

# Aidan Blaser

## Education

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| 2021-PRESENT | <b>Ph.D. in physical oceanography</b> , Scripps Institution of Oceanography.<br>Current GPA (4.0/4.0)   |
| 2017-2021    | <b>B.A. in physics (concentration in earth sciences)</b> , Cornell University<br>Honors: <i>magna cum laude</i> (4.04/4.3)<br>Phi Beta Kappa Honors Society |

## Research Experience

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| 2021-PRESENT | <b>Graduate Student Researcher - Scripps Institution of Oceanography</b><br>Currently working alongside advisors Nick Pizzo (University of Rhode Island) and Luc Lenain (SIO) to investigate mass transport of steep surface gravity waves, as well as wave-wave interactions and directional effects. |
| 2020-2021    | <b>Undergraduate Student Researcher - Cornell University</b><br>Worked with Peter Diamessis on turbulent wakes produced by a moving object in a stratified flow as well as mixing caused by breaking internal solitary waves.  |
| 2019         | <b>MPL Intern - Scripps Institution of Oceanography</b><br>For the summer of 2019, I worked alongside Luc Lenain in the Air-Sea lab to understand the statistics of whitecap wave breaking events in the open ocean in order to better understand surface mixing.                                      |
| 2018         | <b>Research Assistant - Princeton University</b><br>Archived and digitized the notes of the late Tony Dahlen, Professor of Geophysics at Princeton. The culmination of this work was featured in an article in the Smilodon, Princeton's geosciences newsletter.                                       |

## Teaching Experience and Involvement

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| Nov 2023  | <b>Early Career Research Leader- NASA AMES</b><br>Led an Early Career Researcher meeting for the NASA S-MODE science team meeting at NASA AMES.   |
| 2022      | <b>COAP Tutor - SIO</b><br>COAP Department Tutor for MS 1st-year students at Scripps. Assists with classes ranging from fluid mechanics, physical oceanography, and math.   |
| 2022-2023 | <b>CASPO Seminar Committee Member- SIO</b><br>Member of a graduate student committee who chooses weekly speakers from SIO and beyond. In addition to seminars, weekly lunches and gatherings are organized for speakers and students alike. |

2018-2019 **Physics Undergraduate Teaching Assistant** – Cornell University  
Assisted in laboratory demonstrations and instruction for introductory level physics courses at Cornell. Participated in lab planning meetings to improve physics education research.

## Undergraduate Mentoring

2023-PRESENT **Raphaël Benamran** – Brown University  
Mentored Raphaël in the development of a breaking wave simulator in the Julia programming language. (<https://github.com/aidanblaser/Castawave>).

## Presentations

**Aidan Blaser**, Luc Lenain, and Nick Pizzo. The Lagrangian mean flow of broadband wave fields. APS DFD Meeting, Washington DC, 2023.

**Aidan Blaser**, Luc Lenain, and Nick Pizzo. The Lagrangian mean flow of broadband wave fields. Pre-APS DFD Biological and Environmental Fluid Dynamics Meeting, University of Pennsylvania, PA, 2023. **Recipient of Best Speaker Award.**

**Aidan Blaser**, Luc Lenain, and Nick Pizzo. Eulerian or Lagrangian: The importance of reference frames for remote sensing. NASA S-MODE science team meeting, NASA AMES, CA, 2023.

**Aidan Blaser**, Raphael Benamran, A. Bia Villas-Bôas, Luc Lenain, and Nick Pizzo. Why water waves cause drift. Scripps Student Symposium ( $S^3$ ), San Diego, CA, 2023. **Recipient of Best Speaker Award.**

**Aidan Blaser**, Nick Pizzo, and Luc Lenain. The Lagrangian mean flow of monochromatic and broadband wave fields. Waves in Sea Environment (WISE) meeting, Princeton, NJ, 2023.

**Aidan Blaser.** Deep Water Breaking Wave Statistics. Marine Physical Laboratory Internship, San Diego, 2019.

## Publications

**Aidan Blaser**, Raphaël Benamran, Bia Villas Bôas, Luc Lenain, and Nick Pizzo. Momentum, energy and vorticity balances in deep-water surface gravity waves, *Journal of Fluid Mechanics*, submitted. <https://arxiv.org/abs/2401.14334>

## Fieldwork

MAY 2023 **New England Seamounts Experiment (NESMA) Pilot**  
Assisted in the unpacking and deployment of an autonomous waveglider to measure temperature, currents, and acoustics in the Gulf Stream.

2022-2023 **NASA Sub-mesoscale Ocean Dynamics Experiment (S-MODE)**  
Remotely piloted up to eight wavegliders to sample submesoscale features off the coast of San Francisco. Main experiments were held October 2022 and April 2023.