



LIS GALLANT, PhD

NSF Postdoctoral Research Fellow | egallant@usgs.gov | www.LisGallant.com

EDUCATION

PhD Geology | 2019

University of South Florida: Tampa, FL | magna cum laude
Dissertation: Modeling and Assessing Lava Flow Hazards
Advisors: Charles Connor and Timothy Dixon

MS Geology | 2016

University of South Florida | magna cum laude
Thesis: Lava Flow Hazard Assessment for the Idaho National Laboratory, Idaho Falls, and Pocatello, Idaho, USA)
Advisor: Charles Connor

BA Geology | 2012

University of New York at Buffalo College | summa cum laude
Thesis: Understanding the Eruptive History of Santa Ana Volcano, El Salvador
Advisor: Bettina Martinez-Hackert

BS Electronic Media, Arts, and Communications | 2009

Rensselaer Polytechnic Institute | cum laude

PROFESSIONAL APPOINTMENTS

National Science Foundation Postdoctoral Research Fellow

June 2021 - Present | Hawaiian Volcano Observatory (Hilo, HI)

- Participate in eruption monitoring and response activities at erupting volcanoes and other mission critical tasks related to volcano observatory actions
- Research the eruption dynamics that caused a catastrophic levee failure during the 2018 Kīlauea eruption using thermal IR, lidar, infrasound, and eruption monitoring data
- Conduct ground penetrating radar, aeromagnetic, and terrestrial radar surveys of volcanic terrain with a team of observatory and academic colleagues, including student mentees

Faculty for GeoSPACE Field Camp

June 2021 - Present | San Francisco Volcanic Field (Flagstaff, AZ)

- Instructional Staff for a hybrid field camp that uses a NASA-style mission approach to increase accessibility and promote participation in geosciences from historically marginalized groups
- Mentored a team of students involved in presenting GeoSPACE results at conferences

Postdoctoral Scholar

March 2020 - May 2021 | University of Cambridge, Department of Geography (UK)

- Investigated the human and environmental geographies of borderland volcanic areas in Chile, Argentina and Peru by combining human geographical theories of the earth with approaches from science and technology studies to think about volcanic places and spaces undergoing rapid environmental changes
- Modeled + assessed volcanic hazards and produced outputs for various stakeholder groups
- Supervisor for undergraduate courses in environmental science and volcanology

Adjunct Faculty

August 2019 - December 2019 | University of South Florida (Tampa, FL)

- Instructor of Record for an introductory course of 150 non-geoscience major students

Assistant Field Camp Coordinator

May - July (2015 - 2019) - 15 months total | University of South Florida (FL)

- Managed field logistics for field camps (safety, meals, scheduling); taught students how to identify and map rocks and minerals in the Basin-and-Range, volcanoes of the Cascade Range, and eastern Snake River Plain (sedimentary, metamorphic, and igneous units)
- Instructed on how to operate geophysical equipment and process data (gravity, GPR, magnetics, GPS) and on identification and mapping of different structures (folds, faults, volcanic features)

Graduate Teaching Assistant

August - May (2013 - 2019) - 60 months total | University of South Florida (FL)

- Instructor for numerous courses and labs taught to both STEM and non-STEM major students

Intern

November 2012 - July 2013 | Hawaiian Volcano Observatory (Volcano, HI)

- Participated in geological, hydrological, and geophysical investigations of volcanoes and volcanic processes at Hawaiian volcanoes, and in HVO monitoring and hazard response activities at restless or erupting volcanoes

Graphic Designer / Project Manager

November 2008 - December 2009 | Clinical Support Services (Buffalo, NY)

- Pharmacy network administrator for a client base in 15 states with over 100,000 patients
- Responsibilities included user interface design and implementation, online marketing, technical training, graphic design, quality control, and client outreach

Web Content Technologist

September 2008 - February 2009 | Global Spec (Troy, NY)

- Implemented comprehensive marketing tools, including technical writing and graphic design and web content support, to a client base of over 15,000 companies

Nature and Science Program Director

June - August (2006, 2007, 2008) | Girl Scouts of Northeastern New York (Troy, NY)

- Provided outdoor STEM education modules for children aged 5-17

CLASSROOM TEACHING EXPERIENCE

- 2020** • Volcanology | Supervisor (University of Cambridge) Hybrid in-person and online
- 2020** • Environmental Processes + Change: The Earth | Supervisor (University of Cambridge)
- 2019** • History of Life | Instructor of Record (USF)
- 2019** • Structural Geology and Tectonics | Instructor of Record (USF)
- 2017, 2018** • Dynamic Earth: Introduction to Earth Sciences | Grader (USF)
- 2017, 2018** • Structural Geology and Tectonics | Laboratory Instructor (USF)
- 2015, 2016** • Introduction to Geology Laboratory | Laboratory Instructor (USF)
- 2015** • Sedimentary Processes | Laboratory Instructor (USF)
- 2014** • Geology for Engineers | Grader (USF)
- 2013, 2014** • Mineralogy and Petrology | Laboratory Instructor (USF)
- 2011** • Introduction to Geology Laboratory | Teaching Assistant (SUNY Buffalo State)

FIELD-BASED TEACHING EXPERIENCE

- 2023** • Lava flows of the lower East Rift Zone | Hawai'i, USA (Santa Barbara City College)
- 2022 - pres.** • GeoSPACE: an accessible volcanology and planetary science themed field course that uses NASA style mission approaches to broaden participation in the earth sciences from historically underserved demographics | Arizona, USA (U. Florida)
- 2014-2019** • Volcanology, Structure Mapping, Geophysics field camps | Idaho, USA (USF)
- 2018** • Structural Geology and Tectonics of Death Valley | California, USA (USF)
- 2016** • Structure and Geomorphology of the Grand Tetons | Idaho, USA (USF)
- 2015** • Introduction to Basin-and-Range Structures and Stratigraphy | Idaho, USA (USF)
- 2013, 2014** • Mineralogy and Petrology of Appalachia | North Carolina, USA (USF)
- 2013** • Mapping | Hawai'i, USA (Center for Study of Active Volcanism, w/ N. Lautze UHM)

GRANTS, HONORS & AWARDS

\$265,000 USD total awarded

- 2022** • Collaborator on NASA SERVI Grant (Submitted, PI: Elardo - \$7,489,984 total)
- International Association for Geoscience Diversity's Inclusive Education + Research Award
- 2021** • Principal Investigator on NSF EAR-PF: Closing the gap between analogue studies and numerical lava flow models using insights from the 2018 Kilauea eruption
- 2020** • Presidential Citation, AGU | Awarded to the authorship team of the Call for a Robust Anti-Racism Action Plan for The Geosciences petition
- 2019** • NSF IUSE GeoPaths: GeoScientists Promoting Accessible Collaborative Experiences in the field
- USGS | Support for geophysical surveys in Hawai'i
- 2018** • NASA Goddard Instrument Field Team | Travel assistance for Iceland deployment
- University of South Florida (USF) | Fred L. and Helen M. Tharp Fellowship
- 2017** • USF Dept of Geosciences & Libraries | Publication Funding
- 2016** • USF | Geology Graduate Student Whiskey Award
- AGU | Outstanding Student Paper Award (AGU OSPA)
- 2015** • USF | Graduate Student Outstanding Research Presentation
- AGU | Outstanding Student Paper (AGU OSPA)
- 2012** • University of South Florida | Presentation Travel Grant
- SUNY Buffalo State Earth Sciences | Award for Academic Excellence
- 2011** • Council on Undergraduate Research | Posters on Capitol Hill
- SUNY Buffalo State | Undergraduate Summer Research Fellowship
- 2010** • SUNY Buffalo State Earth Sciences | Departmental Award for Field Work
- 2008** • SUNY College at Buffalo State | Small Grants Program
- 2005** • SUNY College at Buffalo State | Small Grants Program
- Psi Upsilon | R. Timothy Leedy, Phi '57 Award
- Rensselaer Polytechnic Institute | Emily Roebling Scholarship for women in STEM

STUDENTS ADVISED

2022-2027: GeoSPACE student cohorts (12-18 undergraduate students each year)
2022-2023: Yesenia Arroyo (GeoReps post-graduate) | GeoSPACE (U. Florida)
2022-2023: Mahsa Afra (Terrestrial radar survey of Mauna Loa) | PhD assistance (USF)
2022-2023: Taha Chorsi (Terrestrial radar survey of Mauna Loa) | PhD assistance (USF)
2022 - 2026: Robert Van Alphen (Magnetic Survey of LERZ) | PhD assistance (USF)
2021: Timothy Fallon (Gravity Survey of the Lost River Valley, Idaho, USA) | MS Committee (USF)
2017-2019: Connected 9 undergraduates with various research projects and mentors (USF)

FIELD METHODS & RESEARCH EXPERIENCE

2023 • Terrestrial Radar Survey of 2023 Halema'uma'u eruption | Hawai'i, USA
2021-present • Monitoring response for Halema'uma'u eruptions | Hawai'i, USA
2022 • Mauna Loa eruption response: terrestrial radar, monitoring, and active lava sampling
2022 • Ground penetrating radar (GPR) + aeromagnetic surveys of LERZ | Hawai'i, USA
 • Age dating and geochemical sample collection | San Francisco Volcanic Field, USA
2021-2023 • SO₂ monitoring equipment maintenance for NASA GIFT | Hawai'i, USA
2021 • Geologic mapping of Pu'u'ō'ō 61g lava flow
2019 • Disaster risk perception surveying of hurricane evacuees | Florida, USA
 • Lidar, ground penetrating radar, drone surveys | NASA | Bárðarbunga, IS
2018, 2019 • GPR survey of cinder cones | Craters of the Moon, Idaho, USA
2018 • GPR survey of cinder cones | Medicine Lake, California, USA
 • SfM mapping and cosmogenic nuclide sampling | Death Valley, California, USA
 • Stratigraphy of pyroclastic density currents and lahars | Martinique
2017, 2018 • Gravity and GPS surveys of extensional basins | Lost River Valley, Idaho, USA
2016 • GPR survey of Mazama ignimbrite | Crater Lake, Oregon, USA
2015, 2016 • Terrestrial radar survey | Momotombo, Masaya, San Cristóbal Volcanoes, NI
2015 • Structure-from-Motion mapping and GPS survey | Nevado del Ruiz, Colombia
 • Cosmogenic nuclide age sampling of alluvial fans | Calico Fault, California, USA
 • Surface and Shallow Seismic survey | Blackfoot Volcanic Field, Idaho, USA
2014 • Field mapping dike and sill networks | San Rafael Volcanic Field, Utah, USA
 • Magnetic survey of buried cinder cones | Amargosa Valley, Nevada, USA
2013 • Gravity survey | Mauna Loa, Hawai'i, USA
 • ¹⁴C and paleomagnetic sampling of Mauna Loa lava flows | Hawai'i, USA
2012-2013 • Petrologic Mapping | Mauna Loa Summit, Hawai'i, USA
 • Visits to the active lava flow field of Kilauea for sample collection | Hawai'i, USA
2011 • Tephrastratigraphy | Santa Ana (Ilamatepec), El Salvador

TECHNICAL & COMMUNICATION SKILLS

Technical High performance computing experience, MATLAB, and familiarity with: Python, Perl, Bash/C shell, and R
Software GIS Software (QGIS, ArcGIS), MOLASSES (lava flow model), MELTS (thermodynamic phase equilibria in magmatic systems), Agisoft (SfM software), Tephra2 (tephra dispersal), Titan2D (mass flow), LAHARZ, spatial density modeling (vent opening hazards)
Laboratory Optical microscopy, scanning electron microscopy, thin section creation, grain size analysis (sieving and laser diffraction), analogue modeling of volcanic processes (ballistic distribution using liquid nitrogen explosions, molten glass lava flows, bubble ascent in syrups, and ink/gelatin dike injections)
Surveying Qualtrics, Survey quality assurance, Online survey design and administration
Language Basic Spanish (Puerto Rican), familiar with 'Ōlelo Hawai'i + Te reo Māori constructs
Design Visual Design, Inclusive design best practices, Color theory, Print and web design principles, Visual communication theory, Adobe Creative Suite

PUBLICATIONS

15. **Gallant, E.**, Kruse, S., Molisee, D., Marshall, A., Downs, C., and Courtland, L. **(in prep)** Imaging tephra blankets across monogenetic volcano types using Ground Penetrating Radar.
14. **Gallant, E.**, Patrick, M., Dietterich, H., Hyman, D., Lyons, J., and Carr, B., **(in prep)** Reconstructing the Ahalanui flow branching event of the 2018 Lower East Rift Zone eruption of Kilauea (Hawai'i, USA)
13. Wetmore, P., Connor, C., Hastings, M., Mack, B., **Gallant, E.**, Connor, L., Fallon, T., Nassir, R., and Malservisi, R. **(in prep)** Gravity anomalies and alluvial fan areas of the Lost River Valley (Idaho, USA) and implications for basin architecture and the tip of the Lost River Fault.
12. Marshall, A., Arroyo, Y., Gallant, E., Thatcher, S., Elardo, S., Williams, A., **(2022)** Flexible Fieldwork: *Nature Earth and Environment*.
11. Kavanagh, J., Annen, C., Burchardt, S., Chalk, C., Gallant, E., Morin, J., Scarlett, J., and Williams, R., **(2022)** Volcanologists: Who are we and where are we going? *Bulletin of Volcanology*.
10. **Gallant, E.**, Cole, L., Connor, C., Wetmore, P., Molisee, D., Morin, J., Walshe, R., and Donovan, A., **(2021)** Modeling eruptive events in distributed volcanic fields. *Volcanica*
9. Ali, H., Sheffield, S., Bauer, J., Caballero-Gill, R., Gasparini, N., Libarkin, J., Gonzales, K., Willenbring, J., Amir-Lin, E., Cisneros, J., Desai, D., Erwin, M., **Gallant, E.**, Gomez, K., Keisling, B., Mahon, R., Marín-Spiotta, E., Schneider, B., Welcome, L., **(2021)** A Twenty-Point Action Plan for Anti-Racism in 2020. *Nature Communications*
8. Germa, A., Koebli, D., Wetmore, P., Arias, A., Savov, I., Diez, M., Greaves, V., and **Gallant, E.**, **(2020)** Petrogenesis of the San Rafael subvolcanic field, UT: implication for the in-situ crystallization and segregation of syenite in shallow sills. *Journal of Petrology*
7. **Gallant, E.**, Deng, F., Zayac, J., Richardson, J., Connor, C., Saballos, J.A., Guitierrez, C., Myhre, D., Charbonnier, S., Thompson, G., Connor, L., Malservisi, R., LaFemina, P., and Dixon, T., **(2020)**, Deep and rapid thermo-mechanical erosion by a small-volume lava flow: *Earth and Planetary Science Letters*
6. Connor, C.B., Connor, L.J., Germa, A., Richardson, J.A., Bebbington, M., **Gallant, E.**, and Saballos, J.A., **(2019)**, How to estimate the probable locations of future volcanic vents using kernel density estimation. *Statistics in Volcanology*
5. Deng, F., Rodgers, M., Xie, S., Dixon, T., Charbonnier, S., **Gallant, E.**, López-Velez, C., Ordoñez, M., Malservisi, R., Voss, N., Richardson, J., **(2019)**, High-resolution DEM generation from multiple remote sensing data sources for improved volcano hazard assessment - a case study at Nevado del Ruiz, Colombia. *Remote Sensing of Environment*
4. Xie, S., **Gallant, E.**, Wetmore, P., Owen, L., Figueroa, P., Malservisi, R., Rassmussen, C., and Dixon, T., **(2019)**, A new geological slip rate estimate for the Calico Fault, eastern California: Implications for geodetic versus geologic rate estimates in the Eastern California Shear Zone: *International Geology Review*
3. **Gallant, E.**, Richardson, J., Connor, C., Wetmore, P., and Connor, L., **(2018)**, A new approach to probabilistic lava flow hazard assessments, applied to the Idaho National Laboratory, eastern Snake River Plain, Idaho, USA: *Geology*
2. Richardson, J., Connor, C., Wetmore, P., Connor, L. **Gallant, E. (2015)** Role of sills in the development of volcanic fields: Insights from lidar mapping surveys of the San Rafael Swell, Utah: *Geology*
1. George, O., McIlrath, J., Farrell, A., **Gallant, E.**, Tavarez, S., Marshall, A., McNiff, C., Njoroge, M., Wilson, J., Connor, C., Connor, L., and Kruse, S. **(2015)**, High-Resolution Ground-Based Magnetic Survey of a Buried Volcano Anomaly B, Amargosa Desert, NV: *Statistics in Volcanology*

COMPUTATIONAL PRODUCTS

Paleotopography Reconstruction (MATLAB): Removes the topographic signals associated with channels and levees on conic surfaces.

Volcanic Event Sources (MATLAB): Modelspoint data in volcanic fields using cluster analysis.

PROFESSIONAL SERVICE

- 2022** Organizing committee for *Community Network for Volcanic Eruption Response* meeting
- 2020-pres.** Topical Editor: *Volcanica*
GSA Diversity, Equity, and Inclusion Cultural Task force
Volcanology Seminar Coordinator, University of Cambridge
- 2020-2021** Geoscience in Context Seminar Coordinator, University of Cambridge
- 2019-pres.** GeoLatinas, General Leadership Council: helped establish conversando con Geolatinas (Spanish-English language practice), Newsletter editor, and writing consultant for English language learners
- 2019** Graduate student advising committee, USF
- 2018-pres.** Reviewer: *G³*, *Journal of Geophysical Research*, NASA proposals, *Natural Hazards*, *EPSL*, *Volcanica*, and *Journal of Applied Volcanology*, *Geology*
- 2017-pres.** Social media manager for IAVCEI's Commission on Volcanic Hazard and Risk

OUTREACH

- 2022** • Participated in public outreach events on eruption preparedness for Mauna Loa
- 2021** • Month long STEM question series for Hispanic Serving Elementary school
• Minnesota 4H speaker for at-risk youth afterschool program
- 2020** • Sutton Summer Trust (Program for students from disadvantaged backgrounds)
• "What to do when a pandemic derails your plans" panelist (SACNAS)
• Various Guest lectures for high school and university students during COVID-19
- 2016-2019** • Organiser, speaker liaison, event emcee for the Tampa Taste of Science Festival
- 2017, 2019** • Preparing for a Career in Geology panel member, USF Geosciences
- 2016-2019** • Great American Teach-In Participant
- 2012** • Met with members of congress to advocate for increased funding for STEM education

STAKEHOLDER ENGAGEMENT

- Current** • Routinely meet with communities at risk during field work in affected areas (HI, USA)
- 2022** • Conducted outreach events in Hawaiian Ocean View Estates, Pāhala, and Kealahou
• Participated in community meetings to disseminate information to the public about geophysical surveys conducted by the Hawaiian Volcano Observatory
• Presented vent opening hazard assessment methodology for probabilistic volcanic hazard assessment for site selection decision making for the Idaho National Lab
- 2020** • Participated in interdisciplinary data collection to examine the creation, use, and negotiation of knowledge regarding volcanic risk and interconnected hazards by communities (including indigenous Mapuche communities), scientists, and stakeholders in a transboundary context
• Created and managed websites/outreach materials for stakeholders in volcanically active areas as part of the ERC Imagine Project (University of Cambridge)
- 2018** • Provided consulting services for the determination of site selection criteria for the installment of the next generation of nuclear reactors, which involved presenting to stakeholders from the Department of Energy and the Idaho National Laboratory
- 2008 - 2009** • Consulted with pharmacists on design criteria for medication therapy management software (used for flagging medication contraindications)

INVITED SPEAKING ENGAGEMENTS

- Kīlauea at different wavelengths | UH Mānoa (2023)
- GeoSPACE: The Benefits of Accommodation and Inclusion in Field Experiences | USGS VSC (2023)
- Applications for Ground Penetrating Radar in volcanic terrain | USGS VSC (2022)
- The kitchen sink approach to studying volcanic hazards | UC Santa Barbara (2021)
- It's a TRAP! Re-thinking how we model volcanic hazards | University of Idaho (2021)
- A collaborative approach to characterizing and modeling lava flow hazards | Penn State (2021)
- Investigating the context of volcanic hazard assessments | University of New Orleans (2020)
- Investigating the context of volcanic hazard assessments | James Madison University (2020)
- Assessing hazards from distributed volcanic fields | University of Cambridge (2020)
- Modeling volcanic hazards | Central Washington University (2020)
- Modeling lava flow hazards | University of Florida (2019)
- Lava flow and vent opening hazards of the E Snake River Plain | US Department of Energy (2018)
- Modeling lava flow hazards | Tampa Taste of Science (2017)
- Monitoring Volcanic Hazards in Hawai'i | SUNY Buffalo State (2013)

WORKSHOP PARTICIPATION

- Monogenetic Volcanism Crisis Scenario Management | CONVERSE (2021)
- High Performance Computing | USGS Volcano Science Center (2021)
- InSAR Processing | COMET (2020)
- Magmas, Melts, and Glasses | University of Munich (2020)
- Workshop on Eruption Dynamics | CONVERSE, AGU (2019)
- Inclusive and Effective College Science Classrooms | AGU (2019)
- Fostering Diverse, Inclusive, and Equitable Communities in Field Experiences | AGU (2019)
- Volcanic Hazard Assessment for Critical Facilities | Cities on Volcanoes (2018)
- Social Media Utility in Volcano + Hazard Communications | Cities on Volcanoes (2018)
- Probabilistic Hazard Assessment at Lassen Volcano | IAVCEI (2017)
- Volcanic Crisis Awareness | National Disaster Preparedness Training (2014)
- Volcanic Hazard Assessment | University of South Florida (2014)
- Secondary Ion Mass Spectrometry | Arizona State University (2014)
- Conversing with Pelehonuamea: Merging Science + Culture | Hawai'i Volcanoes N.P. (2013)
- Modeling Volcanic Hazards | IUGG (2011)
- Ground-Based and Remote Sensing of Volcanic Unrest | IUGG (2011)

MEDIA APPEARANCES

- | | |
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| 2022 | <ul style="list-style-type: none">• Interviewed live by KHON about Mauna Loa eruption• Interviewed by USF Press about participation in Mauna Loa eruption response• Interviewed by University of Florida Press about participation in the GeoSPACE |
| 2018 | <ul style="list-style-type: none">• Recorded promotional advertisements for Tampa Taste of Science Festival |
| 2017 | <ul style="list-style-type: none">• Inaugural Speaker for the USF Library's Geoscience themed podcast, Calling Earth! |
| 2016 | <ul style="list-style-type: none">• Interviewed by Nicaraguan press on response to 2015-2016 Momotombo eruption• Interviewed by University of South Florida press about the Momotombo eruption |
| 2005 - 2007 | <ul style="list-style-type: none">• Radio DJ on 91.5 WRPI Troy (9 hours / week non-scripted programming) |

CONFERENCE ORAL PRESENTATIONS

8. **Gallant, E.**, Dietterich, H., Patrick, M., and Orr, T., **(invited, 2022)** Acute lateral hazards of lava flows: Examples from Kīlauea, Hawai'i.) Geologic Society of America (GSA).
7. **Gallant, E.**, Connor, C., Richardson, J., Wetmore, P., and Connor, L., **(keynote, 2022)**, Assessment of Lava Flow Inundation Hazards Associated with the Opening of New Vents: AGU Chapman Conference on Distributed Volcanism, Flagstaff, AZ, USA.

6. **Gallant, E.**, Jackson, C., and Willenbring, J. **(2021)** EGU Great Debate Keynote Panel Discussion Challenging discrimination in the geosciences: amplifying unheard voices
5. **Gallant, E.**, Connor, C., Wetmore, P., Molisee, D., Morin, J., Walshe, R., and Donovan, A., **(2021)** Modeling eruptive events in distributed volcanic fields: Volcanic and Magmatic Studies Group Meeting, UK.
4. **Gallant, E.**, **(2019)**, Diversity and inclusion strategies for undergraduate field camp experiences: Fall Meeting, American Geophysical Union (AGU) - San Francisco, California, USA.
3. **Gallant, E.**, Richardson, J., Connor, C., Wetmore, P., and Connor, L., **(2018)**, A new probabilistic lava flow hazard assessment for the Idaho National Laboratory, eastern Snake River Plain, USA: Cities on Volcanoes - Naples, Italy.
2. **Gallant, E.**, Deng, F., Xie, S., Saballos, J.A., Connor, C., Dixon, T., **(2017)**, Exploring the thermal and mechanical contributions to lava channel erosion on Momotombo, Nicaragua: Fall Meeting, AGU.
1. **Gallant, E.**, Deng, F., Xie, S., Saballos, A., Connor, C., Dixon, T., Myhre, D., **(invited, 2017)**, Using terrestrial radar to explore lava channel erosion on Momotombo, Nicaragua: Fall Meeting, AGU.

CONFERENCE ABSTRACTS

*indicates *graduate and ^undergraduate student advisees*

38. Richardson, J., Bell, E., Scheidt, S., Ng, Y., **Gallant, E.**, Stoker, C., Whelley, P., and Achilles, C., Pit crater vertical magnetic surveys, **(2023)**: Planetary Caves Conference.
37. Meier, M*, Cabalceta, M.S., Thompson, A.^, Marshall, A., Williams, A., Piatek, J., Arroyo, Y.*, Collins, T., Thatcher, S., **Gallant, E.**, Elardo, S., Williams, D.A., GEOSPACE: An approach to accessible and inclusive planetary science education. **(2023)**: LPSC.
36. **Gallant, E.**, Parcheta, C., Kruse, S., Dietterich, H., Patrick, M., DeSmither, L., Rodgers, M., Van Alphen, R.*, and Malservisi, R., Reconstructing the growth of Kilauea's Ahu'a'ilā'au cone (Fissure 8) using ground penetrating radar and eruption monitoring data, **(2023)**: IAVCEI.
35. Dietterich, H., Patrick, M., Zoeller, M., Hyman, D., Trusdell, F.A., Deligne, N.I., Downs, D.T., **Gallant, E.**, Lynn, K.J., Parcheta, C., Orr, T., Schmith, J., Chang, J., Walker, B., Mulliken, K., DeSmither, L., Andrews, B., Grismer, M., Cashman, K., Mosbrucker, A.R., Ball, J., Lundgren, P. Observations and insights into lava flow emplacement dynamics during the Mauna Loa 2022 eruption. **(2023)**: IAVCEI.
34. Lynn, K., Trusdell, F., Downs, D., Chang, J., Gansecki, C., McDade, B., Lundblad, S., Wooten, K., Rhodes, J.M., Vollinger, M., Andrews, B., Grismer, M., Schmith, J., Walker, B., Fitch, E., Deligne, N., DeSmither, L., Dotray, P.J., **Gallant, E.**, Mulliken, K., Orr, T., Parcheta, C., Patrick, M., Zoeller, M., Bennington, N., Nadeau, P., Kelly, P., Clor, L., Cappos, M., Elias, T., Sealing, C. Petrology and Chemistry of the 2022 Mauna Loa Eruption: Insights into the magmatic plumbing system. **(2023)**: IAVCEI.
33. Baker, A.*, Kahn, S.^, Meier, M.*, Olvera, A.^, Pimentel, E. ^, Thompson, A.^, **Gallant, E.**, Marshall, A., Preliminary field study of a small phreatomagmatic vent in the San Francisco Volcanic Field, AZ. **(2022)**: GSA.
32. Kahn, S.^, Thompson, A.^, Luo, F.^, Renteria, O.^, **Gallant, E.**, and Marshall, A., Sedimentology and Stratigraphy of V185, an Open-Pit Gravel Mine, AZ. **(2022)**: GSA.
31. Marshall, A., Williams, D., **Gallant, E.**, and Piatek, J. The GeoSPACE Project: Using planetary mission science as a framework for hybrid, accessible field experiences exploring terrestrial analogs. **(2022)**: GSA
30. Arroyo, Y.*, Marshall, A., and **Gallant, E.**, Paging @everyone: Solve the Communication "Discord" in Your Geoscience Field Course. **(2022)**: GSA.

29. Dietterich, H., Patrick, M., Diefenbach, A., Cashman, K., **Gallant, E.**, Carr, B., and Hyman, D., New insights into lava flow dynamics and hazards from the 2018 eruption of Kilauea, Hawaii. **(2022)** GSA.
28. Zoeller, M., Carr, B., **Gallant, E.**, DeSmither, L., Delinge, N., and Downs, D., In need of speed: best practices for UAS photogrammetry of active volcanic eruptions. **(2022)** Chapman Conference on Distributed Volcanism.
27. **Gallant, E.**, Patrick, M., Dietterich, H., Hyman, D., and Carr, B., Reconstructing the Ahalanui flow branching event of the 2018 Lower East Rift Zone eruption of Kilauea (Hawai'i, USA), **(2021)**: AGU.
26. **Gallant, E.**, Donovan, A., Morin, J., and Walshe, R. When the past is no longer the key to the future: How should we model hazards to mitigate risk at volcanoes impacted by climate change? **(2021)**: AGU.
25. Walshe, R., Donovan, A., Morin, J., and **Gallant, E.**, **(2021)**, Introducing Project 'IMAGINE', Goals, Gaps and Groundwork: Volcanic and Magmatic Studies Group Meeting, UK.
24. Kruse, S., Downs, C., **Gallant, E.**, Germa, A., Ippolito, T., Juster, T., McIlrath, J., Sheffield, S., Walker, L., and Wilson, J., **(2020)**, A collaborative textile record of climate change: the Tempestry Project in Tampa, Florida, USA: AGU.
23. Kruse, S., Exmaeli, S., Jazayeri, S., Alfred, S., Bell, E., Connor, C., Courtland, L., **Gallant, E.**, Grady-Weill, K., Molisee, D., Richardson, J., Whelley, P., and Young, K., **(2020)**. Highs and lows: Using GPR to map cinder cones, lava flows, and lava tubes on Earth to support studies of the Moon and Mars: 18th International Conference on Ground Penetrating Radar.
22. Sutton, S., Richardson, J., Whelley, P., Hamilton, C., Scheidt, S., Young, K., Höskuldsson, A., Jónsdóttir, I., Thordarson, T., and **Gallant, E.**, **(2020)**, The onset of degradation of a large spatter rampart in Iceland: Lunar and Planetary Science Conference (LPSC).
21. **Gallant, E.**, Deng, F., Zayac, J., Richardson, J., Connor, C., Saballos, J.A., Guitierrez, C., Myhre, D., Charbonnier, S., Thompson, G., Connor, L., Malservisi, R., LaFemina, P., and Dixon, T., **(2019)** Deep and rapid thermo-mechanical erosion by a small-volume lava flow: AGU.
20. Roman, D., La Femina, P., Connor, C., Wauthier, C., Feineman, M., **Gallant, E.**, Saballos, J.A., Strauch, W., Tenorio, V., and Navarro, M., **(2019)**, Coordinated Rapid Response to the 2015-16 Eruption of Volcan Momotombo, Nicaragua: AGU.
19. Wetmore, P., Hastings, M., Fallon, T., **Gallant, E.**, Mack, B., Nassif, R., Connor, C., Connor, L., and Malservisi, R., **(2019)** Testing potential fault + basin geometries for the Lost River Fault Zone, Idaho: AGU.
18. Richardson, J., Miller, D., and **Gallant, E.**, **(2019)**, Erupted volumes of Venus low shield volcano clusters: LPSC.
17. Connor, C., Connor, L., Richardson, J., **Gallant, E.**, Miller, D., **(2018)** Using MOLASSES, a Lava Flow Simulation Code, to Interpret the Morphology of Volcanoes: Example of Olympus Mons (Mars): LPSC.
16. Richardson, J., Connor, L., Connor, C., **Gallant, E.**, **(2017)**, Probabilistically modelling lava flows with MOLASSES: AGU.
15. Wetmore, P., Xie, S., **Gallant, E.**, Owen, L., Dixon, T., **(2017)**, A New Geological Slip Rate Estimate for the Calico Fault, Eastern California: Implications for Geodetic Versus Geologic Rate Estimates in the Eastern California Shear Zone: Fall Meeting: AGU.
14. **Gallant, E.**, Connor, C., Connor, L., Richardson, J., and Wetmore, P. **(2017)**. Probabilistic lava flow hazard assessment for the Idaho National Laboratory: IAVCEI.

13. Deng, F., Rodgers, M., Xie, S., Dixon, T., Charbonnier, S., **Gallant, E.**, López-Velez, C., Ordoñez, M., Malservisi, R., Voss, N, Richardson, J., **(2017)**, High-resolution DEM generation from multiple remote sensing data sources for improved volcanic hazard assessment- a case study from Nevado del Ruiz, Colombia: EGU.
12. **Gallant, E.**, Deng, F., Xie, S., Saballos, J., Connor, C., Dixon, T., Myhre, D., **(2016)**, Terrestrial Radar Survey of Momotombo volcano, Nicaragua: Fall Meeting: AGU.
11. Richardson, J., Connor, L., **Gallant, E.**, Connor, C., Charbonnier, S.J., **(2016)**, Probabilistically modeling lava flow hazard using the MOLASSES lava flow simulator: AGU.
10. Kruse, S., Robinson, J.E., Bacon, C.R., **Gallant, E.**, and McIlrath, J., **(2016)**, Integrating ground penetrating radar, lidar, and geologic mapping to image fault displacements at Mount Mazama (Crater Lake), Oregon: AGU.
9. Richardson, J., Connor, L., **Gallant, E.**, Connor, C., Charbonnier, S., **(2016)**, Probabilistically modeling lava flow hazard using the MOLASSES lava flow simulator: Cities on Volcanoes - Puerto Varas, Chile.
8. Xie, S., Wetmore, P., Owen, L., **Gallant, E.**, Dixon, T., **(2016)**, Evidence for a high slip rate of the Calico fault in the Eastern California Shear Zone: AGU.
7. Roman, D., La Femina, P., Connor, C., Connor, L., Dixon, T., Feineman, M., **Gallant, E.**, Geirsson, H., Glover, C., Rinehart, J., Ruiz, G., Saballos, A., Strauch, W., Tenorio, V., Wauthier, C., Webley, P., Wnuk, K., **(2016)**, Multidisciplinary Studies of the 2015-2016 Eruption of Momotombo Volcano, Nicaragua: AGU.
6. **Gallant, E.**, Richardson, J., Connor, C., Wetmore, P., Connor, L., **(2015)**, Lava Flow Hazard Assessment for the Idaho National Laboratory: A Probabilistic Approach to Modeling Lava Flow Inundation with MOLASSES: AGU.
5. Richardson, J., Connor, L., Charbonnier, S., Connor, C., **Gallant, E.**, **(2015)**, Validating Cellular Automata Lava Flow Emplacement Algorithms with Standard Benchmarks: AGU.
4. **Gallant, E.**, Richardson, J., Connor, C., Wetmore, P., and Connor, L., **(2014)**, Sills of the San Rafael Volcanic Field, Utah: AGU.
3. **Gallant, E.**, Martinez-Hackert, B. **(2012)**, Understanding the Eruptive History of Ilamatepec. Posters on the Hill (Meeting with US Congress Members) - Washington D.C., USA.
2. **Gallant, E.** and Martinez-Hackert, B. **(2011)**, Unearthing The Eruptive Personality Of El Salvador's Santa Ana (Ilamatepec) Volcano Through In-depth Stratigraphic Analysis of Pre-1904 Deposits: AGU.
1. **Gallant, E.**, Martinez-Hackert, B., Bajo, J., Escobar, D., Gutierrez, E. **(2011)**, Monitoring of Thermal and Hydrothermal Activity of Santa Ana (Ilamatepec) Volcano post-2005 Eruption: IUGG.

REFERENCES

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