Curriculum Vitae

Jennifer L. Goff

JLGoff@uga.edu

EDUCATION

Ph.D. in Microbial Biology, 2020 Rutgers – New Brunswick, NJ

B.S. in Biology, 2014 Georgia Institute of Technology, Atlanta, GA

RESEARCH INTERESTS

- Examination of physiological responses of microorganisms living under extreme conditions (e.g., high heavy metal concentrations, low pH, etc.) to determine the robustness of metabolic processes to environmental perturbations using site-informed functional studies integrated with multi-omics approaches
- Identification of biosignatures associated with microbial stress responses to global change
- Identification of mechanisms of microbial evolution in extreme environments through (meta)genomic studies and experimental evolution investigations
- Examination of the evolution of microbial structures and metabolic processes
- Investigation of the interplay between abiotic/biotic sulfur and metal/metalloid biogeochemical cycling in diverse environments

PROFESSIONAL APPOINTMENTS

Post-Doctoral Research Associate

Department of Biochemistry and Molecular Biology, University of Georgia, 2021-Present

Post-Doctoral Research Associate

Department of Earth and Planetary Sciences, Rutgers, 2020-2021

PUBLICATIONS

*authors contributed equally | mentee coauthor

Refereed journal articles and chapters

[11] Thorgersen MP, **Goff JL**, Poole FL II, Walker KF, Putt AD, Lui LM, Hazen TC, Adams MWW. Mixed nitrate and metal contamination influences operational speciation of toxic and essential elements. **2023.** *Under review at Geochemica et Cosmochimica Acta*

[10] **Goff JL**, Chen Y, Thorgersen MP, Hoang LT, <u>Szink EG</u>, Poole FL II, Siuzdak G, Petzold CJ, Adams MWW. **2023**. Mixed Heavy Metals Stress Induces Global Iron Starvation as Revealed by System Level Multi-Omic Analyses. *The ISME Journal*. 17: 382-392.

https://doi.org/10.1038/s41396-022-01351-3. *U.S. Department of Energy Office of Science:* Science Highlight

- [9] **Goff JL**, <u>Szink EG</u>, Thorgersen MP, Putt AD, Fan Y, Lui LM, Nielsen TN, Hunt KA, Michael JP, Wang Y, Ning D, Fu Y, Van Nostrand JD, Poole II FL, Chandonia, J-M, Hazen TC, Stahl DA, Zhou J, Arkin AP, Adams MWW. **2022.** Ecophysiological and genomic analyses of a representative isolate of highly abundant *Bacillus cereus* strains in contaminated subsurface sediments. *Environmental Microbiology.* 24: 5546 5560. https://doi.org/10.1111/1462-2920.16173
- [8] Hao J*, Liu W*, **Goff JL**, Steadman JA, Large RR, Falkowski PG, Yee N. **2022.** Anoxic photochemical weathering of pyrite. *Science Advances*. 8: eabn2226. https://doi.org/10.1126/sciadv.abn2226
- [7] **Goff JL***, Lui LM*, Nielsen TN, Thorgersen MP, <u>Szink EG</u>, Chandonia J-M, Poole II FL, Zhou J, Hazen TC, Arkin AP, Adams MWW. **2022**. Complete Genome Sequence of *Bacillus cereus* strain CPT56D-587-MTF, Isolated from a Nitrate- and Metals-Contaminated Subsurface Environment. *Microbiology Resource Announcements*. 11: e00145-22. https://doi.org/10.1128/mra.00145-22.
- [6] **Goff JL**, Wang Y, Boyanov MI, Yu Q, Kemner KM, Fein JB, Yee N. **2021**. Tellurite adsorption onto bacterial surfaces. *Environmental Science & Technology*. 55: 10378-10386. https://doi.org/10.1021/acs.est.1c01001.
- [5] **Goff JL**, Boyanov MI, Kemner KN, Yee N. **2021**. The role of cysteine in tellurate reduction and toxicity. *BioMetals*. 34: 937-946. https://doi.org/10.1007/s10534-021-00319-8
- [4] **Goff JL**, Shaefer JK, Yee N. **2021**. Extracellular sulfite is protective against reactive oxygen species and antibiotic stress in *Shewanella oneidensis* MR-1. *Enivronmental Microbiology Reports*. 13: 394-400. https://doi.org/10.1111/1758-2229.12947
- [3] **Goff J***, Terry L*, Mal J, Schilling K, Pallud C, Yee N. **2019**. Role of extracellular reactive sulfur metabolites on microbial Se(0) dissolution. *Geobiology* 17:320-329. https://doi.org/10.1111/gbi.12328
- [2] **Goff J**, Yee, N. **2017**. Tellurate enters *E. coli* K-12 cells via the SulT-type sulfate transporter CysPUWA. *FEMS Microbiology Letters* 364. https://doi.org/10.1093/femsle/fnx241
- [1] Cooper RE, **Goff JL**, Reed BC, Sekar R, DiChristina TJ. **2016.** Breathing Metals: Molecular Mechanism of Microbial Iron Reduction by *Shewanella oneidensis* (Chapter). *Manual of Environmental Microbiology*. https://doi.org/10.1128/9781555818821.ch5.2.1

Published datasets

- [2] **Goff J**, Putt AD, Fan Y, Michael J, Wang Y, Ning D., Fu Y, Van Nostrand J, Chandonia J-M, Hazen T, Zhou J, Arkin A, Adams, A. 2022.Geochemical and sequencing data from Goff et. al. 2022. DOE Systems Biology KnowledgeBase. https://doi.org/10.25982/112150.61/1863566
- [1] **Goff J** 2022. Complete Genome Sequence of *Bacillus cereus* strain CPT56D-587-MTF Isolated from a Nitrate and Metals Contaminated Subsurface Environment. DOE Systems Biology KnowledgeBase. https://doi.org/10.25982/105874.55/1844990.

GRANTS

Project Title: ENIGMA Equipment Proposal: High-Throughput Phenotyping of Key ENIGMA

Isolates

Amount: \$23,270 (for equipment purchase)

Agency: U.S. Department of Energy

Role: Co-author (with PI Michael W.W. Adams)

Project Title: Laboratory evolution of a highly abundant ORR Area 3 strain in response to heavy

metal stress

Amount: \$185,804 (Oct 2022 – Sept 2023)

Agency: U.S. Department of Energy

Role: Principal Investigator (co-Pl Michael W.W. Adams, Christopher J. Petzold, Adam

P. Arkin)

FELLOWSHIPS

Southeastern Conference (SEC) Emerging Scholars Program – Postdoctoral Award \$10,000 (Aug 2022- May 2023)

Presidential Fellowship, Rutgers

\$75,000 (Sept 2014- June 2019)

Graduate School Excellence Fellowship, Rutgers

\$26,500 (Sept 2014- June 2015)

AWARDS

- First Place Postdoctoral Talk, 10th Annual Southeastern Biogeochemistry Symposium, 2023
- Microbial Biology Graduate Program Travel Award, Rutgers, 2019
- Teaching Assistant and Graduate Assistant Professional Development Fund Award, Rutgers, 2018
- School of Graduate Studies Conference Travel Award, Rutgers, 2018
- Hamo Hachnasarian Scholarship, Rutgers, 2015
- Cherry L. Emerson Research Award, Georgia Institute of Technology, 2014
- Outstanding Undergraduate Researcher Award, Georgia Institute of Technology, 2014
- President's Undergraduate Research Award, Georgia Institute of Technology, 2013

CONFERENCE PRESENTATIONS

*JLG presenter | mentee contributor | #mentee presenter

[32] "Genomic controls on the biogeography of *Castellaniella in* an anthropogenically-disturbed subsurface." (Talk), #**E.G. Szink**, **J.L. Goff**, L.M. Lui, T.N. Nielsen, J.V. Kuehl, **K.L. Durrence**, F.L. Poole II, R. Chakraborty, J-M. Chandonia, A.P. Arkin, M.W.W. Adams. 10th Annual Southeastern Biogeochemistry Symposium, Atlanta, SC, 2023

- [31] "Heavy metal contamination selects for mobile genetic element pool enriched in heavy metal resistance gene cassettes." (Talk), *J.L. Goff, L.M. Lui, T.N. Nielsen, H.J. Smith, J. Kuehl, T. Melhorn, K.F. Walker, K. Lowe, F.L. Poole II, X. Wu, R. Chakraborty, M.W. Fields, T.C. Hazen, A.P. Arkin, M.W. W. Adams. 10th Annual Southeastern Biogeochemistry Symposium, Atlanta, SC, 2023
- [30] "Heavy metal contamination selects for mobile genetic element pool enriched in heavy metal resistance gene cassettes." (Poster), *J.L. Goff, L.M. Lui, T.N. Nielsen, H.J. Smith, J. Kuehl, T. Melhorn, K.F. Walker, K. Lowe, F.L. Poole II, X. Wu, R. Chakraborty, M.W. Fields, T.C. Hazen, A.P. Arkin, M.W. W. Adams. Gordan Research Conference: Applied and Environmental Microbiology. South Hadley, MA, *upcoming 2023*
- [29] "ENIGMA Environmental Atlas: An Integrated Approach to Linking Microbial Genotype to Phenotype in a Dynamic Subsurface Ecosystem." (Poster), R. Chakraborty, A.M. Deutschbauer, B.C. Enalls, J.V. Kuehl, L. Zeng, M.N. Price, A.E. Kazakov, M. de Raad, B.W. Biggs, H. Lesea, L.M. Lui, V.V. Trotter, J-M Chandonia, T. Nielsen, H.K. Carlson, M. Chen, **J.L. Goff**, **E.G. Szink**, M.P. Thorgersen, F.L Poole, M..W. Adams, P.J. Walian, A. Mukhopadhyay, T.R. Northen, A.P. Arkin, P.D. Adams. 2023 Genomic Science Program PI Meeting. Washington, DC, 2023
- [28] "Investigation into metal resistance and denitrification activity of the genus *Castellaniella*." (Poster), **#K.L. Durrence**, **E.G. Szink**, **J.L. Goff**, M.W.W. Adams. 2023 CURO Symposium, University of Georgia, Athens, GA, 2023
- [27] "Three-Dimensional High Spatial Resolution Simulation for Groundwater Flow and Nitrogen Transport under Rainfall Perturbations in the Subsurface of Area 3." (Poster), J. Im, A. Putt, K.F. Walker, D.C. Joyner, J. Marquis, L.M. Lui, D. Dwivedi, A. Carr, Y. Fan, **J. Goff**, K. Hunt, J. Michael, F.L. Poole, Y. Wang, M.W.W. Adams, N.S. Baliga, D.A. Stahl, J. Zhou, M.W. Fields, T.C. Hazen, M.E. Newcomer, A.P. Arkin, P.D. Adams. 2023 Genomic Science Program PI Meeting. Washington, DC, 2023
- [26] "The use of synthetic communities reveals disturbance of process partitioning among denitrifying microbes leads to increased nitrous oxide emissions." (Poster), J. J. Valenzuela, J. Wilson, A. Carr, S. Turkarslan, S. Altenburg, H. Smith, A. Otwell, K. Hunt, **J. Goff**, F. Poole, X. Ge, M. Thorgersen, P. Walian, V. Mutalik, A. M. Deutschbauer, T. R. Northen, M. W.W. Adams, R. Chakraborty, D. A. Elias, D. A. Stahl, M. W. Fields, N. S. Baliga, A. P. Arkin, P. D. Adams. 2023 Genomic Science Program PI Meeting. Washington, DC, 2023
- [25] "Incorporation of Microbial Communities into Reactive Transport Modeling of Nitrogen in Subsurface Systems under Rainfall Perturbations." (Poster), J. Im, L.M. Lui, A. P. Arkin, A. Putt, K. F. Walker, T. C. Hazen, A. Carr, K. Hunt, Y. Wang, Y. Fan, J. Michael, J. Zhou, **J.L. Goff**, F.L. Poole, M.W.W. Adams, J. Marquis, M.W. Fields, M. Newcomer. AGU Fall Meeting, Chicago, IL, 2022
- [24] "Mixed Heavy Metals Stress Induces Global Iron Starvation as Revealed by System Level Multi-Omic Analyses." (Talk), *J.L. Goff, Y. Chen, M.P. Thorgersen, L.T. Hoang, F.L. Poole II, E.G. Szink, G. Siuzdak, C.J. Petzold, M.W.W. Adams. AGU Fall Meeting, Chicago, IL, 2022

- [23] "Diurnal and Seasonal Fluctuations within 27 Contaminated Subsurface Wells." (Poster), Walker, K.F.; E. R. Dixon, D.C. Joyner, K.A. Lowe, F.L. Poole, X. Ge, M.P. Thorgersen, D. Ning, Y. Fan, J.P. Michael, J.D. Van Nostrand, L.M. Lui, X. Wu, **J.L. Goff**, M.W.W. Adams, R. Chakraborty, D.A. Elias, R.L. Wilpiszeski, J. Zhou, M.W. Fields, A.P. Arkin, P.D. Adams, and T.C. Hazen, ASM Microbe, Washington, DC, 2022
- [22] "Anoxic photochemical weathering of pyrite on Archean continents." (Talk), J. Hao, W. Liu, J.L. Goff, J.A. Steadman, R.R. Large, P.G. Falkowski, and N. Yee, AbSciCon, Atlanta, GA, 2022
- [21] "Anoxic photochemical weathering of pyrite on Archean continents." (Talk), J. Hao, W. Liu, **J.L. Goff**, J.A. Steadman, R.R. Large, P.G. Falkowski, and N. Yee, Microbiology Symposium, Rutgers, New Brunswick, NJ, 2022
- [20] "Characterization of a *Bacillus cereus* Strain Isolated from a Nitrate and Metal Contaminated Subsurface Environment." (Talk), ***E.G. Szink**, M.W.W. Adams, and **J.L.Goff**, UGA AIChE Undergraduate Life Sciences 3 Minute Research Showcase, 2022
- [19] "Genomic and proteomic analyses of a highly-abundant *Bacillus cereus* isolate reveal niche adaptation to mixed-waste subsurface site." (Talk), ***J.L. Goff**, Y. Chen, L.M. Lui, T.N. Nielsen, **E.G. Szink**, M.P. Thorgersen, A.D. Putt, K.A. Hunt, Y. Fan, J.P. Michael, Y. Wang, D. Ning, Y. Fu, J.D. Van Nostrand, F.L. Poole II, C.J. Petzold, Terry C. Hazen, D.A. Stahl, J. Zhou, A.P. Arkin, and M.W.W. Adams, 9th Annual Southeastern Biogeochemistry Symposium, Atlanta, GA, 2022
- [18] "Anoxic photochemical weathering of pyrite on Archean continents." (Talk), J. Hao, W. Liu, **J.L. Goff**, J.A. Steadman, R.R. Large, P.G. Falkowski, and N. Yee, Goldschmidt2022, Honolulu, Hawai'i, 2022
- [17] "Characterization of a *Bacillus cereus* Strain Isolated from a Nitrate and Metal Contaminated Subsurface Environment." (Talk), #E.G. Szink and J.L. Goff, 2022 CURO Symposium, University of Georgia, Athens, GA, 2022
- [16] "Investigating the abiotic control of denitrification processes using synthetic communities and laboratory simulations." (Poster), J.J. Valenzuela, J. Wilson, S. Turkarslan, H. Smith, A. Otwell, K. Hunt, F. Poole, X. Ge, **J.L. Goff**, M. Thorgersen, M. Wells, P. Walian, A.M. Deutschbauer, T.R. Northen, M.W.W. Adams, R. Chakraborty, D.A. Elias, D.A. Stahl, M.W. Fields, N.S. Baliga, A.P. Arkin, and P.D. Adams, DOE Genomic Science Program PI Meeting (online due to COVID-19), 2022
- [15] "Diurnal and Seasonal Fluctuations with the Subsurface: A 17-Week Survey of Groundwater and Sediment in 27 Contaminated Wells." (Poster), K.F. Walker, E.R. Dixon, D.C. Joyner, K.A. Lowe, F.L. Poole, X. Ge, M.P. Thorgersen, D. Ning, Y. Fan, J.P. Michael, J.D. Van Nostrand, L.M. Lui, X. Wu, **J.L. Goff**, M.W.W. Adams, R. Chakraborty, D.A. Elias, R.L. Wilpiszeski, J. Zhou, M.W. Fields, T.C. Hazen, A.P. Arkin, and P.D. Adams, DOE Genomic Science Program PI Meeting (online due to COVID-19), 2022
- [14] "Characterization of a Nitrate-Respiring, Multi-Metal-Resistant *Bacillus* Species Highly Abundant in Heavily Contaminated ORR FRC Subsurface." (Poster), *J.L. Goff, <u>E.G. Szink</u>, M.P. Thorgersen, L.M. Lui, T.N. Nielsen, F.L. Poole II, A.D. Putt, Y. Fan, J.P. Michael, Y. Wang, D.

- Ning, Y. Fu, J.D. Van Nostrand, E.R. Kelly, K.A. Lowe, M. Rodriguez Jr., Y. Chen, C.J. Petzold, M.W.W. Adams, J.-M. Chandonia, T. C. Hazen, J. Zhou, A.P. Arkin, and P.D. Adams, DOE Genomic Science Program PI Meeting (online due to COVID-19), 2022
- [13] "The ENIGMA Subsurface Observatory: A high resolution approach to studying a shallow contaminated groundwater system." (Poster), A.D. Putt, E.R. Kelly, K.F. Walker, M. Newcomer, M.W. Fields, **J.L. Goff**, **E.G. Szink**, M.P. Thorgersen, F.L. Poole II, Y. Fan, J.P. Michael, P.J. Walian, D. Ning, J.D. Van Nostrand, T. C. Hazen, M.W.W. Adams, J. Zhou, A.P. Arkin, and P.D. Adams, DOE Genomic Science Program PI Meeting (online due to COVID-19), 2022
- [12] "Metals influence nitrate respiration by ORR isolates: discovery-to-core success story." (Talk), *J. Goff, ENIGMA LBNL DOE Reverse Site Visit (online due to COVID-19), 2021
- [11] "Spatiotemporal dynamics of groundwater and sediment: geochemistry, microbial communities and subsurface structure of contaminated aquifer." (Poster), K. F. Walker, E. R. Dixon, D. C. Joyner, K. A. Lowe, A. D. Putt, F. L. Poole, **J. L. Goff**, X. Ge, M. P. Thorgersen, D. Ning, Y. Fan, J. P. Michael, Y. Fu, R. Tian, Y. Wang, J. D. Van Nostrand, L. M. Lui, X. Wu, K. J. Davis, R. L. Wilpiszeski, M. W. W. Adams, R. Chakraborty, D. A. Elias, J. Zhou, M. W. Fields, T. C. Hazen, A. P. Arkin, and P. D. Adams, ENIGMA LBNL DOE Reverse Site Visit (online due to COVID-19), 2021
- [10] "Understanding the abiotic control of denitrification processes partitioned among synthetic communities." (Poster), J. J. Valenzuela, J. Wilson, A. Carr, S. Turkarslan, H. J. Smith, A. Otwell, K. Hunt, **J. Goff**, F. L. Poole, X. Ge, M. P. Thorgersen, M. Wells, Y. Chen, C. J. Petzold, A. M. Deutschbauer, T. R. Northern, M. W. W. Adams, R. Chakraborty, D. A. Elias, D. A. Stahl, M. W. Fields, N. S. Baliga, A. P. Arkin, and P. D. Adams, ENIGMA LBNL DOE Reverse Site Visit (online due to COVID-19), 2021
- [9] "Teaching microbiology laboratory with tablets." (Poster and Demonstration), A. Walczak, S. Skelly, and *J. Goff, Office of STEM Education Symposium, Rutgers, New Brunswick NJ, 2019
- [8] "Production of extracellular sulfite by *Shewanella oneidensis* MR1." (Poster), ***J. Goff**, J. Schaefer, K. Dawson, and N. Yee, Goldschmidt, Barcelona, Spain, 2019
- [7] "Extracellular sulfur metabolite production by bacteria." (Poster), *J. Goff and N. Yee, NEMPET, Blue Mountain Lake, NY, 2019
- [6] "Tellurate enters *Escherichia coli* K-12 cells via the sulfate transporter CysPUWA." (Poster), ***J. Goff** and N. Yee, ASM Microbe, Atlanta, GA, 2018
- [5] "Abiotic and biotic oxidation of chemically synthesized Se(0) nanoparticles." (Talk), J. Mal, N. Yee, K. Schilling, **J. Goff**, K. Dhillon, C. Pallud, Goldschmidt, Boston, MA, 2018
- [4] "A role for the sulfate assimilation pathway in tellurate resistance in Enterobacteriaceae." (Poster), *J. Goff, C. Ekedede, and N. Yee, Microbiology at Rutgers Symposium, Rutgers, New Brunswick, NJ, 2017
- [3] "Identification of genes involved in tellurate reduction." (Poster), *C. Ekedede, J. Goff, and N. Yee, Rutgers Undergraduate Research Symposium, Rutgers, New Brunswick, NJ, 2016.

- [2] "Characterization of amino acid biosynthesis mutants of *Shewanella oneidensis* MR1." (Poster), ***J. Goff** and T. DiChristina, School of Biology Senior Poster Session, Georgia Tech, Atlanta, GA, 2014
- [1] "An intragenic complementation approach to engineer a faster fluorescence biosensor." (Poster and Talk), M. Agrawal, J. Boothby, N. Chilcutt, J. Elsherbini, and *J. Goff, iGEM America's East Regional Jamboree, Pittsburgh, PA, 2012

Invited Talks

Department of Chemistry and Great Lakes Research Consortium Seminar, SUNY ESF, 2023

2023 Genomic Science Program PI Meeting, US Department of Energy. 2023

Department of Biological Sciences Seminar, SUNY Binghamton. 2023

METX Seminar, The University of California, Santa Cruz. 2023

Department of Earth Sciences Seminar, The University of Western Ontario. 2022

Department of Biological and Biomedical Sciences Seminar, Rowan University. 2022

Department of Environmental Sciences Seminar, Rutgers-New Brunswick. 2022

Other Talks

ENIGMA Seminar Series, Lawrence Berkeley National Lab (online). 2022

ENIGMA Seminar Series, Lawrence Berkeley National Lab (online). 2021

TEACHING EXPERIENCE

University of Georgia, Athens, GA

Project Mentor

Biochemistry & Molecular Biology Independent Research Projects (Su 2021, F 2021, S 2022, F 2022, S 2023)

Designed and mentored undergraduate research projects. Supervised research. Provided guidance and feedback on end-of-semester research reports.

Curricular Revision

Microbiology and Health Care Laboratory, S 2022

Contributed to re-writing the lab manual and developing new laboratory exercises.

Guest Lecturer

Introductory Microbiology, "Microbial Respiration and Biogeochemical Cycles", F 2022
Prepared and delivered lecture on microbial metabolism and biogeochemical cycles. Developed a collaborative, case-study exercise to examine nitrogen cycling and bioremediation at an industrial contamination site.

Microbiology and Health Care, "Microbial Metabolism", F 2022

Prepared and delivered lecture on microbial metabolism. Developed team-driven, concept-mapping activity to reinforce learning objectives.

Introductory Microbiology, "Human Microbiota", S 2022

Prepared and delivered lecture on human microbiota, including in-class interactive whiteboard activities and associated exam guestion.

Rutgers - New Brunswick, NJ

Summer Session Instructor

Microbiology for the Health Sciences Lecture (Su 2019, Su 2020 [online due to COVID-19])

Instructor-of-record for introductory microbiology lecture for health sciences students (~20 students). Developed the syllabus, lectures, projects, assignments, and grading criteria. Implemented traditional lectures with integrated polling for formative assessment as well as in-class discussions on current healthcare-related topics. For asynchronous online version, recorded 5-30 min videos on discrete topics followed by online quiz questions for immediate formative assessment within the Canvas LMS. Students engaged in an on-going project applying lecture knowledge to understand emerging viral diseases.

Coadjutant (instructional designer role)

Microbiology Lab for the Health Sciences (Su 2018)

Created the electronic lab notebook for the course within LabArchives for use on new tablets. Revised and transferred all existing course material to electronic notebook. Created lab exercise templates and associated assessment questions. Developed standard operating procedures for tablet usage in the laboratory.

Graduate Teaching Assistant

Microbiology Lab for the Health Sciences (F 2017, S 2018, F 2018, S 2019, F 2019)

Sole instructor for one or two introductory microbiology laboratory sections per week for health sciences students. Wrote exams and designed practicals, prepared materials for each class, led in-class lectures, assisted students with laboratory techniques, and graded assignments.

Head Teaching Assistant (F 2018, S 2019, F 2019)

Implemented new electronic notebooks and accompanying tablet set into course, training all students and TAs on technology usage. Managed electronic notebook content including writing associated exercise questions and monitoring student engagement across all sections. Developed unified set of lecture content and materials for the entire course. Trained new teaching assistants.

Genetics Lecture (F 2016, S 2017)

Sole instructor for three recitation periods per week for upper-level undergraduate biology students. Developed workshop materials, facilitated recitation workshops, and graded assignments.

General Microbiology Lab (F 2015, S 2016)

Sole instructor for two general microbiology laboratory sections per week for upper-level undergraduate biology students. Wrote exams and designed practicals, prepared materials for each class, led in-class lectures, assisted students with laboratory techniques, and graded assignments.

Georgia Institute of Technology, Atlanta, GA

Undergraduate Teaching Assistant (2011-2014)

Honors Introduction to Organismal Biology Lab

Assisted professor with service learning, course-based undergraduate research experience for biology majors. Prepared materials for each class, assisted students with laboratory techniques and field work, and graded assignments.

Biological Principles Lab

Co-taught with another TA two sections per week of introductory biology laboratory for major and non-major undergraduate students. Prepared materials for each class, led in-class lectures, assisted students with laboratory techniques, and graded assignments.

Molecular and Cell Biology Lab

Assisted professor with advanced undergraduate laboratory course. Prepared materials for each class, led inclass lectures, assisted students with laboratory techniques, and graded assignments.

MENTORSHIP

Adeeba Fatima - Undergraduate Lab Technician (2023 - Present), University of Georgia

Konnor Durrence – Biochemistry and Molecular Biology Independent Research Student (2022-Present), University of Georgia

Elizabeth Szink – Biochemistry and Molecular Biology Independent Research Student (2021-2022), Research Technician (2022-2023), University of Georgia

CURO Research Award recipient (Spring 2022). Project title: "Investigation of nitrite utilization by environmental isolates grown under varying environmental parameters"

Highlight: "ENIGMA science engages undergraduate researcher in environmental microbiology."

First Place Undergraduate Talk at the 10th Annual Southeastern Biogeochemistry Symposium, 2023

Cristian Sanlatte Reyes – Post-Baccalaureate Research Education Program Scholar (2021), University of Georgia.

Jonathan Phan – Microbial Biology PhD Student (2021-2022), Rutgers

Richard Bennett – Undergraduate Research Assistant (2018), Rutgers

Chioma Ekedede – Aresty Undergraduate Research Fellow (2016-2018), Rutgers

OUTREACH AND SERVICE

Journal Reviewer: Environmental Microbiology; Geochemica et Cosmochimica Acta; Environmental Pollution; Letters in Applied Microbiology; Environmental Science and Pollution Research; International Journal of Environmental Research and Public Health; Sustainability; Research in Microbiology; Scientific Reports; Microbiology Spectrum

Grant Review Panelist: EMSL (DOE) Environmental Transformations and Interactions Area Panel (2023)

Conference Session Proposal Reviewer: Society for Advancement of Chicanos/Hispanics & Native Americans in Science (SACNAS) National Diversity in STEM (NDiSTEM) Conference (2023)

Conference Abstract Reviewer: Council on Undergraduate Research Posters on the Hill (2022); Society for Advancement of Chicanos/Hispanics & Native Americans in Science (SACNAS) National Diversity in STEM (NDiSTEM) Conference (2022, 2023)

Scholarship/Fellowship Reviewer: Travel scholarship reviewer for Society for Advancement of Chicanos/Hispanics & Native Americans in Science (SACNAS) National Diversity in STEM (NDiSTEM) Conference (2022, 2023)

Committee Membership:

ASM Subcommittee on the Status of Women in Microbiology (SSWiM) (2023 – 2025, American Society for Microbiology)

Diversity, Equity, and Inclusion Subcommittee (2023-Present, ENIGMA SFA, Lawrence Berkeley National Lab)

Early Career Scientist Survey Subcommittee (2023-Present, ENIGMA SFA, Lawrence Berkeley National Lab)

Early Career Scientist Committee Chair (2022-2023, ENIGMA SFA, Lawrence Berkeley National Lab)

Lab Manual Review Committee (2022, Department of Microbiology, University of Georgia)

Outreach:

Georgia Science & Engineering Fair Judge (2023)

PROGRESS mentor (https://progress.colostate.edu/) (2022-Present)

Judge for Annual Biomedical Conference Research Conference for Minority Students (ABRCMS) ePoster Spring Symposium for Emerging Scientists (2022, 2023)

Faculty moderator for National Conference on Undergraduate Research (NCUR) (2022)

CERTIFICATIONS, COURSES, AND WORKSHOPS

Write Winning Grant Proposals, University of Georgia and Grant Writers' Seminars & Workshops (virtual), January 2023

Developing an Action Plan for Aligned and Inclusive Lessons Workshop, University of British Columbia, Dalhousie University, and CIRTL Network (virtual), July 2022

CARE for Inclusion and Equity in Learning Environments Workshop, Stanford University and CIRTL Network (virtual), June 2022

Certificate in Diversity and Inclusion, 2022, University of Georgia – Office of Institutional Diversity and Human Resources Training and Development Department

The American Society for Microbiology 2018 Improving Undergraduate Biology Education Based on Research in Science Learning Online Course

The American Society for Microbiology 2017-2018 Best Practices in Curriculum Design, Teaching, and Assessment Online Course

PROFESSIONAL MEMBERSHIP

American Society for Microbiology (2014-present)
Geochemical Society (2018-2020)
American Geophysical Union (2021-present)
Society for Advancement of Biology Education Research (2022-present)