

FORREST HORTON

Assistant Scientist II, Woods Hole Oceanographic Institution
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EDUCATION

Ph.D., Geological Sciences, University of California Santa Barbara, 2015
M.S., Geology, San Francisco State University, 2011
B.A., Geology & Environmental Studies, Bowdoin College, 2008

PROFESSIONAL APPOINTMENTS

2022–present Assistant Scientist II, Woods Hole Oceanographic Institution
2018–2022 Assistant Scientist I, Woods Hole Oceanographic Institution
2018–present Faculty Member, MIT-WHOI Joint Program
2015–2017 Postdoctoral Fellow, California Institute of Technology

RESEARCH AREAS

Mantle geochemistry, mantle plumes and core–mantle exchange, carbonatite magmatism, volcanic processes, and metamorphic petrology.

PROFESSIONAL SERVICE

2024 Organizing Committee Member, Magma Supply Workshop,
Lamont-Doherty Earth Observatory
2024 Lead Session Convener, Goldschmidt Conference
2020 Invited Panelist, NSF EAR Petrology & Geochemistry program
2018–present Reviewer for NSF, NASA, Swiss NSF, and National Science Center Poland
2018–present Peer reviewer for *Geology*, *Science Advances*, *Nature Geoscience*, *Nature Communications*, *PNAS*, *GCA*, *GRL*, *EPSL*, *American Mineralogist*, *Lithos*, *Tectonics*, and other journals

PROFESSIONAL AFFILIATIONS

Member, American Geophysical Union
Member, Geochemical Society
Member, Geological Society of America
Member, Mineralogical Society of America

LEADERSHIP & INSTITUTIONAL SERVICE

2024 WHOI Geology & Geophysics Annual Evaluation Committee
2024–present Northeast National Ion Microprobe Facility Internal Advisory Committee
2019–2024 WHOI Geology & Geophysics Hiring Committees
2019–2021 MIT-WHOI Joint Program Admissions Committee
2018–2020 Coordinator, WHOI Geology & Geophysics Seminar Series
2018–present WHOI Plasma Facility Steering Committee
2018–present Seafloor Samples Laboratory Advisory Committee

MENTORING & TEACHING

- 2021–present Instructor in the MIT-WHOI Joint Program, contributing to graduate instruction in geological oceanography, geochemistry, petrology, cosmochemistry, and volcanology
- 2019–present Mentor and supervisor for graduate students, postdoctoral scholars, guest students, undergraduate interns, and laboratory assistants at WHOI
- 2019–present Contributor to graduate admissions, academic mentoring, and professional development activities within the MIT-WHOI Joint Program

HONORS & AWARDS

- 2024–2025 Harris Family Fellowship, Woods Hole Oceanographic Institution
- 2015 Postdoctoral Fellowship, California Institute of Technology
- 2011 Graduate Division Doctoral Fellowship, University of California Santa Barbara
- 2010 National Science Foundation Graduate Research Fellowship

SELECTED PUBLICATIONS

- Horton, F.** et al. (2023) Highest terrestrial $^3\text{He}/^4\text{He}$ credibly from the core. *Nature*.
- Dottin, J.W., **Horton, F.** et al. (2025) Hydrogen isotopic evidence for a core component in Baffin Island lavas. *Science Advances*.
- Horton, F.** (2021) Rapid recycling of subducted sedimentary carbon revealed by Afghanistan carbonatite volcano. *Nature Geoscience*.
- Kaare-Rasmussen, J., **Horton, F.** et al. (2024) Protracted mantle heat conduction after lithospheric foundering beneath the Malagasy Orogen. *Geology*.
- Horton, F.** et al. (2021) Primordial neon in high- $^3\text{He}/^4\text{He}$ Baffin Island olivines. *Earth and Planetary Science Letters*.
- Horton, F.**, Nielsen, S., Shu, Y. et al. (2021) Thallium isotopes reveal brine activity during carbonatite magmatism. *Geochemistry, Geophysics, Geosystems*.
- Horton, F.**, Farley, K.A., Jackson, M. (2019) Helium distributions in ocean island basalt olivine phenocrysts revealed by X-ray computed tomography and single-grain crushing experiments. *Geochimica et Cosmochimica Acta*.
- Horton, F.** (2015) Did phosphorus derived from weathering of large igneous provinces fertilize the Neoproterozoic ocean? *Geochemistry, Geophysics, Geosystems*.
- Horton, F.**, Holder, R.M., Swindle, C.R. (2022) An extensive record of orogenesis recorded in a Madagascar granulite. *Journal of Metamorphic Geology*.
- Kaare-Rasmussen, J. et al. (2023) Tungsten isotopes in Baffin Island lavas: Evidence of Iceland plume evolution. *Geochemical Perspectives Letters*.
- Horton, F.**, Hacker, B., Kylander-Clark, A. et al. (2016) Focused radiogenic heating of middle crust caused ultrahigh temperatures in southern Madagascar. *Tectonics*.

PUBLIC ENGAGEMENT

Research featured in *Quanta Magazine*, *Scientific American*, *CNN*, and other national science media outlets for discoveries related to Earth's deep interior.