JESSE T. GU

Department of Earth and Planetary Sciences, Harvard University
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Education

Harvard University 2020 –
Ph.D. in Earth and Planetary Sciences
Advisor: Rebecca Fischer

The University of Texas at Austin 2016 – 2020
B.S. with High Honors, Geological Sciences, Geophysics
Advisor: Jung-Fu Lin
Thesis: High-pressure elasticity of anhydrous and hydrous rhyolitic glasses

Research Experience

Graduate Research Assistant 2020 –
Laboratory for Mineral Physics, Harvard University
Advisor: Rebecca Fischer

Undergraduate Research Assistant 2017 – 2020
Mineral Physics Lab, The University of Texas at Austin
Advisor: Jung-Fu Lin

Visiting Researcher Summer 2018
Institute for Planetary Materials, Okayama University
Advisor: Takuo Okuchi

Undergraduate Research Assistant Summer 2017
JSG Catalyst Program, The University of Texas at Austin
Advisor: Whitney Behr

Undergraduate Research Assistant 2016 – 2017
The University of Texas at Austin
Advisor: Nicholas Dygert

Publications

Gu J.T., Fischer R.A., Brennan M.C., Clement M.S., Jacobson S.A., Kaib N.A., O'Brien D.P., and Raymond S.N. (202x). Accretion and core formation of the Earth with melting, submitted to *Icarus*.

Purevjav N., Tomioka N., Yamashita S., Shinoda K., Kobayashi S., Shimizu K., Ito M., Fu S., **Gu J.T.**, Hoffmann C., Lin J.F., and Okuchi, T. (202x). Hydrogen incorporation mechanism in the lower-mantle bridgmanite, submitted to *American Mineralogist*.

Gu J.T., Fu S., Gardner J.E., Yamashita S., Okuchi T., and Lin J.F. (2021). Anomalous elasticity of dry and hydrous rhyolitic glasses up to 3 GPa, *American Mineralogist (106)*, 1143-1152.

Dygert N., Jackson C.R.M., Hesse M.A., Tremblay M.M., Shuster, D.L. and **Gu J.T**. (2018). Plate tectonic cycling modulates Earth's $^{3}He/^{22}Ne$ ratio, *Earth and Planetary Science Letters (498),* 309-321.

Conference Presentations ([T] = Talk, [P] = Poster)

2021 "Incorporation of melt-scaling laws into models of Earth's accretion and core formation", *AGU Fall Meeting,* New Orleans, LA. [P]

2021 "Incorporation of melt-scaling laws into models of Earth's accretion and core formation", *COMPRES Annual Meeting,* Online everywhere. [T]

2019 "Anomalous elasticity of dry and hydrous rhyolitic glasses up to 3 GPa", *AGU Fall Meeting,* San Francisco, CA. [P]

2019 "Anomalous elasticity of dry and hydrous rhyolitic glasses up to 3 GPa", *COMPRES Annual Meeting,* Big Sky, MO. [P]

2018 "The effect of H_2O on the anomalous velocities of rhyolitic glasses up to 3 GPa", *AGU Fall Meeting,* Washington DC. [P]

2018 "The effect of H_2O on the anomalous behavior of hydrous rhyolitic glass up to 3 GPa", *COMPRES Annual Meeting,* Albuquerque, NM. [P]

2017 "Pore-scale dissociation of methane hydrate under conditions relevant to Gulf of Mexico reservoirs.", *DCO EPC Workshop,* Tempe, AZ. [P]

2017 "3He/22Ne variations among ocean island, mid-ocean ridge, and backarc basalts", *GSA South-Central Meeting,* San Antonio, TX. [P]

Honors and Awards

2022 – 2025 NSF Graduate Research Fellowship
2020 James Mills Peirce Fellowship, Harvard University
2018 – 2019 UT Distinguished College Scholar
2018 UT Undergraduate Research Fellowship and JSG Matching Fund
2017 Mineralogical Society of America Undergraduate Prize
2017 – 2020 Jackson School of Geosciences merit-based scholarship
2016 – 2020 University Honors

Outreach

2021 – Mentor, Harvard-MIT Science Research Mentoring Program
2020 Graduate Application Assistance Initiative
2019 – 2020 Volunteer, *Thinkery*, Austin, TX