ANNIKA C. MOSIER

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EDUCATION

2011	Ph.D. in Environmental Earth System Science, Stanford University
2004	M.S. in Environmental and Natural Resource Sciences, University of Nevada, Reno
2000	B.A. with a Major in Biology and Minor in Environmental Science, Willamette University

PROFESSIONAL EXPERIENCE

2022-present	Associate Professor, University of Colorado, Denver, Department of Integrative Biology
2014-present	Affiliated Faculty, University of Colorado, Denver, Environmental Sciences Program
2014-2022	Assistant Professor, University of Colorado, Denver, Department of Integrative Biology
2011-2014	Postdoctoral Scholar, University of California, Berkeley, Department of Earth and
	Planetary Science
2005-2011	Graduate Research Assistant, Stanford University
2005	Astrobiologist/Program Administrator, Nevada NASA Space Grant Consortium
2002-2004	Graduate Research Assistant, Desert Research Institute
2001-2002	Laboratory Assistant, Desert Research Institute
2000-2001	Associate Scientist, Trinity Biotech, Inc.
1999-2000	Science and Technology Camp Director (Winter/Summer), Boys and Girls Club

HONORS AND AWARDS

- 2024 Women's Leadership Program, CU Denver (1 year)
- 2022 Young Upwardly Mobile Professors Travel Grant, CU Denver
- 2021 ThingStudio Faculty Fellowship, CU Denver (2 years)
- 2020 Excellence in Teaching Award, Campus-wide, CU Denver
- 2020 Excellence in Teaching Award, College of Liberal Arts and Sciences, CU Denver
- 2019 American Society for Microbiology Peggy Cotter Travel Award Program
- 2017 Young Upwardly Mobile Professors Travel Grant, CU Denver
- 2015 Young Upwardly Mobile Professors Travel Grant, CU Denver
- 2014 Young Upwardly Mobile Professors Travel Grant, CU Denver
- 2011 Outstanding Achievement in Mentoring Honor, Stanford University
- 2009 Stanford University Diversifying Academia, Recruiting Excellence Doctoral Fellowship (3 years)
- 2009 Nitrification Network Travel Grant
- 2009 American Society for Microbiology Travel Grant
- 2007 EPA STAR Graduate Research Fellowship (3 years)
- 2007 NOAA National Estuarine Research Reserve Graduate Research Fellowship (declined; 3 years)
- 2007 American Society for Microbiology Travel Grant
- 2006 Student Poster Scholarship, The Annual International Conference on Metagenomics
- 2004 Governor Kenny Guinn Environmental Research Fellowship
- 2004 Graduate Student Association Travel Grant, University of Nevada, Reno
- 2004 Phi Kappa Phi Honor Society Invitation, University of Nevada, Reno
- 2003 NASA Space Grant Graduate Fellowship, Nevada NASA Space Grant Consortium (2 years)
- 2003 Joan M Comanor Scholarship, University of Nevada, Reno
- 2003 Graduate Student Association Travel Grant, University of Nevada, Reno
- 2002 Oregon Ford Graduate Scholarship, Ford Family Foundation (2 years)

PEER REVIEWED PUBLICATIONS (†indicates mentored student)

- Romero, J.L., Ratliff[†], J.H., Carlson, C.J., Griffiths, D.R., Miller, C.S., **Mosier, A.C.,** and T.R. Roane. Community and functional stability in a working bioreactor degrading 1,4-dioxane at the Lowry Landfill Superfund Site. *Applied and Environmental Microbiology*. https://doi.org/10.1128/aem.00574-25
- Borton, M.A., McGivern, B.B., Willi, K.R., Woodcroft, B.J., **Mosier, A.C.,** Singleton, D.M., Bambakidis, T., Pelly, A., Daly, R.A., Liu, F., Freiburger, A., Edirisinghe, J.N., Faria, J.P., Danczak, R., Leleiwi, I., Goldman, A.E., Wilkins, M.J., Hall, E.K., Pennacchio, C., Roux, S., Eloe-Fadrosh, E.A., Good, S.P., Sullivan, M.B., Wood-Charlson, E.M., Miller, C.S., Ross, M.R.V., Henry, C.S., Crump, B.C., Stegen, J.C., and K.C. Wrighton. A functional microbiome catalog crowdsourced from North American rivers. *Nature*, 637: 103-112.
- Hasinoff*, A.A., Bolyard, W., DeBay, D., Dunlap, J.C., **Mosier, A.C.,** and E. Pugliano. "Success was actually having learned": University student perceptions of ungrading. *Teaching and Learning Inquiry,* 12 (January), DOI: 10.20343/teachlearninqu.12.5. **Lead author; All other authors listed in alphabetical order with equal contributions.*
- 2021 Lantz[†], M.A., Boddicker[†], A.M., Kain[†], M.P., Berg[†], M.C., Wham[†], C.D., and **A.C. Mosier.** Physiology of the nitrite-oxidizing bacterium *Candidatus* Nitrotoga sp. CP45 enriched from a Colorado river. *Frontiers in Microbiology*, 12: 709371.
- 2020 Park, S., Andrei, S., Bulzu, P., Kavagutti, V.S., Ghai, R., and **A.C. Mosier**. Expanded diversity and metabolic versatility of marine nitrite-oxidizing bacteria revealed by cultivation- and genomics-based approaches. *Applied and Environmental Microbiology*, 86(22): e01667-20.
- Wise[†], B., Roane, T.M., and **A.C. Mosier.** Community composition of nitrite reductase gene sequences in an acid mine drainage environment. *Microbial Ecology*, 79(3): 562-575.
- Subotic^{†*}, S., Boddicker^{†*}, A.M., Nguyen[†], V.M., Rivers[†], J., Briles, C.E., and **A.C. Mosier**. Honey bee microbiome associated with different hive and sample types over a honey production season. *PLoS ONE*, 14(11): e0223834. *Contributed Equally.
- Tolar, B.B., **Mosier, A.C.,** Lund, M.B., and C.A. Francis. *Nitrosarchaeum*. In Bergey's Manual of Systematics of Archaea and Bacteria (eds W. B. Whitman, F. Rainey, P. Kämpfer, M. Trujillo, J. Chun, P. DeVos, B. Hedlund and S. Dedysh). doi:10.1002/9781118960608.gbm01289
- Boddicker[†], A.M., and **A.C. Mosier.** Genomic profiling of four cultivated *Candidatus* Nitrotoga spp. predicts broad metabolic potential and environmental distribution. *The ISME Journal*, 12: 2864–2882.
- 2017 Ramanathan[†], B., Boddicker[†], A.M., Roane, T.M., and **A.C. Mosier.** Nitrifier gene abundance and diversity in sediments impacted by acid mine drainage. *Frontiers in Microbiology*, 8: Article 2136.
- Mosier, A.C., Miller, C.S., Frischkorn[†], K.R., Ohm, R.A., Li, Z., LaButti, K., Lapidus, A., Lipzen, A., Chen, C., Johnson, J., Lindquist, E.A., Pan, C., Hettich, R.L., Grigoriev, I.V., Singer, S.W., and J.F. Banfield. Fungi contribute critical but spatially varying roles in nitrogen and carbon cycling in acid mine drainage. *Frontiers in Microbiology*, 7: Article 238.
- 2015 **Mosier, A.C.,** Li, Z., Pan, C., Thomas, B.C., Hettich, R.L., and J.F. Banfield. Elevated temperature alters proteomic responses of individual organisms within a biofilm community. *The ISME Journal*, 9: 180–194.
 - -Featured "Research Highlight" in Nature Reviews Microbiology.
- 2015 Smith, J.M., **Mosier**, A.C., and C.A. Francis. Spatiotemporal relationships between the abundance, distribution, and potential activities of ammonia-oxidizing and denitrifying microorganisms in intertidal sediments. *Microbial Ecology*, 69:13-24.
- Damashek, J., Smith, J.M., **Mosier, A.C.**, and C.A. Francis. Benthic ammonia oxidizers differ in community structure and biogeochemical potential across a riverine delta. *Frontiers in Microbiology*, 5: Article 743.
- Justice, N.B., Li, Z., Wang, Y., Spaulding, S.E., **Mosier, A.C.,** Hettich, R.L., Pan, C., and J.F. Banfield. ¹⁵N- and ²H proteomic stable isotope probing links nitrogen flow to archaeal

- heterotrophic activity. Environmental Microbiology, 16: 3224-3237.
- Mosier*, A.C., Justice*, N.B., Bowen, B.P., Baran, R., Thomas, B.C., Northen, T.R., and J.F. Banfield. Metabolites associated with adaptation of microorganisms to an acidophilic, metal-rich environment identified by stable-isotope-enabled metabolomics. *mBio* 4(2):00484-12. *Contributed Equally
- Mosier, A.C., Lund, M.B., and C.A. Francis. Ecophysiology of an ammonia-oxidizing archaeon adapted to low-salinity habitats. *Microbial Ecology*, 64: 955-963.
- Biller, S.J., Mosier*, A.C., Wells*, G.F., and C.A. Francis. Global biodiversity of aquatic ammonia-oxidizing archaea is partitioned by habitat. *Frontiers in Microbiology*, 3: Article 252. *Contributed Equally
- 2012 **Mosier, A.C.,** Allen, E.E., Kim, M., Ferriera, S., and C.A. Francis. Genome sequence of "*Candidatus* Nitrosoarchaeum limnia" BG20, a low-salinity ammonia oxidizing archaeon from the San Francisco Bay estuary. *Journal of Bacteriology*, 194: 2119-2120.
- Mosier, A.C., Allen, E.E., Kim, M., Ferriera, S., and C.A. Francis. Genome sequence of "Candidatus Nitrosopumilus salaria" BD31, an ammonia oxidizing archaeon from the San Francisco Bay estuary. Journal of Bacteriology, 194: 2121-2122.
- 2012 Robidart, J.C., Preston, C.M., Paerl, R.W., Turk, K.A., **Mosier, A.C.,** Francis, C.A., Scholin, C.A., and J.P. Zehr. Seasonal *Synechococcus* and *Thaumarchaeal* population dynamics examined with high resolution with remote in situ instrumentation. *The ISME Journal*, 6: 513-523.
- 2011 Pitcher, A., Hopmans, E.C., **Mosier, A.C.,** Park, S., Rhee, S., Francis, C.A., Schouten, S., and J.S. Sinninghe Damsté. Core and intact polar glycerol dibiphytanyl glycerol tetraether lipids of ammonia-oxidizing archaea enriched from marine and estuarine sediments. *Applied and Environmental Microbiology*, 77:3468-3477.
- Mosier, A.C., and C.A. Francis. Determining the distribution of marine and coastal ammonia-oxidizing archaea and bacteria using a quantitative approach. *Methods in Enzymology*, 486: 205-221.
- Blainey*, P.C., Mosier*, A.C., Potanina, A., Francis, C.A., and S.R. Quake. Genome of a low-salinity ammonia-oxidizing archaeon determined by single-cell and metagenomic analysis. *PLoS ONE*, 6: e16626. *Contributed Equally.
 - -Featured "most highly cited article" in $PLoS\ ONE$ (May 2013).
 - -Featured "highly cited paper" in Web of Science (July/August 2017).
- Wankel, S.D., **Mosier**, A.C., Hansel, C.M., Paytan, A., and C.A. Francis. Spatial variability in nitrification rates and ammonia-oxidizing microbial communities in the agriculturally impacted Elkhorn Slough estuary, California. *Applied and Environmental Microbiology*, 77(1): 269-280.
- 2010 **Mosier, A.C.,** and C.A. Francis. Denitrifier abundance and activity across the San Francisco Bay estuary. *Environmental Microbiology Reports*, 2(5): 667–676.
- Mosier, A.C., and C.A. Francis. Relative abundance and diversity of ammonia-oxidizing archaea and bacteria in the San Francisco Bay estuary. *Environmental Microbiology*, 10(11): 3002-3016.
- 2007 **Mosier, A.C.,** Murray, A.E., and C.H. Fritsen. Microbiota within the perennial ice cover of Lake Vida, Antarctica. *FEMS Microbiology Ecology*, 59: 274-288.
- 2006 **Mosier, A.** Diversity of Life. *In* L. Mix, J. Armstrong, A. Mandel, **A. Mosier,** S. Rao, J. Raymond, S. Raymond, F. Stewart, and O. Zhaxybayeva, eds. <u>The Astrobiology Primer</u>. *Astrobiology*, 6 (5): 735-813.

CONFERENCE PAPERS – PEER REVIEWED

DeBay*, D., Dunlap*, J., **Mosier***, **A.**, Bolyard, W., Hasinoff, A., Pugliano, E., and T. Roane. Student perceptions of ungrading: why grading less gives students more. American Educational Research Association Annual Meeting (Virtual) *Presenting authors; All other authors listed in alphabetical order with equal contributions.

OTHER PUBLICATIONS/REPORTS (†indicates mentored student)

- 2023 Laurita[†], N., Bergenthal[†], K., Andaloori[†], L., Reth[†], C., Kesler[†], J., Boddicker[†], A.M., and **A.C. Mosier.** Newly discovered bacteria help keep ecosystems in balance. *Frontiers for Young Minds*, 11:717417.
- Booz Sosa[†], G., Weller[†], A., Lozano[†], C., Kesler[†], J., and **A.C. Mosier.** How can we use DNA to "see" inside microbes? *Frontiers for Young Minds*, 10:716911.
- 2017 Scopp[†], A., Subotic[†], S., and **A.C. Mosier.** Determining the source of fecal pollution in urban streams through microbial source tracking. Report for the Department of Environmental Health for the City and County of Denver.
- Davis, C., Mosier, A.C., and C.H. Fritsen. Incline Creek watershed bioassessment; Fall 2001-Spring 2002. Report for the Desert Research Institute.
- Mosier, A.C., and C.H. Fritsen. Limnological profiles at Walker Lake, Nevada, March 2002. Report for the Nevada Division of Environmental Protection (Bureau of Water Quality Planning) and the Nevada Division of Wildlife (Fisheries Bureau).
- Memmott, J., Fritsen, C.H., **Mosier, A.C.,** and M. Robinson. Truckee River biomass monitoring program. Report for Washoe County and Truckee Meadows Water Reclamation Facility.

PUBLICATIONS IN REVIEW (†indicates mentored student)

- Le, T.V. and **A.C. Mosier**. The big role of B₁₂ and the microscopic life behind it. *In Review for Frontiers for Young Minds*.
- **Mosier, A.C.,** and T.M. Roane. Interactions of Metals and Microorganisms. In Environmental Microbiology. I.L. Pepper, C.P. Gerba, and T.J. Gentry (eds). Academic Press, pp. XXX. *In Review*.

PUBLICATIONS IN PREPARATION (†indicates mentored student)

- Herbold, C.W., Kubasch, R., Holzscheck, N., Timmermann, G., Sedlacek, C.J., Yang, Y., Han, P., Boddicker[†], A.M., **Mosier, A.C.**, Daims, H., Woyke, T., Pommerening-Röser, A., and M. Wagner. The *Nitrosomonadaceae* sequencing project: Genomic insights into metabolism. *In Prep.*
- Andrade, A., Kain[†], M.P, Pansing, E.R., and **Mosier, A.C.** and D.F. Tomback. Ecological indicators of slow stand development after fire may illuminate future effects of reduced forest resilience. *In Pren.*
- Elliott[†], K., Eljalafi[†], N., Newman, D., Wright, L.K., and **A.C. Mosier.** Drawing as a learning and instructional tool in microbiology education. *In Prep.*

GRANTS

- 2021 Colorado Department of Higher Education Open Educational Resources Grant (Recipient; \$1500). "Open Educational Resources for increasing accessibility in undergraduate microbiology courses."
- 2021 CU Denver, Office of Research Services Publication Grant (PI; \$2,950). "Publication fees: *Ca.* Nitrotoga physiology."
- 2020 National Science Foundation, Office of Advanced Cyberinfrastructure, Campus Cyberinfrastructure Program (Key Personnel; \$399,938). "Accelerating science and education by campus and grid computing."
- 2020 CU Denver, Office of Research Services Publication Grant (PI; \$1,595). "Publication fees: Honey bee microbiome."
- 2019 U.S. Department of Energy, Joint Genome Institute, Community Science Program (Co-PI; \$411,000 estimated in-kind support). "Creating GROW (Genome Resolved Open Watershed) database: Leveraging distributed research networks to understand watershed systems."
- 2018 CU Denver, Office of Research Services Research Grant (PI; \$35,200). "Removal of nitrogen pollution by nitrite-oxidizing bacteria under environmental stress."

- 2017 U.S. Department of Agriculture, Forest Service, Forest Health Protection Program (Co-PI; \$16,900). "Whitebark pine forest recovery after the 1988 Yellowstone Fires: Regeneration dynamics in a warming climate."
- 2017 CU Denver, Office of Research Services Small Research Grant (Co-PI; \$3,600). "Whitebark pine forest recovery after the 1988 Yellowstone Fires: Regeneration dynamics in a warming climate."
- 2017 CU Denver, Office of Research Services Publication Grant (PI; \$2,490). "Publication fees: Nitrifier gene abundance and diversity in sediments impacted by acid mine drainage."
- 2016 City and County of Denver, Environmental Quality Division (PI; \$33,022). "Determining the source of *Escherichia coli* pollution in urban streams."
- 2016 CU Denver, College of Liberal Arts and Sciences CRISP Grant (PI; \$10,000). "Evaluation of honey bee health, honey production, and hive maintenance in FlowTM hives and traditional Langstroth hives."
- 2016 CU Denver, Office of Research Services Research Grant (Co-PI; \$21,250). "Forest community development after the 1988 Yellowstone fires: Effects of changing climate and fire frequency and severity."
- 2016 BeeInventive Pty Ltd Research Agreement (Co-PI; \$2,771 estimated in-kind support). "Evaluation of honey bee health, honey production, and hive maintenance in Flow™ hives and traditional Langstroth hives."
- 2015 CU Denver, Office of Research Services Capital Grant (Co-PI; \$17,200). "Linking *E. coli* toxin production and antibiotic resistance genes in rivers that pose a significant public health risk."
- 2014 CU Denver, Office of Research Services Research Grant (PI; \$15,000). "Impacts of environmental change on nitrogen cycling in rivers."
- 2012 U.S. Department of Energy, Joint Genome Institute, Microbial Sequencing Grant (Co-PI; Funded to sequence 12 transcriptomes and 12 metatranscriptomes). "*In situ* expression of acidic and thermophilic carbohydrate active enzymes by filamentous fungi."
- 2009 Stanford University, School of Earth Sciences McGee Research Grant (PI; \$2000). "Cultivation of ammonia-oxidizing archaea from the San Francisco Bay estuary."
- 2009 Stanford University, Environmental Earth System Science Capital Grant (PI; \$1,066). "Fluorescent *in situ* hybridization of novel ammonia-oxidizing archaea."
- 2008 Gordon and Betty Moore Foundation, Microbial Genome Sequencing Grant (Co-PI; Funded to sequence one microbial metagenome). "Novel ammonia-oxidizing crenarchaeota from San Francisco Bay."
- 2007 Gordon and Betty Moore Foundation, Microbial Genome Sequencing Grant (Co-PI; Funded to sequence one microbial metagenome). "Novel ammonia-oxidizing crenarchaeota from San Francisco Bay."
- 2006 Stanford University, School of Earth Sciences McGee Research Grant (PI; \$2000). "Denitrification within the San Francisco Bay estuary."

INVITED TALKS AND SEMINARS

- 2023 American Educational Research Association Annual Meeting (Virtual)
- 2022 University of Northern Colorado Biology Department Seminar (Greeley, CO)
- 2021 CU Denver Department of Integrative Biology Seminar (Denver, CO)
- 2020 University of Colorado, Colorado Springs Biology Department Seminar (Colorado Springs, CO)
- 2019 American Society of Microbiology Regional Meeting (Denver, CO)
- 2019 Front Range Microbiome Symposium (Fort Collins, CO)
- 2018 Diversifying Academia, Recruiting Excellence Conference (Stanford, CA)
- 2018 Rocky Mountain Geobiology Symposium (Golden, CO)
- 2018 Colorado MS4 E. coli Implementation Meeting (Denver, CO)
- 2015 National Conference for the American Water Resources Association (Denver, CO)
- 2015 International Conference on Nitrification (Short-talk; Edmonton, Alberta, Canada)
- 2015 Rocky Mountain Hydrologic Research Center Annual Meeting (Denver, CO)

- 2015 CU Denver Geography & Environmental Sciences Seminar (Denver, CO)
- 2013 CU Denver Department of Integrative Biology (Denver, CO)
- 2012 DOE Joint Genome Institute Annual Meeting (Walnut Creek, CA)
- 2012 University of the Pacific, Department of Biology (Stockton, CA)
- 2012 California Lutheran University, Department of Biological Sciences (Thousand Oaks, CA)
- 2012 Siena College, Department of Biology (Albany, NY)
- 2012 East Carolina University, Department of Biology (Greenville, NC)
- 2012 California State University, Chico, Department of Biological Sciences (Chico, CA)
- 2009 International Conference on Nitrification (Short-talk; Louisville, KY)
- 2009 Coastal and Estuarine Research Federation Conference (Portland, OR)
- 2004 Nevada Space Grant Consortium Conference (Las Vegas, NV)
- 2004 NASA Astrobiology Graduate Conference (Tucson, AZ)

CONFERENCE POSTER PRESENTATIONS (†indicates mentored student presenter)

- 2025 Science Spotlight: Genomics and Microbiomes at the Denver Museum of Nature & Science (Denver, CO)[†]
- Front Range Microbiome Symposium (Fort Collins, CO)
- 2024 Front Range Microbiome Symposium (Fort Collins, CO)[†]
- 2024 Front Range Microbiome Symposium (Fort Collins, CO)[†]
- 2023 American Geophysical Union Fall Meeting (San Francisco, CA)[†]
- 2023 International Fire Ecology and Management Congress (Monterey, CA)[†]
- 2022 Front Range Microbiome Symposium (Fort Collins, CO)[†]
- 2022 CU Denver Research and Creative Activities Symposium (Denver, CO)[†]
- 2022 CU Denver Research and Creative Activities Symposium (Denver, CO)[†]
- 2021 Ecological Society of America Annual Meeting (Virtual)[†]
- 2021 World Microbe Forum (Virtual)
- 2021 CU Denver Research and Creative Activities Symposium (Denver, CO)[†]
- 2020 CU Denver Research and Creative Activities Symposium (Denver, CO)[†]
- 2019 CU Denver Geography & Environmental Sciences Colloquium (student talk; Denver, CO)[†]
- 2019 American Society of Microbiology General Meeting (student talk; San Francisco, CA)[†]
- 2019 American Society of Microbiology General Meeting (San Francisco, CA)
- 2019 Society of Environmental Toxicology and Chemistry Regional Meeting (Denver, CO)[†]
- 2019 Front Range Microbiome Symposium (Fort Collins, CO)[†]
- 2019 CU Denver Research and Creative Activities Symposium (Denver, CO)[†]
- 2019 CU Denver Research and Creative Activities Symposium (Denver, CO)[†]
- 2018 American Society of Microbiology Regional Meeting (student talk; Durango, CO)[†]
- 2018 CU Denver Research and Creative Activities Symposium (student talk; Denver, CO)[†]
- 2018 CU Denver Research and Creative Activities Symposium (Denver, CO)[†]
- 2017 American Society of Microbiology General Meeting (New Orleans, LA)[†]
- 2017 Universities Council on Water Resources/National Institutes for Water Resources Conference (Fort Collins, CO)[†]
- 2017 American Society of Microbiology Regional Meeting (Denver, CO)[†]
- 2017 Society of Environmental Toxicology and Chemistry Regional Meeting (Golden, CO)[†]
- 2017 CU Denver Research and Creative Activities Symposium (Denver, CO)[†]
- 2017 CU Denver Research and Creative Activities Symposium (Denver, CO)[†]
- 2016 American Society of Microbiology Regional Meeting (Denver, CO)[†]
- 2016 American Society of Microbiology Regional Meeting (Denver, CO)[†]
- 2016 American Society of Microbiology General Meeting (Boston, MA)[†]
- 2016 American Society of Microbiology General Meeting (Boston, MA)[†]
- 2016 Geological Society of America Conference (Denver, CO)[†]
- 2016 Sustaining Colorado Watersheds Conference (Avon, CO)[†]

- 2016 CU Denver Research and Creative Activities Symposium (Denver, CO)[†]
- 2016 Front Range Student Ecology Symposium (Fort Collins, CO)[†]
- 2016 Front Range Student Ecology Symposium (Fort Collins, CO)[†]
- 2015 American Society of Microbiology Regional Meeting (Lakewood, CO)[†]
- 2015 CU Denver Research and Creative Activities Symposium (Denver, CO)[†]
- 2013 American Society of Microbiology General Meeting (co-author; Denver, CO)
- 2012 American Society of Microbiology General Meeting (San Francisco, CA)
- American Society of Microbiology General Meeting (co-author; San Francisco, CA)
 American Society of Microbiology General Meeting (co-author; San Francisco, CA)
- 2012 DOE Joint Genome Institute Annual Meeting (Walnut Creek, CA)
- 2012 DOE Genomic Science Meeting (Bethesda, MD)
- 2011 Congress of European Microbiologists (FEMS) (co-author; Geneva, Switzerland)
- 2011 American Society of Microbiology General Meeting (co-author; New Orleans, LA)
- 2011 American Society of Microbiology General Meeting (co-author; New Orleans, LA)
- 2010 International Symposium on Microbial Ecology (Seattle, WA)
- 2010 International Symposium on Microbial Ecology (co-author; Seattle, WA)
- 2010 International Symposium on Microbial Ecology (co-author; Seattle, WA)
- 2009 American Society of Microbiology General Meeting (Philadelphia, PA)
- 2009 American Society of Microbiology General Meeting (co-author; Philadelphia, PA)
- 2009 Coastal and Estuarine Research Federation Biennial Conference (co-author; Portland, OR)
- 2009 Association for the Sciences of Limnology and Oceanography Meeting (co-author; Portland, OR)
- 2009 Association for the Sciences of Limnology and Oceanography Meeting (co-author; Nice, France)
- 2008 International Symposium on Microbial Ecology (Cairns, Australia)
- 2008 Stanford University School of Earth Sciences Research Review (Stanford, CA)
- 2008 Association for the Sciences of Limnology and Oceanography Meeting (co-author; Orlando, FL)
- 2008 American Society of Microbiology General Meeting (co-author; Boston, MA)
- 2007 American Society of Microbiology General Meeting (Toronto, Canada)
- 2007 Stanford University School of Earth Sciences Research Review (Stanford, CA)
- 2006 American Geophysical Union Fall Meeting (San Francisco, CA)
- 2006 International Conference of Metagenomics (La Jolla, CA)
- 2006 Association for the Sciences of Limnology and Oceanography Meeting (co-author; Honolulu, HI)
- 2005 Student Collaborations for Ocean Research and Education (Pacific Grove, CA)
- 2004 International Symposium on Microbial Ecology (Cancun, Mexico)
- 2004 National Science Foundation Nevada EPSCoR Workshop on Integrative Approaches to Abiotic Stress Across Biological Disciplines (Kings Beach, CA)
- 2004 NASA Astrobiology Science Conference (Moffett Field, CA)
- 2004 American Society of Microbiology General Meeting (co-author; New Orleans, LA)
- 2003 Association for the Sciences of Limnology and Oceanography Meeting (co-author; Salt Lake City, UT)

TEACHING

Courses Taught

General Microbiology, CU Denver, BIOL 3650

Microbial Genomics, CU Denver, BIOL 4410/5410

Medical Microbiology, CU Denver, BIOL 4144/5144

Biological Research Workshop, CU Denver, BIOL 6705

Biology Seminar, CU Denver, BIOL 4990/6655

Directed Research, CU Denver, BIOL 4880/5880

Independent Study, CU Denver, BIOL 2840/3840/4840/5840

Life in the Universe, Western Nevada Community College, EDU 295B

Invited Lecturer

"COVID-19: Colorado & Beyond" lecture series, CU Denver, ISMA 3000 (Summer 2020)

Environmental Sciences Seminar, CU Denver, ENVS 6002 (Fall 2017)

Environmental Microbial Genomics, Stanford University, EESS 259 (Winter 2014)

Geomicrobiology, Stanford University, EESS 158 (Winter 2010)

Astrobiology, Western Nevada Community College, AST 198 (Fall 2003)

Teaching Assistant

Hopkins Microbiology Course, Stanford University, CEE 274 (Summer 2007; part-time for Summers 2008 & 2009)

Environmental Microbial Genomics, Stanford University, GES 269 (Spring 2007)

Seminar in Oceanography, Stanford University, GES 324 (Winter 2007)

Dynamic Earth: Fundamentals of Earth Science, Stanford University, GES 1 (Fall 2006)

The Oceans: An Introduction to the Marine Environment, Stanford University, GES 8 (Spring 2006)

ADVISING

ADVISING		
Research Advisor		
2025-present	Thomas Le, Undergraduate	
2024-present	Emilija Miskinyte, M.S. student	
2025-Present	Mike Beitner, M.S. student (co-advisor)	
2025	Marissa McClelland, Undergraduate	
2024-2025	Jack Ratliff, Undergraduate (co-advisor)	
2020-2024	Nicole Laurita, Undergraduate/M.S. student	
2022	Mareem Jabbar, M.S. student	
	*Awarded the CU Denver Chancellor's Scholarship (2022-2023)	
2022	Ryan Crawford, Undergraduate	
2020-2022	Noha Eljalafi, Undergraduate	
	*Awarded the CU Denver EURēCA! Undergraduate Research Fellowship (2021)	
	*Awarded a CU Denver EURēCA! Research Position (2020-2021)	
2016-2021	Michael Kain, Undergraduate/M.S. student	
	*Awarded the CU Denver Integrative Biology Outstanding Graduate Student Award	
	(Spring 2020)	
2019-2021	Millicent Chandler, M.S. student (research project)	
2018-2020	Ashley Luntsford, Undergraduate/Research assistant	
	*Awarded the Smilodon Outstanding Upperclassman Award (Fall 2018)	
2018-2020	Bryan Jaime Barbosa, Undergraduate	
	*Awarded a CU Denver EURēCA! Research Position (2019-2020)	
2019-2020	Courtney "Coco" Wham, M.S. student (research project)	
2015-2019	Andrew Boddicker, Research assistant/M.S. student	
	*Awarded the CU Denver CLAS Outstanding Graduate Student Award (Fall 2017)	
	*Awarded an American Society of Microbiology Regional Meeting Poster Award (2016)	
	*Awarded an American Society of Microbiology National Meeting Travel Grant (2016)	
2015-2019	Munira Lantz, Ph.D. student	
	*Awarded a Saudi Arabian Cultural Mission Graduate Fellowship (2014-2018)	
	*Awarded an American Society of Microbiology Microbe Minority Travel Award (2019)	
	*Awarded the SETAC Regional Meeting Best Poster (2019)	
2017-2019	Owen Berg, Undergraduate	
	*Awarded top RaCAS presentation in Natural Sciences (2019)	
	*Awarded the CU Denver CLAS Outstanding Undergraduate Student Award (Fall 2018)	
	*Awarded a CU Denver EURēCA! Research Position (2018)	
2017-2019	James Rivers, Undergraduate	

2017-2018	Kaitlyn Elliott, Undergraduate
	*Awarded an Undergraduate Research Opportunity Program Mini Grant (2017)
2017-2018	Hannah Lawrence, Undergraduate
2016-2018	Anna Scopp, M.S. student
2016-2018	Sladjana Subotic, Research assistant
2017-2018	Brian Legvold, Undergraduate
2015-2017	Ben Wise, M.S. student
2015-2017	Emily Corkum, M.S. student (research project)
2016-2017	Vy Nguyen, Undergraduate/post-baccalaureate student
	*Awarded an Undergraduate Research Opportunity Program Grant (2016)
	*Awarded top RaCAS presentation in Integrated Sciences (2017)
2014-2017	Bhargavi Ramanathan, M.S. student, Research Assistant, CU Denver
	*Awarded an American Society of Microbiology Travel Grant (2016)
2014-2016	Nicklaus Deevers, Undergraduate
	*Awarded an Undergraduate Research Opportunity Program Grant (2015)
2016	Renee Kershaw, Undergraduate
2016	Colin Beacom, Undergraduate
2015-2016	Ashley Gonzales, Undergraduate
2014-2015	Hannah Clark, Post-baccalaureate student
2014-2015	Kerry Gip, Undergraduate
2014	Mudhafer Dhaher, Undergraduate
2014	Andrea Garcia, Undergraduate
2012	Kyle Frischkorn, Research assistant (University of California, Berkeley)
2010	Jennifer Hwang, High school student (Stanford University)
2008	Helen Chen, Undergraduate (Stanford University)
2006-2008	Natalie Derby, High school student (Stanford University)
2005	Ivy Tai, High school student (Stanford University)

Learning Assistant Advisor

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2025	Dagny Holcomb	2020	Alina Nohr
2025	Feyza Kahraman	2020	Luis Almanza
2024	Franklin (Andre) Rojas	2020	Jessica McQuaid
2024	Steven Fujaros	2020	Sam Wilson
2024	Emmanuel Onrubia	2017	Troy Markgraf
2024	Brady Reichert	2017	Britany Innes
2024	Zowie Werner	2017	Eunji Im
2023	Gunnar Howg	2017	Kaitlyn Elliott
2023	Mabel Ellison	2016	Renee Kershaw
2021	Gylis Booz Sosa	2016	Anthony Dang
2021	Justin Kesler	2016	Katie Harmon
2021	Sam Wilson	2016	Tiffany Montoya

Graduate Thesis Committee Member

2024-Present	Jacob Presch, M.S. student
2023-Present	Alyssa Hohorst, Ph.D. student
2023-Present	Jillyn Tittle, Ph.D. student [chair]
2020-2025	Derick Singleton, M.S. student
2022-2023	Jessie Romero, M.S. student
2022-2023	Erin Twaddell, M.S. student

2021-2022 2015-2022 2021 2019-2020 2019-2020 2018-2019 2014-2018	Julie Byle, Ph.D. student [chair] Andres Andrade, Ph.D. student Annie Schauster, Ph.D. student Maria Nikulkova, M.S. student Paige Friedentag, M.S. student David Bertolatus, Ph.D. student [chair] Adrienne Narrowe, Ph.D. student
2016-2018	David Banks-Richardson, M.S. student
2016-2017	Kelsey Foster, M.S. student
2014-2016	Sladjana Subotic, M.S. student
SERVICE	
_	f Integrative Biology (IB) Service (CU Denver)
2022-present	Committee Chair, IB Supportive Pathways and Engagement Committee
2024-present	Committee Chair, Ad hoc IB Reappointment, Tenure & Promotion Revision Committee
2025-present	Committee Member, IB Teaching Effectiveness Committee
2023	Committee Member, IB Mentoring Committee Participant, IB Microbiology Track Working Group
2022-2023 2020-2022	Committee Chair, IB Awards, Scholarship, and Outreach Committee
2020-2022	Committee Member, IB Search Committee for Senior Instructor
2020	Participant, IB Retention Plan Working Group
2017-2020	Committee Member, IB Merit Review Committee
2014-2020	Committee Member, IB Teaching Effectiveness Committee
2019	Participant, IB Teaching Assistant Responsibilities and Credit Working Group
2018-2019	Committee Member, IB Search Committee for Physiology Faculty Position
2014-2018	Participant, Microbiology Super Group (department-wide microbiology research group)
2017	Participant, IB Ph.D. Preliminary Examination Committee
2015-2016	Committee Member, Search Committee for IB Physiological Genomics Faculty Position
• `	U Denver) and College of Liberal Arts and Sciences (CLAS) Service
2022-present	CLAS Inclusive Excellence Liaison
2021-present	Committee Member, CLAS Access and Community Engagement Council
2015-present 2025	Participant, First Generation Network
2023 2024-2025	CU Denver Student Success Transformation First-Year Experiences Working Group Vice Chair, CU Denver Faculty Assembly Committee on the Status of Women
2022-2023	Committee Member, CU Denver Faculty Assembly Committee on the Status of Women
2024	Co-Facilitator, CLAS Listens! "DEI at Work" Podcast Discussion
2023	Organizer and Presenter, ThinqStudio UnConference
2018-2022	Mentor, EURēCA! Undergraduate Research programs
2017-2022	Committee Member, CLAS Faculty Council
2022	Co-Facilitator, CLAS Reads! How To Be An Antiracist Book Discussion Group
2022	Facilitator, ThinqStudio Book Club on Diversity, Equity, and Inclusion topics
2022	Selection Committee, Campus Excellence in Teaching Award
2021	Committee Member, Lynx Together Task Force Research and Creative Activities Team
2021	Selection Committee, CLAS Excellence in Teaching Award
2021	Selection Committee, Campus Excellence in Teaching Award
2021	Judge, Research and Creative Activities Symposium Co. Faculty Spansor, Woman in Science, Technology, Engineering and Mathematics
2014-2017	Co-Faculty Sponsor, Women in Science, Technology, Engineering and Mathematics Student Group (WiSTEM)
2017	Grant Reviewer, Undergraduate Research Opportunity Program (UROP)
2016	Interim Faculty Representative for Denver Campus, Environmental Health Sciences

Program for Underrepresented Students, University of Colorado, Anschutz

Professional Service: Invited Manuscript Reviewer (number of manuscripts in parentheses)

- 2025 Environmental Microbiology (1)
- 2024 Environmental Science and Technology (1)
- 2023 ISME Communications (1); Archives of Microbiology (1)
- 2022 The ISME Journal (1); ISME Communications (1)
- 2021 The ISME Journal (1)
- 2020 The ISME Journal (2)
- 2019 Frontiers in Microbiology (1); mBio (1); Journal of Geophysical Research Biogeosciences (1)
- 2018 Applied and Environmental Microbiology (2); Frontiers in Microbiology (1)
- 2017 Environmental Microbiology (1); FEMS Microbiology Ecology (1)
- The ISME Journal (1); Applied and Environmental Microbiology (1); Frontiers in Microbiology (2); Environmental Science and Technology (1); Standards in Genomic Sciences (1)
- The ISME Journal (1); Applied and Environmental Microbiology (1); Frontiers in Microbiology (1); Limnology and Oceanography (1); Microbial Ecology (1); Science of the Total Environment (1)
- 2014 The ISME Journal (2); FEMS Microbiology Ecology (1); Antonie van Leeuwenhoek Journal of Microbiology (2)
- 2013 Environmental Microbiology (1); Applied and Environmental Microbiology (3); Frontiers in Microbiology (1); BMC Microbiology (1); Microbial Ecology (2)
- 2012 The ISME Journal (1); FEMS Microbiology Ecology (3); Microbial Ecology (1)
- 2011 The ISME Journal (2)
- 2009 Research in Microbiology (1); Vadose Zone Journal (1)

Professional Service: Invited Proposal Reviewer

- 2025 Swiss National Science Foundation
- 2021 National Science Foundation, Division of Environmental Biology
- 2017 National Science Foundation, Antarctic Organisms and Ecosystems Program
- 2016 National Science Foundation, Division of Environmental Biology
- 2015 National Science Foundation, Biological Oceanography Program
- 2015 National Science Foundation, Geobiology and Low-Temperature Geochemistry Program
- 2015 Austrian Science Fund
- 2014 NASA Grant Review Panel, Exobiology Program, NNH14ZDA001N-EXO (reviewed 10 individual proposals and contributed to the broader panel review process)
- 2014 National Science Foundation, Biological Oceanography Program
- 2013 National Science Foundation, Biological Oceanography Program
- 2012 National Science Foundation, Biological Oceanography Program

Professional Service: Invited Textbook Reviewer

2014 Reviewed six chapters of the textbook, "Microbiology: An Evolving Science" (W. W. Norton & Company)

Professional Service: Other

- 2025 Panelist: Stanford University Diversifying Academia, Recruiting Excellence (DARE) Graduate Fellowship Program workshop
- 2024 Session Co-Chair, Association for the Sciences of Limnology and Oceanography Conference
- 2023 Poster Judge, Front Range Microbiome Symposium
- 2022 Steering Committee, Front Range Microbiome Symposium
- 2021 Panelist: Stanford University DARE Graduate Fellowship program workshop
- 2020 Steering Committee, Front Range Microbiome Symposium

2020	Mentor: Stanford University DARE Graduate Fellow individual mentorship
2020	Panelist: Stanford University DARE Graduate Fellowship program workshop
2019	Outreach: Science in the City: STEAM Camp for 1st-6th graders, CU Denver
2019	Guest Lecture: Genomic Science and Leadership Initiative Workshop for native undergraduates
2019	Poster Judge, American Society of Microbiology Regional Meeting
2019	Poster Judge, Front Range Microbiome Symposium
2018	Mentor: Denver Public Schools Science Fair Project
2016	Guest lecture and demonstration: Colorado Foundation for Agriculture's Summer Agriculture
	Institute, Five Fridges Farm
2010	Participant, Microbiological Targets for Ocean Observing Laboratories Workshop
2009	Executive Secretary, NASA Grant Review Panel, Exobiology, NNH08ZDA001N-EXOB
2009	Panel Participant, School of Earth Sciences Research Review, Stanford University
2008	Committee Member, Search for Marine Chemist Faculty Position, Stanford University
2007	Representative, School of Earth Sciences Graduate Student Advisory Council, Stanford University
2007	Committee Member, Search for Assistant Dean for Academic Affairs, School of Earth Sciences,
	Stanford University
2007	Organizing Committee Member, Association for Women in Science Mentoring Program (4 years)
2006	Participant, Global Bioreactor Network Workshop, Nanyang Technological University,
	Singapore
	nunity Service
2025	Mentor: Regis Jesuit High School Science Project (informal)
2024	Volunteer: 4-H leader (experiential learning program for youth)
2023	Volunteer: 4-H leader (experiential learning program for youth)
2022	Outreach: Microbiology lessons and experiments for 6 th graders, Bill Roberts School
2022	Outreach: Microbiology lessons and experiments for 4 th graders, Bill Roberts School
2022	Volunteer: 4-H leader (experiential learning program for youth)
2021	Volunteer: 4-H leader (experiential learning program for youth)
2021	Outreach: Microbiology lesson for 2 nd graders, Bill Roberts School
2020	Outreach: Microbiology lesson and demonstration for 1st graders, Bill Roberts School
2020	Volunteer: 4-H leader (experiential learning program for youth)
2018	Outreach: Microbiology lesson and experiment for 1st graders, Bill Roberts School
2018	Outreach: Microbiology lesson and experiment for preschoolers, Bill Roberts School
2009	Volunteer: School of Earth Sciences Geokids Program, Stanford University
2008	Mentor: Oregon Ford Scholar Mentoring Program
2008	Volunteer: Expanding Your Horizons science conference for 6-9th grade girls
2003	Mentor: NASA Astrobiology Academy group research project
PROF	ESSIONAL DEVELOPMENT
2025	Open Education Conference (Virtual)
2025	Collaborating Through GRIT and Resilience Training (UCCS)
2025	The Storied JEDI Program: Sustaining Ourselves in Disruptive Times (CU Denver)
2025	Unpacking The Caring University: Key Lessons for Ensuring All Employees Can
2023	Flourish (Virtual)
2025	Learn It, Like It, Pass It Workshop (Self Efficacy for Students) (CU Denver)
2025	Renée Crown Wellness Institute Workshop on Dignity in Education (CU Denver)
2025	National Institute for Student Success Structured First-Year Support Training (Virtual)
2025	The Storied JEDI Program: Cultivating a Culture of Justice, Equity, Diversity &
	Inclusion in Your Workplace through Storytelling (Virtual)
2025	The Storied JEDI Program: Meeting the Moment with a Social Justice Mindset in CLAS
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	workshop (CU Denver)
2025	BetterUp Uplift Leadership Summit (Virtual)
2025	Student Experience Project Focus Group (Virtual)
2024-2025	Community of Practice: Learning Assistant Faculty (CU System)
2024	NSF ADVANCE Change Agent Course (CU Denver)
2024	Community of Practice: Teaching & Learning as Introverts in Higher Education (CU
	Denver)
2024	Inclusive Pedagogy Workshop (CU Denver)
2024	How to Develop a Chatbot to Serve Your Students (The Chronicle of Higher Education)
2024	Promoting Equity in Student Mental Health (CU Denver)
2024	Policy Equity Training (CU Denver)
2024	Inclusive Excellence Network Change Management Training (CU Denver)
2023	Difficult Conversations and Inclusive Meetings (CU Denver)
2023	Inclusion Makes Us Stronger: Expanding Equity at CU Denver Symposium (CU Denver)
2023	The ThinqStudio UnConference (CU Denver)
2023	American Educational Research Association Annual Meeting (Virtual)
2023	LGBTQ+ Inclusive Pedagogy (CU Denver)
2023	Honoring Our Epistemologies Through Hänai Pedagogy (CU Denver)
2014-2022	Tenure Track Faculty Mentoring Program (CU Denver)
2022	Creating Brave Spaces to Nurture Learning (Virtual)
2022	American Society for Microbiology Conference for Undergraduate Educators (Virtual)
2022	ASMCUE Workshop: Asset-based Theoretical Frames as Foundation for Research
	Training Program Design and Scholarship (Virtual)
2022	Equity Unbound Conference on open educational practices, digital literacies, and critical
	pedagogy (Virtual)
2022	The ThinqStudio UnConference (Virtual)
2022	GIFT (group instructional feedback technique) Class Review by the Center for
	Excellence in Teaching & Learning (CU Denver)
2022	Designing a Playful Classroom to Increase Student Learning (CU Denver)
2021	Student Experience Project Community of Practice focused on Inclusive Syllabi and
2021	Course Policies, Inclusive Feedback, and Identity Safety (CU Denver)
2021	Undergraduate Experiences Symposium (CU Denver)
2021	Bystander Intervention to Stop Anti-Asian/American and Xenophobic Harassment
2021	(Virtual)
2021	Using Research to Support Equitable Outcomes in College STEM Courses (Virtual)
2021	BLACK, BROWN, BRUISED: How Racialized STEM Education Stifles Innovation
2021	Seminar (CU Denver)
2021	Metacognition: Teaching Students How to Learn Workshop (CU Denver)
2021	The ThinqStudio UnConference (Virtual)
2021	GIFT (group instructional feedback technique) Class Review by the Center for
2021	Excellence in Teaching & Learning (CU Denver)
2021	Syllabus Review by the Center for Excellence in Teaching & Learning (CU Denver)
2021	Equitable and Inclusive Active Learning Workshop (CU Denver)
2021	Equity Certificate Program Course (CU Denver)
2021	Copyright Basics Course (CU Denver)
2021	Displaced Aurarians Panel Discussion (CU Denver)
2020	You Can Help a Student; Mental Health Training (CU Denver)
2020	American Society for Microbiology Conference for Undergraduate Educators (Virtual)
2020	Hybrid-Flexible Teaching Summer Academy (CU Denver)
2020	Design & Teach an Effective Virtual Course (CU Denver)
2020	Grant Writing Symposium (CU Denver)

2010	
2019	Inclusive Pedagogy Academy (CU Denver)
2019	HHMI Inclusive Pedagogy in Biology Workshop (CU Denver)
2019	Writing a Project Overview Workshop (CU Denver)
2017	Research Management Strategies Workshop (CU Denver)
2016	Statistical Analyses in Undergraduate Courses Seminar (CU Denver)
2015	Beginning a Research Program Conference (Council on Undergraduate Research)
2015	Inclusive Pedagogy Seminar (CU Denver)
2015	Working with Program Officers Workshop (CU Denver)
2014	Writing Effective Broader Impact Statements in Grant Proposals Seminar (CU Denver)
2014	Integrating Positive Psychology in the College Classroom Seminar (CU Denver)
2014	RTP Information Session for Tenure-Track Faculty Seminar (CU Denver)
2014	National Science Foundation Grants Conference (Denver, CO)
2008-2010	Management, Leadership, and Conflict Resolution Workshops (Stanford University)
2009-2010	Navigating the Academic Profession Course (Stanford University)
2009	EPA STAR Graduate Fellowship Conference Career Development Session
2009	Nitrification Network Workshop for Graduate Students and Early Stage Investigators
2008	Microbial Genomics and Metagenomics Workshop (DOE Joint Genome Institute)
2008-2009	Academic Chat Series on Academic Careers (Stanford University)
2008	Designing Your Own Course Seminar (Stanford University)
2008	Teaching Portfolios Seminar (Stanford University)
2007	Arthur Walker Program for Expanding Diversity in the Sciences (Stanford University)
2006	Hopkins Microbiology Course, Hopkins Marine Station (Stanford University)
2005-2011	Association for Women in Science Mentoring Program (California)
2005	Recorded Teaching Session (Stanford University)
2005	Professional Development in Geoscience Education Course (Stanford University)
2003	Marine Biological Laboratory Arctic Ecology and Modeling Course (Alaska)
2003	NASA Astrobiology Institute Insight Course: Planetary Science (N. Arizona University)
1998	Study Abroad, Biology of Australian Ecosystems (James Cook University, Australia)