

Curriculum Vitae

Rachel I. Adams

Plant & Microbial Biology
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PROFESSIONAL STATUS

2014 – present Project Scientist
BIMERC: Berkeley Indoor Microbial Ecology Research Consortium
Plant & Microbial Biology, University of California Berkeley

EDUCATION

2011 – 2014 Postdoctoral Researcher
Bruns Lab, University of California Berkeley

2005 – 2011 Ph.D.
Department of Biology, Stanford University

1999 – 2003 Bachelor of Science
Department of Biology, Georgetown University

PUBLICATIONS (* indicates open access)

Adams, R.I., Bateman, A.C., Bik, H.M., and Meadow, J.F. *in press*. Microbiota of the indoor environment: a meta-analysis, *Microbiome*.*

Adams, R.I., Tian, Y., Taylor, J.W., Bruns, T.D., Hyvärinen, A., Täubler, M. 2015. Passive dust collectors for assessing airborne microbial material, *Microbiome*, 3(46):1-11*

Waring, B.G., Adams, R.I., Branco, S., and Powers, J.S. 2015. Scale-dependent variation in nitrogen cycling and soil fungal communities along gradients of forest composition and age in regenerating tropical dry forests, *New Phytologist*, DOI: 10.1111/nph.13654

Adams, R.I. 2015. Fungi in the Built Environment, *IMA Fungus*, 6, 16-17.

Adams, R.I., Bhangar, S., Pasut, W., Arens, E.A., Taylor, J., Nazaroff, W.W. and Bruns, T.D. 2015. Chamber bioaerosol study: Outdoor air and human occupants as sources of indoor airborne microbes, *PLoS ONE* 10(5): e0128022. doi:10.1371/journal.pone.0128022*

- Bhangar, S., Adams, R.I., Pasut, W., Huffman, J.A., Arens, E.A., Taylor, J.W., Bruns, T.D. and Nazaroff, W.W. 2015. Chamber bioaerosol study: Human emissions of size-resolved fluorescent biological aerosol particles, *Indoor Air*, doi: 10.1111/ina.12195*
- Martin, L. J., R. I. Adams, et al. 2015. Evolution in the Indoor Biome. *Trends in Ecology & Evolution (TREE)*, 30(4):223-232
- Stephens, B., R. I. Adams, S. Bhangar, K. Bibby, and Michael S. Waring. 2015. From commensalism to mutualism: integrating the microbial ecology, building science, and indoor air communities to advance research on the indoor microbiome. *Indoor Air* 25: 1-3*
- Adams, R. I., M. Miletto, S. E. Lindow, J. W. Taylor, and T. D. Bruns. 2014. Airborne bacterial communities in residences: similarities and differences with fungi. *PLoS ONE* 9(3): e91283*
- Broadbent, E. N., A. M. Almeyda Zambrano, G. P. Asner, M. Soriano, C. B. Field, H. Ramos de Souza, M. Peña-Claros, R. I. Adams, R. Dirzo, and L. Giles. 2014. Integrating stand and soil properties to understand foliar nutrient dynamics during forest succession following slash-and-burn agriculture in the Bolivian Amazon. *PLoS ONE* 9(2): e86042*
- Adams, R. I., M. Miletto, J. W. Taylor, and T. D. Bruns. 2013. The diversity and distribution of fungi on residential surfaces. *PLoS ONE* 8(11): e78866*
Discussed on America's Society of Microbiology's This Week in Microbiology Podcast #68, November 2013
- Adams, R. I., A. S. Amend, J. W. Taylor, and T. D. Bruns. 2013. A unique signal distorts the perception of species richness and composition in high-throughput sequencing surveys of microbial communities: a case study of fungi in indoor dust. *Microbial Ecology* 66: 735-741*
- Adams, R. I., M. Miletto, J. W. Taylor, and T. D. Bruns. 2013. Dispersal in microbes: Fungi in indoor air are dominated by outdoor air and show dispersal limitation at short distances. *ISME J.* 7: 1262-1273*
- Adams, R. I. and E. A. Hadly. 2013. Genetic diversity within vertebrate species is greater at lower latitudes. *Evolutionary Ecology* 27:133-143
- Adams, R. I., S. Goldberry, T. G. Whitham, M. S. Zinkgraf, and R. Dirzo. 2011. Hybridization among dominant tree species correlates positively with understory plant diversity. *American Journal of Botany* 98:1623-1632

- Adams, R. I. and M. Vellend. 2011. Species diversity of grasses promotes genotypic diversity of clover populations in simulated communities. *Oikos* 120:1584-1594
- Pringle, E. G., R. I. Adams, E. Broadbent, P. E. Busby, C. I. Donatti, E. L. Kurten, K. Renton, and R. Dirzo. 2011. Distinct leaf-trait syndromes of evergreen and deciduous trees in a seasonally dry tropical forest. *Biotropica* 43:299-308
- Adams, R. I. and E. A. Hadly. 2010. High levels of gene flow in the California vole (*Microtus californicus*) are consistent across spatial scales. *Western North American Naturalist* 70:296-311
- Pringle, A., R. I. Adams, H. B. Cross, and T. D. Bruns. 2009. The ectomycorrhizal fungus *Amanita phalloides* was introduced and is expanding its range on the west coast of North America. *Molecular Ecology* 18:817-833
- Adams, R. I., H. E. Hallen, and A. Pringle. 2006. Using the incomplete genome of the ectomycorrhizal fungus *Amanita bisporigera* to identify molecular polymorphisms in the related *Amanita phalloides*. *Molecular Ecology Notes* 6:218-220
- Jacobson, D. J., J. R. Dettman, R. I. Adams, C. Boesl, S. Sultana, T. Roenneberg, M. Merrow, M. Duarte, I. Marques, A. Ushakova, P. Carneiro, A. Videira, L. Navarro-Sampedro, M. Olmedo, L. M. Corrochano, and J. W. Taylor. 2006. New findings of *Neurospora* in Europe and comparisons of diversity in temperate climates on continental scales. *Mycologia* 98:550-559
- Aa, E., J. P. Townsend, R. I. Adams, K. M. Nielsen, and J. W. Taylor. 2006. Population structure and gene evolution in *Saccharomyces cerevisiae*. *FEMS Yeast Research* 6:702-715
- Adams, R. I., K. M. Brown, and M. B. Hamilton. 2004. The impact of microsatellite electromorph size homoplasy on multilocus population structure estimates in a tropical tree (*Corythophora alta*) and an anadromous fish (*Morone saxatilis*). *Molecular Ecology* 13:2579-2588

SELECTED PROFESSIONAL MEETINGS & SEMINARS

- 2015 "Microbial Communities In House Dust And Asthma: A Birth Cohort Study" Healthy Buildings America 2015, Boulder, Colorado
- 2015 "Characterizing sources for indoor bioaerosols and microbial volatile organic compounds" Sloan Microbiology of the Built Environment, Boulder, Colorado
- 2014 "Characterizing Microbes in Occupied Spaces: An Environmental Chamber Study" Talk at University of California's Microbiology Retreat, Berkeley, CA

- 2014 Workshop to Advance Studies of Fungi in the Built Environment (organizer). Berkeley, CA
- 2014 “Shrooms in rooms: What fungi in the built environment can tell us about fungi and buildings” International Meeting on Microbial Genomics, Lake Arrowhead, CA
- 2014 “Characterizing Microbes in Occupied Spaces: Environmental Chamber Study of Human Emission Factors” Indoor Air 2014 Conference, Hong Kong
- 2014 Building Science to Advance Research in the Microbiology of the Built Environment Workshop, Illinois Institute of Technology
- 2014 “Meta-Analysis of Microbial Datasets from Built Environments” Visiting scholar to the National Evolutionary Synthesis Center, Durham, NC
- 2013 ASHRAE Indoor Air Quality Conference, Vancouver, British Columbia
- 2013 “Next-generation sequencing for microbial ecology: alpha diversity, beta diversity, and biases in high-throughput sequencing” Eukaryot ‘Omics, SMBE Satellite Meeting, Davis, CA
- 2012 “Spores indoors: Residences as filters of the outdoor mycobiome”. Ecological Society of America, Portland, OR
- 2011 Microbiomes of Built Environments Symposium, Indoor Air, Austin, TX

GRANTS

- 2014 Fungal Workshop. Alfred P. Sloan Foundation, \$66K
- 2014 Microbial Response to Water Damaged Buildings. Alfred P. Sloan Foundation, \$330K

WRITINGS IN OTHER OUTLETS

- 2013 Malassezia, Invisible Life at Your Wild Life.
<http://invisiblelife.yourwildlife.org/malassezia/>
- Penicillium chrysogenum, Invisible Life at Your Wild Life.
<http://invisiblelife.yourwildlife.org/penicillium-chrysogenum/>
- Rhodotorula mucilaginosa, Invisible Life at Your Wild Life.
<http://invisiblelife.yourwildlife.org/rhodotorula-mucilaginosa/>
- The Unresolved Mysteries of Molds in Your House. Your Wild Life.
<http://www.yourwildlife.org/2013/05/the-unresolved-mysteries-of-the-mold-in-your-house/>

TEACHING & MENTORING EXPERIENCE

- 2014 High-throughput Sequencing Amplicon Analysis Workshop
 Computational Genomics Resource Laboratory, UC Berkeley
- 2012 - Advisor to research assistant & undergraduate researchers
 University of California Berkeley

SERVICE

Reviewer for: *PLoS ONE; Evolutionary Biology; Indoor Air; Molecular Ecology; Molecular Ecology Notes/Molecular Ecology Resources; Ecology; Ecology & Evolution; Conservation Letters; Diversity; Fungal Ecology; Environmental Science & Technology; Buildings & Environment; Canadian Journal of Civil Engineering; Aerobiologia; International Journal of Biometeorology; Database*

Academic Societies: Mycological Society of America, International Society of Indoor Air Quality