

# Rose Gallo

University of Hawai'i at Mānoa  
Department of Earth Sciences  
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## EDUCATION

*PhD in Earth Sciences, University of Hawai'i at Mānoa, Honolulu, Hawai'i*  
Expected graduation: June 2025

*M.S. in Geology (with Distinction), Northern Arizona University, Flagstaff, Arizona*  
May 2020  
Thesis: *Anatomy of an Ignimbrite: Stratigraphy and Flow Processes of the Campanian Ignimbrite*

*B.S. in Geology (Honours), University of British Columbia, Vancouver, British Columbia*  
May 2018  
Honours thesis: *History and Dynamics of Explosive Volcanism at Tseax Cone, British Columbia*

## RESEARCH EXPERIENCE

*Research Assistant, Department of Earth Sciences, University of Hawai'i at Mānoa, Honolulu, Hawai'i*  
January 2021 – present

*National Science Foundation INTERN, Alaska Volcano Observatory, United States Geological Survey, Anchorage, Alaska*  
August – December 2024

*Research Assistant, School of Earth and Sustainability, Northern Arizona University, Flagstaff, Arizona*  
May 2019 – May 2020

*Research Assistant, Department of Earth, Ocean and Atmospheric Sciences, University of British Columbia, Vancouver, British Columbia*  
November 2015 – April 2018

## TEACHING EXPERIENCE

*Teaching Assistant – Igneous and Metamorphic Petrology, Department of Earth Sciences, University of Hawai'i at Mānoa, Honolulu, Hawai'i*  
January – May 2023 and January – May 2024

*Teaching Assistant – Geologic Disasters and Earth Materials, School of Earth and Sustainability, Northern Arizona University, Flagstaff, Arizona*  
September 2018 – April 2019

*Teaching Assistant – Introductory Petrology, Department of Earth, Ocean and Atmospheric Sciences, University of British Columbia, Vancouver, British Columbia*  
January – April 2018

## AWARDS AND GRANTS

### Graduate:

Harold T. Stearns Fellowship (2022)  
Jack Kleinman Memorial Fund for Volcano Research Award (2021)  
Fred M. Bullard Fellowship (2021)  
Lipman Research Award (2019)  
Tom and Rose Bedwell Earth Physics Award (2019)  
Pioneer Natural Resources Award (2019)  
Friday Lunch Clubbe Award (2019)

### Undergraduate:

DuMoulin Black Award in Geological Sciences (2017)  
Egil H Lorntzen Scholarship (2017)  
Dr. Earl B Gillanders Memorial Scholarship (2017)  
Volkoff Scholarship in Science (2017)  
NSERC USRA award (2017)  
NSERC SURE award (2016)  
Thomas and Marguerite MacKay Memorial Scholarship (2015 and 2016)  
Dr. Christopher Westerman Memorial Scholarship (2015 and 2016)  
Endeavour Silver Corporation Undergraduate Scholarship in Earth Sciences (2015)  
Chancellor's Scholar Award (2014)

## PUBLICATIONS

**Gallo, R.,** Shea, T., Whittington, A., Emerson, A., Boro, J., Mourey, A., 2024, Conditions for formation and preservation of andesite-hosted mafic enclaves during the 2018 Lower East Rift Zone eruption of Kīlauea, *Journal of Volcanology and Geothermal Research*, <https://doi.org/10.1016/j.jvolgeores.2024.108205>

**Gallo, R.,** Ort, M. H., Iacovino, K., Silleni, A., Smith, V., Giordano, G., Isaia, R., Boro, J., 2023, Reconciling complex stratigraphic frameworks reveals temporally and geographically variable depositional patterns of the Campanian Ignimbrite: *Geosphere*, <https://doi.org/10.1130/GES02651.1>.

Grau Galofrea, A., Bahía, R. S., Jellinek, A. M., Whipple, K. X., **Gallo, R.,** 2020, Did Martian valley networks substantially modify the landscape?: *Earth and Planetary Science Letters*, [doi.org/10.1016/j.epsl.2020.116482](https://doi.org/10.1016/j.epsl.2020.116482)

Williams-Jones, G., Barendregt, R., Russell, J.K., Le Moigne, Y., Enkin, R., **Gallo, R.,** 2020, The age of the Tseax volcanic eruption, British Columbia, Canada: *Canadian Journal of Earth Sciences*, doi: 10.1139/cjes-2019-0240

Aubry, T.J., Jellinek, A.M., Carazzo, G., **Gallo, R.**, Hatcher, K., and Dunning, J., 2017, A new analytical scaling for turbulent wind-bent plumes: Comparison of scaling laws with analog experiments and a new database of eruptive conditions for predicting the height of volcanic plumes: *Journal of Volcanology and Geothermal Research*, v. 343, doi: 10.1016/j.jvolgeores.2017.07.006.

## CONFERENCE PRESENTATIONS

Gallo, R., Boro, J., Shea, T., The Puna Geothermal Venture rhyolite, Kīlauea Volcano: insights into magma evolution in Kīlauea's rift zones and a test of geobarometers at shallow levels, AGU Fall Meeting 2024 (Oral)

Gallo, R., Wallace, K. L., Loewen, M., Petrologic investigations of Iliamna Volcano, Alaska: Research through the NSF INTERN program at the USGS Alaska Volcano Observatory, AGU Fall Meeting 2024 (Poster)

Gallo, R., Barreau, L., Cluzel, N., Shea, T., Lerner, A., Wallace, P., Gansecki, C. A., Origin and thermal history of the magma that fed the onset of the 2018 Lower East Rift Zone eruption at Kīlauea Volcano, IAVCEI 2023 (Oral)

Gallo, R., Ort, M. H., Iacovino, K., Silleni, A., Smith, V., Giordano, G., Isaia, R., Boro, J., Reconciling complex stratigraphic frameworks reveals temporally and geographically variable depositional patterns of the Campanian Ignimbrite, IAVCEI 2023 (Poster)

Gallo, R., Shea, T., Downs, D., Trusdell, F., Lynn, K. J., Understanding the closing stages of the last explosive cycle at Kīlauea Volcano by characterizing lavas from the ca. 1790 CE Lower East Rift Zone eruption, Goldschmidt 2022 (Poster)

Gallo, R., Ort, M. H., Iacovino, K., Silleni, A., Smith, V., Giordano, G., Isaia, R., Boro, J., Reconciling complex stratigraphic frameworks reveals temporally and geographically variable depositional patterns of the Campanian Ignimbrite, Cities on Volcanoes 2022 (Poster)

Gallo, R., Boro, J., Shea, T., Gansecki, C. A., and Hammer, J. E., Mafic and Crystal-Rich Inclusions in Evolved Lavas from the LERZ 2018 Eruption at Kīlauea Volcano, AGU Fall Meeting 2021 (Poster)

Gallo, R., Iacovino, K., Ort, M. H., Silleni, A., Barbero, A., Isaia, R., Correlating the Campanian Ignimbrite using matrix glass geochemistry and morphology, AGU Fall Meeting 2019 (Poster)

## RELATED WORK EXPERIENCE

*Geology Consultant, Self-employed, contracted to University of British Columbia and Breath of Life Development*, remote from Prince George, British Columbia  
June – December 2020

*GeoCorps Cave Guide, Rio Blanco District, White River National Forest, Colorado*  
May – August 2018

*Museum Assistant, The Pacific Museum of the Earth, University of British Columbia,*  
Vancouver, British Columbia  
May – August 2015

## **ENGAGEMENT AND OUTREACH**

Skype a Scientist: Questions and answers about volcano hazards and monitoring with 12<sup>th</sup> graders

Hawaii Volcano Observatory, United States Geological Survey: Volcano Watch article  
<https://www.usgs.gov/observatories/hvo/news/volcano-watch-petrologists-gather-discuss-challenges-and-goals-understanding>

Mid-Pacific Institute: Elementary school talk and demonstrations on Hawai’ian volcanoes with 1st and 2nd graders

Hokulani Elementary School: Career days talks with 3rd and 4th graders; ‘What do volcanologists do?’

Montessori Community School: Elementary school talk and demonstrations on Hawai’ian volcanoes with 3rd graders

University of Hawai’i at Mānoa: SOEST Open house; demonstrations and questions and answers with the public representing Tom Shea’s volcanology lab

ThinkTech Hawaii: Interview with local television on the 2018 eruption of Kilauea  
<https://www.youtube.com/watch?v=ixzC5WnE81U>

Huliāmahi University of Hawai’i Department of Earth Sciences student JEDI Council member

## **PROFESSIONAL SKILLS**

**Analytical equipment:** Electron microprobe (independent user), scanning electron microscope (independent user), heating stage microscope (independent user), Fourier transform infrared spectroscopy (independent user), secondary ion mass spectrometer (assisted), Laser Ablation Inductively Coupled Plasma Mass Spectrometry (assisted)

**Software:** ArcGIS and QGIS, Matlab, Adobe Products (Illustrator, Photoshop and Audition), Autodesk Inventor and Fusion, Agisoft Metashape

## **FIELD EXPERIENCES**

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| <i>Kīlauea lava sampling, research, Hawai'i, HI</i>   | March 2021, August 2021,<br>Oct. 2021, March 2022,<br>October 2022, March 2023 |
| <i>Hawai'ian petrology workshop field trips, assistant, Hawai'i, HI</i>                     | May 2024   |
| <i>Explosive volcanism field trip, participant, Taupo, New Zealand</i>                      | Feb. 2023  |
| <i>Igneous and metamorphic petrology field trip, teaching assistant, Hawai'i, HI</i>        | April 2023   |
| <i>COV Post-conference field trip, participant, Santorini, Greece</i>                       | June 2022  |
| <i>Igneous and metamorphic petrology field trip, participant, Maui, HI</i>                  | April 2022   |
| <i>Explosive volcanism field trip, participant, Hawai'i, HI</i>                             | March 2022   |
| <i>Campanian Ignimbrite tephra sampling and stratigraphy, research, Campania, Italy</i>     | Feb. 2022,<br>May 2019,<br>May 2018  |
| <i>Lava flow rheology field trip, participant, Hawai'i, HI</i>                              | Oct. 2021  |
| <i>Igneous petrology field trip, participant, El Dorado Mountains, NV</i>                   | Nov. 2019  |
| <i>Advanced sedimentology field trip, participant, Permian Basin, NM/TX</i>                 | Nov. 2018  |
| <i>Volcanology field trip, participant, Long Valley Caldera, CA</i>                         | Oct. 2018  |
| <i>Advanced sedimentology field trip, participant, Potato Mountain and Medicine Hat, NM</i> | Sept. 2018   |
| <i>Volcanology field trips, participant, San Francisco Volcanic Field, AZ</i>               | Sept-Dec 2018  |
| <i>International Volcanological Field School, Kamchatka, Russia</i>                         | Aug. 2017  |
| <i>Tseax Cone tephra sampling and mapping, research, Nisga'a Nation, BC</i>                 | July 2017  |
| <i>Oliver Undergraduate field school, British Columbia, Canada</i>                          | May 2017   |
| <i>Saltspring Island Undergraduate field school, British Columbia, Canada</i>               | May 2016   |