

Megan Sullivan

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3213 Croul Hall; UC Irvine, Department of Earth System Science; Irvine, CA 92697

EDUCATION

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| Oct. 2024 | Ph.D. University of California Irvine
Earth System Science
<i>Global Biogeochemical Impacts of Phytoplankton Stoichiometry</i>
Doctoral Advisors: Dr. François Primeau & Dr. Adam Martiny |
| Dec. 2021 | M.S. University of California Irvine
Earth System Science |
| May 2018 | B.A. Johns Hopkins University
Earth and Planetary Science (Honors)
<i>Thesis: A 1-D Model of Biogeochemical Cycling at BATS</i>
Thesis Advisors: Dr. Anand Gnanadesikan & Dr. Thomas Haine |

PUBLICATIONS

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| 2024 | Sullivan, M., Primeau, F., Hagstrom, G., Wang, W., Martiny, A. (2024). Integrating Trait-Based Stoichiometry in a Biogeochemical Inverse Model Reveals Links Between Phytoplankton Physiology and Global Carbon Export. <i>Global Biogeochemical Cycles</i> , 38, e2023GB007986. https://doi.org/10.1029/2023GB007986 |
| 2021 | Stanley, J. A., Van Parijs, S. M., Davis, G. E., Sullivan, M., and Hatch, L. T. (2021). Monitoring spatial and temporal soundscape features within ecologically significant U.S. National Marine Sanctuaries. <i>Ecological Applications</i> 31(8):e02439. https://doi.org/10.1002/eap.2439 |

FELLOWSHIPS & AWARDS

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| 2024 | Brython Davis Fellowship, UC Irvine |
| 2019–2020 | Jenkins Family First Year Fellowship, UC Irvine Earth System Science |
| 2016–2018 | NOAA Ernest F. Hollings Undergraduate Scholarship |

RESEARCH EXPERIENCE

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| Dec. 2024 – Present | Postdoctoral Research Fellow
University of Rhode Island Narragansett, RI |
| Sep. 2019 – Dec. 2024 | Graduate Student Researcher
UCI Earth System Science Department Irvine, CA |
| Apr. 2019 – Aug. 2019 | Mid-Atlantic Glider Initiative and Collaboration Intern
Bermuda Institute of Ocean Sciences St. George's, Bermuda |
| Jun. 2017 – Aug. 2017 | NOAA Hollings Undergraduate Research Intern
NOAA Northeast Fisheries Science Center Woods Hole, MA |

TEACHING EXPERIENCE

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| Sep. 2020 – Mar. 2024 | Teaching Assistant
UCI Earth System Science Department <ul style="list-style-type: none">– EARTHSS 3 – Oceanography (Winter 2024)– EARTHSS 116 – Environmental Data Analysis in MATLAB (Fall 2021; Fall 2023) |
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	<ul style="list-style-type: none"> - EARTHSS H30B & H30C – Honors Environmental Sustainability (Winter 2021; Spring 2021) - EARTHSS 7 – Physical Geology (Fall 2020; Spring 2022)
Jun. 2018 – Aug. 2018	S.T.E.M. Coordinator and Marine Science Teacher Pleasant Bay Community Boating Orleans, MA <ul style="list-style-type: none"> - Developed and instructed youth science courses (ages 10-17) based on U.S. sailing REACH science curriculum.
Sep. 2015 – Dec. 2015	Undergraduate Teaching Assistant Johns Hopkins University, Department of Physics and Astronomy <ul style="list-style-type: none"> - AS.PHYS.171.103 – General Physics I for Physical Science Majors (Fall 2015)
Sep. 2018 – Mar. 2019	High School Math and Science Tutor Math Geeks and Science Freaks Tutoring Houston, TX <ul style="list-style-type: none"> - Algebra I & II, geometry, calculus, pre-calculus, chemistry & physics

SERVICE & COMMUNITY OUTREACH

2022 – 2024	Graduate Student Leadership Council UCI Earth System Science
2020 – 2021	Graduate Student Peer Mentor UCI Earth System Science
2021 – 2023	Marine Science Curriculum Consultant Crystal Cove Conservancy Newport Beach, CA
2023	Middle School Climate Science Education Volunteer CLEAN (Climate, Literacy, Empowerment And iNquiry) Orange County, CA
2023	Science Olympiad Volunteer Event Supervisor/ Exam Writer Orange County, CA
2017 – 2018	Event Supervisor/ Exam Writer Baltimore, MD
2015 – 2018	Student Mentor Baltimore, MD

CONFERENCE PRESENTATIONS

2024	Ocean Sciences Meeting 2024 (Talk): Integrating Trait-Based Stoichiometry in a Biogeochemical Inverse Model Reveals Links Between Phytoplankton Physiology and Global Carbon Export 3 rd Annual SoCal BOOM (Poster): Integrating Trait-Based Stoichiometry in a Biogeochemical Inverse Model Reveals Links Between Phytoplankton Physiology and Global Carbon Export
2023	ASLO Aquatic Sciences Meeting 2023 (Talk): Bridging the Gap: Integrating Mechanistic Phytoplankton Stoichiometry with Global-Scale Inverse Modelling 2 nd Annual SoCal BOOM 2023 (Talk): Optimizing a Biogeochemical Inverse Model with Mechanistic Phytoplankton Stoichiometry
2022	1 st Annual SoCal BOOM 2022 (Poster): Integrating Cellular-Level Mechanisms Controlling Phytoplankton Stoichiometry into a Global Biogeochemical Inverse Model Ocean Sciences Meeting 2022 (Poster): Integrating Cellular-Level Mechanisms Controlling Phytoplankton Stoichiometry into a Global Biogeochemical Inverse Model
2020	Ocean Sciences Meeting 2020 (Poster): Assessing Net Community Production in the Sargasso Sea Using Autonomous Underwater Glider Observations

- 2018 | Ocean Sciences Meeting 2018 (Poster): Acoustic Stressors in National Marine Sanctuaries: Highlighting the Vessel Contribution to the Soundscape
- 2017 | Gulf Coast Undergraduate Research Symposium 2017 (Talk): Highlighting the Vessel Contribution to the Soundscapes of National Marine Sanctuaries
- NOAA Hollings Undergraduate Research Symposium 2017 (Poster): Acoustic Stressors in National Marine Sanctuaries: Highlighting the Vessel Contribution to the Soundscape

SKILLS

- **Modeling Expertise:** Global Biogeochemical Modeling; Phytoplankton Macromolecular Allocation Modeling; Inverse Modeling; OCIM (Ocean Circulation Inverse Model); Bayesian Inversion Methods; Parameter Optimization; High Performance Computing
- **Programming:** Skilled in MATLAB, Unix shell, Git, GitHub, Slurm; Familiar with Python, R, ArcGIS, Fortran
- **Fieldwork:** Experience with glider operations including ballasting, sensor calibration, launch and recovery, and data quality control; Assisted with collecting and filtering water samples aboard the RV Atlantic Explorer; Trained students in water sampling methods using YSI multimeters, Niskin bottles, refractometers, and secchi disks

REFERENCES

Prof. Francois Primeau
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University of California Irvine
Department of Earth System Science

Prof. Adam C. Martiny
amartiny@uci.edu
University of California Irvine
Department of Earth System Science;
Department of Ecology and Evolutionary Biology