Curriculum Vitae
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Education

2025-Present PhD Marine Biology, Department of Marine Biology, Texas A&M University at Galveston

2014-2019 BS Marine Biology, Department of Marine Biology, Texas A&M University at Galveston
Minors: Oceanography, Chemistry
Cum Laude
Thesis: PAHs and PCBs in Epibenthic Deep-Sea Megafauna in the Northern Gulf of Mexico

Research Experience

2025 Graduate Research Assistant: Marine Toxicology Laboratory, Texas A&M University at Galveston
Primary Investigator: David N. Hala

- Developed quantification method for 80 individual persistent organic pollutants (POPs) including parent polycyclic aromatic hydrocarbons (PAHs), alkylated PAHs, nitrogen, sulfur, and oxygen containing heterocycles (PANHs, PASHs, PAOHs), and polychlorinated biphenyls (PCBs), using gas chromatography-mass spectrometry (GC-MS).
- Developed and optimized liquid-liquid extraction (LLE) protocols for diverse water matrices (groundwater, estuarine surface water and its particulate fraction), refining extraction parameters, dry-down techniques, contamination control, and solid-phase extraction (SPE) integration. Ongoing validation on environmental samples to assess extraction efficiency and method robustness across sample types.
- Assisted in building an intermittent-flow respirometry system equipped with resting chambers for invertebrates and adjustable temperature control, enabling thermal stress studies on eastern oyster with potential for broader physiological stress research.

2020 Research Assistant: Toxicology and Physiology Research Laboratory, Texas A&M University at Galveston
Primary Investigator: David N. Hala

- Assisted in developing a quantification method for 17 polychlorinated dibenzo-*p*-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) using gas chromatography-mass spectrometry (GC-MS).
- Developed an extraction method for per- and polyfluoroalkyl substances (PFASs) in various tissues (muscle, liver, gonads). Intended for analysis using high performance liquid chromatography-mass spectrometry (HPLC-MS) to quantify levels of PFAS

compounds from biota after major industrial fires in Galveston Bay, Texas.

2019-2020 Program Aid: Toxicology and Physiology Research Laboratory, Texas A&M University at Galveston
Primary Investigator: David N. Hala

- Developed an extraction method for per- and polyfluoroalkyl substances (PFASs) in various tissues (muscle, liver, gonads). Intended for analysis using high performance liquid chromatography-mass spectrometry (HPLC-MS) to quantify levels of PFAS compounds from biota after major industrial fires in Galveston Bay, Texas.

2017-2019 Laboratory Technician: Benthic Ecology and Deep-Sea Biology Laboratory, Texas A&M University at Galveston
Primary Investigator: Gilbert T. Rowe

- Collected deep-sea epibenthic megafauna for toxicological analyses regarding total mercury, PAHs, and PCBs. Used GC-MS to quantify PAHs and PCBs, and a direct mercury analyzer (DMA-80) to quantify total mercury concentrations in invertebrate tissues. Performed data analysis, prepared, and published a manuscript.
- Processed and analyzed sediment and bivalve samples from Simpson Bay, AK. Generated length-frequency relationships for bivalves using digital microscopy, and determined flux rates for sediments.
- Aided in processing sediment samples collected from beaches globally to determine microplastic concentrations.
- Assisted in curating a malacology exhibit displayed in the Jack K. Williams Library at Texas A&M University at Galveston.

2017-2019 Laboratory Technician: Toxicology and Physiology Research Laboratory, Texas A&M University at Galveston
Primary Investigator: David N. Hala

- Extracted PAHs and PCBs from epibenthic deep-sea megafauna, and quantified compounds using GC-MS. Performed data analysis, prepared, and published a manuscript.
- Assisted in developing LLE method for quantifying PAHs and PCBs on GC-MS in muscle and liver samples from sharks and other fishes, as well as invertebrate tissues.

2017-2018 Aggies Commit to Excellence Scholar: Eytan Laboratory, Texas A&M University at Galveston
Primary Investigator: Ron I. Eytan

- Conducted DNA extractions, polymerase chain reaction (PCR), and cleanup procedures for 5 nuclear genes in 12 mesopelagic and bathypelagic fishes to determine population structure and the potential for new species.

2017 2017 Wood Fall Cruise: Gulf of Mexico, R/V Pelican
Chief Scientist: Dr. Craig R. McClain

- Processed megafaunal samples on board, which were collected by a robotically operated vehicle (ROV).

- Deployed baited traps to collect deep-sea bait attending fauna for toxicological analyses.
- Deployed bone packets in order to determine the presence of *Osedax* worms in the Gulf of Mexico for the first time.
- Assisted with recording benthic transects using ROV.

2016 -2017 Student Volunteer: Benthic Ecology and Deep-Sea Biology Laboratory, Texas A&M University at Galveston
Primary Investigator: Gilbert T. Rowe

- Archived and analyzed 160 rolls of film and slides recorded in the deep-sea from submersibles such as DSV Alvin, as well as from other video and photographic devices.
- Collected benthic invertebrates from the Port Lavaca, Texas Superfund site and from Galveston Bay, Texas for mercury accumulation and toxicity analyses. Determined the concentration of total mercury in organisms using a direct mercury analyzer.
- Collected and archived various estuarine invertebrates, and fishes in Galveston Bay, TX for studies examining PAH accumulation and toxicity related to local oil spills and other forms of pollution.

Teaching Experience

2015-2017, 2018 Supplemental Instructor: Introduction to Oceanography, OCNG 251

- Lead structured peer-to-peer classroom-style group study sessions outside of the classroom, utilizing new and innovative ways to reinforce learning while incorporating different learning styles and teaching techniques.

Professional Societies

2018-2021 Deep-Sea Biology Society

Conferences and Workshops

2019 Undergraduate panelist: Graduate Students Mentoring Undergraduate Students Workshop, Galveston, Texas

2018 15th Deep-Sea Biology Symposium, Monterey, California

2017 Geaux Deep Conference, Cocodrie, Louisiana

2017 BITMaB - Benthic Invertebrate Taxonomy Metagenomics and Bioinformatics Workshop, Corpus Christi, Texas

Fellowships, Scholar Programs, Honor Societies and Awards

2019 Certificate of Research Excellence

2019 Academic Achievement Award in Marine Biology

2019	3rd place undergraduate poster in marine biology, Texas A&M University at Galveston 15th Annual Student Research Symposium
2017-2018, 2018-2019	Aggies Commit to Excellence Scholar: Texas A&M University at Galveston Advisors: Ron I. Eytan, David N. Hala
2016-2017, 2018-2019	Undergraduate Research Scholars Program: Texas A&M University Advisors: Gilbert T. Rowe, David N. Hala
2016-2019	Tri-Beta National Biological Honor Society

Scholarships and Grants

2019	Undergraduate Research Scholar Grant: $500 USD
2017-2018, 2018-2019	Aggies Commit to Excellence Scholarship: $4,500 USD ($1,250-1,000 per semester)
2017-2018, 2018-2019	Don and Carol Harper Marine Invertebrate Zoology Scholarship: $ 1,000 USD ($500 per semester)
2017	BITMaB travel award: room and board

Volunteer Work and Scientific Outreach

2026 Ocean on Tap Texas: Co-founder

- Co-founded a bi-monthly public marine science seminar series hosted at local breweries, drawing ~100 community members per event and bridging Galveston Bay's research institutions with the public they serve. Curate talks from researchers across Texas A&M University at Galveston and regional governmental and non-profit institutions, translating active research into accessible, conversation-driven formats that foster direct dialogue between scientists and non-specialist audiences. The series provides a recurring venue for marine scientists across institutions to connect, collaborate, and identify shared research and outreach opportunities, while expanding public scientific literacy on local marine and coastal issues.

2019	Guest speaker representing the Undergraduate Research Program for the undergraduate Introduction to Marine Biology course
2017	Assisted in curating a malacology exhibit displayed in the Jack K. Williams Library at Texas A&M University at Galveston.
2016	Student Volunteer: Texas A&M University at Galveston Science Fair

References

Dr. David N. Hala
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Dr. Lene Petersen
Primary investigator
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Dr. Karl Kaiser
Primary investigator
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Dr. Gilbert T. Rowe
Undergraduate research advisor, primary investigator
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Publications

Lawson, M.C., Cullen, J.A., Nunnally, C.C., Rowe, G.T., Hala. D.N. 2021. PAH and PCB Body-Burdens in Epibenthic Deep-Sea Invertebrates from the Northern Gulf of Mexico. *Marine Pollution Bulletin* 162: 111825.

Scientific Presentations

Lawson, M.C., Rowe, G.T., Hala, D.N. 2019. PAHs and PCBs in Epibenthic Deep-Sea Megafauna in the Northern Gulf of Mexico. Texas A&M University at Galveston 15th Annual Student Research Symposium, Galveston, Texas. **Poster**.

Lawson, M.C., Rowe, G.T., Hala, D.N. 2019. PAHs and PCBs in Epibenthic Deep-Sea Megafauna in the Northern Gulf of Mexico. Texas A&M University Undergraduate Research Symposium, College Station, Texas. **Lightning Talk**.