

GAETANO FERRANTE

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EDUCATION

- Ph.D. in Geophysics**, Rice University, Houston, USA January 2022 - Present
- Numerical modeling of lithospheric-scale magma transport at Kīlauea Volcano, Hawai'i.
 - Rheology experiments on the viscosity and outgassing of magmas.
- M.S. in Geophysics**, University of Bologna, Bologna, Italy September 2019 - October 2021
- Numerical modeling of hydrofracture propagation.
 - Stress field and fracture propagation modeling applied to volcanism in continental rifts.
- B.S. in Physics**, University of Bologna, Bologna, Italy. September 2016 - September 2019
- Modeling the stress distribution and fracturing conditions in a thermo-poro-elastic medium.

PUBLICATIONS AND CONFERENCE PRESENTATIONS

Publications:

- **Ferrante, G.** and Gonnermann H. (2025). Lithosphere-scale magma transport beneath Kīlauea Volcano, Hawai'i. *In preparation.*
- **Ferrante, G.**, Gonnermann, H., Fliedner, C., Giachetti, T., & Ryan, A. G. (2025). Viscosity of bubbly magmas from torsional experiments on pumice. *Journal of Volcanology and Geothermal Research*, 108297. ([Publication link](#))
- **Ferrante, G.**, Rivalta, E., & Maccaferri, F. (2024). Spatio-temporal evolution of rift volcanism controlled top-down by a deepening graben. *Earth and Planetary Science Letters*, 629, 118593. ([Publication link](#))

Conference presentations:

Presented in 4 Earth Science conferences, including AGU Fall Meeting, AGU Chapman, EGU and IAVCEI

MENTORING AND OUTREACH

- HISD Planetary Program Volunteer**, HISD-Rice University May 2024 - Present
- Engaged in science outreach for middle school students and professional development activities with HISD teachers.
- EEPS Explore Program Mentor**, Rice University August 2024 - Present
- Designed fluid dynamics experiments to benchmark a state of the art multiphase flow code.
- NSF Research Experience for Teachers (RET) Mentor**, Rice University June - July 2024
- Helped teachers create teaching modules and research projects for middle school students.
- Language Consultant for CLIC Department**, Rice University January 2024 - Present
- Helped students improve their Italian writing and speaking skills.
- Teaching Assistant for "EEPS 334: Earth Laboratory"**, Rice University Spring 2023, Spring 2025
- Helped teach a structural geology class and a geological mapping field trip to New Mexico.

FELLOWSHIPS AND AWARDS

- Expanding Horizons Fellowship**, Rice University Spring 2025
- Rice Space Institute Center for Planetary Origins to Habitability Fellowship**, Rice University Spring 2025
- Alison Henning Teaching Award**, Rice University Spring 2023
- Best Thesis Award**, University of Bologna Fall 2021

SKILLS

- Numerical modeling (MATLAB, C++, FORTRAN, Python) • Lab experience • Computational Fluid Dynamics (CFD)
- High Performance Computing (HPC) • Hydrofracture modeling • Data analysis • Communication (Italian, English, French)