

EDUCATION

Massachusetts Institute of Technology, Cambridge, MA; Class of 2027

Relevant Coursework: 5.60 Thermodynamics & Kinematics, 5.12 Organic Chemistry I, 10.10 Introduction to Chemical Engineering, 5.112 Principles of Chemical Science, 18.02 Multivariable Calculus, 12.307 Weather & Climate Laboratory, 3.002 Materials for Energy & Sustainability, 8.02 Physics II

RESEARCH EXPERIENCE

Pnictogen Bonding for Vesicle Formation | *Research Fellow, Anson L. Clark Scholars Program* Jun–Aug 2022

Mentor: Dr. Anthony Cozzolino, Department of Chemistry and Biochemistry, Texas Tech University

- Refined reaction pathway and purification methods for a molecule capable of pnictogen-bonding to self-assemble into bilayer vesicles in aqueous environments with 16.3% yield
- Tested product with FTIR and NMR spectroscopy, X-ray diffraction, and dynamic light scattering

Antipredator Behavior at Water Sources | *Research Intern, UCSB Research Mentorship Program* Jun–Jul 2021

Mentor: Dr. Georgia Titcomb, Marine Science Institute, University of California, Santa Barbara

- Studied relationship between predator presence and prey behavior at water sources in Kenya to better inform holistic drought and livestock-use policies through cleaning and analyzing datasets in R

Enhancing Bioremediation through Fertilizers May 2019–Apr 2020 and Jun–Dec 2021

Junior Science and Humanities Symposium Momentum Grant (funded by U.S. Army, Navy, Air Force)

- Measured the environmental impact of agar-based fertilizer, removing 57% of ocean-based oil within four months

Biodegradable Device for Aquatic Microplastic Removal Jul 2020–Apr 2021

Patent-Pending (Application Number 63418536)

- Prototyped all natural loofah-hair filter for ocean microplastic clean up, with an experimental removal rate of 64%

LEADERSHIP

President, Science Olympiad 2019–2023

- Hold club meetings to guide club members and assist with scheduling meetings, competitions, etc.
- Organize recruitment, advise coach and middle school division, lead officer team

President, Arduino Club 2019–2023

- Develop meeting lectures and weekly projects centered around various Arduino modules
- Teach C++ through Arduino applications

HONORS AND AWARDS

Junior Science and Humanities Symposium Momentum Grant, \$2000 2021

Junior Science and Humanities Symposium, Regional Semifinalist & Finalist 2020, 2022

SCVSEFA Synopsys Championship, Honorable Mention 2021

Vanderbilt University's Young Scientist Journal, Published Paper May 2021

ENVISION Research Proposal Writing Competition, 2nd place 2021

USA Biolympiad (USABO), Semifinalist & Honorable Mention 2020, 2022

NCWIT Aspirations in Computing, Bay Area Affiliate Honorable Mention 2021, 2022

SKILLS

Languages: English (fluent), Chinese (fluent), Spanish (limited proficiency)

Relevant Skills: FTIR and NMR spectroscopy, X-ray diffraction, chromatography, titration, paper and proposal writing

Computer Skills: Python, C++, Java, R, Microsoft Suite