

# Aurora Basinski-Ferris (they/them)

## Education and employment

- Oct. 2024– **Schmidt AI in Science Postdoctoral Fellow**  
*Scripps Institution of Oceanography, University of California San Diego*  
Advisor: Prof. Ian Eisenman
- 2018–2024 **PhD in Mathematics & Atmosphere-Ocean Science**  
*Courant Institute of Mathematical Sciences, New York University*  
Advisor: Prof. Laure Zanna
- 2014–2018 **Honours Bachelor of Integrated Science (Mathematics & Statistics Concentration)**  
*McMaster University*  
Summa Cum Laude. Undergraduate thesis advisor: Prof. Nicholas Kevlahan

## Publications

### Submitted and in preparation

1. **Basinski-Ferris, A.**, Zanna, L., and Eisenman, I. "Controls on the ocean response to idealized Antarctic meltwater input." (*in prep for the Journal of Climate*).

### Published and accepted

1. **Basinski-Ferris, A.**, Zanna, L., and Eisenman, I. "A theory for how the depth of meltwater injection impacts regional sea level evolution." *Accepted at the Journal of Physical Oceanography*. [10.22541/essoar.172407933.31488224/v1](https://doi.org/10.22541/essoar.172407933.31488224/v1)
2. Falasca, F., **Basinski-Ferris, A.**, Zanna, L., and Zhao, M. 2025 "A fluctuation-dissipation theorem perspective on radiative responses to temperature perturbations." *Accepted at the Journal of Climate*. <https://arxiv.org/abs/2408.12585>.
3. Eisenman, I., **Basinski-Ferris, A.**, Beer, E., and Zanna, L. 2024 "The Sensitivity of the Spatial Pattern of Sea Level Changes to the Depth of Antarctic Meltwater Fluxes." *Geophysical Research Letters*. [10.1029/2024GL110633](https://doi.org/10.1029/2024GL110633)
4. **Basinski-Ferris, A.** and Zanna, L. 2024. "Estimating freshwater flux amplification with ocean tracers via linear response theory." *Earth System Dynamics*. [10.5194/esd-15-323-2024](https://doi.org/10.5194/esd-15-323-2024).
5. Davis, P.E.D. et al. [including **Basinski-Ferris, A.**] 2023. "Suppressed basal melting in the eastern Thwaites Glacier grounding zone." *Nature*. [10.1038/s41586-022-05586-0](https://doi.org/10.1038/s41586-022-05586-0).
6. Schmidt, B.E. et al. [including **Basinski-Ferris, A.**] 2023. "Heterogeneous melting near the Thwaites Glacier grounding line." *Nature*. [10.1038/s41586-022-05691-0](https://doi.org/10.1038/s41586-022-05691-0).
7. Holland, D.M., Nicholls, K.W., **Basinski, A.** 2020. "The Southern Ocean and its Interaction with the Antarctic Ice Sheet." *Science*. [10.1126/science.aaz5491](https://doi.org/10.1126/science.aaz5491).

8. **Basinski-Ferris, A.** 2017. "Comparison of Mathematical Models of Opinion Dynamics." *The iScientist (Undergraduate Journal)*. <https://journals.mcmaster.ca/iScientist/article/view/1357>.

## Awards & Distinctions

- 2024-2026 **Eric and Wendy Schmidt AI in Science Postdoctoral Fellowship**  
*Scripps Institution of Oceanography, University of California San Diego*
- 2020 **Sandra Bleistein Prize**  
*Courant Institute of Mathematical Sciences, New York University*  
An award given annually for notable achievement in applied mathematics or computer science.
- 2018 **Henry M. MacCracken Graduate Fellowship**  
*New York University*
- 2017 **NSERC Undergraduate Student Research Award ([NSERC USRA](#))**  
*Award held at McMaster University*  
Summer advisor: Prof. Walter Craig (Department of Mathematics & Statistics)
- 2014-2018 **Dean's Undergraduate Honour List**  
*McMaster University*

## Presentations

- Feb 2025 **Scripps Institution of Oceanography, Climate and Atmosphere Seminar, *invited talk***
- May 2024 **NASA GISS Sea Level Seminar, *invited talk***
- Feb 2024 **Ocean Sciences Meeting, talk**
- Dec 2023 **American Geophysical Union (AGU) Fall Meeting, talk**
- Spring 2023 **Community Earth System Model (CESM) working group meeting, talk**
- Dec 2022 **American Geophysical Union (AGU) Fall Meeting, talk**
- May 2022 **US CLIVAR Pattern Effect workshop, poster**
- Feb 2022 **Ocean Sciences Meeting, talk**
- 2019-2024 **Annual student seminar at Center for Atmosphere-Ocean Science (Courant Institute)**
- Dec 2016 **Canadian Mathematical Society (CMS) winter meeting, poster**

## Teaching

- 2023 **Curriculum development**  
*Climatematch Academy*  
Developed curriculum on ocean circulation for Climatematch Academy - an online summer school that aims to make education about computational climate science accessible to a global population.
- 2022 **TA for Dynamics of the Earth's Atmosphere and Climate**  
*Courant Institute, New York University*
- 2020-2021 **Grader for Graduate Ocean Dynamics and Graduate Linear Algebra I**  
*Courant Institute, New York University*
- 2016-2018 **Tutor for undergraduate calculus, linear algebra, and differential equations**  
*McMaster University*

## Service

- 2022- **Peer reviewer for Geophysical Model Development, JGR: Oceans, Earth's Future, Geophysical Research Letters**
- 2024- **Member and organizer for University of California Postdocs & Academic Researchers Union (UAW 4811)**  
*Scripps Institution of Oceanography, UCSD*
- 2024-2025 **Mentor in the Scripps Mentoring Program for Undergraduates**  
*Scripps Institution of Oceanography, UCSD*
- 2023 **Committee on PhD student survey**  
*Courant Institute, New York University*  
  
On a small committee of PhD students and faculty who analyzed survey results on departmental culture and presented key findings and action items.
- 2022-2024 **Discussion leader and participant in department DEI reading group**  
*Courant Institute, New York University*
- Fall 2022 **Student co-host for visiting colloquium speaker**  
*Courant Institute, New York University*
- Spring 2021 **Organizer for weekly Atmosphere Ocean Science Friday seminar**  
*Courant Institute, New York University*
- 2020-2021 **Peer mentor for first year PhD student**  
*Courant Institute, New York University*
- 2018-2019 **Co-organizer for weekly student lunch talks**  
*Courant Institute, New York University*
- 2015-2016 **Peer reviewer for Undergraduate Research Journal - 'The iScientist'**  
*McMaster University*

## Additional Activities

- 2022 **NASA Summer School on Satellite Observations and Climate Models**  
*Jet Propulsion Laboratory Center for Climate Sciences and the Keck Institute for Space Studies*
- Spring 2021 **Participant in Unlearning Racism in the Geosciences (URGE)**  
*Courant Institute, New York University*

## Technical skills

- Code Python (including xarray, numpy, numba, matplotlib, scikit-learn), MATLAB
- Tools LaTeX, bash, git/GitHub, Jupyter