



# Faculty Development Leave Accomplishments

Lin Zhang

Associate Professor of Chemical  
Oceanography

9/26/2024

# Introduction



**PENS:** 2016-present



**Focus Areas:**

Chemical oceanography and  
environmental science



**FDL Activities:**

NSF-/DOE-funded research projects  
New research proposals  
Collaborations with external institutions  
Student support

# Research

- Location
- Participants
- Activities
  - Green
- Impact



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Award Abstract # 2216356

**MRI: Acquisition of a Purge and Trap Isotope Ratio Mass Spectrometer for Compound/Position-Specific Applications in Biogeochemistry and Ecological Studies at TAMU Corpus Christi**

<b>NSF Org:</b>	<a href="#">OCE</a> <a href="#">Division Of Ocean Sciences</a>
<b>Awardee:</b>	TEXAS A&M UNIVERSITY-CORPUS CHRISTI
<b>Initial Amendment Date:</b>	August 18, 2022
<b>Latest Amendment Date:</b>	August 18, 2022
<b>Award Number:</b>	2216356
<b>Award Instrument:</b>	Standard Grant
<b>Program Manager:</b>	Kandace Binkley kbinkley@nsf.gov (703)292-7577 OCE Division Of Ocean Sciences GEO Directorate For Geosciences
<b>Start Date:</b>	September 1, 2022
<b>End Date:</b>	August 31, 2025 (Estimated)
<b>Total Intended Award Amount:</b>	\$258,571.00
<b>Total Awarded Amount to Date:</b>	\$258,571.00
<b>Funds Obligated to Date:</b>	FY 2022 = \$258,571.00
<b>History of Investigator:</b>	Lin Zhang (Principal Investigator) lin.zhang@tamucc.edu Loretta Battaglia (Co-Principal Investigator) Benjamin Walther (Co-Principal Investigator) Keisha Bahr (Co-Principal Investigator) Sharon Derrick (Co-Principal Investigator)
<b>Awardee Sponsored Research Office:</b>	Texas A&M University Corpus Christi 6300 OCEAN DR UNIT 5840 CORPUS CHRISTI TX US 78412-5503 (361)825-2730
<b>Sponsor Congressional District:</b>	27
<b>Primary Place of Performance:</b>	Texas A&M University Corpus Christi 6300 Ocean Dr. Corpus Christi TX US 78412-5844



**Collaborative Research: Phylogenetic and Physiological Characterization of Amino Acid Nitrogen Isotopes in Phytoplankton**  
 Award Number:2242041; Principal Investigator:Lin Zhang; Co-Principal Investigator:; Organization:Texas A&M University Corpus Christi;NSF Organization:OCE Start Date:04/01/2023; Award Amount:\$445,124.00; Relevance:48.0;

**Collaborative Research: Phylogenetic and Physiological Characterization of Amino Acid Nitrogen Isotopes in Phytoplankton**  
 Award Number:2242042; Principal Investigator:Mark Altabet; Co-Principal Investigator:; Organization:University of Massachusetts, Dartmouth;NSF Organization:OCE Start Date:04/01/2023; Award Amount:\$438,331.00; Relevance:48.0;

**Collaborative Research: Phylogenetic and Physiological Characterization of Amino Acid Nitrogen Isotopes in Phytoplankton**  
 Award Number:2242043; Principal Investigator:Patricia Glibert; Co-Principal Investigator:; Organization:University of Maryland Center for Environmental and Estuarine Science;NSF Organization:OCE Start Date:04/01/2023; Award Amount:\$498,844.00; Relevance:48.0;

<b>NSF Org:</b>	<a href="#">OCE Division Of Ocean Science</a>
<b>Recipient:</b>	TEXAS A&M UNIVERSITY-CC
<b>Initial Amendment Date:</b>	March 14, 2023
<b>Latest Amendment Date:</b>	March 14, 2023
<b>Award Number:</b>	2242041
<b>Award Instrument:</b>	Standard Grant
<b>Program Manager:</b>	Elizabeth Canuel ecanuel@nsf.gov (703)292- OCE Division Of Ocean Scie GEO Directorate For Geosci
<b>Start Date:</b>	April 1, 2023
<b>End Date:</b>	March 31, 2026 (Estimated)
<b>Total Intended Award Amount:</b>	\$445,124.00
<b>Total Awarded Amount to Date:</b>	\$445,124.00
<b>Funds Obligated to Date:</b>	FY 2023 = \$445,124.00

My Desktop > Letters of Intent and Proposals > In Progress: Proposals (Full and Renewals) > Proposal - 72928 > Budget(s)

# Budget(s)

\$1,382,299

Collaborative Proposal Total Requested Amount [i](#)

Manage Personnel and Subaward Organizations

Prime Organization			
Budget for:	Principal Investigator	Total Requested Amount <a href="#">i</a>	Compliance Status <a href="#">[Key]</a>
Texas A&M University Corpus Christi	Lin Zhang	\$445,124	<span style="color: green;">✔</span> No issue(s) found

<b>History of Investigator:</b>	Lin Zhang (Principal Investigator) lin.zhang@tamucc.edu
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# Session Organization for ASLO

•**Event:** Association for the Sciences of Limnology and Oceanography (ASLO) meeting

## SS18 Nitrogen Cycling Processes in Aquatic Ecosystems and Associated Food Webs

Lin Zhang, Texas A and M University Corpus Christi ([lin.zhang@tamucc.edu](mailto:lin.zhang@tamucc.edu))

Mark Altabet, University of Massachusetts Dartmouth ([maltabet@umassd.edu](mailto:maltabet@umassd.edu))

Annie Bourbonnais, University of South Carolina ([abourbonnais@seoe.sc.edu](mailto:abourbonnais@seoe.sc.edu))

Pat Glibert, University of Maryland Center for Environmental Science ([glibert@umces.edu](mailto:glibert@umces.edu))

Wingman (Charlotte) Lee, Texas A&M University-Corpus Christi ([wlee4@islander.tamucc.edu](mailto:wlee4@islander.tamucc.edu))



## TAKING THE AQUATIC PULSE

AQUATIC SCIENCES MEETING

26-31 March 2025 | Charlotte, North Carolina, USA

This session aims to bring together researchers utilizing a diverse array of methodologies, including isotope geochemistry, biomolecular tools, and numerical modeling, to explore N cycling in aquatic ecosystems and their associated food webs across both open ocean and coastal areas. By sharing insights and findings, this session seeks to deepen our understanding of N cycling processes across different aquatic environments, ultimately contributing to a more comprehensive understanding of how N cycling influences ecosystem structure and function across various spatial and temporal scales.

# New Proposal Developments

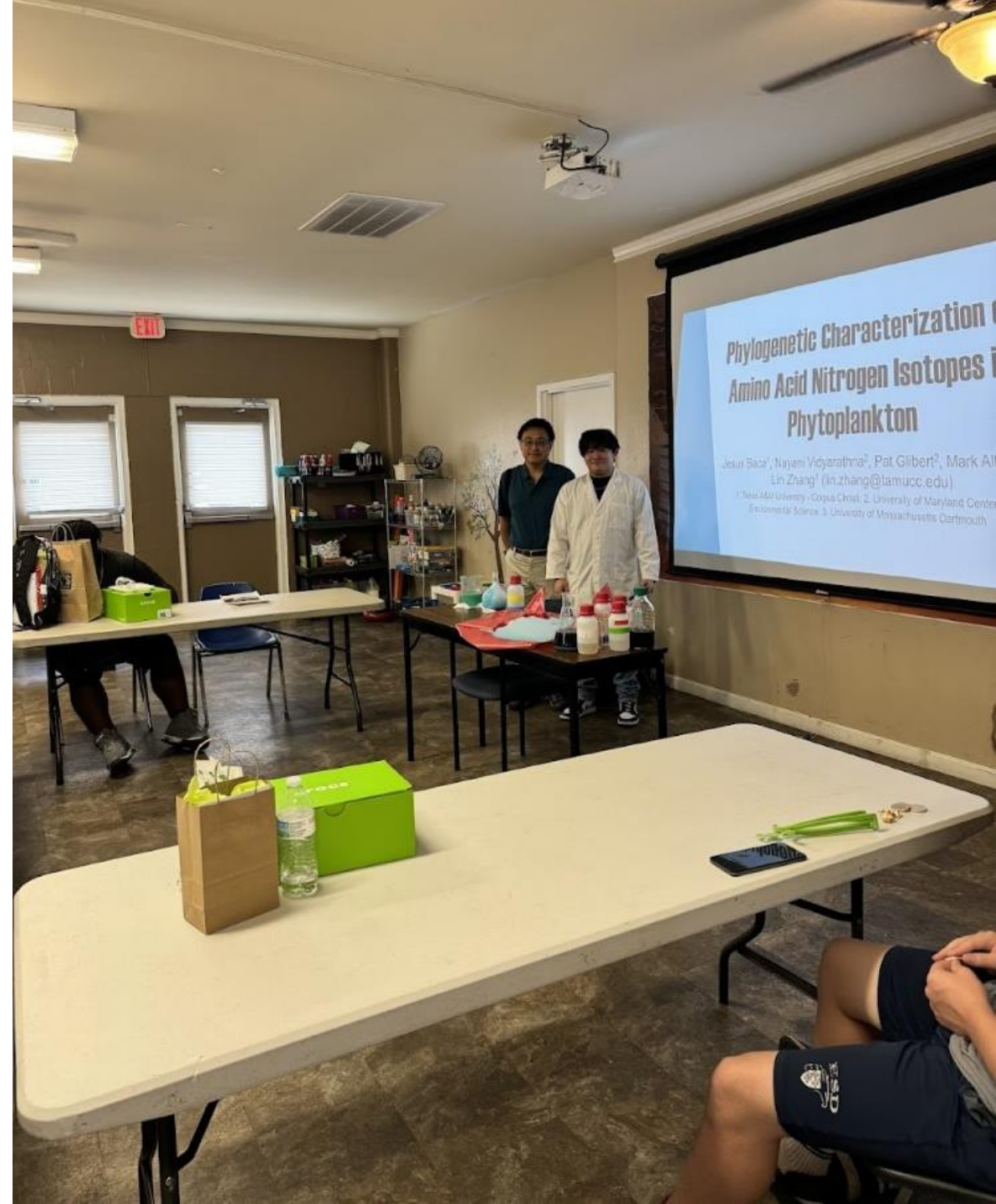
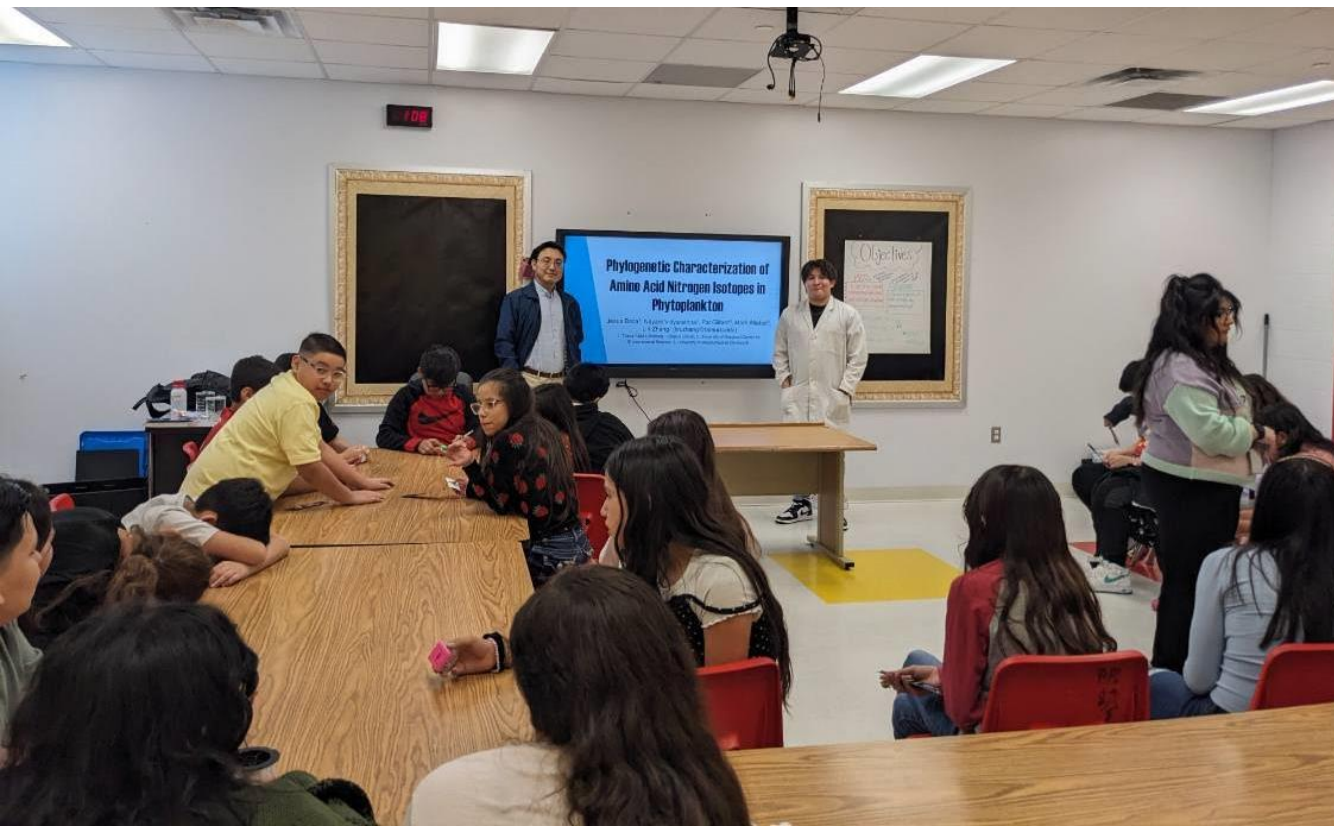
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- **Title: Collaborative Research: Unraveling Nitrogen Transfer in Aquatic Food Webs: The Role of Copepods and Fecal Pellet Interactions through Amino Acid Nitrogen Isotopes, High-Speed Videography, and Numerical Modeling**
- **Collaborators:** 3 PIs at TAMUCC and 1 PI from University of Georgia



# Outreach Activities

- **Events:**
  - Marine science and chemistry talk at San Pedro Fine Arts Academy
  - Outreach at La Armada Apartments Rec Center







## Graduate Students:

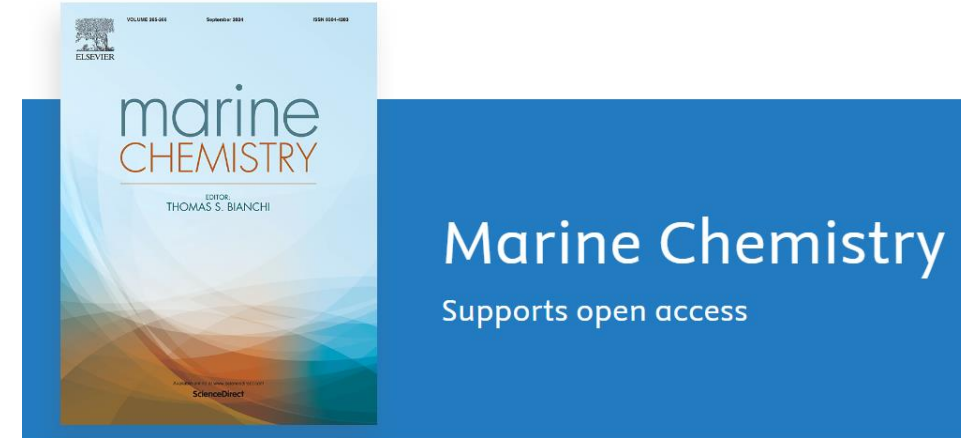
- Wingman Lee (PhD) - Dissertation defense in October 2024
- Jesus Baca (MS) - Thesis defense in November 2024

## Undergraduate Students:

- McNair Scholars: Jason Barrera, Dat Tran
- LSAMP Scholar: Colin Otubanjo
- Welch Scholar: Joaquin Dominguez
- Directed Independent Studies: Josh Walker

# Publications

Chongxiao Ji, GuiPeng Yang, Yan Chen, Zhen He, Yan Li, and **Lin Zhang**, 2023: Contrast the distribution, transformation, and degradation of dissolved and particulate organic matter in the South Yellow Sea, the East China Sea, and its adjacent Kuroshio Current. *Marine Chemistry*.



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Using  $\delta^{15}\text{N}$  of Amino Acids and Nitrate to Investigate Particle Production and Transformation in the Ocean: A Case Study from the Eastern Tropical North Pacific Oxygen Deficient Zone

Charlotte Wing Man Lee<sup>1</sup>, Mark Altabet<sup>2</sup>, Alanna Mnich<sup>2</sup>, and Lin Zhang<sup>1\*</sup>

(1) Texas A&M University Corpus Christi, Corpus Christi, TX, United States,

(2) University of Massachusetts Dartmouth, School for Marine Science and Technology, New Bedford, MA, United States

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# Acknowledgement



FDL committee



Drs. Rick Coffin and Loretta Battaglia  
for FDL letters



College of Science for conference  
travel funds



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