RACHEL E. GALLERY | CURRICULUM VITAE

CHRONOLOGY OF EDUCATION

2007–09	**Postdoctoral Research Associate**, University of Oxford, Department of Zoology, UK
2007	**Ph.D. Ecology and Evolutionary Biology,** University of Illinois, Urbana-Champaign, IL
	Dissertation thesis: "Seed banks, Seed Mortality, and the Role of Fungal Communities in Neotropical Forests." Advisor: James W. Dalling.
1997	**B.S. Biology,** Cum Laude, American University, Washington, D.C.

CHRONOLOGY OF EMPLOYMENT

2018 –	**Associate Professor**, School of Natural Resources and the Environment (SNRE), University of Arizona, Tucson, AZ, USA
2018 –	**Joint Associate Professor**, Ecology and Evolutionary Biology, University of Arizona
2014 –18	**Joint Assistant Professor**, Ecology and Evolutionary Biology, University of Arizona
2014 –	**Affiliated Faculty**, Applied Biosciences Graduate Interdisciplinary Program (GIDP), University of Arizona
2014 –	**Affiliated Faculty**, Arid Lands Resources Sciences (GIDP), University of Arizona
2012 –	**Affiliated Faculty**, Genetics (GIDP), University of Arizona
2011 –18	**Assistant Professor**, School of Natural Resources and the Environment (SNRE), University of Arizona, Tucson, AZ, USA
2009–11	**Staff Scientist**, Microbial Ecology, National Ecological Observatory Network (NEON), Boulder, CO, USA
2002–05	**Research and Teaching Assistant**, University of Illinois, Urbana Champaign, IL, USA
2000–01	**Field Assistant**, Dr. Douglas Frank, Syracuse University, Yellowstone Natl. Park, WY, USA
1998–2000	**Research Assistant**, Dr. Allen Herre, Smithsonian Tropical Research Institute, Panama
1997–98	**Field Assistant**, Dr. David Tilman, University of Minnesota, Cedar Creek, MN, USA

HONORS AND AWARDS

2018-2019	**Fulbright Scholar**, U.S. Department of State, Bureau of Educational and Cultural Affairs
2017-2018	**Tucson Public Voices Fellowship,** Women's Foundation of Southern Arizona
2017	**David E. Cox Faculty Teaching Award,** UA College of Agriculture and Life Sciences
2017, 2016	**Outstanding Course**, UA School of Natural Resources and the Environment (SNRE)
2017	**Public Service and Outreach Award**, UA SNRE
2015	**Research Career Development Award**, UA College of Agriculture and Life Sciences
2014	**Outstanding Scholarly Achievement Award**, UA SNRE
2014	**UA campus-wide nominee**, Packard Fellowship for Science & Engineering, not awarded
2007–09	**Fellow** of Wolfson College, Oxford University, UK
2006–07	**Dissertation Completion Fellowship**, American Association of University Women
2006	**NSF Doctoral Dissertation Improvement Grant,** PI: James Dalling
2005	**Short-term Fellowship**, Smithsonian Tropical Research Institute (STRI), Panama

AWARDED GRANTS AND CONTRACTS ($6.2M TOTAL AS PI OR CO-PI)

All grants awarded while at University of Arizona. Each award is outlined below.

Years	Project	Sponsor	Award ($)	Title
2017-18	Collaborative Research: Ecological Knowledge & Predictions	NSF OISE	8,560	PI
2017-18	DDRI: Woody shrub encroachment alters ecosystem processes	NSF GSS	15,999	PI
2017-18	Research, Discovery, Innovation Faculty Seed Grant	U. Arizona, RDI	10,000	PI
2013-18	Collaborative Research: Pathogen-mediated negative feedback	NSF DEB	133,144	PI
2016-16	Climate vulnerability of tropical highland Páramo	U. Arizona IRDG	900	PI
2015-16	Dean's Research Enhancement Award	U. Arizona CALS	7,365	PI
2012-13	Disturbance and soil communities of SW Grasslands	U. Arizona IE	10,000	PI
2015-20	Discovery and Translation of Arid-land Microbiome	U. Arizona CALS	81,293	Co-PI
2014-18	Bacterial controls of endophyte phenotypes	NSF IOS	653,072	Co-PI
2013-18	Transformative behavior in the Critical Zone II	NSF EAR-CZO	4,900,000	Co-PI
2015-16	Coupled instrumentation arrays for Local Elevation Network	U. Arizona WEES	67,220	Co-PI
2015-16	Critical Zone Observatory Biogeochemistry Workshop	NSF SAVI	12,000	Co-PI
2013-14	Soil community and amendments on mineland revegetation	Rosemont	307,336	Co-PI
2013-13	Research Experience for Teachers: Decomposition in drylands	NSF DEB	15,000	Co-PI
2012-12	Carbon cycling in arid-lands: Shimadzu Elemental Analyzer	U. Arizona WEES	9,030	Co-PI
	Total grants as PI or Co-PI		**$6,230,919**	
	Direct Gallery Support (full PI funds and % of Co-PI funds)		**$725,185**	

Federal Awards

PI National Science Foundation (NSF), *Office of International Science & Engineering* (OISE) "Collaborative Research: Ecological Knowledge and Predictions: Integrating Across Networks and National Observatories." ($8560; 10/1/17-9/30/18)

PI National Science Foundation (NSF), *Geography and Spatial Sciences (GSS)* "Doctoral Dissertation Research: Woody shrub encroachment alters ecosystem processes: Linking image spectroscopy and microbial biogeochemistry." Martha Gebhardt, Ph.D. student. ($15,999; 8/1/17-7/31/18)

PI National Science Foundation (NSF), *Division of Environmental Biology (DEB):* "Collaborative Research: Pathogen-mediated negative feedbacks determine tropical tree species abundance." ($133,144; 6/1/2013-5/31/17; no cost extension to 5/31/19). Co-PI: Scott Mangan (Washington State University); Other Co-PI: Stefan Schnitzer (Marquette).

Co-PI National Science Foundation (NSF), *Integrative Organismal Systems (IOS)* "Bacterial controls of endophyte phenotypes: an unexplored dimension of diverse plant-fungal symbioses." PI: David Baltrus; Other Co-PI: A.E. (Betsy) Arnold. ($653,072. 8/1/14-7/31/17; no cost extension to 7/31/18).

Co-PI National Science Foundation (NSF), *EAR-CZO* "Transformative behavior of energy, water, and carbon in the Critical Zone II: Interactions between long- and short-term processes that control delivery of Critical Zone services." Lead PI: Jon Chorover; Other PIs: David Breshears, Jen McIntosh, Jon Pelletier, Craig Rasmussen; Other Co-PIs: Paul Brooks, Tom Meixner, Ty Ferre, Peter Troch, Shirley Papuga, Greg Barron-Gafford, Marcy Litvak, Guo-Yue Niu, Robert Parmenter, Marcel Schaap, Mark Losleben, Matej Durcik. ($4.9M; Microbial $222,807; 10/1/13-9/31/18).

Co-PI National Science Foundation (NSF), Science Across Virtual Institutes (SAVI), Critical Zone

Observatory Network Biogeochemistry Workshop. University of California, Riverside, CA. Lead PI: Emma Aronson; Other Co-PI: Stephen Hart. ($12,000; Sept 28-29, 2015)

Co-PI National Science Foundation (NSF)*, Division of Environmental Biology (DEB):* "Research Experience for Teachers. Collaborative Research: Decomposition in drylands: Soil erosion and UV interactions." Lead PI: Steve Archer. ($15,000; 4/1/13-12/31/13).

State Awards

PI University of Arizona, Research, Discovery, and Innovation Faculty Seed Grant. "Plant and soil microbiomes of tropical highland Paramo." ($10,000; 1/7/17-6/30/18)

PI University of Arizona, International Research Development Grant. "Climate vulnerability of tropical highland Paramo." ($900; 11/1/16–11/15/16)

PI University of Arizona, Dean's Research Advisory Council (DRAC) Research Enhancement Award. "Decoupling of plant and microbial responses to warming in a dryland ecosystem." ($7,365; 8/2015–5/2016).

Co-PI University of Arizona, College of Agriculture and Life Sciences "Discovery and Translation of Arid-land Microbiome." PI: Anne (Betsy) Arnold; Other Co-PIs: David Baltrus, Bonnie Hurwitz, Eric Lyons, ($81,293; 2/1/15-1/30/2020)

Co-PI University of Arizona, Water, Environmental, and Energy Solutions (WEES) Matching Funds. "Coupled above- and belowground instrumentation arrays to support the development of Local Elevational Network Sites." PI: Greg Barron-Gafford; Other Co-PIs: Guo-Yue Niu, David Moore, Russ Scott, Wim van Leeuwen. ($67,220; 2/1/15-5/30/15)

PI University of Arizona, Institute of the Environment Seed Grant. "Disturbance, soil biotic communities, and invasibility of Southwest Grasslands." ($10,000; 9/1/12–8/15/13)

Co-PI (University of Arizona, Water, Environmental, and Energy Solutions (WEES) Matching Funds. PI: Katerina Dostonova. Purchase of Shimadzu TOC-L Series Total Organic Carbon (TOC) and nitrogen analyzer. ($9,030; 2012)

Industry Awards

Co-PI Rosemont Copper Company. "Impact of soil biotic community, low rainfall, and amendments on mineland reclamation." PI: Jeffrey Fehmi, Other Co-PI: Craig Rasmussen. ($307,336; 1/1/13-12/31/14).

PUBLICATIONS (PUBLISHED OR ACCEPTED)

Underlined author is a current/former student or postdoctoral advisee.
†Indicates last/senior author position, a significant contribution and research product of the Gallery lab.
**Publications substantially based on work done as a graduate student.*

Refereed journal articles (published or accepted in final form)

24. Lybrand, R., Auston, J.C., Fedenko, J., Gallery, R.E., Rooney, E., Schroeder, P.A., Zaharescu, D.G., and O. Qafoku. (accepted) A coupled microscopy approach to assess the nano-landscape of weathering. *Nature Scientific Reports.*
23. Taylor, M.J., Mannan, R.W., U'Ren, J.M., Garber, N.P., Gallery, R.E. and A.E. Arnold. (2019) Age-related variation in the oral microbiome of urban Cooper's hawks *BMC Microbiology* 19:47
22. Shaffer, J.P., Zalamea, P.C., Sarmiento, C., Gallery, R.E., Dalling, J.W., Davis, A.E., Baltrus, D.A. and A.E. Arnold. Context-dependent and variable effects of endohyphal bacteria on interactions between fungi and seeds. *Fungal Ecology.* 36: 117-127. doi.org/10.1016/j.funeco.2018.08.008
21. Lybrand, R., Gallery, R.E., Trahan, N., and D.J.P. Moore. (2018) Disturbance Alters the Relative Importance of Topographic and Biogeochemical Controls on Microbial Activity in Temperate Montane Forests. *Forests* 9(2). 97. doi:10.3390/f9020097

20. Gebhardt, M., Rasmussen, C. Fehmi, J., and R.E. Gallery†. (2017) Soil amendments alter plant biomass and soil microbial activity in a semi-desert grassland. *Plant and Soil*. 419: 53-70. doi:10.1007/s11104-017-3327-5
19. Shaffer, J.P., R.E. Gallery, D.A. Baltrus, and A.E. Arnold. (2017) An Endohyphal Bacterium (*Chitinophaga*, Bacteroidetes) Influences Carbon- and Nitrogen-Source Use by *Fusarium keratoplasticum* (*F. solani* species complex, Nectriaceae) *Frontiers in Microbiology* 8: doi.org/10.3389/fmicb.2017.00350
18. Araldi-Brondolo S.J., Spraker J., Shaffer J.P., Woytenko E.H., Baltrus D.A., Gallery R.E., Arnold A.E. (2017). Bacterial endosymbionts: master modulators of fungal phenotypes. Microbiology Spectrum, 5(5), 1–24.
17. Shaffer, J.P., Sarmiento, C., Zalamea, P.C., Gallery, R.E., Davis, A.E., Baltrus, D.A. and A.E. Arnold. (2016) Diversity, Specificity, and Phylogenetic Relationships of Endohyphal Bacteria in Fungi That Inhabit Tropical Seeds and Leaves. *Frontiers in Ecology and Evolution,* 4: 116.
16. Docherty, K.M., Borton, H., Espinosa, E., Gebhardt, M., Gil-Loaiza, J., Gutknecht, J.L.M., Maes, P.W., Mott, B.M., Parnell, J., Purdy, G., Rodrigues, P.A.P., Stannish, L., Walser, O., and R.E. Gallery†. (2015) Key edaphic properties largely explain temporal and geographic variation in soil microbial communities across four biomes. *PLoS ONE* 10(11): e0135352. doi:10.1371/journal.pone.0135352
15. Rasmussen, C., Gallery, R.E., and J.S. Fehmi (2015) Passive soil heating using an inexpensive infrared mirror design – a proof of concept. *SOIL,* 1: 631-639*.* doi:10.5194/soil-1-631-2015
14. Rocca-Serra, P. Walls, R., Parnell, J., Gallery, R.E., Zheng, J., Sansone, S.A., and A. Gonzalez-Beltran. (2015) Modeling a Microbial Community and Biodiversity Assay with OBI and PCO OBO Foundry Ontologies: The Interoperability Gains of a Modular Approach. *Database The Journal of Biological Databases and Curation* bau132. doi:10.1093/database/bau132
13. Field, J.P., Breshears, D.D., Law, D.J., López-Hoffman, L., Brooks, P.D., Chorover, J., Barron-Gafford, G.A., Gallery, R.E., Litvak, M.E., Lybrand, R., McIntosh, J., Meixner, T., Niu, G.Y., Papuga, S.A., Pelletier, J.D., Rasmussen, C.R., and P.A. Troch. (2015) A perspective on areas of emphasis for Critical Zone Services. *Vadose Zone J.* doi:10.2136/vz2014.10.0142
12. Bagchi, R., Gallery, R.E., Gripenberg, S., Freckleton, R.P., Gurr, S.J., Narayan, L., Addis, C.E., and O.T. Lewis. (2014) Pathogens and insect herbivores drive rainforest plant diversity and composition. *Nature* 506: 85-88. doi:10.1038/nature12911
11. Gripenberg, S., Bagchi, R., Gallery, R.E., Freckleton, R.P., Narayan, L., and O.T. Lewis. (2014) Insects and plant pathogens as agents of density-dependent seedling mortality: Field experiments with five Neotropical tree species. *Oikos* 123: 185-193. doi:10.1111/j.1600-0706.2013.00835.x
10. Kao, R.H., Gibson, C.M., Gallery, R.E., Meier, C.L., Barnett, D.T., Docherty, K.M., Blevins, K.K., Travers, P.D., Azuaje, E., Springer, Y.P., Thibault, K.M., McKenzie, V.J., Keller, M., Alves, L.F., Hinckley, E.S., Parnell, J., and D. Schimel. (2012) NEON Terrestrial Field Observations: Designing Continental-Scale, Standardized Sampling. *Ecosphere* 3(12): 1-17 doi: 10.1890/ES12-00196.1
9. P. Yilmaz, R. Kottmann, D. Field, R. Knight, J.R. Cole, L. Amaral-Zettler, J.A. Gilbert, I. Karsch Mizrachi, A. Johnston, G. Cochrane, R. Vaughan, C. Hunter, J. Park, N. Morrison, P. Rocca-Serra, P. Sterk, M. Arumugam, M.J. Blaser, P. Bork, P. Chain, E.K. Costello, H. Huot Creasy, P. Dawyndt, T. DeSantis, N. Fierer, J. Fuhrman, Gallery, R.E. et al. (2011) Minimum Information about a MARKer gene Sequence (MIMARKS) and minimum information about and (x) sequence (MIxS) specifications. *Nature Biotechnology,* 29:415-420.
8. Bagchi, R., Swinfield, T., Gallery, R.E., Lewis, O.T., Gripenberg, S., Narayan, L., and R.P. Freckleton. (2010) Testing the Janzen-Connell mechanism: pathogens cause overcompensating density dependence in a tropical tree. *Ecology Letters* 13:1262-1269.
7. Gallery, R.E.*, Moore, D.J.P., and J.W. Dalling. (2010) Variation in susceptibility, tolerance, and timing of infection by seed pathogens in the neotropical tree genus, *Cecropia*. *J of Ecology* 98:147-155.

6. Gilbert, J.A., Meyer, F. Jansson, J, Gordon, J., Pace, N., Tiedje, J., Ley, R., Fierer, N., Field, D., Kyrpides, N., Glockner, F.O., Klenk, H.P., Wommack, K.E., Glass, E., Docherty, K.M., Gallery, R.E., Stevens, R., and R. Knight. (2010) The Earth Microbiome Project: Meeting report of the "1st EMP meeting on sample selection and acquisition" at Argonne National Laboratory October 6(th) 2010. *Standards in Genomic Sciences* 3: 249-253. doi: 10.4056/sigs.1443528
5. U'Ren, J.M., Dalling, J.W., Gallery, R.E.*, Maddison, D.R., Davis, E.C., Gibson, C.M., and A.E. Arnold. (2009) Diversity, phylogenetic relationships, and evolutionary origins of fungi associated with seeds of a neotropical pioneer tree. *Mycological Research* 113:432-449.
4. Sanchez, E., Gallery, R.E.*, and J.W. Dalling. (2009) Importance of nurse logs as a substrate for the regeneration of pioneer trees on Barro Colorado Island, Panama. *J. Tropical Ecology* 25: 429-437.
3. Kluger, C.G., Dalling, J.W., Gallery, R.E.*, Sanchez, E., Weeks-Galindo, C. and A.E. Arnold. (2008) Prevalent host-generalism among fungi associated with seeds of four neotropical pioneer species. *Journal of Tropical Ecology* 24: 351-354.
2. Gallery, R.E.*, Dalling, J.W., and A.E. Arnold. (2007) Diversity, host affinity, distribution of seed-infecting fungi: a case study with neotropical *Cecropia*. *Ecology* 88:582-588.
1. Husband, R., Herre, E.A., Turner, S.L., Gallery, R.E., and J.P.W. Young. (2002) Molecular diversity of arbuscular mycorrhizal fungi patterns of host association over time and space in a topical forest. *Molecular Ecology* 11:2669-2678.

Scholarly books and monographs (peer reviewed)

2. Gallery, R.E. (2014) Ecology of Tropical Rain Forests. *In* R. Monson (Ed.), The Plant Sciences: Ecology and the Environment. Springer Publishers, New York, USA.
1. Gallery, R.E.*, Dalling, J.W., Wolfe, B.T., and A.E. Arnold. (2007) The influence of seed source, habitat, and fungi on *Cecropia* seed survival in two neotropical forests. In: A.J. Dennis, R. Green, E.W. Schupp, and D.A. Westcott (eds.) Seed dispersal: Theory and its application in a changing world. CAB Intl. Press, Wallingford, UK.

Other peer-reviewed publication

1. Schimel, D.S., Keller, M., Berukoff, S., Kao, R., Loescher, H., Powell, H., Kampe, T., Moore, D.J.P., Gram, W., Barnett, D., Gallery, R.E. et al. (2011) Science Strategy: Enabling Continental-Scale Ecological Forecasting. NEON [neoninc.org/sites/default/files/NEON_Strategy_2011u2.pdf]

Conference Proceedings

2. Garcia, K., Sarmiento, C., Zalamea, P.C., Dalling, J.W., Davis, A., Baltrus, D.A., Gallery, R.E. and A.E. Arnold (2013). Diversity and evolutionary relationships of bacteria affiliated with tropical seeds and seed-associated fungi. *Phytopathology* 103(6): 48-48.
1. Shaffer, J.C., Gallery, R.E., Baltrus, D.A. and A.E. Arnold (2013). Phylogenetic relationships and diversity of endohyphal bacteria of Pezizomycotina. *Phytopathology* 103 (6): 130-131.

SERVICE AND OUTREACH

National/International Service and Outreach

Journal Editorship

2016– **Associate Editor,** Functional Ecology

Funding Agency Panels

2018 Joint Genome Institute, Community Science Program (CSP), proposal review panel
2018 National Science Foundation, GRFP, proposal review panel (virtual)
2016 National Science Foundation, DEB Ecosystems, proposal review panel

2015 National Science Foundation, Dimensions of Biodiversity, proposal review panel
2013 National Science Foundation, Antarctic: Organisms & Ecosystems, proposal review panel

Advisory and Technical Working Group Membership

2016– **Advisory Board,** 500 Women Scientists (500WS); 501c3 promoting a diverse, inclusive scientific community that brings science-based solutions to local and global challenges.
2015– **Technical Working Group Member,** National Ecological Observatory Network (NEON) Microbial Ecology.
2013 **Science Advisory Committee,** Landscape Evolution Observatory (LEO), Tucson, AZ.
2011– 12 **Representative***,* Annual AGU-Sponsored Climate Science Day. Met with 8-10 Senate and Congressional offices to discuss the impacts of climate change and offer resources.

Peer reviewer for Journals (20 journals, ca. 1 manuscript/month)

Nature, Ecology, Ecology Letters, Oecologia, Functional Ecology, Molecular Ecology, Environmental Microbiology, Microbial Ecology, Journal of Ecology, Plant and Soil, Biotropica, Canadian Journal of Botany, Fungal Ecology, Fresenius Environmental Bulletin, Journal of Tropical Ecology, Journal of Forest Science, Tropical Ecology, PLoS ONE, Biogeosciences, Forest Ecology and Management

Proposal reviewer: ad-hoc

- National Science Foundation DEB Ecosystems (3); MRI (1); Dimensions of Biodiversity (1); CAREER (2)
- NWO VENI Postdoctoral Fellow Programme, The Hague, The Netherlands (1)

Local/State Service and Outreach

2018 **Organizer and Participant,** Spacefest IX STEAM Event, Outreach highlighting women in science and the 500 Women Scientists (500WS) Tucson Branch. July 2018
2018 **Organizer,** Tucson Festival of Books, Science City, Outreach highlighting women in science and the 500 Women Scientists (500WS) Tucson Branch. March 2018
2017 **Panel Organizer and Participant,** "Current Events, Science, and the Environment." A panel discussion on climate change, science communication, and public perceptions open to the public; 4 female panelists, ca. 50 attendees. April 19, 2017, Tucson, AZ.
2017– **Tucson Chapter Leader,** 500 Women Scientists (500WS). Founded the local chapter, which has >95 members and focuses on local mentoring and outreach.
2016 **Invited speaker,** Biosphere2 “What If” Series, "Life in Soils." Nov. 6, 2016, Tucson, AZ.
2016 **Invited speaker,** American Association of University Women (AAUW) Tucson Chapter Annual Fundraising Luncheon. April 9, 2016, Tucson, AZ.
2015 **Invited speaker,** UA College of Science “Science Café” Series, "The Little Things That Rule the World: Microscopic Life in Soils." December 6, 2015, Tucson, AZ.
2015 **Faculty Host,** UA STEM Learning Center Amphi High School outreach, Tucson, AZ.
2015 **Organizer,** Tucson Festival of Books, Outreach highlighting soil ecology research in SNRE.
2013 **Judge***,* Sam Hughes Elementary Science Fair, Feb 19, 2013, Tucson, AZ.
2012 **Career Panelist***,* Women In Science, Engineering & Technology (WISE): “Expanding Your Horizons” Conference, March 3, 2012, Tucson, AZ.

Organization of Sessions and Symposia at National and International Scientific Meetings

2018 **Convener***,* with three of my graduate students. "Session: Microbial Controls of Biogeochemical Cycling I, II." American Geophysical Union (AGU) Fall Meeting, Washington, D.C. (December 2018)

2017 **Convener***,* with three of my graduate students. "Session: Microbial Controls of Biogeochemical Cycling I, II." American Geophysical Union (AGU) Fall Meeting, New Orleans, LA. (December 2017)

2016 **Convener***,* with three of my graduate students. "Session: Microbial Controls of Biogeochemical Cycling I, II, III." American Geophysical Union (AGU) Fall Meeting, San Francisco, CA. (December 2016)

2015 **Convener***,* "Session: Microbial Controls of Biogeochemical Cycling I, II, III." American Geophysical Union (AGU) Fall Meeting, San Francisco, CA. (December 2015)

2015 **Convener***,* "Symposium: The unseen majority: what we know, and want to know, about tropical microorganisms." Association for Tropical Biology and Conservation (ATBC) Annual Meeting, Honolulu, HI. (July 2015)

Invited Participant/Organizer in Technical Workshops

2018 **Co-organizer**, NSF Ecological Knowledge and Predictions Workshop, University of Arizona, Tucson, AZ (Feb 19-21, 2018)

2018 **Participant,** SNRE Diversity to Inclusive Excellence panel, University of Arizona, Tucson, AZ (January 30, 2018)

2017 **Participant**, NSF Critical Zone Observatory (CZO) Network Microbial Workshop, Ecological Society of America (ESA), Portland, OR. (August 6-7, 2017)

2015 **Invited Speaker:** Building Global Ecological Understanding (BGEU), University of Delaware. "Biodiversity: New perspectives with observatory science." (June 2-5, 2015)

2015 **Co-organizer**, NSF Science Across Virtual Institutes (SAVI), Critical Zone Observatory (CZO) Network Biogeochemistry Workshop, UC Riverside, CA (Sept 28-29, 2015)

2015 **Participant**, NSF Critical Zone Observatory (CZO) Microbial Ecology Intercomparison with Cyberinfrastructure-Enabled Data Synthesis Workshop, Argonne National Laboratory, Lemont, IL. (November 16-17, 2015)

2015 **Participant**, NSF Science Across Virtual Institutes (SAVI) Early Career Critical Zone Scientist Meeting, University of New Hampshire, Durham, NH. (June 13-14, 2015)

2013 **Participant**, NSF Critical Zone Observatory (CZO) PI Meeting, NSF HQ, Arlington, VA (October 1-2, 2013)

2011 **Co-organizer**, NEON-Earth Microbiome Project Workshop. "Synergies and integration of molecular microbial data." Boulder, CO, November 2011.

Professional Societies

2002 – Member of: Ecological Society of America (ESA), Association of Tropical Biology and Conservation (ATBC, 2003-), American Association of University Women (AAUW, 2006-), British Ecological Society (BES, 2007-), American Geophysical Union (AGU, 2007-), Soil Ecology Society (SES, 2014-)

Departmental Committees

2018– **Chair,** SNRE, Watershed Management and Ecohydrology Academic Program

2018– **Member,** SNRE, Strategic Planning Committee

2017 **Search Committee Member,** SNRE, **"**Ecohydrology" in Watershed Management.

2015–	**Member,** SNRE, New Hiring Initiatives Committee, including Strategic Priorities Faculty Initiative (SPFI) proposal for faculty in "Wildlife Genomics."
2016, 2011	**Co-Chair,** SNRE Seminar Series
2013-14	**Member,** SNRE, Tucson Festival of Books Committee
2012–	**Member,** SNRE, Natural Resource Studies Student Admissions Committee
	Member, SNRE, Watershed Management Student Admissions Committee
2012-13, 17	**Member**, SNRE Curriculum and Instruction Committee
2012	**Member,** SNRE Website Development Committee
	Member, SNRE Lab and Technology Committee

College of Agricultural and Life Sciences (CALS) Committees

2016	**Search Committee Member,** "Microbial Biogeochemistry" in the Department of Soil, Water, and Environmental Sciences, College of Agriculture and Life Science.
2016	**Participant**, Academic Program Review Committee, Arid Lands Graduate Interdisciplinary Program (GIDP)
2016	**Faculty Mentor***,* Postdoctoral Mentoring Committee

University of Arizona Committees

2018–	**Faculty Advisory Committee,** Institute of the Environment (IE), University of Arizona
2017–	**Carson Scholars Program Mentor**, UA Institute of the Environment
2017	**Search Committee Member, "**Forest, Carbon, and Climate" in the Laboratory for Tree Ring Research, College of Science.
2014-16	**Advisory Committee Member,** Cluster Hire Initiative for five positions in **"**Ecosystems Genomics" that grew from the iBiosphere white paper (see 2011 below)
2014-16	**Search Committee Member,** for 2 positions "Molecular ecology of soil microbes" and "Plant evolutionary or ecological genomics" in Ecosystems Genomics Initiative.
2015	**Panelist,** Women in Natural Science (WINS) Career Negotiation Panel (April 16, 2015)
2013	**Science Steering Committee Member**, Landscape Evolution Observatory (LEO)
2013	**Proposal Review Panel,** UA Institute of the Environment Graduate Student Travel Award
2012	**Proposal Review Panel,** Water, Environment, and Energy Solutions (WEES)
2011-12	**Judge***,* UA Institute of the Environment Grad Blitz
2011	**Co-author**, iBiosphere Working Group and White Paper that outlined the rationale for the Ecosystem Genomics cluster hire initiative

TEACHING, ADVISING, AND MENTORSHIP (>680 STUDENTS IN FORMAL COURSES)

Teaching: I have developed and taught the following courses at UA.

- **Natural Resource Ecology** (RNR 316), 3-unit, 70-100 students, undergraduate course in core curriculum
- **Ecosystem Ecology** (RNR 448-558), 3-unit, 30-40 students, upper division undergraduate/graduate
- **Microbial Ecoinformatics** (RNR 696A), 2-unit, 10-15 students, upper division undergraduate/graduate
- **Conducting Interdisciplinary Research** (ARL 595A), 5-10 students, 1-unit graduate special topics
- **Physical Aspects of Arid Lands** (ARL 565), 3-unit, co-taught alt. years, upper division graduate course
- Additionally, I give 1-3 guest lectures/semester in diverse courses at UA (e.g., Arid Lands GIDP, Plant Science, Geography, Laboratory of Tree Ring Research). I have served as an instructor for three Tropical Field Courses run by Organization for Tropical Studies (OTS) and PASI-PIRE Amazonia.

Advising: I have advised, 3 Ph.D., 5 M.S., 18 undergraduate, 3 high school students, and 3 postdocs.

- **Doctoral dissertations advised**: *Dawson Fairbanks* (NSF GRFP Fellow, 4th year), *Martha Gebhardt* (NSF DDRI, NASA Space Grant, 3rd year), *Noelle Espinosa* (Candidate, exam passed 10/2016)
- **Masters theses advised**: *Martha Gebhardt* (5/2015; currently PhD student UA), *Sudan Karuiki* (5/2018, currently PhD student at Cornell), *Margretta Murphy* (8/2016; currently Health and Safety Officer, UA), *Coleen O'Shea* (2/13-12/2014; currently Science Teacher, Mountain Ridge High School, AZ), *Gayle Purdy* (5/2015; currently Technical Specialist, Purdue University).
- **Doctoral dissertation committee service**: 11 advisory committees in SNRE, EEB, Plant Science, SWES
- **Undergraduate Honors theses and capstones**: 3 students, 3 female;
- **NSF-REU, NSF INCLUDES Mentor**: 2 students, 2 female, 1 underserved in STEM;
- **NASA Space Grant Undergraduate Research Intern;** 1 female, 1 underserved in STEM;
- **Independent studies**: 13 students, 9 female, 2 underserved in STEM;
- **Postdoctoral Research Associates**: 3, 1-2 years each, 2 female, 1 underserved in STEM;
- **High School Senior Honors Science Project**: 3 students, winners of SARSEF project awards.

CONFERENCES AND SCHOLARLY PRESENTATIONS

INVITED: National and International Scientific Conferences

10. Soil Science Society of America (SSSA), San Diego, CA. Gallery, R.E. & N. Espinosa. “Soils of Wildfire-affected Landscapes: Linking Belowground Ecology & Watershed Processes.” (January 2019)
9. Research Insights in Semiarid Ecosystems (RISE), Tucson, AZ. Gallery, R.E. “Microbial responses to warming, drought, and fire in semiarid grasslands.” (October 2018)
8. LMI BIO-INCA : Biodiversité des phytosystèmes Naturels et Cultivés Andins, Bogota, Colombia. R.E. Gallery. "Soil microbial responses to climate warming in Northern Andean alpine ecosystems." (March 2018)
7. Ecological Society of America (ESA), Ft Lauderdale, FL. Lybrand, R.A., & R.E. Gallery. "Response of soil microbial activity to topography in a dryland watershed." (August 2016)
6. American Geophysical Union (AGU) Fall Meeting, San Francisco, CA. Lybrand, R.A., Gallery, R.E., Trahan, N.A., Dynes, E., & D.J.P. Moore. "Disturbance-driven changes in soil exoenzyme activity and biogeochemistry of Colorado Forests." (December 2015)
5. Ecological Society of America (ESA), Baltimore, MD. R.E. Gallery. Symposium: IGNITE - When tiny things rule the world. "The unseen majority: what we know, and still need to know, about tropical microorganisms." (August 2015)
4. Ecological Society of America (ESA), Baltimore, MD. R.E. Gallery. Symposium: Ecology in the Critical Zone. "Microbial ecology in the high elevation mixed conifer critical zone." (August 2015)
3. Ecological Society of America (ESA), Sacramento, CA. R.E. Gallery. Symposium: Ecosystem and Community Effects of Native and Invasive Diseases. "Complex plant-pathogen interactions maintain tropical forest diversity." (August 2014)
2. Association for Tropical Biology and Conservation (ATBC), San Jose, Costa Rica. R.E. Gallery. "Diversity and host affinity of plant pathogenic fungi in a tropical seedling community." (July 2013)
1. Symposium: Long-term monitoring. USGS Headquarters, Reston, VA. R.E. Gallery. "NEON Strategies for long-term biotic monitoring. "(February 2011)

INVITED: University Departmental Seminars

14. Department of Biological Sciences, Universidad de los Andes, Bogota, Colombia. " Soil microbial responses to wildfires and climate warming: Scaling from microns to watersheds with remote sensing tools.” Host: Dr. Eloisa Lasso (April 2019)

13. Department of Biology and Ecology, Utah State University, "The ecology of soil microbes: Predicting activity and feedbacks in response to disturbance." Host: Dr. Noelle Beckman (February 2018)
12. Department of Geography, University of Delaware, "Predicting microbial activity in semi-arid grasslands and forests: How can remote sensing tools help?" Host: Dr. Delphis Levia (Oct 2017)
11. Department of Plant Biology, Michigan State University, "Plant-soil feedbacks influence forest community diversity and recovery." Host: Dr. Maren Friesen (February 2017)
10. Department of Biology, Northern Arizona University,"The ecology of soil microbes: predicting activity and feedbacks in semi-arid and tropical forests." Host: Dr. Nancy Johnson (March 2017)
9. Department of Biological Sciences, Universidad de los Andes, Bogota, Colombia. "The ecology of soil microbes in tropical forests." Host: Dr. Eloisa Lasso (November 2016)
8. Department of Microbiology and Immunology, Montana State University, "The ecology of soil microbes: feedbacks in semi-arid and tropical forests." Host: Dr. Seth Walk (October 2016)
7. Distinguished Lectures in Microbiology, University of Wisconsin-Madison, "Soil ecology and community diversity from semi-arid to tropical forests." Host: Dr. Trina McMahon (Feb. 2016)
6. Department of Biology, Hope College | Biosphere2, "Topographic controls of microbial activity in the critical zone." Host: Dr. Greg Murray (May 2015)
5. Department of Soil, Water, and Environmental Science, University of Arizona, "Microbial communities from rhizosphere to ecosystem responses." Host: Dr. Craig Rasmussen (September 2015)
4. Department of Ecology & Evolutionary Biology, University of Arizona, "Microbial controls of plant community diversity and ecosystem processes." Host: Dr. Brian Enquist (November 2013)
3. Department of Biology, Northern Arizona University, "Plant-microorganism interactions and impacts in plant communities." Host: Dr. Jeff Foster (April 2013)
2. Department of Ecology & Evolutionary Biology, University California Santa Cruz, "Pathogens and Herbivores Maintain Species Diversity in Tropical Seedling Communities." Host: Dr. Kathleen Kay (April 2012)
1. Department of Plant Sciences, University of Arizona, "Pathogens and Herbivores Maintain Species Diversity in Tropical Seedling Communities." Host: Dr. Charles VanEtten (April 2012)

Contributed: National and International Conference Proceedings (33 since joining UA)

American Geophysical Union (AGU) Fall Meeting, Washington, D.C. (Oral). Fairbanks, D., Muscarella, C., Chorover, J., Rich, V. & R.E. Gallery "Temperature sensitivity of soil enzymes in a high-elevation mixed conifer forest." (December 2018)

American Geophysical Union (AGU) Fall Meeting, Washington, D.C. (Poster). Gallery, R. E., U'Ren, J. & Lasso, E. "Plant and soil microbial responses to climate warming in Northern Andean alpine ecosystems." (December 2018)

Ecological Society of America (ESA), New Orleans, LA. (Oral). Espinosa, N. & Gallery, R.E. The responses of microbial community activity and biomass to passive warming in a semiarid ecosystem (August 2018)

American Geophysical Union (AGU) Fall Meeting, New Orleans, LA. (Oral). Gallery, R. E. & Lasso, E. Plant and soil microbial responses to climate warming in Northern Andean alpine ecosystems. (December 2017)

American Geophysical Union (AGU) Fall Meeting, New Orleans, LA. (Oral). Gebhardt, M. & Gallery, R. E. A meta-analysis of soil exoenzyme responses to simulated climate change. (December 2017)

American Geophysical Union (AGU) Fall Meeting, New Orleans, LA. (Poster). Espinosa, N. & Gallery, R. E. Effect of coarse woody debris on microbial activity in a semiarid ecosystem. (December 2017)

American Geophysical Union (AGU) Fall Meeting, New Orleans, LA. (Poster). Jimenez, J., Raub, H.R., Jong, E.L., Muscarella, C., Smith, W.K. & Gallery, R. E. Soil microbial activity responses to fire in a semi-arid savannah ecosystem pre- and post-monsoon season. (December 2017)

Ecological Society of America (ESA), Portland, OR. (Oral). Plant-fungal interactions cause negative feedbacks in tropical forest seedling communities. Gallery, R.E. (August 2017)

Soil Ecology Society (SES), Ft. Collins, CO. (Poster). Gebhardt, M. & Gallery, R. E. Woody shrub encroachment alters ecosystem processes: Linking imaging spectroscopy and microbial biogeochemistry. (June 2017)

Soil Ecology Society (SES), Ft. Collins, CO. (Poster). Gebhardt, M. & Gallery, R. E. Inquiry-based STEM education for high school students: strengths, possibilities, and opportunities. (June 2017)

Soil Ecology Society (SES), Ft. Collins, CO. (Poster). Espinosa, N., & Gallery, R. E. Stability of microbial activity in an experimentally warmed dryland. (June 2017)

Soil Ecology Society (SES), Ft. Collins, CO. (Poster). Kariuki, S., Gallery, R. E., & Mcclaran, M. How does recreational camping affect cover mediated soil microbial activity? (June 2017)

American Geophysical Union (AGU) Fall Meeting, San Francisco, CA. (Invited Oral). Mcintosh, J. C., Xavier, Z.-R., Rasmussen, C., Paul, B. D., Gallery, R. E., Pelletier, J. D., & Chorover, J. D. Energy Inputs at Earth's Surface: Water Availability, Weathering Rates, and Biotic Activity (Dec 2016)

American Geophysical Union (AGU) Fall Meeting, San Francisco, CA. (Poster). Bryan, M., Alyssa, W., Ben, P., Andres, S., Dawson, F., Mcintosh, J. C., Rasmussen, C., Gallery, R.E., Pellitier, J. & Chorover, J. D. Coring the deep Critical Zone in the Jemez River Basin Critical Zone. (December 2016)

American Geophysical Union (AGU) Fall Meeting, San Francisco, CA. (Poster). Espinosa, N., Moore, D. J., Fehmi, J. S., Rasmussen, C., & Gallery, R. E. Effect of coarse woody debris on microbial activity in a semiarid ecosystem. (December 2016)

American Geophysical Union (AGU) Fall Meeting, San Francisco, CA. (Poster). Martha, G., & Gallery, R. E. Integrating Remote Sensing Hyperspectral Data and Point Measurements to Map Soil Properties Across a Semiarid Landscape. (December 2016)

American Geophysical Union (AGU) Fall Meeting, San Francisco, CA. (Poster). Dawson, F., Chelsea, C., Chorover, J. D., Virginia, R., & Gallery, R. E. Microbial community recovery post-fire in a high elevation mixed conifer catchment in response to varied precipitation regime. (December 2016)

International Society for Microbial Ecology (ISME), Montreal, Canada. Poster. Espinosa, N., & Gallery, R. E. Stability of microbial activity in an experimentally warmed dryland. (August 2016)

Aqua Diva CZO. Jena, Germany (Oral). Dawson, F., Christopher, S., Margretta, M., Rasmussen, C., Chorover, J. D., Virginia, R., & Gallery, R. E. Microbial biogeochemistry at the Jemez River Basin Critical Zone Observatory. (July 2016).

American Geophysical Union (AGU) Fall Meeting, San Francisco, CA. (Poster). Fairbanks, D., Green, K., Murphy, M., Shepard, C., Chorover, J., Gallery, R. E., & Rich, V. Effects of redox fluctuations on microbial community ecology post-widlfire in a high elevation mixed-conifer catchment in northern New Mexico. (December 2015)

American Geophysical Union (AGU) Fall Meeting, San Francisco, CA. (Poster). Gebhardt, M., Fehmi, J. S., Rasmussen, C., & Gallery, R. E. Soil degradation and amendment effects on soil properties, microbial communities, and plant growth. (December 2015)

American Geophysical Union (AGU) Fall Meeting, San Francisco, CA. (Poster). Murphy, M., Fairbanks, D., Chorover J., Gallery, R. E., & V. Rich. Soil Microbial Nitrogen Cycling Responses to Wildfire in a High Elevation Forested Catchment in Jemez Mountains, NM. (December 2015)

Ecological Society of America (ESA), Baltimore, MD. (Oral). Moore, D.J.P., Trahan, N., Dynes, E., Lybrand, R., & Gallery, R. E. Changes in soil function after fire and insect disturbance. (August 2015)

Association for Tropical Biology and Conservation (ATBC), Honolulu, HI. (Oral). Gallery, R. E., Rojas, E., Muriel, M., & S. Mangan. Idiosyncratic plant-microbe interactions in tropical forests. (July 2015)

Mycological Society of America (MSA) Annual Meeting, Edmonton, Alberta, Canada. (Oral). Shaffer, J. P., Gallery, R. E. Baltrus, D. A. and A. E. Arnold. Endohyphal bacteria of tropical plant-associated Sordariomycetes. (July 2015)

Soil Ecology Society (SES) Biannual Meeting, Colorado Springs, CO. (Poster). Fairbanks, D., M. Murphy, M., Shepard, C., Frost, G., Rasmussen, C., Chorover, J., Rich, V. & Gallery, R. E. Topographic Controls of Soil Microbial Enzyme Activity Post-Fire in the Jemez River Basin Critical Zone Observatory. (June 2015)

United States Geological Survey (USGS), Lakewood, CO. (Oral). Espinosa, N. J., & Gallery, R. E. "Soil microbial responses to disturbances; how community composition and activity may inform our understanding of local biogeochemical cycling." (June 2015)

American Geophysical Union (AGU) Fall Meeting, San Francisco, CA. (Poster). Gallery, R. E., O'Shea, C., Kwiecien, A., Predick, K. & Archer, S.A. Long-term effects of shrub encroachment and grazing on microbial composition and function. (December 2014)

American Geophysical Union (AGU), San Francisco, CA. (Oral) Chorover, J., Perdrial, J., Field, J., Pohlmann, M., … Gallery, R. E., & Rich, V. Fluid chemistry dynamics before and after fire in the Jemez River Basin Critical Zone Observatory. (December 2013)

American Geophysical Union (AGU), San Francisco, CA. (Poster) Moore, D., Trahan, N., Dynes, E., Zobitz, J., & Gallery, R. E. Modeling carbon cycle responses to tree mortality: linking microbial and biogeochemical changes. (December 2013)

American Geophysical Union (AGU) Chapman Conference, University of Arizona, Biosphere2, Tucson, AZ. (Poster) Gebhardt, M., Fehmi, J., Rasmussen, C., & Gallery, R. E. Soil biotic indicators for understanding invasibility and restoration of Southwestern grasslands. (December 2013)

Mycological Society of America (MSA), Austin, TX. (Poster) Shaffer, J. P., Gallery, R. E., Baltrus, D. A., & Arnold, A. E. Phylogenetic relationships and diversity of endohyphal bacteria. (February 2013)

Mycological Society of America (MSA), Austin, TX. (Poster) Garcia, K., Shaffer, J. P., Sarmiento, C., Zalamea, P. C., Dalling, J. W., Davis, A., Baltrus, D. A., Gallery, R. E., & Arnold, A. E. Diversity and evolutionary relationships of bacteria affiliated with seed-associated fungi. (February 2013)

Ecological Society of America (ESA), Austin, TX. (Oral) Gallery, R. E. Host range and the diversity enhancing role of seedling pathogens in a Neotropical forest. (August 2011)

MEDIA COVERAGE OF RESEARCH

2016 Arizona Daily Star, *"Even scientists need computer nerds"* by Tom Beal *http://tucson.com/news/blogs/scientific-bent/even-scientists-need-computer-nerds/article_14e43b5b-2c18-5855-aee5-22c2b0813b96.html*

2016 National Ecological Observatory Network (NEON), *"Big data is a big deal in the classroom"* http://www.neoninc.org/updates-events/update/big-data-big-deal-classroom

2015 UA News, *"Virtual class driven by data to succeed"* https://uanews.arizona.edu/story/virtual-class-driven-by-data-to-succeed

2014 UA News, *"Fungi are the 'Secret Police' of Rainforest diversity, study funds"* http://uanews.org/story/fungi-are-the-secret-police-in-rain-forest-diversity-study-finds

2013 UA Institute of the Environment Annual Report *"Scratching the (Soil) Surface to Protect Native Plants"* http://environment.arizona.edu/files/reports/2013-report.pdf

2012 UA News, Faculty Exploratory Research Grant *"Disturbance, soil biotic communities, and invasibility of SW Grasslands."* http://environment.arizona.edu/news/fergs--2012/overview

2011 AAAS News, *"Climate scientists cautiously hopeful after a day of Congressional visits"* http://www.aaas.org/news/releases/2011/0302am_climate_day.shtml

OP ED CONTRIBUTIONS

2019 Scientific American, "Infertility and the leaky pipeline" https://blogs.scientificamerican.com/voices/infertility-and-the-leaky-pipeline/

2018 Arizona Daily Star, "UA must do more to help immigrant, DACA students." https://tinyurl.com/y8vq7qtc

2017 The Hill, "The tax bill endangers millions of lives." http://thehill.com/opinion/healthcare/363560-the-tax-bill-endangers-millions-of-lives