

Nathan T. Lanning, Ph.D.

3146 TAMU, O&M 409, College Station, TX 77843

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EDUCATION

2018 – 2023 **Ph.D. in Oceanography**

Texas A & M University

Dissertation: “The biogeochemical cycling of dissolved iron, manganese, and lead in the Equatorial & North Pacific Ocean”

Committee: Jessica Fitzsimmons (Chair), Franco Marcantonio, Peter Santschi, Shari Yvon-Lewis

2014 – 2018 **B.S. in Environmental Science & B.S. in Marine Biology**

University of New Haven, *summa cum laude*, College Honors

Advisors: Jean-Paul Simjouw & Amy Carlile

Thesis: “Trace metal analysis of Gulf of Mexico oxygen deficient zones”

APPOINTMENTS

Aug 2023 **Associate Lecturer, Environmental Science**, Curry College, Department of Natural Sciences and Mathematics

Aug 2023 **Postdoctoral Research Associate**, Massachusetts Institute of Technology; Advisor: Edward Boyle

2018 – 2023 **Ph.D. Student**, Texas A&M University; Advisor: Jessica Fitzsimmons; National Science Foundation Graduate Research Fellow

2016 – 2018 **Hollings Scholar Intern**, NOAA, Atlantic Oceanographic & Meteorological Laboratory; Advisor: Jia-Zhong Zhang. “Nutrient Analysis of New England Surface Soil”

HONORS AND AWARDS

2023 Distinguished Graduate Student Award for Excellence in Teaching, Association of Former Students, Texas A&M University

2023 Outstanding Achievement in Graduate Teaching, College of Arts & Sciences, Texas A&M University

2023 John Wormuth Award for Outstanding Achievement in Graduate Teaching, Department of Oceanography, Texas A&M University

2022 – 2023 M.T. Halbouty '30/AAPG Foundation Endowed Fellowship, Texas A&M University, College of Geosciences

2022 – 2023 James Sharp Graduate Scholarship, Texas A&M University, College of Geosciences

2022 – 2023 Graduate Recruitment, Enhancement, And Travel (GREAT) Fellowship, Texas A&M University

2018 – 2023 National Science Foundation Graduate Research Fellowship

2018 – 2022 Louis & Elizabeth Scherck Scholarship, Texas A&M University, College of Geosciences

2018 Excellence in Marine Biology Award, University of New Haven

2016 – 2018 John D. Hatfield Scholarship, University of New Haven
2016 – 2018 Ernest F. Hollings Undergraduate Scholarship and Internship, National Oceanic & Atmospheric Association

TEACHING EXPERIENCE

- Fall 2023 **Associate Lecturer, Environmental Science**, Curry College. Fall BIOL/ENVS 2215 Environmental Science (~16 students)
- Independently constructed a lecture and laboratory-based course prioritizing peer-to-peer education and an extensive fieldwork laboratory component
 - Implemented the flipped classroom pedagogical strategy
 - Will develop the science-identity of my students through de-colonizing the typical geoscience education
 - Will prioritize fieldwork-based laboratory initiatives utilizing forest, wetland, marsh, and exposed rocky environments
- Spring 2023 **Lecturer**, Texas A&M University. Spring OCNG 251 Introduction to Oceanography (98 students)
- Lead lecture utilizing think-pair-share instruction focusing on discussion-based learning techniques.
 - Implemented a group component to exams following the individual component.
 - Highlighted the “muddiest points” (details that were still confusing at the end of a class indicated by students) to reinforce lessons learned from past lectures.
 - Prioritized discussion on the scientific achievements of a diverse collective of geoscientists to foster an inclusive learning environment.
- Fall 2022 **Teaching Assistant**, Texas A&M University. Fall OCNG 252 Oceanography Lab (16 students (x2))
- Independently instructed two laboratory sections providing in class lectures and assistance throughout experiments.
 - Guest lectured for multiple sections of Introduction to Oceanography Lecture, where I spoke on deep-sea mining and biogeochemical cycling.
 - Graded assignments and assisted fellow instructors on best practices for describing complex oceanographic processes.
- Fall 2022 **Teaching Assistant**, Texas A&M University. Fall OCNG 203 Communicating Oceanography. (16 students)
- Co-led and organized course with Instructor of Record.
 - Lectured on how to prepare poster and oral presentations, as well as effective techniques to visual data.
 - Held group workshops and exercises. Advised and answered questions during group work.
 - Organized which peer-reviewed journal articles were discussed in class ensuring that the content was scientifically relevant and understandable.

- Spring 2022 **Teaching Assistant**, Texas A&M University. Spring GEOS 105 Introduction to Environmental Geosciences. (60 students)
- Prepared course chapter modules, inside and outside of class quizzes, and online activities.
 - Graded homework modules and quizzes.
 - Developed course rubrics and managed course statistics.
- Spring 2022 **Teaching Assistant**, Texas A&M University. Spring GEOS 210 Climate Change. (65 students)
- Guest lectured on the natural carbon cycle and eventual influence of humans.
 - Graded homework assignments and exams.
 - Developed course syllabus and grading rubrics.
- Spring 2022 **Teaching Assistant**, Texas A&M University. Spring GEOS 205 Environmental Geoscience Cornerstone. (15 students (x2))
- Provided advisement on how to format professional materials including CVs and cover letters.
 - Assisted with critiquing student presentations.
 - Graded final projects and homework assignments.
- Fall 2017 **Teaching Assistant**, University of New Haven. Introduction to Marine Biology. (75 students)
- Led instruction on chemical oceanographic sample collection to first year marine biology students.
 - Assisted with fieldwork and held office hours to further prepare students.
- 2017-2018 **Teaching Assistant**, University of New Haven. Introduction to Oceanography Laboratory. (16 students (x3))
- Managed course cruises around New Haven Harbor for three lab sections.
 - Planned experiment demonstrations and graded lab reports.

STUDENT MENTORSHIP

- 2022-2023 Catherine Kaylor, undergraduate researcher at Texas A&M University (Oceanography)
- Title: *Colloidal trace metals in the Central Pacific*
 - Current: MS Student, Soil and Water Sciences, University of Florida. Adviser: Ashley Smyth
- 2022-2023 Mackenzie Becker, undergraduate at Texas A&M University (Oceanography)
- Mentee through the PROMoting Geoscience Research, Education, and Success (PROGRESS) program, a national initiative aiming to support female undergraduates interested in a research career.
- 2019-2021 Dylan Halbeisen, undergraduate researcher at Texas A&M University (Oceanography)
- Title: *A multi-element overview of upper ocean trace metal cycling in the Pacific Ocean: GEOTRACES GP15 PMT demi stations*

- Current: PhD Student, Chemical Oceanography, University of South Florida, Adviser: Tim Conway
 - Awarded National Science Foundation Graduate Research Fellowship (2022 – 2027)
- Summer 2019 Robert Freiberger, undergraduate research at Humboldt State University (Oceanography)
- Title: *Surface Ocean Trace Metal Distributions across Basin-Scale Transects: Patterns from GEOTRACES GP15 and a Comparison with GP16 and GA03*
 - Current: Laboratory Technician at Scripps Institute of Oceanography
- Summer 2019 Brett Farran, NSF Research Experience for Undergraduates student, Florida State University (Environmental Science)
- Title: *Dissolved lead in Galveston Bay and the surrounding Gulf of Mexico*
 - Current: PeaceCorp

REFEREED PUBLICATIONS

1. **Lanning NT**, Jiang S, Amaral V, Mateos K, Lam P, Boyle EA, Fitzsimmons JN. Isotopes illustrate vertical transport of anthropogenic Pb by reversible scavenging within Pacific Ocean particle veils. *Proceedings of the National Academy of Science*. Volume 120, 23.
2. Sieber M, **Lanning NT**, Bian X, Yang SC, Takano S, Sohrin Y, Weber TS, Fitzsimmons JN, John SG, Conway TM. The importance of reversible scavenging for the marine Zn cycle evidenced by the distribution of zinc and its isotopes in the Pacific Ocean. *Journal of Geophysical Research*. Volume 128, 4.
3. Sieber M, **Lanning N**, Bunnell Z, Bian X, Y S, Marsay C, Landing W, Buck C, Fitzsimmons J, John S, Conway T. Biological, physical, and atmospheric controls on the distribution of cadmium and its isotopes in the North Pacific Ocean. *Global Biogeochemical Cycles*. Volume 37, 2.
4. John SG, Kelly RL, Bian X, Yang S, Fu F, Smith MI, **Lanning NT**, Liang H, Pasquier B, Seelen E, Holzer M, Conway TM, Fitzsimmons JN, Hutchins DA. A balance of processes controls Ni biogeochemical cycling in the modern ocean. *Nature Geoscience*. Volume 15(11), 1-7.
5. Marsay C, Landing W, Umstead D, Till C, Freiberger R, Fitzsimmons J, **Lanning N**, Shiller A, Hatta M, Chmiel R, Saito M, Buck C. Does sea-spray aerosol contribute significantly to aerosol trace element loading? A case study from the U.S. GEOTRACES Pacific Meridional Transect (GP15). *Global Biogeochemical Cycles*. Volume 36, 8.
6. Chmiel R, **Lanning NT**, Laubach A, Lee JM, Fitzsimmons JN, Hatta M, Jenkins WJ, Lam PJ, McIlvin M, Tagliabue A, Saito MA. Major processes of the dissolved cobalt cycle in the North and equatorial Pacific Ocean. *Biogeosciences*. Volume 19, 2395-2022.
7. Jensen LT, **Lanning NT**, Marsay C, Buck CS, Aguilar-Islas A, Rember R, Sherrell RM, Fitzsimmons JN. Biogeochemical cycling of colloidal trace metals in the Arctic cryosphere. *Journal of Geophysical Research*. Volume 126, 8.
8. Hayes C, Fitzsimmons JN, Jensen L, **Lanning NT**, McGee D, Hatta M, Boyle E. (2020) A Lagrangian view of trace elements and isotopes in the North Pacific. *Journal of Geophysical Research*. Volume 125, 3.

9. Jenkins WJ, Hatta M, Fitzsimmons JN, Schlitzer R, **Lanning NT**, Shiller A, Buckley NR, German CR, Lot II DE, Weiss G, Whitmore L, Casciotti K, Lam PJ, Cutter GA, Cahill KL. (2020) An intermediate-depth source of hydrothermal ³He and dissolved iron in the North Pacific. *Earth and Planetary Science Letters*. Volume 539.
10. Zhang J and **Lanning NT**. (2018) Ascorbic acid as a reductant for extraction of Fe-bound P in soil samples: a methods comparison study. *Communications in Soil Science and Plant Analysis*. Volume 49, 2155-2161.
11. Marsay CM, Aguilar-Islas A, Fitzsimmons JN, Hatta M, Jensen LT, John SG, Kadko D, Landing WM, **Lanning NT**, Morton PL, Pasqualini A, Rauschenberg S, Sherrell RM, Shiller AM, Twining BS, Whitmore L, Zhang R, Buck CS. (2018) Dissolved and particulate trace elements in late summer Arctic melt ponds. *Marine Chemistry*. Volume 204, 70-85.

PUBLICATIONS IN REVIEW

1. Buckley NR, Black EE, Kenyon JA, **Lanning NT**, Sieber M, Conway TM, Fitzsimmons JN, Cutter GA. Re-evaluating hydrogen sulfide as a sink for cadmium and zinc in the oxic to suboxic water column of the Pacific Ocean. *In review at Global Biogeochemical Cycles on June 12, 2023*.

PUBLICATIONS IN PREPARATION

1. **Lanning NT**, Sieber M, Steffen JM, Bian X, Yang S, Weiss G, German CR, Seewald JS, Jenkins WJ, Hatta M, Tagliabue A, John SG, Conway TM, Fitzsimmons JN. The role of shallow intraplate hydrothermal fluxes on the marine dissolved iron inventory and global primary production: A Kama'ehuakanaloa (Lō'ihi) Seamount case study. *Full manuscript drafted for PNAS*.

NON-REFEREED PUBLICATIONS & LAB PRESS

1. Jeandel C. (2023) Pulling back the veil on reversible scavenging of lead. *Press for Lanning et al. 2023, Proceedings of the National Academy of Sciences*. [GEOTRACES Science Highlights](#).
2. Lee L. (2022) Two Unforgettable Summers of Oceanography Research. *Press for undergraduate mentee, Catherine Kaylor, on her research experiences*. [Texas A&M College of Arts & Sciences News](#).
3. Agan J. (2021) Texas A&M graduate student spends fifty-one days at sea studying hydrothermal vents. *Press for Plume Raiders research cruise to Southern East Pacific Rise*. [Texas A&M Geoscience News](#).
4. Garcia M. (2019) Chemistry department holds annual Chemistry Open House. *Press for local community outreach*. [The Battalion](#).
5. Kim B. (2019) Oceanography Graduate Students Attended the International GEOTRACES Summer School. *Press for participation in GEOTRACES Summer School in Cadiz, Spain*. [Texas A&M Geoscience News](#).

CRUISE PARTICIPATION (*denotes junior chief scientist and +denotes team lead; 120 total days)

- 2022 R/V *Point Sur* (4 days) Graduate student “Leading Science at Sea” cruise.
- 2022 *R/V *Pelican* (3 days) NSF REU training cruise examining Texas shelf hypoxia.
- 2021 +R/V *Roger Revelle* (54 days) “Plume Raiders” cruise measuring colloidal trace metal dynamics within diffuse hydrothermal vents utilizing *AUV Sentry*.
- 2021 +*Maersk Launcher* (44 days) Trace metal sampling for baseline environmental assessment of Clarion Clipperton Zone.
- 2019 *A-41 Intermares* (7 days) Trace metal sampling technique and equipment.
- 2019 +R/V *Trident* (1 day) Galveston Bay trace metal, organics, oxygen, sediment, and oil spill study.
- 2018 +R/V *Trident* (1 day) Galveston Bay trace metal, organics, oxygen, and sediment study.
- 2018 R/V *Trident* (1 day) Galveston Bay trace metal, organics, oxygen, and sediment study.
- 2017 R/V *Trident* (1 day) Galveston Bay trace metal, organics, oxygen, and sediment study.
- 2017 R/V *F.G. Walton Smith* (5 days) Bimonthly regional survey of nutrients, Chlorophyll A, CDOM, eDNA, as well as water column incubations.
- 2016 R/V *Pelican* (3 days) NSF REU training cruise examining Texas shelf hypoxia and trace metal study.

INVITED SEMINARS & PRESENTATIONS

- 2022 **Lanning NT.** Oceanography & Exploration: Discovering the mysteries of the deep sea. Aggie STEM Summer Camp, Texas A&M University.
- 2022 **Lanning NT.** Introduction to Oceanography. National Science Foundation Research Experience for Undergraduates: Observing the Ocean, Texas A&M University.
- 2021 **Lanning NT.** Oceanography & Exploration: Discovering the ocean’s mysteries. GeoX Summer Camp, College of Geoscience, Texas A&M University.
- 2017 **Lanning NT, Zhang J, Fischer C, Visser L, Smith I, Sinnickson D, Kelble C.** Macronutrient distribution in Southern Florida coastal waters. Henry Vogeli Seminar Series, University of New Haven.
- 2017 **Lanning NT, Zhang J, Fischer C, Visser L, Smith I, Sinnickson D, Kelble C.** Macronutrient distribution in Southern Florida coastal waters. NOAA Hollings Symposium, Silver Springs, MD.
- 2016 **Lanning NT, Jensen LT, Sherrell RM, Fitzsimmons JN.** Size partitioning of dissolved trace metals into soluble and colloidal fractions in sea ice, snow and melt ponds of the western Arctic Ocean. Henry Vogeli Seminar Series, University of New Haven.

CONFERENCE & PRESENTATION PROCEEDINGS (*denotes mentored student presentation)

- 2023 **Lanning NT, Sieber JM, Halbeisen D, Weiss G, Bian X, Yang S, Hatta M, John SG, Conway TM, Fitzsimmons JN.** The cycling of dissolved iron, iron isotopes, and manganese in the central Pacific Ocean: Insights from the U.S. GEOTRACES Pacific Meridional Transect (GP15). Gordon Research Conference, Manchester, NH. *Poster.*

- 2023 **Lanning NT**, Sieber M, Steffen JM, Bian X, Yang S, Weiss G, German CR, Seewald JS, Jenkins WJ, Hatta M, Tagliabue A, John SG, Conway TM, Fitzsimmons JN. The role of shallow intraplate hydrothermal fluxes on the marine dissolved iron inventory and global primary production: A Kama'ehuakanaloa (Lō'ihī) Seamount case study. Goldschmidt Conference, Lyon, France. *Oral*.
- 2023* Kaylor CM, **Lanning NT**, Fitzsimmons JN. Colloidal trace metals in the central Pacific. ASLO Aquatic Science Meeting, Palma de Mallorca, Spain. *Poster*.
- 2022* Kaylor CM, **Lanning NT**, Fitzsimmons JN. Colloidal trace metals in the central Pacific. Texas A&M University Department of Oceanography 6th Annual NSF REU Symposium, College Station, TX. *Oral*.
- 2022* Kaylor CM, **Lanning NT**, Fitzsimmons JN. Colloidal trace metals in the central Pacific. Texas A&M University LAUNCH Summer Undergraduate Research poster Session, College Station, TX. *Poster*.
- 2022 Kim Y, Fitzsimmons JN, Marcantonio F, **Lanning NT**, Boyle EA. Lead isotope ratios from coastal systems to open ocean: Utilization of a pollutant as the tracer of water masses. GEOTRACES Summer School, Bremerhaven, Germany. *Poster*.
- 2022 Boyle EA, **Lanning NT**, Jiang S, Fitzsimmons JN. Reversible Scavenging and Particle Veil Transfer of Pb Isotopes into the Deep Pacific Ocean. Goldschmidt Conference, Honolulu, HI. *Oral*.
- 2022 Sieber M, **Lanning NT**, Bullock E, Kong K, Lee J, Mateos K, Laubach A, Bian X, Yang S, Weiss G, Hult M, Henderson P, Le Roy E, Hatta M, Moore W, Charette MA, Lam PJ, Fitzsimmons JN, John SG, Conway TM. Characterizing Fe sources on the Alaska Margin and tracing their influence through the North Pacific along the GEOTRACES GP15 section. Goldschmidt Conference, Honolulu, HI. *Oral*.
- 2022 Bian X, Yang S, Raad R, **Lanning NT**, Sieber M, Fitzsimmons JN, Conway TM, John SG. Towards a better understanding of nickel cycling in the modern ocean: development of an automated chromatography method for Ni isotope analysis and the generation of a GEOTRACES Ni isotope dataset in the Pacific Ocean. Goldschmidt Conference, Honolulu, HI. *Oral*.
- 2022 **Lanning NT**. The discovery of hydrothermal vents. Texas A&M University, Center for Teaching Excellence, Academy of Future Faculty Microteaching Lesson. *Oral*.
- 2022 **Lanning NT**, Sieber M, Halbeisen D, Weiss G, Bian X, Yang S, German C, Jenkins W, Hatta M, Conway TM, Fitzsimmons JN. The cycling of dissolved iron, iron isotopes, and manganese in the central Pacific Ocean: insights from the U.S. GEOTRACES Pacific Meridional Transect (GP15). Ocean Sciences Meeting, Honolulu, HI. Virtual. *Oral*.
- 2022 Bian X, Yang S, Raad R, **Lanning NT**, Sieber M, Fitzsimmons JN, Conway TM, John SG. Biogeochemical cycling of Ni in the Pacific Ocean using Ni isotopes. Ocean Sciences Meeting, Honolulu, HI. Virtual. *Oral*.
- 2022 Chmiel R, **Lanning NT**, Laubach A, Lee J, Saito M, McIlvin M, Fitzsimmons JN, Hatta M, Jenkins W, Lam P, Tagliabue A. Major processes of the dissolved cobalt cycle in the

- North and Equatorial Pacific Ocean. Ocean Sciences Meeting, Honolulu, HI. Virtual. *Oral.*
- 2022 Fitzsimmons JN, Smith S, Jensen L, Sherrell R, **Lanning NT**, Anderson K. Controls on the composition and distribution of multi-elemental colloidal metals: A synthesis from multiple ocean basin. Ocean Sciences Meeting, Honolulu, HI. Virtual. *Oral.*
- 2022 Boyle EA, Jiang S, **Lanning NT**, Fitzsimmons JN. Particle veil transfer of Pb isotopes in the Pacific Ocean: GP15 Pacific Meridional Transect. Ocean Sciences Meeting, Honolulu, HI. Virtual. *Oral.*
- 2022 John S, Kelly R, Bian X, Yang S, Fe F, Smith M, **Lanning NT**, Liang H, Pasquier B, Seelen E, Holzer M, Conway T, Fitzsimmons JN, Hutchins D. The biogeochemical balance that controls oceanic nickel cycling in the modern and past oceans. Ocean Sciences Meeting, Honolulu, HI. Virtual. *Oral.*
- 2021 **Lanning NT**, Jiang S, Fitzsimmons JN, Boyle EA. Pb & Pb isotopes in the central Pacific Ocean: An Anthropogenic Update. Texas A&M University, Department of Oceanography Seminar. *Oral.*
- 2021 **Lanning NT**, Sieber M, Steffen J, Summers BA, Weiss G, German CR, John S, Jenkins WJ, Schlitzer R, Hatta M, Tagliabue A, Conway TM, Fitzsimmons JN. Colloidal Fe dynamics in hydrothermal plumes. Plume Raiders Cruise Seminar Series, *R/V Revelle*. *Oral.*
- 2021 Boyle E, **Lanning NT**, Jiang S, Fitzsimmons JN. Lead concentration and isotopic compositions in the central Pacific basin: GEOTRACES PMT (GP15). Goldschmidt Virtual Conference. *Oral.*
- 2021 Buckley N, Black E, Kenyon J, **Lanning NT**, Sieber M, Conway TM, Fitzsimmons JN, Cutter G. Role of hydrogen sulfide in the removal of Cd and Zn in the oxic to suboxic water column of the Pacific Ocean. U.S. GEOTRACES PMT Virtual Seminar. *Oral.*
- 2021 Sieber M, **Lanning NT**, Fitzsimmons JN, John S, Conway TM. Dissolved iron and iron isotopes on GP15. U.S. GEOTRACES PMT Virtual Seminar. *Oral.*
- 2021 Drazen J, Popp B, Goetze E, Thuesen E, White A, Ferrón S, Lindsay D, Fitzsimmons JN, Hatta M, Carter G, Assad V, Cazares A, BAchtel T, Dowd M, van der Grient J, **Lanning NT**, Miller E, Montenegro J, Perelman J, Salazar-Estrada A, Selig G, Stedman G, Summers B. Designing environmental baseline surveys to detect midwater impacts of nodule mining in the eastern CCZ. Society of Deep-Sea Biology. *Oral.*
- 2021 Chmiel R, Tagliabue A, Hawco N, Fitzsimmons JN, **Lanning NT**, Moran D, McIlvin M, Saito M. Pacific cobalt surface stoichiometry in regions of nutrient limitations transition. ASLO Aquatic Science Meeting, Virtual. *Oral.*
- 2021 Conway TM, Sieber M, John S, **Lanning NT**, Fitzsimmons JN. Zn isotope thoughts on GP15. U.S. GEOTRACES PMT Virtual Seminar. *Oral.*
- 2020 **Lanning NT**, Jenkins WJ, German CR, Tagliabue A, Fitzsimmons JN, Sieber M, Summers BA, John S, Conway TM, Steffen JM, Weiss GA, Hatta M. Hydrothermal dissolved metals along the U.S. GEOTRACES PMT. U.S. GEOTRACES Data Synthesis Meeting. *Oral.*

- 2020 Fitzsimmons JN, **Lanning NT**, Till CP, Hatta M, Weiss GA, Conway TM, Sieber M, John S, Yang S, Bian X. A multi-element perspective on Pacific dissolved trace metal cycling from the GEOTRACES GP15 PMT cruise. U.S. GEOTRACES Data Synthesis Meeting. *Oral*.
- 2020 Boyle E, Jiang S, Fitzsimmons JN, **Lanning NT**. Lead concentration and isotopic compositions in the central Pacific basin: GEOTRACES PMT (GP15). U.S. GEOTRACES Data Synthesis Meeting. *Oral*.
- 2020 Conway TM, Sieber M, John S, **Lanning NT**, Fitzsimmons JN. Dissolved cadmium and zinc isotopes on GP15. U.S. GEOTRACES Data Synthesis Meeting. *Oral*.
- 2020 Sieber M, **Lanning NT**, Fitzsimmons JN, John S, Conway TM. Dissolved iron and iron isotopes. U.S. GEORACES GP15 Data Synthesis Meeting. *Oral*.
- 2020 Boyle EA, Jiang, S, Fitzsimmons J, **Lanning N**. Lead concentration and isotopic compositions in the central tropical North Pacific Ocean. Goldschmidt. *Oral*.
- 2020 **Lanning NT**, Sieber M, Steffen J, Summers BA, Weiss G, German CR, John S, Jenkins WJ, Schlitzer R, Hatta M, Tagliabue A, Conway TM, Fitzsimmons JN. Hydrothermal Fe flux analysis of Loihi Seamount using size partitioning and Fe isotopes. Ocean Sciences Meeting, San Diego, CA. *Oral*.
- 2020 Fitzsimmons JN, **Lanning NT**, Halbeisen D, Till CP, Hatta M, Weiss, GA, Conway TM, Sieber M, John S, Yang S, Bian X. A multi-element perspective on Pacific dissolved trace metal cycling from the GEOTRACES GP15 PMT cruise. Ocean Sciences Meeting, San Diego, CA. *Oral*.
- 2020* Halbeisen D, **Lanning NT**, Till CP, Fitzsimmons JN. A multi-element overview of upper ocean trace metal cycling in the Pacific Ocean: GEOTRACES GP15 PMT demi stations. Ocean Sciences Meeting, San Diego, CA. *Poster*.
- 2020 Jensen L, **Lanning NT**, Sherrell RM, Fitzsimmons NT. Biogeochemical speciation of cryospheric trace metals at the seawater-surface interface of the Arctic Ocean. Ocean Sciences Meeting, San Diego, CA. *Oral*.
- 2020 Adams H, Jensen L, Farran B, **Lanning NT**, Fitzsimmons JN. Multi-Element Dissolved Trace Metal Distributions in Surface Waters of the Texas-Louisiana Shelf: A Synthesis from Three Cruises 2017-2019 Showing the Influence of Rivers, Hurricanes, Sediments, and Biology. Ocean Sciences Meeting, San Diego, CA. *Oral*.
- 2020 Weiss G, Hatta M, Measures CI, Fitzsimmons JN, **Lanning NT**, Conway TM, Sieber M. Distributions of Dissolved Iron along the 2018 U.S. GEOTRACES GP15 Pacific Meridional Transect. Ocean Sciences Meeting, San Diego, CA. *Oral*.
- 2020 John S, Pinedo-Gonzlez P, Hawco N, Zhang R, Seelen E, Kelly RL, Yang S, Bian X, Fitzsimmons JN, **Lanning NT**, Conway TM, Sieber M. Spatial and Temporal Distribution of Bioactive Trace-metals in the North Pacific: MESO-SCOPE, Gradients, and GP15. Ocean Sciences Meeting, San Diego, CA. *Poster*.
- 2020 Boyle EA, Jiang, S, Fitzsimmons J, **Lanning N**. Lead concentration and isotopic compositions in the central tropical North Pacific Ocean. Ocean Sciences Meeting, San Diego, CA. *Oral*.

- 2019 **Lanning NT**, Jenkins WJ, Hatta M, German CR, Schlitzer R, Fitzsimmons JN. Loihi Seamount Fe fluxes along the U.S. GEOTRACES GP15 Pacific Meridional Transect. Texas A&M University, Department of Oceanography Seminar. *Oral*.
- 2019 **Lanning NT**. What is Oceanography? Texas A&M University, High School Presentation. *Oral*.
- 2019 **Lanning NT**, Jenkins WJ, Hatta M, German CR, Schlitzer R, Fitzsimmons JN. Loihi Seamount Fe fluxes along the U.S. GEOTRACES GP15 Pacific Meridional Transect. GEOTRACES Summer School, Cadiz, Spain. *Oral*.
- 2019 **Lanning NT**, Jenkins WJ, Hatta M, German CR, Schlitzer R, Fitzsimmons JN. Hydrothermal dissolved iron and ^3He from Loihi Seamount along the U.S. GEOTRACES GP15 Pacific Meridional Transect. Gordon Research Conference, Holderness, NH. *Poster*.
- 2018 **Lanning NT**, Simjouw JP, Fitzsimmons JN. Trace metal analysis of Gulf of Mexico oxygen deficient zones. Honors Program Distinguished Presentation, University of New Haven. *Oral*.
- 2018 **Lanning NT**, Zhang J, Fischer C, Visser L, Smith I, Sinnickson D, Kelble C. Macronutrient distribution in Southern Florida coastal waters. Ocean Sciences Meeting, Portland, OR. *Poster*.
- 2017 **Lanning NT**, Simjouw J, Carlile AL. Development of a method for copper quantification in ulvoid tissue. Northeast Algal Society Meeting, Mount Washington, NH. *Oral*.
- 2017 **Lanning NT**, Jensen LT, Sherrell RM, Fitzsimmons JN. Size partitioning of dissolved trace metals into soluble and colloidal fractions in sea ice, snow and melt ponds of the western Arctic Ocean. ASLO Aquatic Science Meeting, Honolulu, HI. *Poster*.
- 2016 **Lanning NT**, Simjouw J, Carlile AL. Dynamics and copper content analysis of ulvoid blooms in New Haven Harbor. Northeast Algal Society Meeting, Westfield, MA. *Poster*.
- President's Award for Best Undergraduate Presentation
- 2015 **Lanning NT**, Simjouw J, Carlile AL. Dynamics and copper content analysis of ulvoid blooms in New Haven Harbor. Summer Undergraduate Research Fellowship Program, West Haven, CT. *Poster*.

PROFESSIONAL SERVICE & OUTREACH

- Summer 2022 **Graduate Student Mentor, NSF Research Experience for Undergraduates (REU): Observing the Ocean, Texas A&M University**
- Managed nine NSF REU students with duties including leading in-class oceanography instruction, sample collection in the field during a three-day cruise as junior chief scientist, organized weekly seminars and workshops, assistance with presentation preparation, and met with each student individually on a weekly basis providing support and professional/scientific advice.

- Administrative roles included organizing the program calendar, communicating daily with the students and mentors, preparing past and present REU cruise data for submission to BCO-DMO, and assisting with the preparation of the next Texas A&M NSF REU: Observing the Ocean grant proposal.
- June 2022 **Aggie STEM Summer Camp Oceanography Instructor, Texas A&M University**
- Multi-week summer camp instructor on deep sea research, specifically on the discovery of hydrothermal vents and the growing concern of deep sea mining of manganese nodules.
- Feb 2022 – Aug 2022 **Project VICTORY (Virtually-Infused Collaborations for Teaching and Learning Opportunities for Rural Youth) & LISTO (Literacy-Infused Science Using Technology Opportunities), Department of Education Psychology, Texas A&M University**
- Student Technician: Create Earth Science instructional materials for teachers and families of students in rural Texas communities including educational booklets, scientific demonstrations, and online modules.
 - Classroom Scientist: Assisted in the instruction of Earth Science to three 3rd-grade classrooms utilizing an online platform. Participated in virtual community discussions involving students, teachers, and families to offer supplemental Earth Science instruction.
- 2021 – Current **Career Day Guest Speaker**
- Travel to Texas elementary and middle schools to speak about the field of oceanography, conduct demonstrations, and educate students about the marine environment. Schools are located predominantly in Harris County and Brazos County.
- Fall 2021 – Jun 2023 **Treasurer, Oceanography Graduate Council, Department of Oceanography, Texas A&M University**
- Manage all financial transactions for the Oceanography graduate Council including budgeting for semesterly graduate student retreats for students across two campuses in College Station and Galveston. Also oversaw the planning for the annual graduate student recruitment weekend.
- Fall 2021 **Plume Raiders research cruise Outreach Co-coordinator**
- Managed the Twitter and Instagram social media accounts for the cruise providing daily updates on the science being conducted at the Southern East Pacific Rise.
- Summer 2021 **GeoX Summer Camp Guest Presenter, College of Geoscience, Texas A&M University**
- Lectured to high-school students on hydrothermal vent, Arctic Ocean, and deep-sea mining research conducted at Texas A&M University. Title: *“Oceanography & Exploration: Discovering the ocean’s mysteries.”*

- 2017 – Current **Odyssey of the Mind & Destination Imagination Competitions Judge**
- Judged Odyssey of the Mind (CT & TX) and Destination Imagination (TX) K-12 creative problem solving competitions for the science/engineering focused problem.

PROFESSIONAL DEVELOPMENT & WORKSHOPS

Teaching

- 2022-2023 **Academy of Future Faculty**, Center for Teaching Excellence, Texas A&M University (participant)
- Summer 2021 **Research as Teaching Associate Certificate**, Center for the Integration of Research, Teaching, & Learning, Texas A&M University (participant)

Diversity, Equity, & Inclusion

- 2022 **I am a LEADer Conference**, SPXCE Intercultural Center, Massachusetts Institute of Technology (participant)
- Spring 2021 **Unlearning Racism in Geoscience (URGE)**, Texas A&M University (participant)

PROFESSIONAL AFFILIATIONS & CERTIFICATIONS

Oceanography

American Geophysical Union, Association for the Sciences of Limnology and Oceanography
Basic Offshore Safety Induction and Emergency Training (BOSIET)
SCUBA Certification: Open Water Certification

Student Affairs

Certified in Peer Mediation- University of New Haven, Department of Legal Studies

STUDENT AFFAIRS & RESOURCES EXPERIENCE

- 2017 – 2018 **Senior Resident Assistant (SRA)**, Office of Residential Life, University of New Haven
- Led a team of 9 resident assistants supervising a building 450+ first-year residents
 - Worked in a customer service capacity in the Office of Residential Life problem solving issues for students, families, and University staff
 - Oversaw a \$15,000 programming budget for the residential building managing all financial transactions and paperwork
- 2014 – 2017 **Undergraduate Admissions Assistant**, Office of Undergraduate Admissions, University of New Haven
- Assist in event management to ensure a positive experience for prospective students
 - Make calls to prospective students and parents regarding events and information

- Use impeccable customer service skills through campus tours, Open House & Accepted Student Day events, and speaking with families to ensure a positive and informational experience