

Tadashi Fukami

Departments of Biology and Earth System Science, Stanford University
Stanford, CA 94305-5020, USA
fukamit@stanford.edu
www.stanford.edu/~fukamit

Positions held

2023-present Faculty Director, Jasper Ridge Biological Preserve – 'Ootchamin 'Ooyakma, Stanford University
2022-present Professor, Departments of Biology & Earth System Science, Stanford University
2021-2022 Professor, Department of Biology, Stanford University
2015-2020 Associate Professor, Department of Biology, Stanford University
2020 Project Associate Professor, Graduate School of Arts & Sciences, Univ. of Tokyo
2008-2015 Assistant Professor, Department of Biology, Stanford University
2006-2008 Assistant Professor, Department of Zoology, University of Hawaii at Manoa
2003-2005 Marsden Fund Postdoctoral Fellow, Landcare Research, New Zealand
2005 Japan Society for the Promotion of Science Postdoctoral Fellow, Univ. of Tokyo

Education

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

Honors

2022 Distinguished Naturalist Award, American Society of Naturalists
2019 Fellow, Ecological Society of America (ESA)
2019 Presidential Award, American Society of Naturalists
2017 Outstanding Ecological Theory Paper Award, Theoretical Ecology Section of ESA
2015 Dean's Award for Distinguished Teaching, Stanford University
2013 *Science* prize for inquiry-based instruction, *Science* magazine
2012 NSF CAREER award
2010 Terman Fellowship, Stanford University
2005 Denzaburo Miyadi Award, Ecological Society of Japan

Professional service

2019-present Member of Executive Council, American Society of Naturalists
(Secretary, 2019-2021; Past Secretary, 2022-2024)
2023-present Member of the Board of Reviewing Editors, *PNAS Nexus*
2021-present Member of advisory board, *Trends in Ecology & Evolution*

- 2021-present Member of editorial board, *Ecology* and *Ecological Monographs*
- 2007-2021 Member of editorial board, *Ecology Letters*
- 2006-2010 & 2016-2021 Member of editorial board, *Oikos*
- 2013-2016 Member of editorial board, *PLoS ONE*
- 2020-2022 Member of Ecological Society of America Fellows & Early Career Fellows selection subcommittee
- 2014-2016 Member of Ecological Society of America W. S. Cooper Award selection subcommittee
- 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, 2020, 2021); German Science Foundation, for the Jena Experiment (2010); National Science Foundation, Doctoral Dissertation Improvement Grant (2007)
- 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
- 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*, *Insects*, *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*, *Philosophical Transactions of the Royal Society of London B*, *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*

Invited seminars

Named lectures

- 2021 University of British Columbia, Dennis H. Chitty Lecture

2018 North Carolina State University, Bartholomew Brandt Lecture
2017 University of Kansas, Distinguished Ecologist Speaker
2016 University of Zurich, Peter & Rosemary Grant Lecture in Evolutionary Biology
2015 Yale University, G. Evelyn Hutchinson Distinguished Speaker

Invitations voted by graduate students

2021 University of Minnesota, St. Paul
2018 Washington University in St. Louis
2016 German Centre for Integrative Biodiversity Research (iDiv), **keynote speaker**
2012 University of Tennessee, Knoxville
2010 Michigan State University
2009 University of California, Irvine
2008 Washington University in St. Louis

Invited symposium talks

2021 Sixth mBiome International Conference, Seoul, South Korea
2020 Cold Spring Harbor Microbiome meeting
2020 American Society of Naturalists stand-alone meeting
2018 Yosemite Symbiosis Workshop, **keynote speaker**
2018 American Society of Naturalists stand-alone meeting
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

Other invited seminars

2023 University of Michigan
2023 National Institute of Genetics, Japan
2023 Graduate School of Biostudies, Kyoto University
2023 Center for Ecological Research, Kyoto University
2023 Kobe University
2023 Yokohama National University
2023 Morinaga Milk Industry Co., Ltd.
2023 San Mateo Beekeepers' Guild
2022 San Francisco Beekeepers Association
2022 University of Wyoming
2021 University of North Carolina Greensboro
2021 University of Pittsburgh
2021 University of Georgina, Athens
2021 British Ecological Society, "**Ecology Live**" seminar series
2021 University of Missouri

2021 Scripps Institute of Oceanography, UC San Diego
2021 Duke University
2021 University of Toronto Scarborough
2020 Utah State University
2019 The Field Museum, Chicago
2019 University of Tsukuba, Japan
2019 University of California, Santa Barbara
2018 Claremont Colleges
2017 University of Pittsburgh
2017 MIT
2017 Rutgers University
2017 University of Alabama
2016 Aarhus University, Denmark
2016 Netherlands Institute of Ecology
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
2015 Michigan State University Kellogg Biological Station
2014 Umeå University, Sweden
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

Peer-reviewed research publications

Asterisks (*) denote students and postdocs supervised or co-supervised by Fukami.

- 2023 Álvarez-Pérez, S., de Vega, C., Vanoirbeek, K., Tsuji, K., Jacquemyn, H., **Fukami, T.**, Michiels, C., and Lievens, B. (2023) Phylogenomic analysis of the genus *Rosenbergiella* and description of *Rosenbergiella gaditana* sp. nov., *Rosenbergiella metrosideri* sp. nov., *Rosenbergiella epipactidis* subsp. *epipactidis* subsp. nov., *Rosenbergiella epipactidis* subsp. *californiensis* subsp. nov., *Rosenbergiella epipactidis* subsp. *japonicus* subsp. nov., *Rosenbergiella nectarea* subsp. *nectarea* subsp. nov., and *Rosenbergiella nectarea* subsp. *apis* subsp. nov., isolated from floral nectar and insects. *International Journal of Systematic and Evolutionary Microbiology* 73: 005777.
- 2023 Decker, L. E.* , San Juan, P. A.* , Warren, M. L.* , Duckworth, C. E.* , Gao C, and **Fukami, T.** (2023) Higher variability in fungi compared to bacteria in the foraging honey bee gut. *Microbial Ecology* 85: 330-334.
- 2023 Hendershot, J. N.* , Echeverri, A., Frishkoff, L. O., Zook, J. R., **Fukami, T.**, Daily, G. C. (2023) Diversified farms bolster forest-bird populations despite ongoing declines in tropical forests. *Proceedings of the National Academy of Sciences of the United States of America* 120: e2303937120.
- 2023 Schaeffer, R. N., Crowder, D. W., Illán, J. G., Beck, J. J., **Fukami, T.**, Williams, N. M., and Vannette, R. L. (2023) Disease management during bloom affects the floral microbiome but not pollination in a mass-flowering crop. *Journal of Applied Ecology* 60: 64-76.
- 2022 Chappell, C. R.* , Dhami, M. K.* , Bitter, M. C., Czech, L., Herrera Paredes, S., Barrie, F. B.* , Calderón, Y.* , Eritano, K.* , Golden, L.-A.* , Hekmat-Scafe. D., Hsu, V.* , Kieschnick, C.* , Malladi, S., Rush, N., and **Fukami, T.** (2022) Wide-ranging consequences of priority effects governed by an overarching driver. *eLife* 11: e79647.
- 2022 DeMalach, N.* , Ke, P.-J.* , and **Fukami, T.** (2022) The effects of ecological selection on species diversity and trait distribution: predictions and an empirical test. *Ecology* 103: e03567.
- 2022 Martin, V. N., Schaeffer, R. N., and **Fukami, T.** (2022) Potential effects of nectar microbes on pollinator health. *Philosophical Transactions of the Royal Society B: Biological Sciences* 377: 20210155.
- 2022 Sandin, S. A., Becker, P., Becker, C., Brown, K., Erazo, N., Figuerola, C., Fisher, R. N., Friedlander, A. M., **Fukami, T.**, Graham, N. A. J., Gruner, D. S., Holmes, N. D., Holthuijzen, W. A., Jones, H. P., Rios Alcubilla, M., Samaniego, A., Sechrest, W., Semmens, B. X., Thornton, H., Vega Thurber, R., Wails, C. N., Wolf, C., and Zgliczynski, B. (2022) Harnessing island–ocean connections to maximize marine benefits of island conservation. *Proceedings of the National Academy of Sciences of the United States of America* 119: e2122354119.
- 2021 Álvarez-Pérez, S., Tsuji, K., Donald, M. L., Van Assche, A., Vannette, R. L., Herrera, C. M., Jacquemyn, H., **Fukami, T.**, and Lievens, B. (2021) Nitrogen assimilation varies among clades of nectar- and insect-associated acinetobacters. *Microbial Ecology* 81: 990-1003.

- 2021 Álvarez-Pérez, S., Baker, L. J., Morris, M. M., Tsuji, K., Sanchez, V. A., **Fukami, T.**, Vannette, R. L., Lievens, B., and Hendry, T. A. (2021) *Acinetobacter pollinis* sp. nov., *Acinetobacter baretiae* sp. nov., and *Acinetobacter rathckeae* sp. nov., isolated from floral nectar and honeybees. *International Journal of Systematic and Evolutionary Microbiology* 71: 004783.
- 2021 Barney, S. K., Leopold, D. R.* , Francisco, K.* , Flaspohler, D. J., **Fukami, T.**, Giardina, C. P., Gruner, D. S., Knowlton, J. L.* , Pitt, W. C., and Wilson Rankin, E. E. (2021) Successful management of invasive rats across a fragmented landscape. *Environmental Conservation* 48: 200-207.
- 2021 DeMalach, N. * , Shnerb, N. M., and **Fukami, T.** (2021) Alternative states in plant communities driven by a life-history tradeoff and demographic stochasticity. *American Naturalist* 198: E27-E36.
- 2021 Jacquemyn, H., Pozo, M. I., Álvarez-Pérez, S., Lievens, B., and **Fukami, T.** (2021) Yeast-nectar interactions: metacommunities and effects on pollinators. *Current Opinion in Insect Science* 44: 35-40.
- 2021 Ke, P.-J. * , Zee, P. C. * , and **Fukami, T.** (2021) Dynamic plant-soil microbe interactions: the neglected effect of soil conditioning time. *New Phytologist* 231: 1546-1558.
- 2021 Leopold, D. R.* and **Fukami, T.** (2021) Greater local diversity under older species pools may arise from enhanced competitive equivalence. *Ecology Letters* 24: 310-318.
- 2021 Leopold, D. R.* , Peay, K. G., Vitousek, P. M., and **Fukami, T.** (2021) Diversity of putative ericoid mycorrhizal fungi increases with soil age and progressive phosphorus limitation across a 4.1 million-year chronosequence. *FEMS Microbiology Ecology* 97: fiab016
- 2021 Song, C., **Fukami, T.**, and Saavedra, S. (2021) Untangling the complexity of priority effects in multispecies communities. *Ecology Letters* 24: 2301-2313.
- 2020 Hendershot, J. N.* , Smith, J. R., Anderson, C. B., Letten, A. D.* , Frishkoff, L. O., Zook, J. R., **Fukami, T.**, and Daily, G. C. (2020) Farming intensification and climate drive long-term biodiversity shifts. *Nature* 579: 393-396.
- 2020 San Juan, P. A.* , Hendershot, J. N.* , Daily, G. C., and **Fukami, T.** (2020) Land-use change has host-specific influences on avian gut microbiomes. *ISME Journal* 14: 318-321.
- 2020 Tsuji, K. and **Fukami, T.** (2020) Sexual dimorphism and species diversity: from clades to sites. *Trends in Ecology and Evolution* 35: 105-114.
- 2019 Álvarez-Pérez, S., Lievens, B., and **Fukami, T.** (2019) Yeast–bacterium interactions: the next frontier in nectar research. *Trends in Plant Science* 24: 393-401.

- 2019 Fung, C., Tan, S., Nakajima, M., Skoog, E. C., Camarillo-Guerrero, L. S., Klein, J. A., Lawley, T. D., Solnick, J. V., **Fukami, T.**, and Amieva, M. R. (2019) High resolution mapping reveals that microniches in the gastric glands control *Helicobacter pylori* colonization of the stomach. *PLOS Biology* 17: e3000231.
- 2019 Grainger, T. N.* , Letten, A. D.* , Gilbert, B., and **Fukami, T.** (2019) Applying modern coexistence theory to priority effects. *Proceedings of the National Academy of Sciences of the United States of America* 116: 6205-6210.
- 2018 Chappell, C. R.* and **Fukami, T.** (2018) Nectar yeasts: a natural microcosm for ecology. *Yeast* 35: 417-423.
- 2018 Dhami, M. K.* , Hartwig, T., Letten, A. D.* , Banf, M., and **Fukami, T.** (2018) Genomic diversity of a nectar yeast clusters into metabolically, but not geographically, distinct lineages. *Molecular Ecology* 27: 2067-2076.
- 2018 Letten, A. D.* , Dhami, M. K.* , Ke, P.-J.* , and **Fukami, T.** (2018) Species coexistence through simultaneous fluctuation-dependent mechanisms. *Proceedings of the National Academy of Sciences of the United States of America* 115: 6745-6750.
- 2018 Madden A. A., Epps, M. J., **Fukami, T.**, Irwin, R. E., Sheppard, J., Sorger, D. M., and Dunn, R. R. (2018) The ecology of insect-yeast relationships and its relevance to human industry. *Proceedings of the Royal Society B: Biological Sciences* 115: 6745-6750.
- 2018 Sprockett, D.* , **Fukami, T.**, and Relman, D. A. (2018) Role of priority effects in the early-life assembly of the gut microbiota. *Nature Reviews Gastroenterology & Hepatology* 15: 197-205.
- 2018 Toju, H., Vannette, R. L.* , Gauthier, M. P. L.* , Dhami, M. K.* , and **Fukami, T.** (2018) Priority effects can persist across floral generations in nectar microbial metacommunities. *Oikos* 127: 345-352.
Selected as Editor's Choice
- 2018 Tsuji, K. and **Fukami, T.** (2018) Community-wide consequences of sexual dimorphism: evidence from nectar microbes in dioecious plants. *Ecology* 99: 2476-2484.
- 2018 Vannette, R. L.* and **Fukami, T.** (2018) Contrasting effects of yeasts and bacteria on floral nectar traits. *Annals of Botany* 121: 1343-1349.
- 2018 Wilson Rankin, E. E.* , Knowlton, J. L.* , Gruner, D. S., Flaspohler, D. J., Giardina, C. P., Leopold, D. R.* , Buckardt, A., Pitt, W. C., and **Fukami, T.** Vertical foraging shifts in Hawaiian forest birds in response to invasive rat removal. *PLoS ONE* 13: e0202869.

- 2018 Wittmann, M. J.* and **Fukami, T.** (2018) Eco-evolutionary buffering: rapid evolution facilitates regional species coexistence despite local priority effects. *American Naturalist* 191: E171-E184.
Selected for Presidential Award, American Society of Naturalists
- 2018 Zee, P. C.* and **Fukami, T.** (2018) Priority effects are weakened by a short, but not long, history of sympatric evolution. *Proceedings of the Royal Society B: Biological Sciences* 285: 20171722.
- 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.** (2014) 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. (2014) 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.** (2014) 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.** (2014) 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.** (2014) 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.** (2014) 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. (2013) Non-native plants disrupt dual promotion of native alpha and beta diversity. *Folia Geobotanica* 48: 319-333.
- 2013 **Fukami, T.** and Nakajima, M. (2013) 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-Loso, 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. (2013) 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.

(2013) 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.** (2013) 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. (2013) 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. (2013) 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. (2013) 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.** (2013) 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.** (2012) 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. (2012) 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.** (2012) 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.** (2012) 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. (2012) 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.** (2012) 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. (2012) Soil-mediated indirect impacts of an invasive predator on plant growth. *Biology Letters* 8: 574-577.
- 2011 **Fukami, T.** and Nakajima, M. (2011) 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. (2011) 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. (2010) Assembly history dictates ecosystem functioning: evidence from wood decomposer communities. *Ecology Letters* 13: 675-684. (†equal contribution)

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. (2009) 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.** (2009) 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. (2009) 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. (2007) 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. (2007) Promotion of ecosystem carbon sequestration by invasive predators. *Biology Letters* 3: 479-482.
- 2006 Cadotte, M. W., Fortner, A. M.*, and **Fukami, T.** (2006) 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. (2006) 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. (2006) Alternative stable states, trait dispersion, and ecological restoration. *Oikos* 113: 353-356.
- 2005 Cadotte, M. W., Drake, J. A., and **Fukami, T.** (2005) 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.**[†] (2005) Dispersal, spatial scale and species diversity in a hierarchically structured experimental landscape. *Ecology Letters* 8: 548-557. ([†]equal contribution)
- 2005 **Fukami, T.** (2005) 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. (2005) 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. (2005) 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.** (2004a) Assembly history interacts with ecosystem size to influence species diversity. *Ecology* 85: 3234-3242.
- 2004 **Fukami, T.** (2004b) 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. (2003) 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.** (2001) 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.** (2001) 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.** (1999) 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. (2013) 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.** (2013) 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.** (2013) 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. (2012) 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.** (2011) 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

- 2018 **Fukami, T.** (2018) Messy communities. *Bulletin of the Ecological Society of America* 99: 58-59.
- 2010 **Fukami, T.** (2010) 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.** (2010) 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.** (2010) 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.** (2009) Convergence. In: Gillespie R. G. and Clague, D. A. (editors) *Encyclopedia of Islands*. *University of California Press*.
- 2008 **Fukami, T.** (2008) 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) (2006) *Conceptual Ecology and Invasion Biology: Reciprocal Approaches to Nature*. *Springer*.
Review: Ehrenfeld, J. G. 2007. The marriage of invasion ecology and ecological theory. Ecology 88: 1067-1068.
- 2003 Zimmermann, C. R., **Fukami, T.**, and Drake, J. A. (2003) An experimentally derived map of community assembly space. In: Bar-Yam, Y. (editor) *Unifying Themes in Complex Systems*. Pages 427-436. *Perseus Press*.

Ph.D. student advisees

2023-present Ethan VanValkenburg

2019-present Chih-Fu Yeh

2018-present Magdalena Warren

NSF Graduate Research Fellow & DARE Doctoral Fellow

2017-2023 Callie R. Chappell

Stanford Graduate Fellow & NSF Graduate Research Fellow

2016-2022 Priscilla A. San Juan

Ford Foundation Fellow & DARE Doctoral Fellow
Current position: Postdoctoral fellow, Natural History Museum of Los Angeles

2015-2020 John Nicholas Hendershot

Stanford Graduate Fellow
Current position: Sierra Nevada Forest Ecologist, The Nature Conservancy

2014-2019 Po-Ju Ke

Scholarship for studying abroad, Taiwan Ministry of Education
Current position: Assistant Professor, National Taiwan University

2012-2017 Devin R. Leopold

Mycological Society of America Graduate Fellow
NSF Doctoral Dissertation Improvement Grant
Current position: Bioinformatics Scientist, Jonah Ventures

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

2008-2013 Melinda Kliegman, née Belisle

NSF Graduate Research Fellow
Current position: Director of Public Impact, Innovative Genomics Institute

2006-2012 Matthew L. Knope

NSF GK-12 Fellow
Current position: Associate Professor, University of Hawaii, Hilo

Visiting Ph.D. student advisees

2017 Tess N. Grainger

Visiting student from University of Toronto
Current position: Postdoctoral fellow, University of British Columbia

2012 Caroline M. Tucker

Visiting student from University of Toronto
Current position: Aquatic Research Biologist. Ontario Ministry of Natural Resources and Forestry

Postdoctoral fellows

2024-present Jessica Aguilar (to start in early 2024)

NSF Postdoctoral Research Fellow in Biology

2023-present Rosa M. McGuire

NSF Postdoctoral Research Fellow in Biology

2023-present Amaury Payelleville

2022-present Lucas A. Nell

NSF Postdoctoral Research Fellow in Biology

2022-2023 Yingtong “Amanda” Wu

Funded by NSF Dimensions of Biodiversity grant
Current position: Lecturer, Stanford University

2018-2021 Leslie E. Decker

Funded by NSF Dimensions of Biodiversity grant
Current position: Scientist II, Perfect Day

2018-2020 Megan M. Morris

Funded by NSF Dimensions of Biodiversity grant
Current position: Postdoctoral fellow, Lawrence Livermore National Laboratory

2018-2019 Niv DeMalach

Rothschild Postdoctoral Fellow
Current position: Senior Lecturer (Assistant Professor), Hebrew University of Jerusalem

2015-2017 Andrew D. Letten

Stanford CEHG Postdoc Fellow, also funded by NSF CAREER grant
Current position: Lecturer (assistant professor equivalent), University of Queensland

2014-2017 Manpreet K. Dhani

Funded by NSF CAREER grant
Current position: Senior Researcher, Manaaki Whenua–Landcare Research, New Zealand

2014-2016 Kai Zhu

Carnegie Institution Postdoc Fellow, co-supervised with Chris Field and Nona Chiariello
Current position: Associate Professor, University of Michigan

2014-2015 Meike J. Wittmann

Stanford CEHG Postdoc Fellow, co-supervised with Dmitri Petrov
Current position: Junior Professor, Bielefeld University, Germany

2013-2015 Peter C. Zee

NSF Postdoctoral Research Fellow in Biology, co-supervised with Daniel S. Fisher
Current position: Assistant Professor, University of Mississippi

2011-2015 Rachel L. Vannette

LSRF Fellow sponsored by Gordon and Betty Moore Foundation
Current position: Associate Professor, University of California, Davis

2010-2013 Benjamin J. Callahan

Co-supervised with Daniel S. Fisher
Current position: Associate Professor, North Carolina State University

2010-2011 Kabir G. Peay

Current position: Associate Professor, Stanford University

Research technicians

2022-present Emma Róman

Co-supervised with Alison L. Gould

2011-2014 Marie-Pierre L. Gauthier

2009-2012 Devin R. Leopold

External support

2021-2023 German Centre for Integrative Biodiversity Research (iDiv), “Mechanisms and Quantification of Priority Effects” working group

Received as PI, with a Co-PI (Benjamin Delory)

2017-2023 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%)

- 2018 Department of Energy, Joint Genome Institute, Community Science Program, “Genomic basis of the ecological success of nectar yeasts in their carbon-stressed and nitrogen-limited environments”
Received as sole PI, with three Co-PIs (Manpreet Dhami, Adina Howe, Andrew Letten)
- 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 advisee 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 advisee 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

Internal support

- 2018-2019 Stanford FSI (Freeman Spogli Institute for International Studies) Japan Fund Grants, “Sustainable agriculture in Japanese satoyama: how flower microbes can help”
- 2018-2019 Stanford OIA (Office of International Affairs) International Research Exploration Fund, “Micro-organisms in flowers and the pollination of the Japanese apricot in a traditional countryside landscape”
- Received as sole PI; one of the seven funded proposals out of 31 submitted*
- 2017-2018 VPUE Curriculum Development Grants Program, “Developing a chemistry-biology synergy through joint experiments”
- Received as one of two PIs, with Charlie Cox*

Courses taught

Stanford University:

OSPKYOTO 33 Ecology of Japanese Satoyama (2023)
 BIO 35N Catching up with Traditional Ecological Knowledge (2022)
 BIO 35N Climate Change Ecology: Is It Too Late? (2018, 2019, 2020)
 BIO46 & 47 Introduction to Research in Ecology and Evolutionary Biology (2017, 2018, 2019, 2020, 2021, 2022)
 BIO44Y Core Experimental Laboratory for Ecology (2010, 2011, 2012, 2014, 2015)
 BIO/EARTHSYS116 Ecology of Hawaiian Islands (2010, 2012, 2014, 2018, 2022)
 BIO202 Ecological Statistics (2012, 2014, 2017, 2020, 2022)
 BIO227 Foundations of Community Ecology (2011, 2015, 2018, 2021)
 BIO326 Foundations of Biogeography (2010)

University of Hawaii at Manoa:

BIO265 Ecology and Evolutionary Biology (2007)
 ZOOL739 Topics in Ecology (2007, 2008)

University of Tokyo:

Ecology of Multi-Species Communities (2020)

University service

- 2023-present Faculty Director, Jasper Ridge Biological Preserve
- 2019-2022 Director of Undergraduate Studies, Biology Department
- 2019-2020 Chair of Ecology & Evolution grad admissions committee, Biology Department
- 2019-2020 Stanford Woods Institute for the Environment EVP Selection Committee

- 2017-2018 Faculty Scholar, nominated by Deans of School of Humanities and Sciences
- 2009-2023 Jasper Ridge Biological Preserve advisory committee
- 2010-present Other Biology Department committees: policy committee, undergraduate curriculum committee, undergraduate studies committee (lab redesign), graduate studies committee, graduate admissions committees, ecology faculty search committees, evolution faculty search committee, departmental seminar committee, reappointment committees