# Scott Conn

Postdoctoral Associate · Ocean Physics

*Massachusetts Institute of Technology*

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## Education

**California Institute of Technology** *Pasadena*

PhD, Ocean Physics *09/2020 – 12/2025*

- Thesis: Interactions between Near-Inertial Waves and Ocean Turbulence
- Advisors: Prof. Jörn Callies and Prof. Andrew Thompson

**University of Edinburgh** *Edinburgh*

Master of Physics with Honours; First Class *09/2015 – 06/2020*

Theoretical Physics

## Professional Experience

2025–present **Postdoctoral Associate**, Earth, Atmosphere, and Planetary Sciences, Massachusetts Institute of Technology

## Publications

### Published

**Conn, S**, and Callies, J. 2025. Global Near-Inertial Wave Spectra Shaped by Mesoscale Eddies, *Journal of Physical Oceanography, 56(3): 707-724.*

**Conn, S**, Callies, J, and Lawrence, A. 2025. Regimes of Near-Inertial Wave Dynamics, *Journal of Fluid Mechanics, 1002, p. A22*

**Conn, S**, Fitzgerald, S, and Callies, J. 2024. Interpreting Observed Interactions between Near-Inertial Waves and Mesoscale Eddies, *Journal of Physical Oceanography, 54(2): 485-502.*

### In Preparation

**Conn, S**, Lawrence, A., and Callies, J. Energetics of the Interaction between Near-Inertial Waves and Fronts, in preparation.

## Presentations

**Conn, S**. 2025. *Quantum Oceanography*, Caltech Everhart Lecture: Pasadena, CA.

**Conn, S**, Moorman, R, Benniston, E, Wilson, E, and Thompson, A. 2024. *Mechanisms of Variability in the Ross Gyre*. Talk, Atmospheric and Oceanic Fluid Dynamics Conference: Burlington, VT.

**Conn, S**, Callies, J, and Lawrence, A. 2024. *Regimes of Near-Inertial Wave Dynamics*. Poster, Atmospheric and Oceanic Fluid Dynamics Conference: Burlington, VT.

**Conn, S**, Fitzgerald, J, and Callies, J. 2024. *Interpreting Observed Interactions between Near-Inertial Waves and Mesoscale Eddies*. Poster, Ocean Sciences Conference: New Orleans, LA.

**Conn, S**. 2024. *Quantum Oceanography*. Talk, ESE and Society Seminar Series: Pasadena, CA.

**Conn, S**, Callies, J, and Lawrence, A. 2023. *Regimes of Near-Inertial Wave Dynamics*. Talk, California Geophysical Fluid Dynamics Conference: La Jolla, CA.

**Conn, S**, Fitzgerald, J, and Callies, J. 2022. *Interpreting Observed Interactions between Near-Inertial Waves and Mesoscale Eddies*. Talk, California Geophysical Fluid Dynamics Conference: Pasadena, CA.

**Conn, S**, Fitzgerald, J, and Callies, J. 2022. *Interpreting Observed Interactions between Near-Inertial Waves and Mesoscale Eddies*. Poster, Atmospheric and Oceanic Fluid Dynamics Conference: Breckenridge, CO.

**Conn, S**, Thompson, A, Peng, S, Markle, B, and Newsom, E. 2022. *An Idealised Model of the Meridional Overturning Circulation*. Talk, Ocean Sciences Conference: virtual.

## Awards, Fellowships, & Grants

2025 **Caltech Everhart Lectureship**, Caltech, awarded to a graduate student in recognition of exemplary presentation and research abilities

2023 **Linde Centre Discovery Fund**, Linde Centre for Global Environmental Science, research funds awarded to support running high-resolution numerical simulations

2022 **NASA FINESST Fellowship**, NASA

2020 **Dewar & Ritchie Prize/Theoretical Physics Class Medal**, University of Edinburgh, awarded to the top graduate in physics

2019 **John Lang Scholarship**, University of Edinburgh, awarded for high merit

2017 **Donald Fraser Bursary/Brodie Memorial Prize**, University of Edinburgh, awarded on the recommendation of the physics faculty

## Teaching Experience

2022 **ESE130: Introduction to Atmosphere and Ocean Dynamics**, Teaching Assistant
2022 **ESE1: Earth's Climate**, Teaching Assistant + Guest Lecturer
2023, 2025 **ESE102: Earth's Oceans**, Teaching Assistant (2023) + Guest Lecturer (2023, 2025)

## Mentoring

2024 **Alyna Tang, Giovanni Cabrera, Levi Alderete**, First-Year Success Research Institute, Caltech

2023 **Emma Benniston**, SURF student, University of Cambridge

## Outreach & Professional Development

### Service and Outreach

2024– **Peer Reviewer**, Journal of Fluid Mechanics, Journal of Geophysical Research: Oceans, Journal of Advances in Modeling Earth Systems
2024–2025 **Caltech Y-Tutor**, tutor to undergraduate students at Pasadena Community College
2024–2025 **Caltech Geological and Planetary Science Outreach Program**, outreach participant/designed ocean lesson plan
2024 **Caltech Accountability Partner**, mentor for an undergraduate student applying to graduate school
2023–2024 **Letters to a Pre-Scientist Volunteer**, pen-pal for middle school students discussing science and other topics
2022–2025 **California Geophysical Fluid Dynamics Conference**, organizer
2021–2024 **Caltech Graduate Peer Mentorship Program**, mentor to 3 students
2021–2022 **Life beyond Research Seminar Series**, committee member

### Summer Schools

2022 **Fluid Dynamics of Sustainability and the Environment**, hosted by École Polytechnique *Paris, France*

## References

**Jörn Callies**
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**Andrew Thompson**
John S. and Sherry Chen Professor of Environmental Science and Engineering, Caltech
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**Albion Lawrence**
Professor of Physics, Brandeis University
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