

Thomas Giachetti, PhD

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ASSISTANT PROFESSOR IN VOLCANOLOGY

RESEARCH INTERESTS

Magma degassing and dynamics of volcanic eruptions

Low-temperature and low-pressure interactions between water and volcanic glass

Mechanisms of formation and propagation of volcanic tsunamis (eruptions, debris avalanche)

EXPERTISE

Volcanic fieldwork

Helium pycnometry (porosity), Capillary flow porometry (permeability), Rheometry (rheology), 2D and 3D quantitative textural analyses (Scanning Electron Microscopy, X-ray microtomography), Numerical modeling of volcanic eruptions, Matlab programming, Thermogravimetry, Electronic microprobe, FT infrared spectroscopy, Raman spectrometry, 3D printer

RESEARCH POSITIONS HELD

Since 2015 **Assistant Professor in Volcanology at the University of Oregon**

2011-2015 **Post-Doctoral Position, Rice University, Houston TX:** Textural and chemical analyses of natural pyroclasts and numerical modeling of magma degassing during volcanic eruptions of highly silicic magmas. Advisor: Prof. Helge M. Gonnermann

2010-2011 **Post-Doctoral Position, GEOLAB, Clermont-Ferrand, France:** Numerical modeling of volcanic debris avalanches and associated tsunamis. Advisor: Dr. Raphaël Paris

EDUCATION

2006-2010 **Ph.D. Thesis in Volcanology**, University of Clermont-Ferrand, Laboratoire Magmas et Volcans, France. Advisors: Pr. Timothy H. Druitt & Dr. Karim Kelfoun. 2D and 3D textural analysis of products from the 1997 Vulcanian explosions of the Soufrière Hills Volcano, Montserrat. *Defense held on the 01-22-10.*

2004-2006 **Master in Earth Sciences**, University of Clermont-Ferrand, Laboratoire Magmas et Volcans, France. Analogical and numerical modeling of pumice flows and landslide-generated tsunamis

2003-2004 **Licence in Earth Sciences**, University of Clermont-Ferrand, France

2001-2003 **DEUG in Universe and Earth Sciences**, University of Lille I, France

AWARDS

2011 **Award of the Young Researcher** of Clermont-Ferrand, France (1500€)

2011 **Young Scientist's Travel Award for Europeans** of the European Geosciences Union

2011 **AXA postdoctoral grant** with Hugh Tuffen at Lancaster University, UK (120,000€)

2009 **Best VGP Student Presentations**, AGU Fall meeting 2009 (100US\$)

GRANTS

- Submitted **I3 UO: Recycling greywater using volcanic rocks from the Pacific Northwest** PIs: Thomas Giachetti (lead); Kory Russel; Matthew Polizzotto; Krista McGuire; Jun Hak Lee; Award Amount: \$49,704
- 07/01/2020 **NSF EAR - #2024510: Pumice: a post-fragmentation product?** PI: Thomas Giachetti; Co-PI: James Watkins; Organization: University of Oregon; Award Amount: \$349,683
- 08/15/2017 **NSF CMMI Start - RAPID #1748631: Reconnaissance of Twin Landslides and Tsunami of 17 June 2017 in Greenland.** PI: Hermann Fritz; Co-PI: Thomas Giachetti; Organization: Georgia Tech; Award Amount: \$39,692
- 07/01/2017 **NSF EAR Collaborative Research - #1725207: What Do Obsidian Pyroclasts Tell Us? Constraints from Textures, Volatiles, and Experiments.** PI: Thomas Giachetti; Co-PI: James Watkins; Organization: University of Oregon; Award Amount: \$247,971

STUDENTS ADVISED

Graduate Students (primary advisor):

- Kathy Trafton (2016-present; PhD candidate)
- Joshua Wiejaczka (2017-present; PhD candidate)
- Monserrat Cascante Matamoros (2018-present; PhD candidate)
- Erin Hoxsie, M.S, Geology 2018; Dissertation Title: *Ash Sintering in the Presence of a CO₂-H₂O Vapor*

Undergraduate Research Theses (primary advisor):

- Margery Price, B.S. Honors College, 2021; Thesis in progress Title: *Recycling greywater using volcanic rocks from the Pacific Northwest*
- Taylor H Barnhart, B.S. Geology, 2017; Dissertation Title: *The Issue of Scaling Effect When Determining Porosity and Permeability in Volcanic Pyroclasts*
- Ricky Ede, B.S. Geology, 2019; Dissertation Title: *Relating pumice permeability to vesicle attributes using 3D printed models*
- Hannah Kruse, B.S. Geology, 2019; Dissertation Title: *Examining Patterns in Volume and Spatial Occurrence of Cinder Cones at Newberry Volcano, Oregon*

Undergraduate Research Assistants (primary advisor):

- Since 2016 (various amount of time for each): Kieran A McCann, Tobias C Earley, Mickey Swartz, Sarah A Menard, Gabriel L Mager, Marcus Chaknova, James Carr, Sydney Whiting, Nicole Plumb
- 2010-2011: Three **undergraduate students (Blaise Pascal, France)**: analogical modeling of tsunamis

Undergraduate Research Assistants (secondary advisor):

- Céline Fliedner (Rice University, 2014)

TEACHING

- **Digging for Data (ERTH 199)** – fall 2021: new First-year Interest Group developed for 20 first-year students, pairing EARTH ‘Volcanoes and Earthquakes’ with ANTH ‘Intro to Archeology’. Will involve a one-day trip to the Cascade to excavate volcanic deposits from the 7.7 ka eruption of Crater Lake
- **Magma degassing and fragmentation (ERTH 610)** – winter 2021 (remote): new class developed for graduate students focusing on last stages of magma ascent in the conduit. Lectures, labs and final project
- **A Trip Down Memory Lane (ERTH 199)** – fall 2019, fall 2020 (remote), fall 2021: First-year Interest Group developed for 15-20 students, pairing EARTH ‘Volcanoes and Earthquakes’ with ANTH ‘Origins of Storytelling’. Lectures, reading, and final project with participation to UO FIGposium
- **Volcanoes and Earthquakes (ERTH 306)** – spring 2016, fall 2016, winter 2019, fall 2019, fall 2020 (online): 80-student class (150 for online version) with lectures and labs to introduce volcanoes and earthquakes. No pre-requisite, wide range of majors and years. Class largely modified over the years
- **Volcanology (ERTH 410/510)** – spring 2018, winter 2019, winter 2020, spring 2021 (remote): class developed for undergraduate and graduate students with lectures and labs. Final project developed in collaboration with Cascade Volcano Observatory with one-day trip to the observatory
- **Summer Geology Field camp (GEOL 406)**, Four Craters (OR, 2016), Newberry Volcano (OR, 2016, 2019). New 10-day physical volcanology module developed as part of EARTH summer field camp
- **Advanced Volcanology (GEOL 692)** – winter 2018: graduate student course. In depth review of volcanic processes from magma ascent in the conduit to eruption on the Earth’s surface
- **Volcanology reading group: Magma Degassing (GEOL 607)** – winter 2017: ten EARTH graduate students meeting 1h per week to discuss an assigned scientific publication about magma degassing
- **Volcanic Field course** Crater Lake (OR), Medicine Lake Volcano and Lassen Peak (CA) - Sept 2015 (co-teaching); **Sedimentary field mapping** at Jemez Springs (NM) - March 2013 (field assistant): one-week field course from Rice University
- **500 Ma in Auvergne and College work methodology** – spring 2010 and fall 2011. Three one-day courses on the field for undergraduate Earth Science majors at Blaise Pascal University (France)
- **Hazards, crisis and impacts** – fall 2010: new class developed around volcanoes, earthquakes and tsunamis for third-year college students in Geography at Blaise Pascal University (France)

SERVICE

Department of Earth Sciences and the University of Oregon

2020	Presentation during IntroDUCkTion (~45 min)
Since 2019	Undergraduate advisor for EARTH department
2019	Judge for CAS Dean poster award during Undergraduate Research Symposium
2018	Co-writer of Murdock Foundation grant proposal to acquire a microtomograph at UO
Since 2017	Member of curriculum committee for EARTH department
2016-2018	Member of search committee for new faculty in volcanology (2 years)
2015-2016	Lab Safety Representative for EARTH department
Since 2015	Committee Member Degrees Completed: Madison Ball (M.S., 2017), Jonathan Perry-Houts (Ph.D., 2018), Brennah McVey (M.S., 2019), Yining Wang (M.S., UT at Austin, 2019), Marisa Acosta (Ph.D, 2020), Ryan Cahalan (Ph.D, 2020), Danielle Hamann (Ph.D, chemistry, 2020)
Since 2015	Committee Member Ph.D. Candidates: Paul Barrett, Allison Kubo, Sage Kemmerlin, Chris Harper, Josh Crozier, Gui Aksit, Lissie Connors, Aaron Miller (chemistry), Michael Pluth (chemistry)

Since 2015 **Committee Member Undergraduate Theses:** Claire Getz (2016)

External scientific Community

- 2020-2021 **Consultant for NSF SBIR #19-554** ‘Sustainable Decentralized Greywater Recycling System using Biophilic Design’
- Since 2019 **Member of steering committee** of working group ‘eruption dynamics and tephra sampling’ for the Community Network for Volcanic Eruption Response (**CONVERSE**) initiative
- 2018 **Poster and Pop-Up talk** at a Workshop on Community Volcano Projects, Albuquerque (NM)
- 2016 Improving Understanding of Volcanic Eruptions NAS Workshop, Washington (DC, participant)
- Since 2013 **Convener:** American Geophysical Union Fall Meeting, San Francisco (CA, 2013, 2015), International Association of Volcanology and Chemistry of the Earth's Interior, Portland (OR, 2017) and Rotorua (NZ, 2022)
- Since 2010 **Reviewer (~5 per year):** *Bull. Volcanol.*, *J. Volcanol. Geotherm. Res.*, *Geology*, *Geochim. Cosmochim. Acta*, *Earth Planetary Sci. Lett.*, *Geophysical Research Letters*, *Contribution to Mineralogy and Petrology*, *GSA Books*, *National Science Foundation*, *Sigma Delta Epsilon/Graduate Women in Science*, *Earth Observatory of Singapore*, *National Fellowships Committee for Graduate Women In Science*, *IAVCEI field guide*.

Outreach and public audience

- 2019 Piece for ‘**The Conversation**’ about Anak Krakatau partial collapse and tsunami in Dec 2018
- 2019 **Scientific consultant** for a book entitled ‘Science Adventures: Volcanologists’
- 2019 **BBC radio interview** about Anak Krakatau partial collapse and tsunami in Dec 2018
- 2018 **KNCP Radio interview** “Geno & The Professor” (La Pine, Oregon)
- 2017-2018 Participating in “Take our children to Work Day” at UO (giving lab tours)
- 2017 **Public talk** at Eugene Public Library (OR): ‘Volcanism in the Cascades’

PEER-REVIEWED INTERNATIONAL PUBLICATIONS

MANUSCRIPTS IN PREPARATION

Trafton K*, **Giachetti T.** Relationships between pyroclasts size, shape, texture, density and distance from the vent: The 700 C.E. Big Obsidian Flow eruption at Newberry Volcano, OR.

Wiejaczka J*, **Giachetti T.** Evolution of Grain Size Distribution in time and space during Plinian eruptions.

Giachetti T, Shea T, Donnelly-Nolan JM, Gonnermann HM. The 1060CE eruption of Medicine Lake, CA: new magnitude and intensity estimates.

MANUSCRIPTS IN REVIEW

Giachetti T, Trafton K*, Wiejaczka J*, Gardner JE, Watkins J, Shea T, Wright HMN. The products of primary magma fragmentation finally revealed by pumice agglomerates. *In review at GEOLOGY*

PUBLISHED PAPERS

Trafton K*, **Giachetti T** (2021). The morphology and texture of Plinian pyroclasts reflect their lateral sourcing in the conduit. *Earth and Planetary Science Letters*, 562, p. 116844. doi.org/10.1016/j.epsl.2021.116844

Giachetti T, Hudak MR, Shea T, Bindeman IN, Hoxsie EC* (2020). D/H ratios and H₂O contents record degassing and rehydration history of rhyolitic magma and pyroclasts. *Earth and Planetary Science Letters*, 530, p.115909. doi.org/10.1016/j.epsl.2019.115909

Mitchell S, Houghton BF, Carey RJ, Manga M, Fauria KE, Jones MR, Soule AS, Conway CE, Wei Z, **Giachetti T.** (2019). Submarine giant pumice: A window into the shallow conduit dynamics of a recent silicic eruption. *Bull. Volc.* 81: 7. doi.org/10.1007/s00445-019-1298-5

Giachetti T, Gonnermann HM, Gardner JE, Burgisser A, Hajimirza S, Earley TC**, Truong N, Toledo, P (2019). Bubble coalescence and percolation threshold in expanding rhyolitic magma. *Geochemistry, Geophysics, Geosystems*. doi.org/10.1029/2018GC008006

Hajimirza S, Gonnermann HM, Gardner JE, **Giachetti T** (2019). Predicting homogeneous bubble nucleation in rhyolite: An empirical surface tension. *J. Geophys. Res.: Solid Earth*. doi.org/10.1029/2018JB015891

Gauthier D, Anderson SA, Fritz HM, **Giachetti, T** (2018). Karrat Fjord (Greenland) tsunamigenic landslide of 17 June 2017: initial 3D observations. *Landslides*. 15(2), 327-332. [doi:10.1007/s10346-017-0926-4](https://doi.org/10.1007/s10346-017-0926-4).

Paris R, Ramalho RS, Ávila S, Madeira J, May SM, Rixhon G, Engel M, Bruckner H, Herzog M, Schukraft G, Torrado FJP, Gonzáles AR, Carracedo JC, **Giachetti T** (2018) Megatsunami conglomerates on the flanks of oceanic shield volcanoes. *Marine Geology*, 395, 168-187. [doi:10.1016/j.margeo.2017.10.004](https://doi.org/10.1016/j.margeo.2017.10.004).

Gonnermann HM, **Giachetti T,** Fliedner, C, Nguyen, CT, Houghton, BF, Crozier, JA, Carey, RJ (2017). Permeability during magma expansion and compaction. *Journal of Geophysical Research: Solid Earth*. [doi:10.1002/2017JB014783](https://doi.org/10.1002/2017JB014783)

Falvard S, Paris R, Belousova M, Belousov A, **Giachetti T,** Coven S (2017) Scenario of the 1996 volcanic tsunamis in Karymskoye Lake, Kamchatka, inferred from X-ray tomography of heavy minerals in tsunami deposits. *Marine Geol.* doi.org/10.1016/j.margeo.2017.04.011

Shea T, Leonhardi T, **Giachetti T,** Lindoo A, Larsen J, Sinton J, Parsons E. (2017) Dynamics of an unusual cone-building trachyte eruption at Pu‘u Wa‘awa‘a, Hualālai, Hawaii. *Bull. Volc.* 79: 26. [doi:10.1007/s00445-017-1106-z](https://doi.org/10.1007/s00445-017-1106-z)

Giachetti T, Gonnermann HM, Gardner JE, Shea T, Gouldstone A. (2015) Discriminating secondary from magmatic water in rhyolitic matrix-glass of volcanic pyroclasts using thermogravimetric analysis. *Geochim. Cosmochim. Acta*. 148, 457-476. [doi:10.1016/j.gca.2014.10.017](https://doi.org/10.1016/j.gca.2014.10.017)

- Paris R, Kelfoun K, **Giachetti T.** (2013) Marine conglomerate and reef megaclasts at Mauritius Island: Evidences of a tsunami generated by a flank collapse of the Piton de la Fournaise volcano, Reunion Island? *Sci. of tsunami hazards*, 32, 4, [ISSN 8755-6839](https://doi.org/10.1016/j.s00445-013-0691-8)
- Giachetti T**, Gonnermann HM. (2013) Water in pumices: rehydration or incomplete degassing? *Earth Planet. Sci. Lett.* 369-370, 317-332. [doi:10.1016/j.epsl.2013.03.041](https://doi.org/10.1016/j.epsl.2013.03.041)
- Moitra P, Gonnermann HM, Houghton B, **Giachetti T.** (2013) Relating vesicle shapes in pyroclasts to eruption styles. *Bull. Volc.* 75, 691. [doi:10.1007/s00445-013-0691-8](https://doi.org/10.1007/s00445-013-0691-8)
- Giachetti T**, Paris R, Kelfoun K, Ontowirjo B. (2012) Tsunami hazard related to a flank collapse of Anak Krakatau volcano, Sunda Strait, Indonesia. *Special Publications of the Geological Society of London: 'Natural Hazards in the Asia-Pacific Region: Recent Advances and Emerging Concepts'*, 361, 79-90. [doi: 10.1144/SP361.7](https://doi.org/10.1144/SP361.7)
- Paris R, **Giachetti T**, Chevalier J, Guillou H, Frank N. (2011). Tsunami deposits in Santiago Island (Cape Verde archipelago) as a possible evidence of massive flank failure of Fogo volcano. *Sed. Geol.*, 239, 3-4, 129-145. [doi:10.1016/j.sedgeo.2011.06.006](https://doi.org/10.1016/j.sedgeo.2011.06.006)
- Giachetti T**, Burgisser A, Arbaret L, Druitt TH, Kelfoun K. (2011) Quantitative textural analysis of Vulcanian pyroclasts (Montserrat) using multi-scale X-ray computed microtomography: comparison with results from 2D image analysis. *Bull. Volc.* 73, 9, 1295-1309. [doi :10.1007/s00445-011-0472-1](https://doi.org/10.1007/s00445-011-0472-1)
- Giachetti T**, Paris R, Kelfoun K, Pérez-Torrado FJ. (2011) Numerical modelling of the tsunami triggered by the Güimar debris avalanche, Tenerife (Canary Islands): comparison with field-based data. *Marine Geol.*, 284, 189-202. [doi: 10.1016/j.margeo.2011.03.018](https://doi.org/10.1016/j.margeo.2011.03.018)
- Burgisser A, Arbaret L, Druitt TH, **Giachetti T.** (2011) Pre-explosive conduit conditions of the 1997 Vulcanian explosions at Soufrière Hills Volcano, Montserrat: II. Overpressure and depth distributions. *J. Volcanol. Geotherm. Res.* 199, 193-205. [doi:10.1016/j.jvolgeores.2010.11.014](https://doi.org/10.1016/j.jvolgeores.2010.11.014)
- Burgisser A, Poussineau S, Arbaret L, Druitt TH, **Giachetti T**, Bourdier J-L. (2010) Pre-explosive conduit conditions of the 1997 Vulcanian explosions at Soufrière Hills Volcano (Montserrat): I. pressure and vesicularity distributions. *J. Volcanol. Geotherm. Res.* 194, 1-3, 27-41. [doi:10.1016/j.jvolgeores.2010.04.008](https://doi.org/10.1016/j.jvolgeores.2010.04.008)
- Giachetti T**, Druitt TH, Burgisser A, Arbaret L, Galven C. (2010) Bubble nucleation and growth during the 1997 Vulcanian explosions of Soufrière Hills Volcano, Montserrat. *J. Volcanol. Geotherm. Res.* Vol. 193, 3-4, 215-231. [doi:10.1016/j.jvolgeores.2010.04.001](https://doi.org/10.1016/j.jvolgeores.2010.04.001)
- Kelfoun K, **Giachetti T**, Labazuy P. (2010) Landslide-generated tsunamis at Reunion Island. *J. Geophys. Res.* Vol. 115, F04012. [doi:10.1029/2009JF001381](https://doi.org/10.1029/2009JF001381)

* Denotes one of my PhD or MS students

** Denotes one of my undergraduate students

CONFERENCES AND LECTURES

CONFERENCE PRESENTATIONS

- Giachetti T**, Trafton K*, Gardner JE, Watkins JM, Shea T, Wright HMN, Wiejaczka J* (2020). Sintered Pumice Aggregates: A Window into Primary Magmatic Fragmentation. AGU. (Poster, Giachetti).
- McCartney K, Hammer JE, Shea T, **Giachetti T**, Brachfeld SA (2020). Nanometer Scale Titanomagnetite Assisted Bubble Nucleation: A Joint Magnetic and Textural Characterization Approach. AGU. (Poster, McCartney).
- Trafton K*, **Giachetti T** (2020). Variations in juvenile pyroclast density-size distributions among layers, pits, and eruptions of silicic magmas. AGU. (Poster, Trafton).
- Wiejaczka J*, **Giachetti T**, Newton TJ (2020). Spatial and Temporal Evolution of Particle Size and Shape during Plinian Eruptions: The 7.7 ka Cleetwood Eruption of Mt. Mazama (Oregon, USA). AGU. (Poster, Wiejaczka).
- Cascante M*, **Giachetti T**, Wright HMN, Avarad G, Van Eaton AR, de Moor MJ (2020). Influence of magma-water interactions on eruptive products at Poás volcano, Costa Rica. AGU. (Poster, Cascante).
- Giachetti T**, Trafton K*, Needham E*, Watkins JM, Wright HMN, Gardner JE. (2019). Making pumice: a post-fragmentation process? AGU, San Francisco. (Poster, Giachetti).
- Trafton K*, **Giachetti T**, Ede R**. (2019) Size matters: the density and texture of pumice. AGU, San Francisco. (Oral, Trafton).
- Wiejaczka J*, **Giachetti T** (2019). Eruptive intensity transitions from Plinian to effusive to caldera-forming: the 7.7 ka Cleetwood eruption of Mount Mazama, Oregon, USA. AGU, San Francisco. (Poster, Wiejaczka).
- Trafton K*, **Giachetti T**, Kruse H**, Ede R**. (2018) Why are Larger Pumices More Porous? AGU, Washington DC. (Poster, Trafton).
- Giachetti T**, Hudak M, Bindeman I, Shea T. (2018). Degassing and rehydration of explosive products of the 900 BP Glass Mountain rhyolitic eruption of Medicine lake Volcano, California. GSA, Indianapolis. (Poster, Wiejaczka).
- Wiejaczka J*, **Giachetti T**, Watkins JM, Trafton K*, Needham E (2018). Obsidian pyroclasts: pre-eruptive vanguard magma, or juvenile clasts formed after fragmentation? GSA, Indianapolis (Poster, Wiejaczka).
- Shea T, **Giachetti T**, Donnelly-Nolan JM, Gonnermann HM (2018). Pyroclastic obsidian in the 1100CE Glass Mountain tephra and the pulsatory nature of rhyolitic dike-fed eruptions. GSA, Indianapolis (Oral, Shea).
- Needham E, Watkins JM, Garcia V, Gardner JE, **Giachetti T**. (2018) Experimental Study of Microlite Crystallization During Magma Ascent. AGU, Washington DC. (Poster, Needham).
- Fritz HM, **Giachetti T**, Anderson, SA, Gauthier D. (2018) 'Field Survey of the 17 June 2017 Landslide generated Tsunami in Karrat Fjord, Greenland'. EGU, Vienna (Oral, Fritz).
- Hoxsie E*, Watkins J, **Giachetti T**, Gardner JE. (2017) 'Evidence for CO₂ fluxing from CO₂-H₂O anticorrelations in obsidian pyroclasts'. IAVCEI, Portland. (Poster, Hoxsie).
- Gonnermann HM, Flidner C, **Giachetti T**. (2017) 'The effect of hysteretic permeability during open-system degassing of erupting magma'. IAVCEI, Portland. (Talk, Gonnermann).
- Hajimirza S, Gonnermann HM, Gardner JE, **Giachetti T**. (2017) 'Predicting homogeneous bubble nucleation rate'. IAVCEI, Portland. (Poster, Hajimirza).
- Giachetti T**, Gardner JE, Gonnermann HM, Hajimirza S. (2017) 'Coalescence of gas bubbles and percolation threshold in rhyolitic melt: insights from decompression experiments'. IAVCEI, Portland. Poster.
- Hajimirza S, Gonnermann HM, Gardner JE, **Giachetti T** (2016). 'Predicting homogeneous bubble nucleation rates'. AGU, San Francisco. (Talk, Hajimirza).
- Giachetti T**, Shea T, Gonnermann HM, McCann KA, Hoxsie EC (2016). 'Juvenile pumice and pyroclastic obsidian reveal the eruptive conditions necessary for the stability of Plinian eruption of rhyolitic magma'. AGU, San Francisco. Poster.

- Giachetti, T**, Gonnermann HM, Crozier JA. (2015) ‘Reconstructing magma degassing and fragmentation: The 1060 CE Plinian eruption of Medicine Lake Volcano, California’. AGU, San Francisco. Talk.
- Gonnermann HM, **Giachetti T**, Gardner JE, Truong N, Toledo P, Hajimirza S. (2015) ‘Empirical relationships of homogeneous bubble nucleation, growth and coalescence in rhyolitic melt’. AGU, San Francisco. Poster (presenter).
- Giachetti, T.** (2015) ‘Volcanology’. Freshmen Science Honors Colloquium at University of Oregon.
- Giachetti T**, Gonnermann HM. (2014) ‘The location and timing of magma degassing during Plinian eruptions’. AGU, San Francisco. Talk.
- Leonhardi T, Shea T, **Giachetti T**, Larsen J, Lindoo A. (2014) ‘From pumice to obsidian: eruptive behaviors that produce tephra-flow dyads. II- The 114ka trachyte eruption at Pu’u Wa’awa’a (Hawai’i)’. AGU, San Francisco. Poster (T Leonhardi).
- Shea T, **Giachetti T**, Gonnermann HM, Donnelly-Nolan J, Ramsey D. (2014) ‘From pumice to obsidian: eruptive behaviors that produce tephra-flow dyads. I- The AD1100 Big Glass Mountain eruption at Medicine Lake Volcano (California)’. AGU, San Francisco. Talk.
- Giachetti T**, Gonnermann HM, Gardner JE, Shea T. (2014) ‘Discriminating magmatic water in rhyolitic glass using thermogravimetric analysis’. Goldschmidt Conference, Sacramento. Talk.
- Giachetti T**, Gonnermann HM, Gardner JE, Shea T. (2013) ‘Discriminating magmatic water in rhyolitic glass using thermogravimetric analysis’. AGU, San Francisco. Poster.
- Nguyen CT, Gonnermann HM, Houghton B, **Giachetti T.** (2013) ‘The effect of open-system degassing on magma permeability Case study: 1912 Novarupta Eruption, Alaska’. AGU, San Francisco. Poster.
- Giachetti T**, Gonnermann HM. (2012) ‘Water in pyroclasts: rehydration or incomplete degassing?’. AGU. Invited talk.
- Moitra P, Gonnermann HM, Houghton B, **Giachetti T.** (2011) ‘Eruption dynamics from vesicle shapes in pumice’. AGU, San Francisco. Poster.
- Giachetti T**, Paris R, Kelfoun K, Pérez-Torrado FJ. (2011) ‘Numerical modeling of the tsunami triggered by the Güimar debris avalanche, Tenerife (Canary Islands): comparison with field-based data. EGU, Vienna. Invited talk.
- Giachetti T**, Paris R, Kelfoun K, Ontowirjo B. (2011) ‘Tsunami hazard related to a flank collapse of Anak Krakatau volcano, Sunda Strait, Indonesia.’ European Geosciences Union, Vienna. Poster.
- Kelfoun K, **Giachetti T**, Labazuy P, Paris R. (2011) ‘Landslide-generated tsunamis at Réunion Island and their possible sedimentary record in Mauritius Island.’ European Geosciences Union, Vienna. Poster.
- Giachetti T**, Druitt TH, Burgisser A, Arbaret L. (2010) ‘Vesiculation processes during the 1997 Vulcanian explosions of Soufrière Hills, Montserrat’. European Geosciences Union (EGU), Vienna. Talk.
- Giachetti T**, Burgisser A, Arbaret L., Druitt TH, Kelfoun K. (2010) ‘Three-dimensional textural analysis of products from the Vulcanian explosions of Soufrière Hills Volcano (SHV), Montserrat, 1997’. EGU, Vienna. Poster.
- Giachetti T**, Druitt TH, Burgisser A, Arbaret L. (2009) ‘Bubble nucleation, growth and coalescence during the 1997 Vulcanian explosions of Soufrière Hills Volcano, Montserrat’. AGU, San Francisco. Poster.
- Giachetti T**, Burgisser A, Arbaret L., Druitt TH. (2009) ‘Three-dimensional textural analysis of products from the Vulcanian explosions of Soufrière Hills Volcano (SHV), Montserrat, 1997’. AGU, San Francisco. Poster.
- Shea T, Houghton BF, Gurioli L, Cashman KV, Hammer JE, **Giachetti T**, Druitt TH. (2009) An integrated methodology to investigate vesicle textures in volcanic rocks: I-Presentation. AGU, San Francisco. Poster.
- Hammer JE, Shea T, Houghton BF, Gurioli L, Cashman KV, **Giachetti T**, Druitt TH. (2009) An integrated methodology to investigate vesicle textures in volcanic rocks: II-Applications. AGU, San Francisco. Poster.
- Giachetti T**, Druitt TH, Burgisser A, Arbaret L, Kelfoun K. (2009) ‘Dynamics of the 1997 Vulcanian explosions of Soufrière Hills, Montserrat’. Workshop ‘IAVCEI Commission on Explosive Volcanism Workshop’, Clermont-Ferrand. Talk.

- Kelfoun K, **Giachetti T**, Labazuy P. (2008) 'Tsunamis hazard related to major catastrophic collapse at Reunion Island.' IAVCEI General Assembly, Reykjavik. Talk given by K. Kelfoun.
- Giachetti T**, Druitt TH, Kelfoun K, Arbaret L. (2008) 'Vesicle growth during Vulcanian explosions of Soufrière Hills Volcano, Montserrat, 1997.' European Geosciences Union, Vienna. Poster.
- Giachetti T**, Druitt TH, Kelfoun K, Arbaret L. (2007) 'Vesicle growth during Vulcanian explosions of Soufrière Hills Volcano, Montserrat, 1997.' International Union of Geodesy and Geophysics, Perugia. Poster.

INVITED LECTURES AND PRESENTATIONS

- Giachetti, T.** (2017) 'Degassing during explosive and non-explosive eruptions of rhyolitic magma'. Cascades Volcano Observatory, Vancouver WA.
- Giachetti, T.** (2016) 'The eruptive conditions necessary for the stability of Plinian eruption of rhyolitic magma'. Invited talk at the American Museum of Natural History, New York.
- Giachetti, T.** (2016) 'Open-system degassing of magma during volcanic eruptions of silicic magma and its control on the eruptive style'. Invited talk at Oregon State University.
- Giachetti, T.** (2015) 'Integrating pyroclast analysis and numerical modeling to reconstruct magma degassing and fragmentation during explosive volcanic eruptions'. Invited talk at University of Oregon.