Abigail M. Johnson

Cedar St Building B, Office 403B | 120 Cedar Street | Athens, GA 30602
(706) 542-1693 | AbigailJohnson@uga.edu

EDUCATION

PhD **Georgia Institute of Technology** (Atlanta, GA): Ocean Sciences and Engineering, *Deep biosphere microbial interactions with clathrates*, May 2022.

MS **University of Rhode Island** (Kingston, RI): Environmental and Earth Sciences, *Mineral identification and preliminary mapping of organic compounds in serpentinite-related lithologies using µFTIR*, May 2017.

BS **Texas A&M University-Corpus Christi** (Corpus Christi, TX): Biology, *Analysis of growth and photosynthetic characteristics to determine potential growing season extension of Helianthus due to global warming*, May 2014 (Magna Cum Laude).

TEACHING EXPERIENCE

2025 – present Academic Professional Associate, Division of Biological Sciences, UGA
- Primary instructor for three sections of introductory biology for non-majors (BIOL 1103) per academic year, ~600 students.

2024 – '25 Limited-Term Lecturer, UGA
- Fall '24: Lecturer for four sections of introductory biology for non-majors (BIOL 1103), ~600 students.
- Spring '25: Lecturer for one section of introductory biology for non-majors (BIOL 1103) and one section of introductory biology for majors (BIOL 1107).

2023 Guest Lecturer, UGA
- Guest lecture for Dr. Austin Heil's Introductory Marine Science course for non-majors (March 27, 2023)

2018 Teaching Assistantship, GT
- TA for lecture as well as one lab section of Introduction to Environmental Science (EAS 1600).
- Course evaluation student feedback for EAS 1600: "When we asked questions, she tried to figure out and help us understand why the correct answer was correct. This is pretty rare for a TA. Overall, she cared about us learning the material, which is good." "Best TA I have had at tech. I feel bad for everyone who took this class and didn't get to have Abby as their TA."

2015 – '17 Teaching Assistantship, URI
- TA for two Introductory Geology lab sections, one Global Climate Change lecture, and six Introductory Biology I and II lab sections.

2012 – '14 Supplemental Instruction Leader in the STEM Outreach, Access, and Retention program, TAMUCC
- Continued assisting instructor for introductory biology courses for an additional three semesters: presented material during lecture, wrote and graded exam questions under direction of course instructor, and conducted four outside-of-class sessions per week for students in the courses.

2011 – '13 STEM Talent Expansion Program Mentor, Advisor: David Grisé, PhD, TAMUCC
- Assisted instructor for introductory biology courses for three semesters: presented material during lecture, wrote and graded exam questions under direction of course instructor, and conducted four outside-of-class sessions per week for students in the courses.

2012 Conduct focus groups for First Year Islander Program, TAMUCC
- Conducted focus group for students in introductory biology to determine their perceptions of their experience at TAMUCC, presentation of material in lecture, resources available to them, and of the assignments and exams of the course.
- Transcribed the interviews and assisted with producing the final report.

2012 Orientation recruitment for the STEM Talent Expansion Program, TAMUCC

- Encouraged incoming freshmen to join the STEP program by explaining the benefits of the program.

MENTORING

2022 – ’24 Mentored master’s student Angelica Dziurzynski, UGA
- Trained Angelica on various lab skills in the Joye lab, including counting radioactive sulfur in sulfate reduction samples.
- Trained/mentored Angelica on using bioinformatics tools to compare proteins from cyanobacteria across different marine habitats.

2019 – ‘22 Mentored undergraduate Manlin Xu, GT
- Trained Manlin to analyze protein sequences in gas clathrate-bearing sediments using bioinformatics and to synthesize methane clathrate.

2015 – ’16 Mentored undergraduate Caroline Amelse, URI
- Trained Caroline to polish serpentinite-related lithologies into wafers for µFTIR mapping and to run powdered samples on XRD.

2011 – ‘14 Mentored freshmen in Science and Engineering Freshman Learning Community as a part of the Captivating and Encouraging Leaders and Life Science (CELLS) Program, TAMUCC

WORKSHOP PRESENTATIONS

2025 Bolger M, **Johnson AM**, Jackson B, T Russo-Tait. How to Pivot. Scientists Engaged in Education Research (SEER) Center, UGA

2016 Grisé DJ, **AM Johnson**. How to incorporate case studies in ecology courses. Ecological Society of America, Fort Lauderdale, FL

2015 Grisé DJ, **AM Johnson**. Implementing group work in ecology classes. Ecological Society of America, Baltimore, MD

2014 Grisé DJ, **AM Johnson**. Teaching ecology using group work. Ecological Society of America, Sacramento, CA

2013 Grisé DJ. Teaching ecology using case studies. Ecological Society of America, Minneapolis, MN
- Helped moderate workshop and provided student perspective to professors from other institutions regarding case studies given during lecture.

2012 Grisé DJ, M Hansen. Teaching ecology using case studies. Ecological Society of America, Portland, OR
- Helped moderate workshop and provided student perspective to professors from other institutions regarding case studies given during lecture.

2012 Grisé DJ, **Johnson AM**, CJ Speights. Team-based learning in large lecture classes. Islander Forum Spring Forward into Learning, TAMUCC

RESEARCH EXPERIENCE

2025 – present Academic Professional Associate, Division of Biological Sciences, UGA
- Contribute to program-level assessment, course evaluation analysis, and biology education research initiatives supporting undergraduate curriculum improvement

2022 – ’24 Postdoctoral researcher, Advisor: Samantha Joye, PhD, UGA
- Gulf of Mexico Cruises 2022 & 2023
  - Processed sediment porewater geochemistry for ~600 samples.
  - Analyzed alkalinity and ammonium shipboard.
  - Measured sulfate reduction on >200 samples using ^{35}S radioisotope.
  - Collected sediment samples shipboard and conducted incubations back in the lab to measure denitrification and anaerobic ammonium oxidation using stable isotope tracers.
- Sapelo Island Field Work 2022 and 2023
  - Collected and filtered well water samples for radium/thorium along transect in the marsh.
- Filmed/edited >40 video tutorials for established Joye lab methods.

2017 – ‘22 Research Assistantship, Advisor: Jennifer Glass, PhD, GT, Co-Advisor: Sheng Dai, PhD, GT
- Developed methods to characterize bacterial clathrate-binding proteins found in gas clathrate-bearing sediments.

- Designed and assembled drainage-capable beaker for THF clathrate crystal formation. Formed >100 THF clathrate crystals.
- Designed and assembled pressure cell for methane clathrate synthesis on water droplets. Installed plumbing for temperature and pressure control. Formed >90 methane clathrate shells on treatment droplets.

2015 – '16 Research Assistantship, Advisor: Dawn Cardace, PhD, URI
- Developed method to map organic debris and minerals in thin sections of serpentinization-related lithologies.

2014 Graduate Administrative Assistantship, Advisor: Dawn Cardace, PhD, Department of Geosciences, URI
- Organized and stocked the microbe-mineral interactions laboratory.
- Developed protocol for qPCR and µFTIR methods in microbial population studies. Polished serpentinite-related lithologies from Coast Range Ophiolite Microbial Observatory (CROMO) and mapped mineralogy and organics using µFTIR.

2012 – '14 Undergraduate Research Assistant, Advisor: Paul Montagna, PhD, Harte Research Institute, TAMUCC
- Filtered and sorted benthic macrofauna under microscope and determined biomass for Antarctic research.
- Collected samples in Corpus Christi Bay.
- Photographed benthic animals for Montagna lab reference portfolio.

2013 Research Experience for Undergraduates, Advisor: David Smith, PhD, Graduate School of Oceanography, URI
- Examined growth of *R. erythropolis* under a range of salinity, temperature, and pressure.
- Presented project proposal and results to the GSO community.
- Wrote a research article for the project.
- Attended workshops, lectures, and discussions.

2012 – '13 Undergraduate Research Program, Advisor: David Grisé, PhD, Department of Life Sciences, TAMUCC
- Examined relationships between *H. annuus* from winter- and summer-produced seeds.
- Evaluated effectiveness of student-centered learning and mentoring sessions in a large section introductory biology course.

2011 Honors Science & Technology Learning Community Undergraduate Research Program, TAMUCC, Advisor: Honors undergraduate research program lecturer
- Determined the effects of ethanol on *D. melanogaster* reproductive rate.

PUBLICATIONS

PEER-REVIEWED PUBLICATIONS

1. Glass JB, Ranjan P, Kretz CB, Nunn BL, **Johnson AM**, Xu M, McManus J, Stewart FJ. (2021) Microbial metabolism and adaptations in Atribacteria-dominated methane hydrate sediments. Environmental Microbiology, **23**(8): 4646-4660. doi:10.1111/1462-2920.15656.
2. **Johnson AM,** Zhao, Y, Kim, J, Dai, S, Glass, JB. (2021) Methane hydrate crystallization on sessile water droplets. Journal of Visualized Experiments, **171**(e62686) doi:10.3791/62686.
3. **Johnson AM,** DJE Huard, J Kim, P Raut, S Dai, RL Lieberman, JB Glass. (2020) Mainly on the plane: deep subsurface bacterial proteins bind and alter clathrate structure. Crystal Growth & Design, **20**(10): 6290–6295. doi:10.1021/acs.cgd.0c00855.
4. **Johnson AM**, DJE Huard, M Xu, P Raut, S Dai, RL Lieberman, JB Glass (2023). Molecular basis for inhibition of methane clathrate growth by a deep subsurface bacterial protein. PNAS Nexus, **2**(8): 268. doi.org/10.1093/pnasnexus/pgad268.

PUBLICATIONS IN REVIEW

1. Tuma TT, **Johnson AM**, M Brickman. How do selective serotonin reuptake inhibitors effect metabolism? A lesson for teaching non-majors about enzymes and metabolic pathways.

PUBLICATIONS IN PREP

2. **Johnson AM**, D Cardace. Mineral identification and mapping of organic compounds in a serpentinite-related travertine using µFTIR.
3. **Johnson AM**, L Fields, SB Joye. Potential denitrification and anammox rates in cold seep sediments along the Gulf of Mexico deep slope.

PRESENTATIONS

ORAL

2023 INVITED **Johnson AM**, DJE Huard, RL Lieberman, S Dai, JB Glass. Bacterial clathrate-binding proteins in the deep subsurface biosphere: implications for gas clathrate stability and habitability. Polish Astrobiology Society seminar (Virtual)

2022 INVITED **Johnson AM**, DJE Huard, RL Lieberman, S Dai, JB Glass. Deep biosphere microbial protein interactions with clathrates. Marine Science Seminar, UGA, GA

2022 INVITED **Johnson AM**, DJE Huard, RL Lieberman, S Dai, JB Glass. Bacterial clathrate-binding proteins in the deep subsurface biosphere: implications for gas clathrate stability and habitability. Goldschmidt Geochemistry Conference, Honolulu, HI (Virtual)

2022 **Johnson AM**, M Xu, DJE Huard, RL Lieberman, S Dai, JB Glass. Bacterial clathrate-binding proteins in the deep subsurface biosphere. ExplOrigins Colloquium, GT (Hybrid)

2021 **Johnson AM**, DJE Huard, J Kim, P Raut, AS Petrov, LD Williams, S Dai, RL Lieberman, JB Glass. Deep subsurface bacterial proteins bind and modify clathrate. Graduate Student Symposium, GT (Virtual)

2021 **Johnson AM**, DJE Huard, J Kim, P Raut, AS Petrov, LD Williams, S Dai, RL Lieberman, JB Glass. Deep subsurface bacterial proteins bind and modify clathrate. Southeastern Biogeochemistry Symposium, UT, Knoxville (Virtual)

2021 **Johnson AM**, DJE Huard, J Kim, P Raut, AS Petrov, LD Williams, S Dai, RL Lieberman, JB Glass. Deep subsurface bacterial proteins bind and modify clathrate. ExplOrigins Colloquium, GT (Virtual)

2020 **Johnson AM**, DJE Huard, J Kim, P Raut, AS Petrov, LD Williams, S Dai, RL Lieberman, JB Glass. Deep subsurface bacterial proteins bind and modify clathrate. Goldschmidt Geochemistry Conference (Virtual)

2020 **Johnson AM**, DJE Huard, J Kim, P Raut, AS Petrov, LD Williams, S Dai, RL Lieberman, JB Glass. The search for novel gas hydrate inhibitors. Southeastern Biogeochemistry Symposium, GT (Virtual)

2020 INVITED **Johnson AM**, DJE Huard, J Kim, P Raut, AS Petrov, LD Williams, S Dai, RL Lieberman, JB Glass. The search for novel gas hydrate inhibitors. Gordon Research Conference of Natural Gas Hydrates, Galveston, TX

2020 **Johnson AM**, DJE Huard, J Kim, P Raut, AS Petrov, LD Williams, S Dai, RL Lieberman, JB Glass. The search for novel gas hydrate inhibitors. Gordon Research Symposium of Natural Gas Hydrates, Galveston, TX

2019 **Johnson AM**, J Kim, P Raut, DJE Huard, AS Petrov, LD Williams, RL Lieberman, S Dai, JB Glass. Potential Life Strategies in Gas Clathrates. Southeastern Biogeochemistry Symposium, GT

2017 **Johnson AM,** D Cardace. Mineral identification and preliminary mapping of organic compounds in serpentinite-related lithologies using µFTIR. NASA RI Space Grant Symposium, Providence, RI

2017 **Johnson AM,** D Cardace. Mineral identification and preliminary mapping of organic compounds in serpentinite-related lithologies using µFTIR. NASA RI Space Grant Symposium, Providence, RI

2016 **Johnson AM**, D Cardace. Pilot study: identification and interpretation of organic compound distributions in serpentinites using µFTIR. NASA Astrobiology Institute – Rock Powered Life – Mineral alteration roundtable discussion (Virtual)

2016 **Johnson AM,** D Cardace. Pilot study: identification and interpretation of organic compound distributions in serpentinites and related travertines using µFTIR. Northeastern Geological Society of America, Albany, NY

2016 **Johnson AM,** D Cardace. Pilot study: identification and interpretation of organic compound distributions in serpentinites and related travertines using µFTIR. NASA RI Space Grant Symposium, Providence, RI

2014 **Johnson AM,** DJ Grisé. Growth and photosynthetic characteristics of progeny from winter- and summer-active *Helianthus* in the Corpus Christi, TX area. Presentation to the TAMUCC community in partial fulfillment of the requirements to graduate from the Honors Program, TAMUCC

2013 **Johnson AM,** DC Smith. Characterizing the growth of *Rhodococcus* isolated from the South Pacific Gyre. Presentation to the URI-GSO community in partial fulfillment of the requirements of the SURFO REU program, URI-GSO

2013 **Johnson AM**. Growth and photosynthetic characteristics of progeny from winter- and summer-active *Helianthus* in the Corpus Christi, TX area. Sigma Xi, TAMUCC

2013 **Johnson AM**. Photosynthetic characteristics of winter-flowering *Helianthus* on the Gulf Coast. Sigma Xi, TAMUCC

POSTERS

2022 **Johnson AM**, M Xu, DJE Huard, RL Lieberman, S Dai, JB Glass. Bacterial clathrate-binding proteins in the deep subsurface biosphere: implications for gas clathrate stability and habitability. AbSciCon, Atlanta, GA

2022 **Johnson AM**, DJE Huard, RL Lieberman, S Dai, JB Glass. Bacterial clathrate-binding proteins in the deep subsurface biosphere: implications for gas clathrate stability and habitability. Southeastern Biogeochemistry Symposium, Georgia State University, GA

2020 **Johnson AM**, DJE Huard, J Kim, P Raut, AS Petrov, LD Williams, S Dai, RL Lieberman, JB Glass. Bacterial clathrate-binding proteins alter gas clathrate morphology. Japanese Geophysical Union - American Geophysical Union (Virtual)

2020 **Johnson AM**, DJE Huard, J Kim, P Raut, AS Petrov, LD Williams, S Dai, RL Lieberman, JB Glass. The search for novel gas hydrate inhibitors. Gordon Research Conference of Natural Gas Hydrates, Galveston, TX

2020 **Johnson AM**, DJE Huard, J Kim, P Raut, AS Petrov, LD Williams, S Dai, RL Lieberman, JB Glass. Potential life strategies in gas clathrates. ExplOrigins Colloquium, GT

2019 **Johnson AM**, J Kim, P Raut, DJE Huard, AS Petrov, LD Williams, RL Lieberman, S Dai, JB Glass. Potential life strategies in gas clathrates. AbSciCon, Seattle, WA

2019 **Johnson AM**, J Kim, P Raut, DJE Huard, AS Petrov, LD Williams, RL Lieberman, S Dai, JB Glass. Potential life strategies in gas clathrates. ExplOrigins Colloquium, GT

2018 **Johnson AM**, S Dai, JB Glass. Potential life strategies in gas clathrates. Graduate Student Symposium, Georgia Tech

2018 **Johnson AM**, P Ranjan, FJ Stewart, BL Nunn, JB Glass. Can microbes modify gas hydrates? Southeastern Biogeochemistry Symposium, Tallahassee, FL

2016 **Johnson AM**, MD Kubo, D Cardace. Using µFTIR to map mineral distributions in serpentinizing systems. American Geophysical Union, San Francisco, CA

2016 **Johnson AM**, DJ Grisé. Springing up in time for winter: A future second growing season for *Helianthus annuus* in Central Texas. Ecological Society of America, Fort Lauderdale, FL

2015 **Johnson AM,** DJ Grisé. Twice is better: a new reproductive season in Helianthus annuus as a result of climate change? Ecological Society of America, Baltimore, MD

2015 **Johnson AM**, DC Moore, D Cardace. µCT imaging of travertine seep deposits associated with serpentinizing groundwaters. Northeastern Geological Society of America, Bretton Woods, NH

2014 **Johnson AM,** DJ Grisé. A new growing season for *Helianthus annuus* coming to a field near you? Ecological Society of America, Sacramento, CA

2014 Grisé, DJ, **AM Johnson**, CJ Speights. Effective use of undergraduate assistants in a large-enrollment course. Ecological Society of America, Sacramento, CA

2014 **Johnson AM,** DJ Grisé. Growth and photosynthetic characteristics of progeny from winter- and summer-active *Helianthus* in the Corpus Christi, TX area. Science Innovation event for TAMUCC chemistry club, TAMUCC

2014 **Johnson AM**. Long-term benthic monitoring in McMurdo Station, Antarctica. Ocean Sciences Meeting, Honolulu, HI

2013 **Johnson AM,** DJ Grisé. Growth and photosynthetic characteristics of progeny from winter- and summer-active *Helianthus* in the Corpus Christi, TX area. Society for the Advancement of Chicanos and Native Americans in Science, San Antonio, TX

2013 **Johnson AM,** DJ Grisé. Growth and photosynthetic characteristics of progeny from winter- and summer-active *Helianthus* in the Corpus Christi, TX area. Ecological Society of America, Minneapolis, MN

2013 Grisé, DJ, **AM Johnson**, CJ Speights, M Rivera. Successful mentoring program in an introductory biology course. Ecological Society of America, Minneapolis, MN

2012 **Johnson AM,** DJ Grisé. Photosynthetic characteristics of winter-flowering *Helianthus* on the Gulf Coast. Society for the Advancement of Chicanos and Native Americans in Science. Seattle, WA

2012 Grisé, DJ, **AM Johnson**, EE O'Brien, JS Gray. Photosynthetic characteristics of winter-flowering *Helianthus* on the Gulf Coast. Ecological Society of America, Portland, OR

2012 Grisé, DJ, CM Bailey, M Rivera, CJ Speights, **AM Johnson**. Expansion of a successful mentoring program in an introductory biology course. Ecological Society of America, Portland, OR

RESEARCH GRANTS

2018 – '22 NASA Exobiology Research Grant, GT, $998,726.
- Wrote with advisor, funded 1 PI, 4 CO-Is, 1 post-doc, **1 graduate student**, and 1 undergraduate student.

2017 – '22 Ocean Science and Engineering Fellowship, GT, $81,150.

2015 – '16 NASA RI Space Grant Consortium Fellowship, URI, $32,891

AWARDS AND HONORS

2022 1st Place Poster Presentation, AbSciCon

2021 International P.E.O. Scholar Awards Recipient, $20,000, https://www.peointernational.org

2021 1st Place Oral Presentation, Southeastern Biogeochemistry Symposium, University of Tennessee, Knoxville, Virtual

2021 Glen Cass Award, Georgia Tech Earth and Atmospheric Sciences department award given in memory of a former EAS chair for focusing on problems in environmental studies

2020 1st Place Oral Presentation, Southeastern Biogeochemistry Symposium, Georgia Tech, Virtual

2020 Awarded an early career presentation spot at the Gordon Research Conference of Natural Gas Hydrates, Galveston, TX

2013 – '14 Dr. Janice Freeman and Dr. Joyce Freeman Endowed Scholarship in Biology, TAMUCC

2013 – '14 The Flavius and Kathy Killebrew Scholarship, TAMUCC

2012 – '14 Kenedy Foundation Scholarship, TAMUCC

2012 – '14 Scholarships to Enhance Life Sciences, TAMUCC

2011 – '14 Honors Program, TAMUCC

2010 – '14 Dean's List, TAMUCC

2013 Honorable Mention for presentation at Sigma Xi Undergraduate Research Symposium, TAMUCC

2011 – '12 Leadership Honors Scholarship, TAMUCC

2011 Kenedy Foundation Scholarship, TAMUCC

PRESS

NASA Astrobiology. October 2023. Discovery of new proteins advance understanding of climate and astrobiology.

Space.com. October 2023. How methane studies on Earth could inform the search for alien life in our solar system.

Georgia Tech Research. September 2023. From seafloor to space: new bacterial proteins shine light on climate and astrobiology.

Georgia Tech College of Sciences. July 2020. Microbes and methane: unlocking clathrate 'crystal cages' with chilly protein cocktails, created from deep biosphere bacteria. www.youtube.com/watch

Johnson AM. Student Voices – Ocean Science and Engineering. 2019. A warm welcome to the new OSE students!!!.

Johnson AM. 2017. Explorations of oxygen-free seas on the Oceanus (part IV).

SERVICE

DEPARTMENTAL

2025 Reading names and assisting during UGA's Fall 2025 Biology graduation ceremony
2020 Chair of Southeastern Biogeochemistry Symposium planning committee, GT
2019 Organized Ocean Visions 2019 on the planning committee

INSTITUTIONAL

2018 Ran planetary domino game booth for AbGradCon Public Outreach Event, GT
2013 – '14 Public Relation Officer for Beta Beta Beta – Biological Honors Society, TAMUCC
2012 – '14 Student Representative for Strategies for Ecology Education, Diversity and Sustainability chapter, TAMUCC

PROFESSIONAL

2024 Assisted hosting Ecological Society of America SEEDS Field Trip, Sapelo Island, GA
2018 – '22 Biological Oceanography Technical Advisory Panel member to review questions for the National Ocean Science Bowls, Washington, DC
2013 Ecological Society of America SEEDS Leadership Conference. New Orleans, LA
2012 – '13 Reviewed chapters for Campbell Biology in Focus, TAMUCC
2012 – '13 Evaluated preview chapters for Biology: The Core in biology classes, TAMUCC
2011 Ecological Society of America SEEDS Field Trip. El Jornada Basin, NM
N/A Executive Secretary for a NASA Habitable Worlds grant proposal review

COMMUNITY SERVICE

2019 – '20 Clarinet, Peachtree Symphonic Winds, Chamblee, GA
2017 – '18 Violin, Main Street Symphony, Suwanee, GA
2016 – '17 Violin, South Kingstown Community Orchestra, South Kingstown, RI
2012 – '18 Volunteer, Christmas Bird Counts for Audubon Society, USA
- Assisted in counting and identifying birds in assigned territory

2013 – '14 Birding guide, Blucher Park Bird Walk for Audubon Outdoor Club of Corpus Christi
2011 – '14 Birding guide, SEEDS Blucher Park Bird Walk for Sanders Elementary Nature Club & Science Club
2012 – '14 Scuba diver, Texas State Aquarium, Corpus Christi, TX
- Maintained tanks and present dive shows, which includes feeding marine mammals in the Flower Gardens exhibit

2012 – '14 Volunteer, Botanical Gardens, Corpus Christi, TX
- Maintained garden exhibits

2012 – '14 Volunteer, Sharkathon at Balli Park, Corpus Christi, TX
2012 Volunteer, Science Olympiad, TAMUCC
2011 Volunteer, Earth-day Bay-day, TAMUCC
2010 – '14 Relay for Life
2010 – '14 Volunteer, Texas State Aquarium Beach Ball, Corpus Christi, TX

FIELD EXPERIENCE

2023 Sep. 7-29 RESTORE Gulf of Mexico cruise expedition (PS24-07) with Joye lab *R/V Point Sur*
- Collected samples for postdoc research and processed Joye lab geochemistry samples.

2022 Sep. 7-27 RESTORE Gulf of Mexico cruise expedition (PS23-08) with Joye lab *R/V Point Sur*
- Collected samples for postdoc research and processed Joye lab geochemistry samples.

2022 June 14-18 & Dec. 6-11 Sapelo Island, GA field work.
- Assisted in collecting and filtering well water samples with Joye lab.

2017 May 3-22 Oxygen minimum zone cruise expedition in Eastern Tropical North Pacific, Cruise # OC1705A, *R/V Oceanus*
- Collected samples for Glass Lab. Served as extra hands on deck.

2016 EarthCube Oceanography and Geobiology Environmental 'Omics workshop UH Mānoa, HI

2015 – ‘16 Aug 21-27 2015, Jan 25-30 2016 & Dec 16 2016 M.S. research fieldwork in Coast Range Ophiolite Microbial Observatory, Lower Lake, CA
- Collected serpentinite and travertine samples for M.S. research. Assisted in collecting well water samples.

2015 April 2-13 Monterey Bay Aquarium Research Institute Gulf of California cruise expedition, Leg 5: Volcanoes and Seamounts, Alarcón Rise and Pescadero Basin *R/V Western Flyer* Link
- Collected samples for M.S. research and served as extra hands on deck.

2013 1-day Corpus Christi Bay sampling with Montagna lab
- Assisted in collecting water samples.

PROFESSIONAL MEMBERSHIPS

2022 – ‘24 Geochemical Society
2020 – ‘22 NASA’s Network for Ocean Worlds (NOW)
2019 – ‘22 ExplOrigins – An Early Career Astrobiology Club, GT
2017 – ‘22 Graduates in Earth and Atmospheric Sciences, GT
2017 – ‘19 Bioengineering and Bioscience Unified Graduate Students, GT
2016 – ‘22 American Geophysical Union (AGU)
2013 – ‘22 The Oceanography Society (TOS)
2013 – ‘18 Ecological Society of America (ESA)
2014 – ‘17 Geological Society of America (GSA)
2014 – ‘17 Graduate Student Association, URI
2014 – ‘17 Graduate Assistants United, URI
2012 – ‘14 Sigma Xi – The Scientific Research Society, TAMUCC
2012 – ‘14 Beta Beta Beta – Biological Honors Society, TAMUCC
2012 – ‘14 Society for the Advancement of Native Americans and Chicanos in Science chapter, TAMUCC
2012 – ‘14 Golden Key Honors Association, TAMUCC
2010 – ‘14 Honors Program and Honors Student Association, TAMUCC
2010 – ‘14 Strategies for Ecology Education, Diversity and Sustainability, TAMUCC

CERTIFICATIONS AND TRAINING

2023 Ocean Memory Project workshop, UGA, Sapelo Island, GA
2019 CPR/AED training
2017 QPR Suicide Prevention Gatekeeper training
2016 EarthCube Oceanography and Geobiology Environmental 'Omics workshop UH Mānoa, HI
2014 Advanced Radiation Safety training, URI

SKILLS

TEACHING
- Active learning strategies in large lectures
- Developing Study Abroad courses

LABORATORY

Geochemistry
- X-Ray Diffraction (XRD)
- Micro-Fourier Transform Infrared (µFTIR) Spectroscopy
- Gas Chromatography (GC) with Electron Capture Detector (ECD)
- Spectrophotometer
- Membrane Inlet Mass Spectrometer (MIMS)
- Antek Total Nitrogen Analyzer
- pH/Eh/conductivity meters
- Polish rocks into thin sections for mineral/biological mapping

Microbiology
- Gram staining
- Culturing
- Qubit fluorometer
- Optical density meter

Marine sediment incubations
- High pressure chambers
- Isotope tracer injections
- Slurries with anoxic media
- Tri-carb scintillation counter

Clathrate hydrate synthesis
- Methane clathrate
- THF clathrate

COMPUTER

Microsoft Office
Adobe Illustrator
Prism, Graphpad
PyMol
Bioinformatics, basic level
Matlab, basic level
Python, basic level