., and **Fukami, T.** (2016) Plant and root-endophyte assembly history: interactive effects on native and exotic plants. *Ecology* 97: 484-493.
- 2016 Tsuji, K.\*, Dhami, M. K.\*, Cross, D. J. R.\*, Rice, C. P.\*, Romano, N. H.\*, and **Fukami, T.** (2016) Florivory and pollinator visitation: a cautionary tale. *AoB PLANTS* 8: plw036.
- 2016 Vannette, R. L.\* and **Fukami, T.** (2016) Nectar microbes can reduce secondary metabolites in nectar and alter effects on nectar consumption by pollinators. *Ecology* 97: 1410-1419.

- 2016 Vannette, R. L.\*, Leopold, D. R.\*, and **Fukami, T.** (2016) Forest area and connectivity influence root-associated fungal communities in a fragmented landscape. *Ecology* 97: 2374-2383.
- 2016 Zhu, K.\*, Chiariello, N. R., Tobeck, T., **Fukami, T.**, and Field, C. B. (2016) Nonlinear, interacting responses to climate limit grassland production under global change. *Proceedings of the National Academy of Sciences* 113: 10589-10594.
- 2015 **Fukami, T.** (2015) Historical contingency in community assembly: integrating niches, species pools, and priority effects. *Annual Review of Ecology, Evolution, and Systematics* 46: 1-23.
- Recommended by Janneke HilleRisLambers, Faculty of 1000 Biology
- 2015 Moeller, H. V.\*, Dickie, I. A., Peltzer, D. A., and **Fukami, T.** (2015) Mycorrhizal co-invasion and novel interactions depend on neighborhood context. *Ecology* 96: 2336-2347.
- 2015 Leopold, D. R.\*, Tanentzap, A. J., Lee, W. G., Heenan, P. B., and **Fukami, T.** (2015) Evolutionary priority effects in New Zealand alpine plants across environmental gradients. *Journal of Biogeography* 42: 729-737.
- 2015 Tanentzap, A. J., Brandt, A. J.\*, Smissen, R. D., Heenan, P. B., **Fukami, T.**, and Lee, W. G. (2015) When do plant radiations influence community assembly? The importance of historical contingency in the race for niche space. *New Phytologist* 207: 468-479.
- 2015 Zee, P. C.\*, and **Fukami, T.** (2015) Complex organism-environment feedbacks buffer species diversity against habitat fragmentation. *Ecography* 38: 370-379.
- 2014 Belisle, M.\*, Mendenhall, C. D.\*, Oviedo Brenes, F., and **Fukami, T.** Temporal variation in fungal communities associated with tropical hummingbirds and nectarivorous bats. *Fungal Ecology* 12: 44-51.
- 2014 Callahan, B. J.\*, **Fukami, T.**, and Fisher, D. S. Rapid evolution of adaptive niche construction in experimental microbial populations. *Evolution* 68: 3307-3316.
- 2014 Good, A. P.\*, Gauthier, M.-P. L.\*, Vannette, R. L.\*, and **Fukami, T.** Honey bees avoid nectar colonized by three bacterial species, but not by a yeast species, isolated from the bee gut. *PLoS ONE* 9: e86494.
- McKelvey, C. "Stanford researchers discover honeybees are picky pollinators." *Stanford Report*
- 2014 Moeller, H. V.\*, Peay, K. G.\*, and **Fukami, T.** Ectomycorrhizal fungal traits reflect environmental conditions along a coastal California edaphic gradient. *FEMS Microbiology Ecology* 87: 797-806.
- 2014 Tucker, C. M.\* and **Fukami, T.** Environmental variability counteracts priority effects to facilitate species coexistence: evidence from nectar microbes. *Proceedings of the Royal Society B: Biological Sciences* 281: 20132637.
- 2014 Vannette, R. L.\* and **Fukami, T.** Historical contingency in species interactions: towards niche-based predictions. *Ecology Letters* 17: 115-124.

- Recommended by Chih-hao Hsieh, Faculty of 1000 Biology
- 2013 **Fukami, T.**, Bellingham, P. J., Peltzer, D. A., and Walker, L. R. Non-native plants disrupt dual promotion of native alpha and beta diversity. *Folia Geobotanica* 48: 319-333.
- 2013 **Fukami, T.** and Nakajima, M. Complex plant-soil interactions enhance plant species diversity by delaying community convergence. *Journal of Ecology* 101: 316-324.
- 2013 McFall-Ngai, M., Hadfield, M., Bosch, T., Carey, H., Domazet-Loaso, T., Douglas, A., Dubilier, N., Eberl, G., **Fukami, T.**, Gilbert, S., Hentschel, T., King, N., Kjelleberg, S., Knoll, A. H., Kremer, N., Mazmanian, S., Metcalf, J., Neelson, K., Pierce, N., Rawls, J., Reid, A., Ruby, E., Rumpho, M., Sanders, J., Tautz, D., and Wernegreen, J. Animals in a bacterial world, an imperative for the life sciences. *Proceedings of the National Academy of Sciences, USA* 110: 3229-3236.
- 2013 Nemergut, D. R., Schmidt, S. K., **Fukami, T.**, O'Neill, S. P., Bilinski, T. M., Stanish, L. F., Knelman, J. E., Darcy, J. L., Lynch, R. C., Wickey, P., and Ferrenberg, S. Microbial community assembly: patterns and processes. *Microbiology and Molecular Biology Reviews* 77: 342-356.
- Recommended by Jennifer A. Leeds, Faculty of 1000 Biology
- 2013 Peay, K. G.\*, Dickie, I. A., Wardle, D. A., Bellingham, P. J., and **Fukami, T.** Rat invasion of islands alters fungal community structure, but not wood decomposition rates. *Oikos* 122: 258-264.
- 2013 Suding, K. N., Harpole, W. S., **Fukami, T.**, Kulmatiski, A., MacDougall, A. S., Stein, C., and Van der Putten, W. H. Consequences of plant-soil feedbacks in invasion. *Journal of Ecology* 101: 298-308.
- 2013 Tomimatsu, H., Sasaki, T., Kurokawa, H., Bridle, J. R., Fontaine, C., Kitano, J., Stouffer, D. B., Vellend, M., Bezemer, T. M., **Fukami, T.**, Hadly, E. A., van der Heijden, M. G.A., Kawata, M., Kéfi, S., Kraft, N. J.B., McCann, K. S., Mumby, P. J., Nakashizuka, T., Petchey, O. L., Romanuk, T. N., Suding, K. N., Takimoto, G., Urabe, J., Yachi, S. Sustaining ecosystem functions in a changing world: a call for an integrated approach. *Journal of Applied Ecology* 50: 1124–1130.
- 2013 Van der Putten, W. H., Bardgett, R. D., Bever, J. D., Bezemer, T. M., Casper, B. B., **Fukami, T.**, Kardol, P., Klironomos, J. N., Kulmatiski, A., Schweitzer, J. A., Suding, K. N., Van der Voorde, T. F. J., and Wardle, D. A. Plant-soil feedback: the past, the present and future challenges. *Journal of Ecology* 101:265-276.
- 2013 Vannette, R. L.\*, Gauthier, M.-P. L.\*, and **Fukami, T.** Nectar bacteria, but not yeast, weaken a plant-pollinator mutualism. *Proceedings of the Royal Society B: Biological Sciences* 280: 20122601.
- 2012 Belisle, M.\*, Peay, K. G.\*, and **Fukami, T.** Flowers as islands: spatial distribution of nectar-inhabiting microfungi among plants of *Mimulus aurantiacus*, a hummingbird-pollinated shrub. *Microbial Ecology* 63: 711-718.
- 2012 Dickie, I. A.†, **Fukami, T.**†, Wilkie, J. P., Allen, R. B., and Buchanan, P. K. Do assembly history effects attenuate from species to ecosystem properties? A field test with wood-inhabiting fungi. *Ecology Letters* 15: 133-141. (†equal contribution)

- 2012 Knope, M. L.\*, Forde, S. E., and **Fukami, T.** Evolutionary history, immigration history, and the extent of diversification in community assembly. *Frontiers in Microbiology* 2: 273.
- 2012 Knope, M. L.\*, Morden, C. W., Funk, V. A., and **Fukami, T.** Area and the rapid radiation of Hawaiian *Bidens* (Asteraceae). *Journal of Biogeography* 39: 1206-1216.
- 2012 Lynch, H. B.\*, Epps, K. Y., **Fukami, T.**, and Vitousek, P. M. The effect of introduced canopy tree species on the soil microbial community in a montane tropical forest. *Pacific Science* 66: 141-150.
- 2012 Peay, K. G.\*, Belisle, M.\*, and **Fukami, T.** Phylogenetic relatedness predicts priority effects in nectar yeast communities. *Proceedings of the Royal Society B: Biological Sciences* 279: 749-758.
- Recommended by John J. Stachowicz, Faculty of 1000 Biology
- 2012 Wardle, D. A., Bellingham, P. J., **Fukami, T.**, and Bonner, K. I. Soil-mediated indirect impacts of an invasive predator on plant growth. *Biology Letters* 8: 574-577.
- 2011 **Fukami, T.** and Nakajima, M. Community assembly: alternative stable states or alternative transient states? *Ecology Letters* 14: 273-284.
- 2011 Massol, F., Gravel, D., Mouquet, N., Cadotte, M. W., **Fukami, T.**, and Leibold, M. A. Linking community and ecosystem dynamics through spatial ecology. *Ecology Letters* 14: 313-323.
- 2010 **Fukami, T.**, Dickie, I. A., Wilkie, J. P., Paulus, B. C., Park, D., Roberts, A., Buchanan, P. K. & Allen, R. B. Assembly history dictates ecosystem functioning: evidence from wood decomposer communities. *Ecology Letters* 13: 675-684.
- Recommended by Luke McCormack and Erica Smithwick, Faculty of 1000 Biology
  - Included in *Ecology Letters* Virtual Issue, "The Structure and Effects of Biodiversity from Oceans to Mountains"
- 2009 Mulder, C. P. H., Grant-Hoffman, M. N., Towns, D. R., Bellingham, P. J., Wardle, D. A., Durrett, M. S., **Fukami, T.**, and Bonner, K. I. Direct and indirect effects of rats: will their eradication restore ecosystem functioning of New Zealand seabird islands? *Biological Invasions* 11: 1671-1688.
- 2009 Olito, C.\* and **Fukami, T.** Long-term effects of predator arrival timing on prey community succession. *American Naturalist* 173: 354-362.
- 2009 Van der Putten, W. H., Bardgett, R. D., de Ruiter, P. C., Hol, W. H. G., Meyer, K. M., Bezemer, T. M., Bradford, M. A., Christensen, S., Eppinga, M. B., **Fukami, T.**, Hemerik, L., Molofsky, J., Schädler, M., Scherber, C., Strauss, S. Y., Vos, M., and Wardle, D. A. Empirical and theoretical challenges in aboveground-belowground ecology. *Oecologia* 161: 1-14.
- 2007 **Fukami, T.**, Beaumont, H. J. E., Zhang, X.-X., and Rainey, P. B. Immigration history controls diversification in experimental adaptive radiation. *Nature* 446: 436-439.
- Featured in a *Nature* podcast interview
  - Commentary: 2007 Gillespie, R. G. and Emerson, B. C. Adaptation under a microscope. *Nature* 446: 386-387.

- Commentary: 2007 Seehausen, O. Chance, historical contingency and ecological determinism jointly determine the rate of adaptive radiation. *Heredity* 99: 361-363.
- 2007 Wardle, D. A., Bellingham, P. J., **Fukami, T.**, and Mulder, C. P. H. Promotion of ecosystem carbon sequestration by invasive predators. *Biology Letters* 3: 479-482.
- 2006 Cadotte, M. W., Fortner, A. M.\*, and **Fukami, T.** The effects of resource enrichment, dispersal, and predation on local and meta-community structure. *Oecologia* 149: 150-157.
- 2006 **Fukami, T.**, Wardle, D. A., Bellingham, P. J., Mulder, C. P. H., Towns, D. R., Yeates, G. W., Bonner, K. I., Durrett, M. S., Grant-Hoffman, M. N., and Williamson, W. M. Above- and below-ground impacts of introduced predators in seabird-dominated island ecosystems. *Ecology Letters* 9: 1299-1307.
- Recommended by Oswald J. Schmitz, Faculty of 1000 Biology
  - Recommended by Daniel Simberloff, Faculty of 1000 Biology
- 2006 **Fukami, T.** and Lee, W. G. Alternative stable states, trait dispersion, and ecological restoration. *Oikos* 113: 353-356.
- 2005 Cadotte, M. W., Drake, J. A., and **Fukami, T.** Constructing nature: laboratory models as necessary tools for investigating complex ecological communities. *Advances in Ecological Research* 37: 333-353.
- 2005 Cadotte, M. W.† and **Fukami, T.**† Dispersal, spatial scale and species diversity in a hierarchically structured experimental landscape. *Ecology Letters* 8: 548-557. (†equal contribution)
- 2005 **Fukami, T.** Integrating internal and external dispersal in metacommunity assembly: preliminary theoretical analyses. *Ecological Research* 20: 623-631.
- 2005 **Fukami, T.**, Bezemer, T. M., Mortimer, S. R., and Van der Putten, W. H. Species divergence and trait convergence in experimental plant community assembly. *Ecology Letters* 8: 1283-1290.
- Recommended by Mathew A. Leibold, Faculty of 1000 Biology
- 2005 **Fukami, T.** and Wardle, D. A. Long-term ecological dynamics: reciprocal insights from natural and anthropogenic gradients. *Proceedings of the Royal Society B: Biological Sciences* 272: 2105-2115.
- 2004 **Fukami, T.** Assembly history interacts with ecosystem size to influence species diversity. *Ecology* 85: 3234-3242.
- 2004 **Fukami, T.** Community assembly along a species pool gradient: implications for multiple-scale patterns of species diversity. *Population Ecology* 46: 137-147.
- 2003 **Fukami, T.** and Morin, P. J. Productivity-biodiversity relationships depend on the history of community assembly. *Nature* 424: 423-426.
- Recommended by Naomi Ward, Faculty of 1000 Biology
  - *Highlight* by Saran Twombly, National Science Foundation

2001 **Fukami, T.** Sequence effects of disturbance on community structure. *Oikos* 92: 215-224.

- Recommended by Ferdinando Boero and Valeriano Parravicini, Faculty of 1000 Biology
- Featured with reproduced figures on p. 497 of Begon, M., Townsend, C. L., and Harper, J. L. (2006) *Ecology*, 4th edition, Blackwell.

2001 **Fukami, T.**, Naeem, S., and Wardle, D. A. On similarity among local communities in biodiversity experiments. *Oikos* 95: 340-348.

1999 **Fukami, T.**, Zimmermann, C. R., Russell, G. J., and Drake, J. A. Self-organized criticality in ecology and evolution. *Trends in Ecology and Evolution* 14: 321.

## Peer-reviewed education publications

2013 Brownell, S. E., Kloser, M. J., **Fukami, T.**, and Shavelson, R. J. Context matters: volunteer bias, small sample size, and the value of comparison groups in the assessment of research-based undergraduate introductory biology lab courses. *Journal of Microbiology and Biology Education* 14: 176-182.

2013 **Fukami, T.** Integrating inquiry-based teaching with faculty research. *Science* 339: 1536-1537.

- AAAS press release, "Science prize goes to undergrad course that incorporates faculty research."
- Passarelli, J. "Lab course: out of the cookbook and into the field." *Stanford Teaching Commons*

2013 Kloser, M. J., Brownell, S. E., Shavelson, R. J., and **Fukami, T.** Effects of a research-based ecology lab course: a study of non-volunteer achievement, self-confidence and perception of lab course purpose. *Journal of College Science Teaching* 42: 90-99.

2012 Brownell, S. E., Kloser, M. J., **Fukami, T.**, and Shavelson, R. J. Undergraduate biology lab courses: Comparing the impact of traditionally-based "cookbook" and authentic research-based courses on student lab experiences. *Journal of College Science Teaching* 41: 36-45.

2011 Kloser, M. J., Brownell, S. E., Chiariello, N. R., and **Fukami, T.** Integrating teaching and research in undergraduate biology laboratory education. *PLoS Biology* 9: e1001174.

- McClure, M. "Ditch the cookbook: Stanford's biology pilot project shows benefits from nontraditional lab class." *Stanford Report*

## Other publications

In press **Fukami, T.** (in press) Messy communities. *Bulletin of the Ecological Society of America*

2010 **Fukami, T.** Why a grand unified theory is neither feasible nor desirable. *Science* 330: 1049-1050. [Review of: Loreau, M. (2010) From populations to ecosystems: theoretical foundations for a new ecological synthesis. *Princeton University Press*.]

- 2010 **Fukami, T.** Correcting Darwin's other mistake. *Evolution* 64: 3336-3338. [Review of: Garland, T., Jr. & Rose, M. R. (editors) (2009) *Experimental evolution: concepts, methods and applications of selection experiments. University of California Press.*]
- 2010 **Fukami, T.** Community assembly dynamics in space. In: Verhoef, H. A. and Morin, P. J. (editors) *Community Ecology: Processes, Models, and Applications*. Pages 45-54. **Oxford University Press.**
- 2009 **Fukami, T.** Convergence. In: Gillespie R. G. and Clague, D. A. (editors) *Encyclopedia of Islands. University of California Press.*
- 2008 **Fukami, T.** Stochasticity in community assembly, and spatial scale. In: Ohgushi, T., Kondoh, M., and Noda, T. (editors) *Community Ecology, Series 5*. Pages 51-71. **Kyoto University Press.**
- 2006 Cadotte, M. W., McMahon, S. M., and **Fukami, T.** (editors) *Conceptual Ecology and Invasion Biology: Reciprocal Approaches to Nature. Springer.*
- Review: 2007 Ehrenfeld, J. G. The marriage of invasion ecology and ecological theory. *Ecology* 88: 1067-1068.
- 2003 Zimmermann, C. R., **Fukami, T.**, and Drake, J. A. An experimentally derived map of community assembly space. In: Bar-Yam, Y. (editor) *Unifying Themes in Complex Systems*. Pages 427-436. **Perseus Press.**

## Research support

2017-2022 National Science Foundation, “Dimensions: Collaborative Research: Assembly and function of nectar microbial communities”

- Received as sole PI, with a Co-PI (Adina Howe); one of the 2 proposals ranked as “high priority” (top 3%)

2016-2018 National Science Foundation, “OPUS: historical contingency in community assembly”

- Received as sole PI; one of the 11 proposals ranked as “high priority” (top 7%)

2016-2017 National Science Foundation, “Dissertation research: species pool influences on the structure and function of fungal symbiont communities”

- Doctoral Dissertation Improvement Grant awarded to my student, Devin Leopold

2012-2017 National Science Foundation, “CAREER: community assembly of nectar-inhabiting microbes”

- Received as sole PI; one of the 11 proposals ranked as “outstanding” (top 4%)
- REU (Research Experience for Undergraduates) supplements received in 2017

2012-2014 National Science Foundation, “Dissertation research: metabolic bet hedging as an explanation for maintenance of diverse tree-ectomycorrhizal mutualisms”

- Doctoral Dissertation Improvement Grant awarded to my student, Holly Moeller



2012-2015 Marsden Fund, Royal Society of New Zealand, standard grant, "Do priority effects explain contrasting lineage diversification on islands?"

- Received as Associate Investigator (co-PI), with PI (William G. Lee), and 2 other AIs (Andrew Tanentzap, Peter Heenan); one of the 86 proposals awarded (top 8%)

2010-2016 National Science Foundation, "Collaborative project: interactive effects of predation and ecosystem size on arthropod food webs in Hawaiian forests fragmented by lava flows"

- Received as lead PI, with 3 co-PIs (David Flaspohler, Christian Giardina, Daniel Gruner); one of the 15 proposals ranked as "outstanding" (top 5%)

2009-2016 Landcare Research, New Zealand, subcontract, "Ecosystem resilience"

2006-2009 Marsden Fund, Royal Society of New Zealand, standard grant, "Assembly history as a regulator of ecosystem functioning: a test with fungal communities"

- Received as PI, with 3 Associate Investigators (co-PIs) (Rob Allen, Peter Buchanan, Ian Dickie); one of the 79 proposals awarded (top 9%)

2002-2003 National Science Foundation, Doctoral Dissertation Improvement Grant

## **Awards**

2015 Dean's Award for Distinguished Teaching in the School of Humanities and Sciences, Stanford University

2013 *Science* prize for inquiry-based instruction, *Science* magazine

2010-2012 Terman Fellowship, School of Humanities and Sciences, Stanford University

2005 Denzaburo Miyadi Award, Ecological Society of Japan

2003-2005 Postdoctoral Research Fellowships: Japan Society for the Promotion of Science (2005); Marsden Fund Postdoctoral Fellowship, Royal Society of New Zealand (2003-2005); Izaak Walton Killam Postdoctoral Fellowship, University of British Columbia (declined) (2003)

2002 Yates Dissertation Fellowship, University of Tennessee

## **Invited seminars**

2008-present Seminar invitations, voted by graduate students

- 2018 North Carolina State University (Bartholomew Brandt Lecture) (scheduled)
- 2016 German Centre for Integrative Biodiversity Research (iDiv), keynote speaker
- 2015 Yale University, G. Evelyn Hutchinson Distinguished Speaker
- 2012 University of Tennessee, Knoxville
- 2010 Michigan State University
- 2009 University of California, Irvine
- 2008 Washington University in St. Louis

2012-present Invited symposium speaker

- 2017 Beijing Normal University, China
- 2017 University of California, San Diego
- 2016 University of Michigan Early Career Scientists Symposium, keynote speaker
- 2015 Freie Universität Berlin, Germany
- 2014 Society for Mathematical Biology
- 2014 Ecological Society of Japan, Kanto Branch, keynote speaker
- 2013 International Association for Ecology (INTECOL)
- 2013 Botanical Society of America
- 2013 Mycological Society of America
- 2013 Biodiversity in a Changing World workshop, Centre de recherches mathématiques
- 2012 Netherlands Ecological Research Network

2004-present Selected other invited seminars

- 2018 Claremont Colleges (scheduled)
- 2017 University of Kansas, Distinguished Ecologist Speaker
- 2017 University of Pittsburgh
- 2017 MIT
- 2017 Rutgers University
- 2017 University of Alabama
- 2016 Aarhus University, Denmark
- 2016 Netherlands Institute of Ecology
- 2016 University of Zurich, Peter & Rosemary Grant Lecture in Evolutionary Biology
- 2016 Uppsala University, Sweden
- 2016 Lund University, Sweden
- 2016 KU Leuven, Belgium
- 2016 University of Copenhagen
- 2016 University of Helsinki
- 2016 University of Georgia, Athens
- 2015 University of California, Davis
- 2015 Iowa State University
- 2015 Princeton University
- 2014 Umeå University, Sweden
- 2015 Michigan State University Kellogg Biological Station
- 2013 University of Colorado, Boulder
- 2013 University of Maryland, College Park
- 2013 University of Texas, Austin
- 2012 University of California, Riverside
- 2011 McGill University
- 2011 University of California, Davis
- 2011 San Francisco State University
- 2010 University of British Columbia
- 2010 Rice University
- 2010 University of California, Los Angeles
- 2010 Tohoku University, Japan
- 2008 University of California, Berkeley
- 2008 Stanford University
- 2007 University of Groningen, Netherlands
- 2007 National Institute for Environmental Studies, Japan
- 2005 University of Hawaii, Manoa

2005 University of Otago, New Zealand  
2004 University of Florida, Gainesville  
2004 University of California, San Diego

## **Professional activities**

2007-present Member of editorial board, *Ecology Letters*

2006-2010 & 2016-present Member of editorial board, *Oikos*

2013-2016 Member of editorial board, *PLoS ONE*

2014-2016 Member of Ecological Society of America W. S. Cooper Award selection committee

2010 Guest editor, *Annual Review of Ecology, Evolution and Systematics* (2012 issue)

2010, 2012 Symposium co-organizer, "Plant-soil feedback: the past, the present and the future," Ecological Society of America annual meeting (2012); "Spatial food web ecology: toward a mechanistic landscape ecology," Ecological Society of America annual meeting (2010)

2007-present Review panelist, National Science Foundation (2011, 2013, 2015, 2017); German Science Foundation, for the Jena Experiment (2010); National Science Foundation, Doctoral Dissertation Improvement Grant (2007)

1998-present Outside reviewer for manuscripts, proposals and book chapters submitted to: *American Journal of Botany, American Naturalist, Annals of Botany, Applied Soil Ecology, Biological Invasions, BioScience, Diversity and Distributions, Ecography, Ecological Modelling, Ecological Research, Ecology, Ecology Letters, FEMS Microbiology Ecology, Environmental Microbiology, Frontiers in Ecology and Evolution, Functional Ecology, Fungal Ecology, Global Change Biology, ISME Journal, Japanese Journal of Ecology, Journal of Animal Ecology, Journal of Ecology, Journal of Vegetation Science, Microbial Ecology, Molecular Ecology, Nature, Nature Ecology & Evolution, New Zealand Journal of Ecology, Oecologia, Oikos, Population Ecology, National Academy of Sciences of the USA, Proceedings of the Royal Society of London B, Restoration Ecology, Science, Trends in Ecology and Evolution, Yeast*

2004-present Proposal reviewer for US National Science Foundation, Marsden Fund of the Royal Society of New Zealand, National Fish and Wildlife Foundation, German Science Foundation

2004-present Outside reviewer for book manuscripts and proposals and book chapters, *Oxford University Press, Princeton University Press, Springer*

2002-2012 Judge for Buell Award, Ecological Society of America (graduate student presentation), Lincoln University Canterbury-Westland Science and Technology Fair, New Zealand (years 7-13 student contests), and Tennessee Science Olympiad (middle/high schools)

## **Advising**

Ph.D. student advisor

2017-present Callie R. Chappell  
Stanford Graduate Fellow & NSF Graduate Research Fellow

2016-present Priscilla A. San Juan  
NSF Graduate Research Fellowship honorable mention  
Ford Foundation Fellowship honorable mention

2015-present John Nicholas Hendershot  
Stanford Graduate Fellow

2014-present Po-Ju Ke  
Scholarship for studying abroad, Taiwan Ministry of Education  
Volterra Award for best student talk in theoretical ecology at ESA 2015

2012-2017 Devin R. Leopold  
Mycological Society of America Graduate Fellow  
NSF Doctoral Dissertation Improvement Grant  
Current position: Postdoctoral fellow, Oregon State University

2010-2015 Holly V. Moeller  
NSF Graduate Research Fellow & ARCS Foundation Scholar  
NSF Doctoral Dissertation Improvement Grant  
Current position: Assistant Professor, University of California, Santa Barbara

2009-2013 Melinda Belisle  
NSF Graduate Research Fellow  
Current position: Scientist, USDA Foreign Agricultural Service

2006-2012 Matthew L. Knope  
NSF GK-12 Fellow  
Current position: Assistant Professor, University of Hawaii, Hilo

#### Visiting Ph.D. student advisor

2017 Tess N. Grainger  
Visiting student from University of Toronto

2012 Caroline M. Tucker  
Visiting student from University of Toronto  
Current position: Assistant Professor at University of North Carolina, Chapel Hill

#### Postdoctoral fellow supervisor

2015-2017 Andrew D. Letten  
Stanford CEHG Postdoc Fellow, also funded by NSF CAREER grant  
Current position: Postdoctoral fellow, University of Canterbury, New Zealand

2014-2017 Manpreet K. Dhami  
Funded by NSF CAREER grant  
Current position: Researcher, Landcare Research, New Zealand

2014-2016 Kai Zhu  
Carnegie Institution Postdoc Fellow, co-supervised with Chris Field and Nona Chiariello  
Current position: Assistant Professor, University of California, Santa Cruz

2014-2015 Meike J. Wittmann  
Stanford CEHG Postdoc Fellow, co-supervised with Dmitri Petrov  
Current position: Junior Professor at Bielefeld University, Germany

2013-2015 Peter C. Zee  
NSF Postdoc Fellow, co-supervised with Daniel S. Fisher  
Current position: Assistant Professor at University of Mississippi

2011-2015 Rachel L. Vannette

LSRF Fellow sponsored by Gordon and Betty Moore Foundation

Current position: Assistant Professor, University of California, Davis

2010-2013 Benjamin J. Callahan

Co-supervised with Daniel S. Fisher

Current position: Assistant Professor, North Carolina State University

2010-2011 Kabir G. Peay

Current position: Assistant Professor at Stanford University

#### Research technician supervisor

2011-2014 Marie-Pierre L. Gauthier

2009-2012 Devin R. Leopold

#### Summer undergraduate student research intern advisor

Elizabeth Parissenti (2009), Jacob Riley (2009), David Zimmerman (2010), Jenny Rempel (2010), Nathan Kim (2010), Katrina Luna (2010), Tess Morgridge (2011), Nessarose Schear (2011), Daniel Halford (2012), Amelia Zuckerwise (2012), Sophia Christel (2013), Julia Tsai (2014), Aanna Wietelmann (2014), David Cross, Carolyn Rice, Nic Romano (2015), Michelle M. R. Li, Anna Verwillow (2016), Nancy Chang, Jasmine Gillian (NSF REU), Ben LeRoy (2017)

#### Undergraduate student research advisor

Stanford: Kim Thai (2008), Grace Goldberg (2010), Diana Huynh (2010), Sharia Mayfield (2010), Aaron Wacholder (2010), Saffiyah Abdul-Khabir (2011), Ashley Good (2011), David Mosko (2011), Kelsie Pombo (2011), Rachel Powell (2012)

UH-Manoa: Colin Olito (2007-08), Whitney Hoehn (2007-08), Jeremy Watson (2007-08)

## Courses taught

Stanford: BIO 35N Climate Change Ecology: Is It Too Late? (to be taught in 2018)

Stanford: BIO46 & 47 Introduction to Research in Ecology and Evolutionary Biology (2017)

Stanford: BIO44Y Core Experimental Laboratory for Ecology (2010, 2011, 2012, 2013\*, 2014, 2015, 2016\*)

Stanford: BIO/EARTHSYS116 Ecology of Hawaiian Islands (2010, 2012, 2014)

Stanford: BIO202 Ecological Statistics (2012, 2014, 2017)

Stanford: BIO227 Foundations of Community Ecology (2011, 2015)

Stanford: BIO326 Foundations of Biogeography (2010)

UH-Manoa: BIO265 Ecology and Evolutionary Biology (2007)

UH-Manoa: ZOOL739 Topics in Ecology (2007, 2008)

\*Only preparation, not actual teaching, due to junior faculty leave or pure research leave

## University committees

Biology Department committees, 2010-present: policy committee, undergraduate curriculum committee, undergraduate studies committee (lab redesign), graduate admissions committees,

ecology faculty search committees, evolution faculty search committee, departmental seminar committee

Jasper Ridge Biological Preserve advisory committee, 2009-present