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266 Woods Hole Road MS#24, Woods Hole, MA, 02543

Education

2019 **PhD in Marine Geophysics**, MIT-WHOI Joint Program
2014 **BA Physics, BS Geophysical Sciences**, University of Chicago

Professional Appointments

2021 – on **Postdoctoral Investigator**, Woods Hole Oceanographic Institution
2019 – 2021 **Fossett Postdoctoral Fellow**, Washington University in St Louis
2013 **Summer Student Fellow**, Woods Hole Oceanographic Institution
2011 – 2014 **Undergraduate Research Assistant**, University of Chicago

Publications

2022 Russell, JB, Gaherty, JB, **Mark, HF**, Hirth, G, Hansen, LN, Lizarralde, D, Collins, JA, Evans, RL. Seismological evidence for girdled olivine lattice-preferred orientation in oceanic lithosphere and implications for mantle deformation processes during seafloor spreading. *Geochemistry, Geophysics, Geosystems*. doi:[10.1029/2022GC010542](https://doi.org/10.1029/2022GC010542)

2022 Ben Mansour, W, Wiens, DA, **Mark, HF**, Russo, RM, Richter, A, Marderwald, E, Barrientos, S. Mantle flow pattern associated with the Patagonian slab window determined from azimuthal anisotropy. *Geophysical Research Letters*. doi:[10.1029/2022GL099871](https://doi.org/10.1029/2022GL099871)

2022 **Mark, HF**, Wiens, DA, Ivins, ER, Richter, A, Ben Mansour, W, Magnani, MB, Marderwald, E, Adaros, R, Barrientos, S. Lithospheric erosion in the Patagonian slab window, and implications for glacial isostasy. *Geophysical Research Letters*. doi:[10.1029/2021GL096863](https://doi.org/10.1029/2021GL096863)

2021 **Mark, HF**, Collins, JA, Lizarralde, D, Hirth, G, Gaherty, JB, Evans, RL, Behn, MD. Constraints on the depth, thickness, and strength of the G discontinuity in the central Pacific from S receiver functions. *Journal of Geophysical Research: Solid Earth*. doi:[10.1029/2019JB019256](https://doi.org/10.1029/2019JB019256)

2019 Shinevar, WJ, **Mark, HF**, Clerc, F, Codillo, EA, Gong, J, Olive, JA, Brown, SM, Smalls, PT, Liao, Y, Le Roux, V, Behn, MD. Causes of oceanic crustal thickness oscillations along a 74-Myr Mid-Atlantic Ridge flow line. *Geochemistry, Geophysics, Geosystems*. doi:[10.1029/2019GC008711](https://doi.org/10.1029/2019GC008711)

2019 **Mark, HF**, Lizarralde, D, Collins, JA, Miller, NC, Hirth, G, Gaherty, JB, Evans, RL. Azimuthal seismic anisotropy of 70 Ma Pacific-plate upper mantle. *Journal of Geophysical Research: Solid Earth*. doi:[10.1029/2018JB016451](https://doi.org/10.1029/2018JB016451)

2018 **Mark, HF**, Behn, MD, Olive, JA, Liu, Y. Azimuthal seismic anisotropy of 70 Ma Pacific-plate upper mantle. *Journal of Geophysical Research: Solid Earth*. doi:[10.1029/2018JB016451](https://doi.org/10.1029/2018JB016451)

Manuscripts in progress

in prep **Mark, HF**, Lizarralde, D, Wiens, DA. Constraints on bend-faulting and mantle hydration at the Marianas Trench from seismic anisotropy. *Copies available on request*.

Funding

2023 – 2025 NSF-OCE: “Collaborative Research: Resolving the Origin of the Jurassic Quiet Zone”. Award ID: [2221814](#). PI: Tominaga, M, co-PIs: **Mark, HF**; Sager, W. \$827k to WHOI including \$192k to HF Mark

Awards

2019 **Fossett Postdoctoral Fellowship**, Washington University in St Louis
2019 **AGU Outstanding Student Paper Award (OSPA)**, Tectonophysics
2016 **AGU OSPA**, Tectonophysics
2016 **GeoPrisms OSPA**, honorable mention
2015 **National Science Foundation Graduate Research Fellowship**
2014 **Rosenblith Presidential Fellowship**, Massachusetts Institute of Technology
2014 **Phi Beta Kappa**, Beta of Illinois
2013 **John Crerar Science Writing Prize**, University of Chicago

Teaching Experience

2018 **Kaufman Teaching Certificate**, MIT Teaching and Learning Lab
2018 **WHOI Software Carpentries workshop**, Classroom assistant
2017 **WHOI Summer Math Review**, Lecturer
2017 **MS-3221: Oceanography**, Massachusetts Maritime Academy, Co-Instructor
2016 **12.710: Elements of Modern Oceanography**, MIT-WHOI Joint Program, TA
2016 **WHOI Summer Math Review**, Lecturer

Academic Service

2022 – on Co-chair, Standards and Copy Editing, *Seismica* journal
2022 – on Department Representative, WHOI Postdoc Association
2022 – on Department Representative, WHOI Workplace Climate Committee

2022 – on	Co-organizer, WHOI G&G Proposal Club
2021	Pod Leader, WUSTL EPS Department URGE pod
2018 – 2019	Steering Committee member, 500 Women Scientists of Cape Cod
2015 – 2019	Librarian, MIT-WHOI Joint Program Farrington Collection
2014 – 2016	Coordinator, WHOI Summer Math Review

Invited Seminars

2022	University of Washington School of Oceanography University of Wisconsin Madison, Weeks Seminar Syracuse University, EES Department Colloquium
2021	University of Hawai'i Manoa, Earth Sciences Department seminar
2019	University of Illinois Urbana-Champaign, Brown bag seminar
2018	Lamont-Doherty Earth Observatory, MGG/SGT seminar WHOI, Interdisciplinary Biology Seminar Series on Acoustics

Field Experience

Selected Communication and Outreach

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Conference Abstracts
