

Hannah F. Mark

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EDUCATION

- 2019 Ph.D. Marine Geophysics, co-advisors Dr. Dan Lizarralde and Prof. Mark Behn, MIT-WHOI Joint Program
- 2014 B.A. Physics | B.S. Geophysical Sciences, University of Chicago

APPOINTMENTS

- 2019-present Fossett Postdoctoral Fellow, co-advisors Prof. Doug Wiens and Prof. Phil Skemer, Washington University in St. Louis
- 2015-16 Graduate Research Assistant, co-advisors Dr. Dan Lizarralde and Prof. Mark Behn, Woods Hole Oceanographic Institution
- 2013 Summer Student Fellow, advisor Dr. Dan Lizarralde, Woods Hole Oceanographic Institution
- 2011-14 Undergraduate Research Assistant, advisor Dr. Dion Heinz, University of Chicago

PUBLICATIONS

- Shinevar, W. J., **H. F. Mark**, F. Clerc, E. A. Codillo, J. Gong, J. A. Olive, S. M. Brown, P. T. Smalls, Y. Liao, V. Le Roux, & M. D. Behn (2019). Causes of oceanic crustal thickness oscillations along a 74-Myr Mid-Atlantic Ridge flow line. *Geochemistry, Geophysics, Geosystems*, 20, DOI: 10.1029/2019GC008711
- 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
- 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.

AWARDS

- 2018 AGU Outstanding Student Paper Award (OSPA), Tectonophysics section
- 2016 AGU OSPA, Tectonophysics section
- 2016 GeoPrisms OSPA, honorable mention
- 2015 National Science Foundation Graduate Research Fellowship
- 2014 Walter A. Rosenblith Presidential Fellowship, MIT
- 2014 Phi Beta Kappa, Beta of Illinois
- 2013 John Crerar Science Writing Prize, University of Chicago

CONFERENCE ABSTRACTS

- Mark, H. F.**, J. A. Collins, D. Lizarralde, J. B. Gaherty, G. Hirth, R. L. Evans (2018). S-to-P receiver functions for the central Pacific from NoMelt. AGU Fall Meeting, Washington, DC.
- Russell, J. B., **H. F. Mark**, J. B. Gaherty, D. Lizarralde, P. P. Lin, J. A. Collins, G. Hirth, R. Evans (2018). Comprehensive in situ constraints on LPO fabric of fast-spreading oceanic lithosphere from seismic anisotropy. AGU Fall Meeting, Washington, DC.
- Shinevar, W. J., **H. F. Mark**, F. Clerc, E. Codillo, J. A. Olive, J. Gong, S. M. Brown, P. T. Smalls, Y. Liao, V. Le Roux, M. D. Behn (2018). Temporal variability of seafloor spreading processes documented along an 80-Myr geophysical transect across the Mid-Atlantic Ridge. AGU Fall Meeting, Washington, DC.
- Gaherty, J. B., J. B. Russell, **H. F. Mark**, P. P. Lin, E. K. Sarafian, Z. Ma, D. Lizarralde, J. A. Collins, G. Hirth, R. L. Evans, C. A. Dalton (2018). A comprehensive portrait of the central Pacific lithosphere-asthenosphere system from NoMelt seafloor geophysical observations. AGU Fall Meeting, Washington, DC.
- Mark, H. F.**, M. D. Behn, Y. Liu, J. A. Olive (2017). Geometric and thermal controls on normal fault seismicity. AGU Fall Meeting, New Orleans, LA (invited).
- Mark, H. F.**, D. Lizarralde, J. A. Collins, N. C. Miller, G. Hirth, J. B. Gaherty, R. L. Evans (2017). Seismic anisotropy of 70 Ma Pacific-plate upper mantle. AGU Fall Meeting, New Orleans, LA.
- Mark, H. F.**, M. D. 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 (invited).
- Mark, H. F.**, M. D. Behn, Y. Liu, J. A. Olive (2016). Seismic coupling at divergent plate boundaries from rate-and-state friction. AGU Fall Meeting, San Francisco, CA.
- Mark, H. F.**, M. D. 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 (poster).
- Mark, H. F.**, D. Lizarralde, J. B. Gaherty, J. A. Collins, G. Hirth, R. L. Evans, P. P. Lin (2016). Seismic anisotropy in the Pacific upper mantle. Seismology Student Workshop, Lamont Doherty Earth Observatory.
- Mark, H. F.**, D. Lizarralde, J. B. Gaherty, J. A. Collins, G. Hirth, R. L. Evans (2014). Pacific upper mantle seismic anisotropy from the active-source component of the NoMelt experiment. AGU Fall Meeting, San Francisco, CA (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 (poster).

INVITED SEMINARS

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| 2019 | University of Illinois Urbana-Champaign, Brown bag seminar |
| 2018 | Columbia University, Lamont-Doherty Earth Observatory, MGG/SGT seminar |

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

FIELD EXPERIENCE

2017 R/V *Neil Armstrong*, AR23-02, collecting underway data along a ridge flowline in the Atlantic

2016 R/V *Neil Armstrong*, AR05, scientific validation cruise

2015 ENAM land seismic experiment, North Carolina, RT-125 deployment and recovery for active-source seismic lines on the Eastern North American Margin

2014 PRIDE SeisORZ seismic experiment, Botswana, RT-125 deployment and recovery for an active-source seismic line across the Okavango Delta in the East African Rift System

TEACHING EXPERIENCE

2018 Kaufman teaching certificate program, MIT Teaching and Learning Lab

2018 Classroom assistant, WHOI Software Carpentries workshop

2017 Lecturer, WHOI Summer Math Review

2017 Co-Instructor, MS-3221: Oceanography, Massachusetts Maritime Academy

2016 Teaching Assistant, MIT 12.702: Elements of Modern Oceanography

2016 Lecturer, WHOI Summer Math Review

SERVICE

2018-19 Steering Committee, 500 Women Scientists of Cape Cod

2015-19 Librarian, MIT-WHOI Joint Program Farrington Collection

2017-18 Blog manager, MIT-WHOI Broader Impacts Group

2015-16 Web administrator, Graduate Women at MIT Mentoring Program

2014-16 Coordinator, WHOI Summer Math Review

SELECTED COMMUNICATION AND OUTREACH

2018 *Magazine article*: How is the seafloor made? *Oceanus* Vol. 53, No. 2, Fall 2018.

2017 *Public talk*: (Way) under the sea: Imaging the rocks beneath the deep ocean. Presented for the Science Made Public lecture series, Woods Hole, MA.

2017 *Public talk*: The lithosphere-asthenosphere boundary: What it is, where it is, and why you should care. Presented at the Woods Hole Public Library, Woods Hole, MA.

2016 *Public talk*: Under-under the sea: Imaging the rocks beneath the deep ocean. Presented at the Woods Hole Public Library, Woods Hole, MA.