

# Hannah F. Mark

MIT-WHOI Joint Program in Oceanography | Marine Geology and Geophysics

hmark@whoi.edu | (508) 289 4816 | <https://hfmark.github.io/>

## EDUCATION

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<b>MIT-WHOI Joint Program</b>	Expected 2019
Ph.D. candidate, Marine Geology and Geophysics	
Thesis advisors: Daniel Lizarralde, Mark D. Behn	
<b>University of Chicago</b>	2014
B.A. Physics   B.S. Geophysical Sciences, with general honors	

## PUBLICATIONS

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**Mark, H. F.**, M. D. Behn, J.-A. Olive, & Y. Liu (2018). Controls on mid-ocean ridge normal fault seismicity across spreading rates from rate-and-state friction models. *Journal of Geophysical Research: Solid Earth*, 123, DOI: 10.1029/2018JB015545.

**Mark, H. F.**, D. Lizarralde, J. A. Collins, N. C. Miller, G. Hirth, J. B. Gaherty, & R. L. Evans (2019). Azimuthal seismic anisotropy of 70 Ma Pacific-plate upper mantle. *Journal of Geophysical Research: Solid Earth*, 124, DOI: 10.1029/2018JB016451.

## AWARDS

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AGU Outstanding Student Paper Award (OSPA), Tectonophysics section	2018
AGU OSPA, Tectonophysics section	2016
GeoPrisms OSPA, Honorable Mention	2016
National Science Foundation Graduate Research Fellowship	2015
MIT Provost Women's Fellowship	2014
Phi Beta Kappa, Beta of Illinois	2014
John Crerar Science Writing Prize	2013

## CONFERENCE ABSTRACTS

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**Mark, H. F.**, J. Collins, D. Lizarralde, J. Gaherty, G. Hirth, R. Evans (2018). S-to-P receiver functions for the central Pacific from NoMelt. AGU Fall Meeting, Washington, DC, December 14.

**Mark, H. F.**, M. Behn, Y. Liu, J.-A. Olive (2017). Geometric and thermal controls on normal fault seismicity. AGU Fall Meeting, New Orleans, LA, December 11 (invited).

**Mark, H. F.**, D. Lizarralde, J. Collins, N. Miller, G. Hirth, J. Gaherty, R. Evans (2017). Seismic anisotropy of 70 Ma Pacific-plate upper mantle. AGU Fall Meeting, New Orleans, LA, December 15.

**Mark, H. F.**, M. Behn, Y. Liu, J.-A. Olive (2017). Seismic coupling at divergent plate boundaries from rate-and-state friction. GeoPrisms Theoretical and Experimental Institute on Rift Initiation and Evolution, Albuquerque, NM, February 9 (invited).

- Mark, H. F.**, M. Behn, Y. Liu, J.-A. Olive (2016). Seismic coupling at divergent plate boundaries from rate-and-state friction. AGU Fall Meeting, San Francisco, CA, December 15.
- Mark, H. F.**, M. Behn, Y. Liu, J.-A. Olive (2016). Rate-and-state friction models of seismic cycles on oceanic normal faults. Gordon Research Conference on Rock Deformation, Andover, NH, August 21-26 (poster).
- Mark, H. F.**, D. Lizarralde, J. Gaherty, J. Collins, G. Hirth, R. Evans, P. Lin (2016). Seismic anisotropy in the Pacific upper mantle. Seismology Student Workshop, Lamont Doherty Earth Observatory, March 18.
- Mark, H. F.**, D. Lizarralde, J. Gaherty, J. Collins, G. Hirth, R. Evans (2014). Seismic anisotropy of the Pacific-plate upper mantle from NoMelt. AGU Fall Meeting, San Francisco, CA, December 17 (poster).
- Heinz, D. L., **H. F. Mark** (2012). The Effect of Wavelength-Dependent Emissivity on the Melting Temperature of Iron from Shock Wave Measurements. AGU Fall Meeting, San Francisco, CA, December 3-7 (poster).

#### INVITED SEMINARS

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Columbia University, Lamont-Doherty Earth Observatory, Marine Geology and Geophysics/Seismology, Geology, and Tectonophysics seminar. October 2018.

Woods Hole Oceanographic Institution, Interdisciplinary Biology Seminar Series on Acoustics. July 2018.

#### RESEARCH EXPERIENCE

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Summer Student Fellow, WHOI, with Dr. Daniel Lizarralde	2013
Modeling seismic imaging capabilities for subduction zone faulting	
Undergraduate Research Assistant, University of Chicago, with Dr. Dion Heinz	2011-14
Laboratory for Mineral Physics	

#### FIELD EXPERIENCE

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R/V <i>Neil Armstrong</i> cruise AR23-02	2017
Collecting underway data along a ridge flowline in the Atlantic	
R/V <i>Neil Armstrong</i> cruise AR05	2016
Scientific validation cruise	
ENAM land seismic experiment, North Carolina	2015
RT-125 deployment and recovery for an active-source seismic line on the Eastern North American Margin	
PRIDE SeisORZ seismic experiment, Botswana	2014
RT-125 deployment and recovery for an active-source seismic line across the Okavango Delta in the East African Rift System	

## TEACHING EXPERIENCE

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Kaufman teaching certificate program, MIT Teaching and Learning Lab	2018
Classroom assistant, WHOI Software Carpentries workshop	2018
Lecturer, WHOI Summer Math Review	2017
Co-instructor, MS-3221: Oceanography, Massachusetts Maritime Academy	2017
Teaching Assistant, MIT 12.702: Elements of Modern Oceanography	2016
Lecturer, WHOI Summer Math Review	2016

## SERVICE

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Librarian, MIT-WHOI Joint Program Farrington Collection	2015-
Steering Committee, 500 Women Scientists of Cape Cod	2018-
Blog manager, MIT-WHOI Broader Impacts Group	2017-18
Web administrator, Graduate Women at MIT Mentoring Program	2015-16
Coordinator, WHOI Summer Math Review	2014-16

## COMMUNICATION AND OUTREACH

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- Mark, H. F.** (2018) How is the seafloor made? *Oceanus* Vol. 53, No. 2, Fall 2018.
- Mark, H. F.** (2017) (Way) under the sea: Imaging the rocks beneath the deep ocean. Talk presented for the Science Made Public lecture series, Woods Hole, MA, August 1.
- Mark, H. F.** (2017) The lithosphere-asthenosphere boundary: What it is, where it is, and why you should care. Talk presented at the Woods Hole Public Library, Woods Hole, MA, May 1.
- Mark, H. F.** (2016) Under-under the sea: Imaging the rocks beneath the deep ocean. Talk presented at the Woods Hole Public Library, Woods Hole, MA, March 30.