

Aurora Basinski-Ferris (they/them)

Education

2018-2024 **PhD in Mathematics & Atmosphere-Ocean Science**
(Expected) *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

Work in preparation with Emma Beer, Ian Eisenman, and Laure Zanna on the effect of the depth of meltwater forcing on regional sea level across model complexities.

Basinski-Ferris, A. and Zanna, L. 2023. "Estimating freshwater flux amplification with ocean tracers via linear response theory." *Earth System Dynamics*. (in revisions). <https://doi.org/10.5194/esd-2023-14>.

Davis, P.E.D. et al. 2023. "Suppressed basal melting in the eastern Thwaites Glacier grounding zone." *Nature*. <https://doi.org/10.1038/s41586-022-05586-0>.

Schmidt, B.E. et al. 2023. "Heterogeneous melting near the Thwaites Glacier grounding line." *Nature*. <https://doi.org/10.1038/s41586-022-05691-0>.

Holland, D.M., Nicholls, K.W., Basinski, A. 2020. "The Southern Ocean and its Interaction with the Antarctic Ice Sheet." *Science*. <https://doi.org/10.1126/science.aaz5491>.

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

Awards & Distinctions

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.

2018-2020 **Henry M. MacCracken Graduate Fellowship**
New York University

2017 **Natural Sciences and Engineering Research Council of Canada 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

- Spring 2023 **Community Earth System Model (CESM) working group meeting**
Talk: "Estimating freshwater flux amplification from ocean tracers via linear response theory"
- Dec 2022 **American Geophysical Union (AGU) fall meeting**
Talk: "Estimating freshwater flux amplification from ocean tracers via linear response theory"
- May 2022 **US CLIVAR Pattern Effect workshop**
Poster: "Examining processes setting the sea surface salinity pattern under anthropogenic forcing and relationships to sea surface temperature"
- Feb 2022 **Ocean Sciences Meeting**
Talk: "Examining the mechanisms behind changing salinity distributions and the impact of salinity storage on regional sea level"
- Dec 2016 **Poster at Canadian Mathematical Society (CMS) winter meeting**
Niagara Falls CMS Conference

Teaching

- 2023 **Curriculum development**
Climatematch Academy
Developed curriculum on ocean circulation for Climatematch Academy - a new 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

- 2022-2023 **Peer reviewer for Geophysical Model Development and JGR: Oceans**
- 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-Pres. **Participant and discussion leader 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 PhD student seminar**
Courant Institute, New York University
- 2020-2021 **Peer mentor for first year PhD student**
- 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 **Participant in Unlearning Racism in the Geosciences (URGE)**
2021 *Courant Institute, New York University*

Technical skills

Advanced Python (including numpy, matplotlib, xarray), MATLAB, LaTeX, git
Basic HTML, Javascript, bash