AMY L. FERRICK

Ph.D. Candidate
Department of Earth and Planetary Sciences, Yale University
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EDUCATION

Yale University
- Ph.D., Earth and Planetary Sciences, 2026 (expected)
  Dissertation: “Constraining tectonic mode and coupled geodynamic–geochemical evolution of planetary mantles”
  Advisor: Jun Korenaga

University of California, Berkeley
- B.A., Geophysics, 2021
  with high distinction in general scholarship and highest honors in Geophysics
  Thesis: “Microstructural differences between naturally-deposited and laboratory beach sands”
  Advisor: Michael Manga

APPOINTMENTS

Graduate Student and Teaching Fellow, Yale University, 2021-present
Research Intern, Southern California Earthquake Center SOURCES program, 2020

TEACHING EXPERIENCE

EPS 110 – Dynamic Earth (Teaching Fellow)
EPS 528 / PHYS 428 / AMTH 428 / EEB 428 – Science of Complex Systems (Teaching Fellow)
EPS 342 / PHYS 342 – Intro. to Earth and Environmental Physics (Teaching Fellow)
EPS 312 – Structural Geology (Teaching Fellow)
EPS 274 – Fossil Fuels and World Energy (Teaching Fellow)
Oman Field Trip for EPS 212 – Global Tectonics (Graduate Student Helper)

HONORS AND AWARDS

Elias Loomis Prize, Yale University, May 2024
for excellence in studies of physics of the Earth
Hammer Prize, Yale University, May 2023
for an outstanding geology graduate student
Bateman Prize, Yale University, February 2021
for outstanding academic accomplishment of an incoming student
Departmental Citation, University of California, Berkeley, May 2021
for distinguished undergraduate work

SERVICE

Student representative for Yale EPS colloquium committee, 2022-2024
Graduate student mentor, Yale EPS, 2023-2024
Manuscript reviewer for *Geophysical Research Letters; Physics of the Earth and Planetary Interiors*

PUBLICATIONS

7. **Ferrick, A. L.** and J. Korenaga, "A plate tectonic origin for Earth's hydrogen isotope dichotomy," Submitted.
6. **Ferrick, A. L.** and J. Korenaga, "Fluid flow and hydration in oceanic lithosphere: Insights from theory and numerical investigation," *Earth Planet. Sci. Lett.,* In press.
5. **Ferrick, A. L.** and J. Korenaga, "Scaling laws for mixed heated convection with pseudoplastic rheology: Implications for the bistability of tectonic mode," *J. Geophys. Res. Solid Earth* 128, e2023JB027869, 2023.
4. **Ferrick, A. L.** and J. Korenaga, "Generalizing scaling laws for mantle convection with mixed heating," *J. Geophys. Res. Solid Earth* 128, e2023JB026398, 2023.
3. **Ferrick, A. L.** and J. Korenaga, "Long-term core-mantle interaction explains W-He isotope heterogeneities," *Proc. Nat. Acad. Sci. USA* 120, e2215903120, 2023.
2. **Ferrick, A. L.** and J. Korenaga, "Defining Earth's elusive thermal budget in the presence of a hidden reservoir," *Earth Planet. Sci. Lett.* 601, 117893, 2023.
1. **Ferrick, A. L.**, V. Wright, M. Manga, and N. Sitar, "Microstructural differences between naturally-deposited and laboratory beach sands," *Granular Matter* 24, 9, 2022.

CONFERENCE PRESENTATIONS

5. **Ferrick, A. L.** and J. Korenaga, "Predicting mantle convective regime: A key step in the theory of planetary habitability," *AGU Fall Meeting*, 2024 (eLightning Poster).
4. **Ferrick, A. L.** and J. Korenaga, "Scaling laws for mantle convection with pseudoplastic rheology: Resolving non-uniqueness of tectonic mode," *AGU Fall Meeting*, 2023 (Poster).
3. **Ferrick, A. L.** and J. Korenaga, "Core-mantle isotopic diffusion: Implications for the isotopic evolution of the solid Earth," *Interior of the Earth Gordon Research Conference*, 2023 (Poster).
2. **Ferrick, A. L.** and J. Korenaga, "Core evolution in the presence of a basal magma ocean," *Japan Geophysical Union Meeting*, 2023 (Invited talk).
1. **Ferrick, A. L.** and J. Korenaga, "Mantle 128W-3He heterogeneities explained by long-term core-mantle interaction," *AGU Fall Meeting*, 2022 (Poster).