

Jeffrey Mei

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EDUCATION



Massachusetts Institute of Technology, Cambridge, MA 02139

Woods Hole Oceanographic Institution, Woods Hole, MA 02543

Ph.D., MIT-WHOI Joint Program in Applied Ocean Science & Engineering, expected August 2020

New York University Abu Dhabi, Abu Dhabi, UAE

B.S. *cum laude*, May 2015. Major in Physics and Mathematics, GPA: 3.8/4.0

HONOURS AND AWARDS

Scientific Committee on Antarctic Research travel grant, 2018

MIT Graduate Student Leadership Institute Fellow, Fall 2016

New York University Honors Scholar, 2015

New York University Abu Dhabi Summer Research Grant, Summer 2012-14

New York University Abu Dhabi Undergraduate Conference Grant, January 2013

New York University Abu Dhabi full scholarship, 2011

University of Auckland full scholarship, 2010

RESEARCH EXPERIENCE

Graduate Research Assistant. MIT/WHOI, 2015-2020

- Applied convolutional neural networks to sea ice imagery to infer ice thickness
- Wrote custom scripts for processing imagery with OpenCV
- Built graphical user interfaces for visualizing deep learning filters

Undergraduate Research Assistant. NYU Abu Dhabi, 2014-2015

- Developed novel method for locating glacial calving events
- Visualized seismic spectrograms to help create a frequency bandpass filter
- Published results in peer-reviewed journal *The Cryosphere* (see below)

SELECT PAPERS AND CONFERENCE TALKS

Mei, M. Jeffrey, Ted Maksym, Hanumant Singh. "Estimating Early-Winter Antarctic Sea Ice Thickness From Deformed Ice Morphology." *The Cryosphere Discussions*, 1-33, [doi:10.5194/tc-2019-140](https://doi.org/10.5194/tc-2019-140), 2019.

Mei, M. Jeffrey, Ted Maksym, Blake Weissling, Guy Williams, Steven Ackley. "PIPERs: Sea Ice Thickness Redistribution from Early Winter Deformation." *2018 SCAR/IASC Conference*. 2018. [\[link to abstract\]](#)

Mei, M. Jeffrey, David M. Holland, Sridhar Anandakrishnan, Tiantian Zheng. "Calving localization at Helheim Glacier using multiple local seismic stations." *The Cryosphere*, 11, 609-618, [doi:10.5194/tc-11-609-2017](https://doi.org/10.5194/tc-11-609-2017), 2017.

Holland, D.M., D. Voytenko, K. Christianson, T.H. Dixon, **M.J. Mei**, B.R. Parizek, I. Vankova, R.T. Walker, J.I. Walter, K. Nicholls, and D. Holland. "An intensive observation of calving at Helheim Glacier, East Greenland." *Oceanography* 29(4):46-61, [doi:10.5670/oceanog.2016.98](https://doi.org/10.5670/oceanog.2016.98), 2016.

PROFESSIONAL AFFILIATIONS

Junior Member, American Astronomical Society, 2013 – 2015

Student Member, American Geophysical Union, 2015 – present

TEACHING EXPERIENCE

Elements of Modern Oceanography. MIT, Fall 2018

Teaching assistant

- Corrected weekly homeworks for students
- Led weekly recitations to supplement lecture material

Summer Math Review. WHOI, 2017-2018

Organizer and instructor

- Selected topics for summer math review for incoming graduate students
- Organized and assigned instructors for each class
- Prepared class notes for and taught classes in ordinary and partial differential equations, data analysis, numerical methods

OTHER SKILLS AND INTERESTS

Fluency in English, Mandarin Chinese, German; intermediate level of Russian
Experienced in Python (NumPy/SciPy/OpenCV/PyTorch/Pandas), SQL, R, LaTeX
PADI-certified Open Water Diver
President, MIT Badminton