

## KABIR G. PEAY

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### Appointments

2012-present Assistant Professor, Dept. of Biology, Stanford University  
2017-2020 Assistant Professor, Photon Sciences, Stanford Linear Accelerator  
2011-2012 Assistant Professor, Dept. of Plant Pathology, University of Minnesota

### Training

2010-2011 Postdoctoral scholar, Stanford University, Dept. of Biology  
2009-2010 Postdoctoral scholar, UC Berkeley, Plant & Microbial Biology  
2003-2008 Ph.D., University of California, Berkeley, Ecosystems Sciences  
2001-2003 Master's Degree, Yale School of Forestry & Environmental Studies  
1992-1997 Bachelor's Degree, University of California, Santa Barbara

### Honors & Awards

2018-2019 Woods Institute Leading Interdisciplinary Collaborations (LinC) Fellow  
2018 Buller Medal for Early Career Research, International Mycological Association  
2018 Alexopolous Prize for Early Career Research, Mycological Society of America  
2017-2020 Terman Fellowship, Stanford University  
2016-2021 Early Career Fellow, Ecological Society of America  
2006-2008 Chang Tien Lin Environmental Scholars Fellowship  
2008 William Carol Smith Plant Pathology Fellowship  
2008 Best Student Presentation, Mycological Society of America  
2002-2005 NASA Earth System Science Fellowship  
2003 William Carol Smith Plant Pathology Fellowship  
1998-1999 Blakemore Fellowship for Asian Languages

### Peer Reviewed Publications

*Accepted Publications* (**Bold** = lab member, \* = lab member lead / corresponding author)

Barbour M, **Erlandson SE**, **Peay KG**, Locke B, Jules ES, Crutsinger GM. (*accepted*)  
Partitioning plant genetic and environmental drivers of above and belowground  
community assembly. *Journal of Ecology*. Preprint at *bioRxiv*, 173500

**Bhatnagar JM\***, **Peay KG**, Treseder KM (2018). Litter chemistry influences decomposition  
through activity of specific microbial functional guilds. *Ecological Monographs*  
DOI: <https://doi.org/10.1002/ecm.1303>

- Erlandson SE\***, Wei X, Savage J, Cavender-Bares J, **Peay KG** (2018). Soil abiotic variables are more important than Salicaceae phylogeny or habitat specialization in determining soil microbial community structure. *Molecular Ecology* **8**: 2007-2024
- Smith GR\***, **Steidinger BS**, Bruns TD, **Peay KG** (2018) Competition-colonization tradeoffs structure fungal diversity. *ISME Journal* **12**: 1758–1767
- Peay KG\*** (2018). Timing of mutualist arrival has a greater effect on *Pinus muricata* seedling growth than interspecific competition. *Journal of Ecology*. **106**: 514-523
- Hirokazu Toju, **Kabir Peay**, Masato Yamamichi, Kazuhiko Narisawa, Kei Hiruma, Ken Naito, Shinji Fukuda, Masayuki Ushio, Shinji Nakaoka, Yusuke Onoda, Kentaro Yoshida, Klaus Schlaeppli, Yang Bai, Ryo Sugiura, Yasunori Ichihashi, Kiwamu Minamisawa, and Toby Kiers. (2018) Core microbiomes for sustainable agroecosystems. *Nature Plants* **4**: 247-257
- Mucha J, **Peay KG**, **Smith DP**, Reich PB, Stefanski A, Hobbie SE. (2018) Effects of simulated climate warming on the ectomycorrhizal fungal community of boreal and temperate host species growing near their shared ecotonal range limits. *Microbial Ecology* 75:348-363.
- Fukami T, Nakajima M, Fortunel C, Fine PVA, Baraloto C, Russo SE, **Peay KG**. (2017) Geographical variation in community divergence: insights from tropical forest monodominance by ectomycorrhizal trees. *The American Naturalist* **190**: S105-S122.
- Peay KG\***, von Sperber C, Cardarelli E, Toju H, Francis CA, Chadwick OA, Vitousek PM (2017). Convergence and contrast in community structure of Bacteria, Fungi and Archaea along a tropical elevation-climate gradient. *FEMS Microbiology Ecology* 93: fix045
- Essene A, Shek KL, Lewis JD, **Peay KG**, McGuire KL. (2017). Soil type has a stronger role than dipterocarp host species in shaping the ectomycorrhizal fungal community in a Bornean lowland tropical rain forest. *Frontiers in Plant Science* **8**: 1828
- von Sperber C, Chadwick OA, Casciotti KL, **Peay KG**, Francis CA, Kim AE, Vitousek PM (2017). Controls of nitrogen evaluated along a well-characterized climate gradient. *Ecology*. **98**: 1117-1129.
- Branco S, Bi K, Liao HL, Gladieux P, Badouin H, Ellison CE, Nguyen NH, Vilgalys R, **Peay KG**, Taylor JW, Bruns TD (2017) Continental-level population differentiation and environmental adaptation in the mushroom *Suillus brevipes*. *Molecular Ecology* **26**:2063-2076.
- Rosenthal LM, Larsson KH, Branco S, Chung JA, Glassman SI, Liao HL, **Peay KG**, **Smith DP**, **Talbot JM**, Taylor JW, Vellinga EC, Vilgalys R, Bruns TD. 2017. Survey of corticioid fungi in North American pine forests reveals hyperdiversity, underpopulated sequence databases, and species that are potentially ectomycorrhizal. *Mycologia* **109**: 115-127.

- Moeller HV, **Peay KG** (2016). Competition-function tradeoffs in ectomycorrhizal fungi. *PeerJ* **4**:e2270.
- Erlandson SE\***, Savage JA, Cavender-Bares JM, **Peay KG** (2016) Soil moisture and chemistry influence diversity of ectomycorrhizal fungal communities associating with willow along a hydrologic gradient. *FEMS Microbiology Ecology*. **92**: fiv148
- Duhamel M\*** & **Peay KG** (2015) Does microbial diversity confound general predictions? *Trends in Plant Science* **20**:695-697
- Busby PE, **Peay KG**, Newcombe G (2015) Common foliar fungi of *Populus trichocarpa* modify *Melampsora* rust severity. *New Phytologist* **4**:1681-1692
- †**Peay KG\***, Russo SE, McGuire K, Lim ZY, Chan JP, Tan S, Davies SJ (2015) Lack of host specificity leads to independent assortment of dipterocarps and ectomycorrhizal fungi across a soil fertility gradient. *Ecology Letters* **18**:807-816  
†Featured as cover article
- Talbot JM\***, Martin F, Kohler A, Henrissat B, **Peay KG** (2015) Functional guild classification predicts the enzymatic role of fungi in litter and soil biogeochemistry. *Soil Biology & Biochemistry* **88**: 441-456
- Branco S, Gladieux P, Ellison CC, Kuo A, LaButii K, Lipzen A, Grigoriev IV, Liao HL, Vilgalys R, **Peay KG**, Taylor JW, Bruns TD. (2015) Genetic isolation between two recently diverged populations of a symbiotic fungus. *Molecular Ecology* **24**:2747-2748
- Glassman SI, **Peay KG**, **Talbot JM**, **Smith DP**, Chung JA, Taylor JW, Vilgalys R, Bruns TD (2015) A continental view of pine-associated ectomycorrhizal fungal spore banks: a quiescent functional guild with a strong biogeographic pattern. *New Phytologist* **205**:1619-1631
- †**Talbot JM\***, Bruns TD, Taylor JW, **Smith DP**, Branco S, Glassman SI, *Erlandson S*, Vilgalys R, Liao HL, Smith ME, **Peay KG**. (2014) Endemism and functional convergence across the North American soil mycobiome. *PNAS* **111**:6341-6346  
†Covered in [Stanford News](#) and picked up by [Science Daily](#), [Red Orbit](#), [PhyOrg](#), [Technology Daily](#), and multiple science [blogs](#), also featured on the Stanford Home Page 4/16-4/17
- Peay KG\*** & Bruns TD (2014) Spore dispersal of fungi at the landscape scale is driven by stochastic and deterministic processes and generates variability in plant-fungal interactions. *New Phytologist* **204**:180-191
- Smith DP\*** & **Peay KG** (2014). Sequence depth, not PCR replication, improves ecological inference from Next Generation DNA Sequencing. *PLoS One* **9**(2) e90234.
- Bahram M, **Peay KG**, Tedersoo L. (2014) Local-scale biogeography and spatiotemporal variability in communities of mycorrhizal fungi. *New Phytologist* **205**:1454-1463
- Kennedy PG, Nguyen NH, Cohen H, **Peay KG** (2014) Missing checkerboards? An absence of competitive signal in *Alnus*-associated ectomycorrhizal fungal communities. *PeerJ* **2**:e686
- Nguyen NH, **Smith DP**, **Peay KG**, Kennedy PG (2014) Parsing ecological signal from noise. *New Phytologist*. **205**:1389-1393

- Liao, HL, Chen Y, Bruns TD, **Peay KG**, Taylor JW, Branco S, *Talbot JM*, Vilgalys R. (2014). Metatranscriptomic analysis of ectomycorrhizal roots reveal genes associated with *Piloderma-Pinus* symbiosis: new methodologies for assessing gene expression in situ. *Environmental Microbiology* **16**:3730-3742
- Crutsinger GM, Rodriguez-Cabal MA, Roddy AB, **Peay KG**, Bastow JL, Kidder AG, Dawson TE, Fine PVA, and Rudgers JA. (2014) Genetic variation within a dominant shrub structures green and brown community assemblages. *Ecology* **95**:387-398
- Kõljalg U, Nilsson K, Abarenkov K, Tedersoo L, Taylor AFS, Bahram M, Bates ST, Bruns TD, Bengtsson-Palme J, Callaghan MT, Douglas B, Drenkhan T, Eberhardt U, Dueñas M, Grebenc T, Griffith GW, Hartmann M, Kirk PM, Kohout P, Larsson E, Lindahl BD, Lücking R, Martín MP, Matheny PB, Nguyen NH, Niskanen T, Oja J, **Peay KG**, Peintner U, Peterson M, Põldmaa K, Saag L, Saar I, Schüssler A, Scott JA, Senés C, Smith ME, Suija A, Taylor DL, Telleria MT, Weiß M, Larsson KH. (2013) Towards a unified paradigm for sequence based identification of Fungi. *Molecular Ecology* **22**: 5271-5277
- Peay KG\***, Baroloto C, Fine PVA (2013) Strong coupling of plant and fungal community structure across western Amazonian rainforests. *ISME Journal* **7**:1852-1861
- Moeller HV, **Peay KG**, and Fukami T (2013) Ectomycorrhizal fungal traits reflect environmental conditions along a coastal California edaphic gradient. *FEMS Microbiology Ecology* **87**: 797-806
- Gao C, Shi NN, Liu YX, **Peay KG**, Yong Z, Ding Q, Mi XC, Ma KP, Guo LD (2013) Host plant genus level diversity is the best predictor of ectomycorrhizal fungal diversity in a Chinese subtropical forest. *Molecular Ecology* **22**:3403-3414
- Talbot JM\***, Bruns TD, Smith DP, Branco S, Glassman SI, *Eerlandson SE*, Vilgalys R, **Peay KG** (2013). Independent roles of ectomycorrhizal and saprotrophic communities in soil organic matter decomposition. *Soil Biology & Biochemistry* **57**: 282-291
- Peay KG\***, Dickie IA, Wardle DA, Bellingham PJ, Fukami T (2012) Rat invasion of islands alters fungal community structure but not decomposition rates. *Oikos* **122**: 258-264
- Peay KG\***, Schubert MG, Nguyen NH & Bruns TD. (2012) Measuring ectomycorrhizal fungal dispersal: macroecological patterns driven by microscopic propagules. *Molecular Ecology* **16**:4122-4136.
- Tedersoo L, Mohammad B, Toots M, Diedhiou A, Henkel T, Kjoller R, Morris MH, Nara K, Nouhra E, **Peay KG**, Põlme S, Ryberg M, Smith MA, Kõljalg U. (2012) Towards global patterns in the diversity and community structure of ectomycorrhizal fungi. *Molecular Ecology* **17**: 4160-70
- Beslisle M, **Peay KG**, Fukami T. (2012) Flowers as islands: distribution of nectar-inhabiting microfungi in a California landscape. *Microbial Ecology* **63**: 711-718
- †**Peay KG**, Beslisle M, Fukami T. (2012) Phylogenetic relatedness predicts priority effects in nectar yeast communities. *Proceedings of the Royal Society B* **279**: 749-758
- † Highlighted in [Faculty of 1000 Biology](#)

- †Desjardin DE, **Peay KG**, Bruns TD. (2011). *Spongiforma squarepantsii*: a new species of gasteroid bolete from Borneo. *Mycologia*. **103**: 1119–23 –
- †Named one of the [Top 10 New Species](#) in 2012 by the International Institute for Species Exploration and covered in multiple popular news outlets, such as the [San Francisco Chronicle](#), [The Guardian](#), and others.
- Peay KG\***, Kennedy PG, Bruns TD. (2011). Rethinking ectomycorrhizal succession: are root density and hyphal exploration types drivers of spatial and temporal zonation? *Fungal Ecology*. **4**: 233-240
- Peay KG\***, Bruns TD, Garbelotto M. (2010). Evidence of dispersal limitation in soil microorganisms: Isolation reduces species richness on mycorrhizal tree islands. *Ecology*. **91**: 3631-3640
- Peay KG\***, Kennedy PG, Davies SJ, Tan S, Bruns TD. (2010) Potential link between plant and fungal distributions in a dipterocarp rainforest: community and phylogenetic structure of tropical ectomycorrhizal fungi across a plant and soil ecotone. *New Phytologist* **185**: 529-542
- Peay KG\***, Bruns TD, Garbelotto M. (2010) Testing the ecological stability of ectomycorrhizal symbiosis: effects of heat, ash and mycorrhizal colonization on *Pinus muricata* seedling performance. *Plant & Soil*, 330: 291-302.
- Kennedy PG, **Peay KG**, Bruns TD. (2009) Root tip competition among ectomycorrhizal fungi: are priority effects a rule or an exception? *Ecology*, 90: 2098-2107
- Bruns TD, **Peay KG**, Boynton PJ, Grubisha LC, Hynson NA, Nguyen NH, Rosenstock NP. (2008). Inoculum potential of *Rhizopogon* spores increases with time over the first four years of a 99-year spore burial experiment. *New Phytologist* 181: 463-470.
- †**Peay KG\***, Bruns TD, Kennedy PG, Bergemann SE, Garbelotto M (2007). A strong species-area relationship for soil microbial eukaryotes: Island size matters for ectomycorrhizal fungi. *Ecology Letters*, 10: 470-480 - Cover Article,
- †Featured as cover article, highlighted in [Faculty of 1000 Biology](#)
- Kennedy PG, **Peay KG\***. (2007) Different soil moisture conditions change the outcome of the ectomycorrhizal symbiosis between *Rhizopogon* species and *Pinus muricata*. *Plant and Soil* **291**: 155-165.
- Forrestel AB and **KG Peay**. 2006 Deforestation in a complex landscape: The Amistad Biosphere Reserve. *Journal of Sustainable Forestry* **22**: 49-71
- Detection and quantification of *Leptographium wagneri*, the cause of black-stain root disease, from bark beetles (Coleoptera: Scolytidae) in Northern California using regular and Real-time PCR. Schweigkofler WS, Otrosina WJ, Smith SL, Cluck DR, Maeda K, **Peay KG**, and Garbelotto M. 2005. *Canadian Journal of Forest Research* **35**: 1798-180

- Bogar LMB\**, **Peay KG** (2017) Processes maintaining the co-existence of ectomycorrhizal fungi at a fine spatial scale. Leho Tedersoo Ed. Springer Ecological Studies 300: *Biogeography of Mycorrhizal Symbiosis*. Springer. p. 79-105.
- Peay KG\*** & Matheny PB. Biogeography of ectomycorrhizal fungi. (2017) in *The Molecular Mycorrhizal Symbiosis*. Francis Martin Ed. Wiley Blackwell Publishing. pp. 341-361
- Öpik M, **Peay KG** (2016). Mycorrhizal diversity: Diversity of host plants, symbiotic fungi and relationships. *Fungal Ecology*. **24**: 103-105
- Peay KG\*** (2016). The mutualistic niche: mycorrhizal symbiosis and community dynamics. *Annual Review of Ecology, Evolution & Systematics*. **47**: 143-164
- Peay KG\***, Kennedy PG, *Talbot JM* (2016) Dimensions of biodiversity in the Earth microbiome. *Nature Reviews Microbiology* **14**: 434-447
- Pringle A, Vellinga E, **Peay KG** (2015) The shape of fungal ecology: does spore morphology give clues to a species' niche? *Fungal Ecology* **17**:213-216
- †**Peay KG\*** (2014) Back to the future: natural history & the way forward in modern fungal ecology. *Fungal Ecology* **12**:4-9 –
- †Highlighted in [Faculty of 1000 Biology](#)
- Merckx VSFT, Mennes CB, **Peay KG**, Geml J (2013) Evolution and Diversification in Mycoheterotrophy: The Biology of Plants Living on Fungi. (Ed.) V. Merckx. Springer, New York pp. 215-244.
- Peay KG\***, Bidartondo MI, Arnold, EA. (2010). Not every fungus is everywhere: scaling to the biogeography of fungal-plant interactions across roots, shoots and ecosystems. *New Phytologist* **185**: 878-882
- Parrent JL, **Peay KG**, Arnold AE, Comas LH, Avis P, Tuininga A. (2010). Moving from pattern to process in fungal symbioses: Linking functional traits, community ecology, and phylogenetics. *New Phytologist*, **185**: 882-886
- Peay KG\***, Kennedy PG, Bruns TD (2008). Fungal community ecology: A hybrid beast with a molecular master. *BioScience*, **58**: 799-810

#### **Funded Grant Applications (awards <10k not shown)**

- 2016-2021 **Department of Energy Early Career Research Program** DE-SC0016097. Does mycorrhizal symbiosis determine the climate niche for *Populus* as a bioenergy feedstock? (Sole PI) Award to Peay \$750,208
- 2018-2021 **Department of Energy Joint Genomes Institute Community Science Program** How does precipitation affect the taxonomic and functional diversity of the *Populus trichocarpa* soil microbiome. (Sole PI)
- 2016-2018 **National Science Foundation Doctoral Dissertation Improvement Program** Mechanisms of host preference in the ectomycorrhizal symbiosis. (awarded to student Laura Bogar). Award \$20,538
- 2014-2017 **Hoagland Award Fund for Innovations in Undergraduate Teaching** The hidden kingdom: evolution, ecology & diversity of fungi. (Sole PI) Award to Peay \$38,387

- 2010-2015 **National Science Foundation Dimensions of Biodiversity Program** DBI 1046115. Deconstructing diversity and ecosystem function at multiple spatial and genetic scales in a keystone plant-microbe symbiosis. (co-PIs Thomas Bruns, Rytas Vilgalys, John Taylor). Award to Peay \$709,941
- 2013-2015 **National Science Foundation RAPID Program** DEB 1361171. Do negative plant-soil feedbacks outweigh positive ectomycorrhizal mutualisms in dipterocarp rainforest?" (co-PI Sabrina Russo). Award to Peay \$127,486
- 2014-ongoing **Department of Energy Joint Genomes Institute Community Science Program** "Coprophilous fungi as a model system for understanding the metagenomics of carbon cycling in microbial eukaryote communities" (co-PI Jason Stajich)
- 2011-2014 **National Science Foundation Systematics and Biodiversity Science** DEB-1119795 Building a molecular foundation for tropical mycorrhizal biology: Sporocarp surveys of ectomycorrhizal fungal diversity of Southeast Asian dipterocarp forests. (co-PI Krista McGuire). Award to Peay \$180,000

## Mentoring

### *Postdoctoral Affiliates*

Jennifer Talbot	2011-2014	Assistant Professor, Dept. of Biology, Boston Univ. Supported by NOAA Climate Change Fellowship
Marie Duhamel	2014-2016	Currently Postdoctoral Researcher, Institute of Biology, Leiden University
Brian Steidinger	2016-present	Topic: Global biogeography of plant symbioses
Michael Van Nuland	2017-present	Topic: Effects of mycorrhizal fungi on the plant niche

### *Doctoral Students*

Alison Ravenscraft <sup>a,c</sup>	2011-2016	A nutritional perspective on the lepidopteran gut microbial community  (currently NIH Postdoctoral Excellence in Research and Teaching Fellow, Univ. of Arizona)
Sonya Erlandson	2011-2016	Structure of soil microbial communities associated with willow (genus: <i>Salix</i> ) species and genotypes across abiotic stress gradients
Laura Bogar <sup>a,b,c</sup>	2013-present	Molecular and ecological mechanisms of partner choice in ectomycorrhizal symbiosis
Max Segnitz	2013-present	Plant-soil feedbacks in a dipterocarp rainforest
Glade Dlott	2015-present	Microscale controls on fungal-bacterial interactions
Rachel Engstrand	2015-present	Effects of gold-mining on microbial communities and ecosystem function
Gabriel Smith <sup>a</sup>	2016-present	Ecosystem consequences of fungal communities

Caroline Daws <sup>a,d</sup>	2017-present	Biogeography of plant-fungal interactions
Suzanne Ou	Incoming	Functional traits of mycorrhizal fungi

<sup>a</sup> supported by NSF Graduate Research Fellowship, <sup>b</sup> received NSF Doctoral Dissertation Improvement Grant, <sup>c</sup> received Stanford Computational, Evolutionary & Human Genomics Predoctoral Fellowship, <sup>d</sup> received Stanford Graduate Fellowship

*Masters Advisees* – Michelle Berry (2014), Ali Hoffer (current), Clara Qin (2016), Nicholas Romano (current)

*Technicians* – Dylan Smith (2011-2014), Nora Dunkirk (2014-2016), Joe Wan (2016-2017)

*Undergraduates:* Makulumny Alexander-Hills<sup>a</sup> (Stanford), Laura Cussen<sup>b</sup> (Stanford), Erin Baumann<sup>a</sup> (Stanford), Alexandra Bernard<sup>a,c</sup> (Stanford), Lucy Edy<sup>a</sup> (Stanford), Julia Gaudio<sup>a</sup> (UCSD), Julia Hafer<sup>a</sup> (Stanford), Drake Johnson<sup>a</sup> (Stanford), Indigo Johnson<sup>a,b</sup> (Stanford), Nicholas Herrington-Romano<sup>a,b,c</sup> (Stanford), Mehr Kumar<sup>a</sup> (Stanford), Lotus Lofgren<sup>a</sup> (Minnesota), Ramona Malczynski<sup>a</sup> (Stanford), Brendan Palmieri<sup>c</sup> (Stanford), Evan Patrick<sup>a</sup> (Stanford), Sergio Rebeles<sup>a</sup> (Stanford), Wallis Robinson<sup>a,c</sup> (Stanford), Itahi Sanchez<sup>a</sup> (UNL), Justine Schmidt<sup>a</sup> (Colorado College), Shakthi Raman<sup>b</sup> (Biology), Kevin Staatz<sup>a,b</sup> (Stanford), Cameron Tenner<sup>a</sup> (Stanford), Rob Vienns<sup>a</sup> (Stanford), Joe Wan<sup>a,c</sup> (Stanford), Anna Yang<sup>a</sup> (Stanford)

<sup>a</sup> paid or volunteer researcher, <sup>b</sup> advisee, <sup>c</sup> honors thesis

*Highschool Students Hosted:* Pawanjot Kaur, Nikita Dhesikan, David Lu, Natalie Francis, Liam Mauk

*Outside Chair* – Katharine Ng (Sonnenburg Lab, M&I), Jessica Lee (Francis & Fendorf Labs, ESS), Michael Rosen (Fisher Lab, Applied Physics), Kelly McManus (Asner Lab, ESS), Julian Damashek (ESS, Francis Lab), Laura Hess (Matson Lab, ESS), Jesse Bateman (ESS, Vitousek Lab)

*Thesis Committees* – Bryan Barney (Palumbi Lab, BIO-Hopkins), Melinda Beslisle (Fukami Lab, BIO), Rolando Cruz (Endy Lab, BIOE), Rebecca Hernandez (Field Lab, E-IPER), Poju Ke (Fukami Lab, BIO), Ju Lee (Micheli Lab, BIO-Hopkins), Beth Meerson (Dirzo Lab, BIO), Andrew Merrell (Gordon Lab, BIO), Holly Moeller (Fukami Lab, BIO), Lizzie Paulus (Vitousek Lab, BIO), Neil Robbins III (Dinny Lab, BIO, M&I), John Schroeder (Dirzo Lab, BIO), Priscilla San Juan (Fukami, BIO), Jeffrey Smith (Daily Lab, BIO)

## Talks & Outreach

### Invited Talks (Academic)

2018 Dept. of Biology, University of Florida  
 2018 Kellogg Biological Station, Michigan State University  
 2018 Dept. of Ecology & Evolutionary Biology, Univ. of California, Los Angeles  
 2018 International Mycological Congress, Puerto Rico  
 2017 101<sup>st</sup> Ecological Society of America Meeting, Portland OR  
 2017 Director's Distinguished Seminar, DOE Env. Molecular Services Lab, Richland, WA  
 2016 Mycological Society of America Meeting, Berkeley, CA  
 2016 Carnegie Institute for Plant Biology, Stanford University  
 2016 Dept. of Biology, Indiana University  
 2016 Harvard University Herbarium, Harvard University  
 2016 Dept. of Ecology & Evolution, Univ. of California, Davis



2015 Dept. of Biology, UC Irvine (student invited speaker)  
2015 Argonne National Lab Soil Metagenomics Conference, Chicago IL  
2015 Ecological Society of America Centennial Meeting, Baltimore, MD  
2015 Dept. of Biology, San Francisco State University  
2015 International Conference on Mycorrhizas, Flagstaff, AZ  
2015 Carnegie Institute for Global Biology, Stanford University  
2015 Association for Tropical Biology and Conservation Meeting, Honolulu Hawaii  
2015 Fungal Genetics Conference, Asilomar CA  
2014 Gordon Research Conference on Cellular & Molecular Fungal Biology, Holderness, NH  
2014 Plenary Speaker, Northern California Botany Meeting, Chico CA  
2014 Environmental Earth System Sciences, Stanford University  
2014 Dept. of Ecology & Evolutionary Biology, Michigan State University  
2013 Joint Meeting of American Phytopathology Society & MSA, Austin TX  
2013 School of Biological Sciences, University of Nebraska, Lincoln  
2013 Fungal Genetics Conference, Asilomar CA  
2012 Dept. of Plant & Microbiology, Univ. of California, Berkeley  
2012 Dept. of Ecology, Evolution & Behavior, Univ. of Minnesota  
2011 Dept. of Biology, San Francisco State University  
2011 Dept. of Biology Humboldt State University  
2010 Ecological Society of America Pittsburgh, PA  
2009 Mycological Society of America Snowbird, UT  
2008 Mycological Society of America, Penn State University, PA

#### **Invited Talks & Outreach (General Audiences)**

2018 Earth Update, Morrison Planetarium, California Academy of Sciences (1/11)  
2018 Outreach Table at California Academy of Sciences Nightlife (1/11)  
2018 Interviewed for [Atlas Obscura](#) story on plant microbiomes (5/29)  
2018 Interviewed for [Atlas Obscura](#) story on edible study organisms (6/14)  
2018 Interviewed for [Eater38](#) story on fire and fungi (5/22)  
2017 Earth Update, Morrison Planetarium, California Academy of Sciences (05/01)  
2016 Interviewed for [Stanford News](#) story on fungi & valentines day (2/12)  
2015 Interviewed for news story in [Science Magazine](#) on microbial ecology (10/13)  
2015 Interview for *Generation Anthropocene* appearing on [Smithsonianmag.com](#) (8-25)  
2014 Interviewed for [Stanford News](#) on fungal distributions (4-15)  
2014 Foray leader for National Park Service and National Geographic Society BioBlitz  
2009 Public talk to Mycological Society of San Francisco  
2009 Public talk at Point Reyes National Seashore  
2008 Public talk to Fungus Federation of Santa Cruz

#### **Service**

##### **University (does not include student advising activities):**

AY16-17 Graduate Admissions Committee, Ecology & Evolution Group  
AY16-17 Graduate Studies Committee, Dept. of Biology  
AY16-17 Biology Foundations Curriculum Redesign Committee  
AY16-17 Faculty Search Committee in Evolutionary Biology, Diversity Officer (led to hires of Molly Schumer & Lauren O'Connell)  
AY15-15 David Starr Jordan Award Committee (Awarded to Dan Bolnick, UT Austin)

AY14-15 Chair, Graduate Admissions Committee, Ecology & Evolution Group  
AY13-14 Graduate Admissions Committee, Ecology & Evolution Group  
AY13-14 Faculty Search Committee in Ecology, Diversity Officer (led to hire of Erin Mordecai)  
AY12-present Jasper Ridge Advisory Committee

**Academic Societies**

2015 Organizer – Symposium on Diversity of Mycorrhizal Fungi. 8<sup>th</sup> International Conference on Mycorrhizas. Flagstaff AZ  
2014 Chair, Mycological Society of America Biodiversity Committee  
2012-2013 Mycological Society of America Biodiversity Committee  
2011 Session Chair - Ecology & Pathology, Mycological Society of America, Fairbanks, AL  
2011 Symposium Organizer – Assessing the relative contributions of fungi and bacteria to terrestrial biogeochemical processes: state of the art - Ecological Society of America.  
2009 Workshop Organizer – Ecological approaches to analyzing complex community datasets - workshop held by the Fungal Environmental Sampling & Informatics Network - Mycological Society of America Meeting  
2004-present Member of Mycological Society of America  
2002-present Member of Ecological Society of America

**Editing:**

Fungal Ecology, Editorial Board, 2012-present  
FEMS Microbiology Ecology, Editorial Board, 2012-present  
New Phytologist, Board of Advisors 2013-present

**Journal Peer Reviewer for:** American Naturalist, Ecology, Ecology Letters, Forest Ecology & Management, Fungal Ecology, Functional Ecology, ISME Journal, Journal of Ecology, Journal of Tropical Forest Science, Global Change Biology, Microbial Ecology, Molecular Ecology, Nature Communications, New Phytologist, Oecologia, Oikos, Plant Pathology, Proceedings of the National Academy of Sciences, Science Advances, Plant & Soil, Soil Biology & Biochemistry

**Federal Funding Peer Reviewer:** Department of Energy FICUS Program<sup>a</sup>, Department of Energy Basic Energy Sciences, US National Science Foundation: Arctic Natural Sciences; Biodiversity Discovery & Analysis; Dimensions of Biodiversity<sup>a</sup>; Ecosystem Studies; OPUS Program; Populations & Communities; Systematics & Biodiversity

<sup>a</sup>served on review panel