ALLAN H. LERNER

CURRICULUM VITAE

1272 University of Oregon, Eugene, OR 97403, USA · 1-718-916-4733
alerner@uoregon.edu · https://earthsciences.uoregon.edu/profile/alerner

EDUCATION

University of Oregon, Eugene, OR 2015 – 2020
Ph.D., Department of Earth Sciences, GPA: 3.9
Graduate coursework: 151 credit hours
Primary Research adviser: Dr. Paul Wallace
Co-advisers: Leif Karlstrom (UO), Mark Reed (UO), Peter Kelly (USGS)
Dissertation: *The Depths and Locations of Magma Reservoirs and their Consequences for the Behavior of Sulfur and Volcanic Degassing*

Oregon State University, Corvallis, OR 2013 – 2015
M.Sc., College of Earth, Ocean, and Atmospheric Sciences, GPA: 4.0
Graduate coursework: 83 credit hours
Research adviser: Dr. Adam Kent
Thesis: *Insights into the Geochemical Evolution of the Youngest Toba Tuff (Sumatra, Indonesia) Magma Chamber through the Lens of Zircon-hosted Melt Inclusions*

Amherst College, Amherst, MA 2006 – 2010
B.A., Department of Geology, GPA: 3.9
Undergraduate coursework: 256 credit hours
Thesis: *The Eruption Dynamics of the 8.5 ka Driftwood Pumice-fall, Makushin Volcano, Alaska*

EMPLOYMENT, RESEARCH, AND FIELD EXPERIENCE

Cascades Volcano Observatory (CVO) Physical Science Technician 5/2019 – present
Assisted with gas-monitoring instrument preparation, field sampling, site installations, and data processing for boat, helicopter, and ground based research campaigns to volcanoes in the Aleutians (AK) and Cascades (WA, OR, CA). Position was a limited term appointment with the US Geological Survey's Volcano Science Center. (*Total working hours: 2000)*

Petrology Lab Manager and Research Scholar, University of Oregon 10/2020 – present
Assisted sample preparation, analysis, and research efforts for the UO igneous petrology group. Supervisor: Dr. Paul Wallace *(Total working hours: 1500)*

Hawai'i Volcanoes National Park, Scientific Research and Collection Permit 2018 – 2020
"Tracking Sulfur Degassing in the Kīlauea Volcanic System via Sulfur-isotope Studies of Gas Emissions and Petrologic Samples". PI – Allan Lerner

Hawaiian Volcano Observatory (HVO) Gas Geochemistry interim group head 3 – 6/2018
Led HVO gas monitoring efforts leading up to and during Kīlauea Volcano's 2018 Lower East Rift Zone eruption, conducting field measurements, and interfacing with monitoring, research, and public health efforts. (*Total working hours: 700)*

Field Technician, NOVAC installations at Sinabung and Gamalama Volcanoes 8/2016, 5/2017

Aided in joint installations with the Indonesian Center for Volcanology and Geologic Hazard Mitigation (CVGHM) and the USGS Volcanic Disaster Assistance Program (VDAP) to install networks of NOVAC SO_2 gas scanners to monitor gas emissions at the currently erupting Sinabung Volcano (2016) and the frequently active Gamalama Volcano (2017). (*Total working hours: 400)*

Research Assistant, Geology and Geochemical Monitoring of Ijen Volcano 9/2015

Assisted in a collaborative workshop between the USGS Volcanic Disaster Assistance Program (VDAP) and the Indonesian Center for Volcanology and Geologic Hazard Mitigation (CVGHM), conducting geologic mapping, aqueous geochemical sampling, and installing and operating UV spectrometers and Multi-Gas instruments to monitor gas emissions from Kawah Ijen Volcano. (*Total working hours: 100*)

Field Assistant, Volcanic Stratigraphy of the Deschutes Basin, OR 2013, 2014

Assisted in field mapping and interpretation of ignimbrite and tephra fall deposits within the Miocene-Pliocene Deschutes Basin, assisting the PhD research of Bradley Pitcher (Oregon State University). (*Total working hours: 130)*

Field Assistant, Imaging Magma Under St. Helens (iMUSH), WA 6 – 7/2014

Participated in planning and deployment of a seismometer network around Mount St. Helens volcano as part of a large-scale active-seismic project to image the underlying magma body and broader lithospheric structure. (*Total working hours: 100)*

Field/Research Assistant, Centro de Intercambio y Investigación en Vulcanología (CIIV), Universidad de Colima, Mexico 4 – 5/2013

Led a group of international interns in supporting ongoing monitoring and research on the actively erupting Volcán de Colima, working under Dr. Nick Varley. Monitoring efforts included thermal analysis, field mapping, ash collection, SO_2 gas emission via scanning UV spectrometer (FLYSPEC) and SO_2 cameras, spring geochemistry, and soil gas flux measurements. (*Total working hours: 400)*

Gas Geochemistry Intern, USGS Hawaiian Volcano Observatory (HVO), HI 2012 – 2013

Measured SO_2, CO_2, H_2O, H_2S, HF, and HCl emissions from Kīlauea's active vents using UV and FTIR spectrometers and LI-COR gas analyzers, maintained network of ambient SO_2 monitors, assisted with developing a radiative-transfer reprocessing protocol for SO_2, developed an ArcGIS-based map and visualization tool for SO_2 concentration across the island. Gained public outreach experience discussing hazard awareness on an actively erupting volcano. (*Total working hours: 1200*)

Post-Baccalaureate Research Assistant, Los Alamos National Laboratory, NM 2011 – 2012

Supervised by Dr. Donald Hickmott, I investigated *a)* the location and behavior of water in the structure and on surface interfaces of minerals at high P/T using neutron scattering techniques, and *b)* the ability of mantle minerals to entrain interstitial carbon and water. I led sample preparation, data collection and analysis, conducted literature reviews, and wrote funding and instrument user proposals, as well as journal publications. (*Total working hours: 3200)*

Amherst College Senior Thesis Research: 2009 – 2010

Conducted three weeks of field work through the KECK Geology Consortium on Makushin Volcano on Unalaska Is., Aleutian Islands. I analyzed the geochemistry (XRF, SEM-EDS), petrology, and stratigraphy (field mapping, volumetric reconstructions) of a Holocene pumice deposit to determine the eruption chronology and triggering mechanism. Research eventually led to a publication in 2018. (*Total working hours: 400)*

Geology of the Greek Isles; Hawaiian Geology; Geology of the Colorado Plateau 2007, 2009, 2010
Field courses offered by Amherst College. (*Total working hours: 80)*

Tropical Biology Semester Abroad In Costa Rica: 2009
Studied tropical ecosystems, environmental science and policy, and Spanish language and culture in Costa Rica through the Organization for Tropical Studies, an affiliate of Duke University. (*Total working hours: 400)*

Field Geology in the Rocky Mountains: 2008
Student in a six-week field camp through Indiana University. (*Total working hours: 270)*

TECHNICAL SKILLS

Laboratory Techniques: Electron Microprobe Analysis (EMPA); Secondary Electron Microscopy (SEM) and cathodoluminescence (CL) imaging; Fourier transform Infrared (FTIR) spectroscopy; Secondary Ion Mass Spectrometry (SIMS) ion imaging and analysis; Laser ablation inductively coupled mass spectroscopy (LA-ICPMS); X-ray Absorption Near Edge Structure (XANES); X-ray Fluorescence (XRF); Neutron Reflectometry (NR); Petrographic microscopy; X-ray Reflectometry (XRR); Ion implantation; Optical profilometry; Wet chemistry elemental purification techniques

Field Techniques: Ultraviolet spectroscopy for volcanic plume SO_2 measurements (Differential Optical Absorption Spectroscopy [DOAS], NOVAC [Network for Observation of Volcanic and Atmospheric Change] scanners, FLYSPEC, UV cameras); Flow-through and passive gas sensors (Multi-GAS); Open-path FTIR spectroscopy; Geochemical sampling and analysis of fumaroles and thermal waters; Isotope sampling of diffuse volcanic gas plumes; Thermal camera imaging; CO_2 and radon soil gas surveys; Geologic field surveying equipment

Computational: Microsoft and Adobe suites (Word, Excel, Illustrator); Matlab and Perl computer languages; Spectral analysis; MELTS thermochemical modeling; Magmatic volatile solubility modeling; ArcGIS; Origin and IoGAS data analysis software; "R" statistical package; Arduino coding language (circuitry and analysis); Theriak-Domino thermodynamics/phase equilibrium software

PUBLICATIONS

ORCID iD: 0000-0001-7208-1493

Lerner, A.H., Muth, M.J., Wallace, P.J., Lanzirotti, A., Newville, M., Gaetani, G.A., Chowdhury, P., Dasupta, R. *(2021).* Improving the reliability of Fe- and S-XANES measurements in silicate glasses: Correcting beam damage and identifying Fe-oxide nanolites in hydrous and anhydrous melt inclusions. *Chemical Geology*, 586, 120610. https://doi.org/10.1016/j.chemgeo.2021.120610

Lerner, A.H., Wallace, P.J., Shea, T., Mourey, A.J., Kelly, P.J., Nadeau, P.A., Elias, T., Kern, C., Clor, L.E., Gansecki, C., Lee, R.L., Moore, L.R., Werner, C.A. *(2021).* The petrologic and degassing behavior of sulfur and other magmatic volatiles from the 2018 eruption of Kīlauea, Hawai'i: melt concentrations, magma storage depths, and magma recycling. *Bulletin of Volcanology*, 83, 43. https://doi.org/10.1007/s00445-021-01459-y

Rose-Koga, E.F., Bouvier, A.-S., Gaetani, G.A., Wallace, P.J., Allison, C.M., Andrys, J.A., de la Torre CA, A., Barth, A., Bodnar, R.J., Ajj, B.G., …**Lerner, A.**, et al. *(2021).* Silicate melt inclusions in the new millennium: A review of recommended practices for preparation, analysis, and data presentation. *Chemical Geology* 120145. https://doi.org/10.1016/j.chemgeo.2021.120145

Lerner, A.H. *(2020)*. The depths and locations of magma reservoirs and their consequences for the behavior of sulfur and volcanic degassing. PhD Dissertation, *University of Oregon*. ProQuest Dissertations Publishing, 28022240. https://www.proquest.com/docview/2457313919/abstract

Lerner, A.H., O'Hara, D., Karlstrom, L., Ebmeier, S.K., Anderson, K.R., Hurwitz, S. *(2020).* The prevalence and significance of offset magma reservoirs at arc volcanoes. *Geophysical Research Letters*, 47, 14. https://doi.org/10.1029/2020GL087856

Lerner, A.H. *(2020)*. Supplemental data for "The Prevalence and Significance of Offset Magma Reservoirs at Arc Volcanoes", *Harvard Dataverse*, V2. https://doi.org/10.7910/DVN/LHD1HY

Kern, C., **Lerner, A.H.,** Elias, T., Nadeau, P., Holland, L., Kelly, P.J., Werner, C.A., Clor, L.E., Cappos, M.J. *(2020)*. Quantifying gas emissions associated with the 2018 rift eruption of Kīlauea Volcano using ground-based DOAS measurements. *Bulletin of Volcanology*, 82, 55. https://doi.org/10.1007/s00445-020-01390-8

Lanzirotti, A., Lee, L., Head, E., Sutton, S., Newville, M., McCanta, M., **Lerner, A.**, Wallace, P. (*2019*). Direct Measurements of Copper Speciation in Basaltic Glasses: Understanding the Relative Roles of Sulfur and Oxygen in Copper Complexation in Melts. *Geochimica et Cosmochimica Acta*, 267, 164-178. https://doi.org/10.1016/j.gca.2019.09.029

Primulyana S., Kern C., **Lerner A.**, Saing U.B., Kunrat S.L., Alfianti H., Marlia M. *(2019)*. Gas and ash emissions associated with the 2010-present activity of Sinabung Volcano, Indonesia. *Journal of Volcanology and Geothermal Research*, 382, 184-196. https://doi.org/10.1016/j.jvolgeores.2017.11.018

Neal, C.A., Brantley, S.R., Antolik, L., Babb, J.L., Burgess, M., Calles, K., Cappos, M., Chang, J.C., Conway, S., Desmither, L., Dotray, P., Elias, T., Fukunaga, P., Fuke, S., Johanson, I.A., Kamibayashi, K., Kauahikaua, J., Lee, R.L., Pekalib, S., Miklius, A., Million, W., Moniz, C.J., Nadeau, P.A., Okubo, P., Parcheta, C., Patrick, M.R., Shiro, B., Swanson, D.A., Tollett, W., Trusdell, F., Younger, E.F., Zoeller, M.H., Montgomery-Brown, E.K., Anderson, K.R., Poland, M.P., Ball, J.L., Bard, J., Coombs, M., Dietterich, H.R., Kern, C., Thelen, W.A., Cervelli, P.F., Orr, T., Houghton, B.F., Gansecki, C., Hazlett, R., Lundgren, P., Diefenbach, A.K., **Lerner, A.H.**, Waite, G., Kelly, P., Clor, L., Werner, C., Mulliken, K., Fisher, G., Damby, D. *(2019)*. The 2018 rift eruption and summit collapse of Kīlauea Volcano. *Science*, 363, 367–374. https://doi.org/10.1126/science.aav7046

Lerner A.H., Crowley P.D., Nicolaysen K.P., Hazlett R.W. *(2018)*. Stratigraphy, distribution, and evidence for mafic triggering of the ca. 8.5 ka Driftwood Pumice eruption, Makushin Volcano, Alaska, U.S.A. *Journal of Volcanology and Geothermal Research*, 357, 362-377. https://doi.org/10.1016/j.jvolgeores.2018.05.006

Damby D.E., Peek S., **Lerner A.H.**, and Elias T. *(2018)*. Volcanic ash leachate chemistry from increased 2018 activity of Kīlauea Volcano, Hawaii: *U.S. Geological Survey data release*. https://doi.org/10.5066/P98A07DC

Lerner A. *(2015)*. Insights into the Geochemical Evolution of the Youngest Toba Tuff (Sumatra, Indonesia) Magma Chamber Through the Lens of Zircon-hosted Melt Inclusions. MSc Thesis, *Oregon State University, Scholar's Archives.* http://ir.library.oregonstate.edu/xmlui/handle/1957/57500

Cassidy M., Cole P.D., Hicks K.E., Varley N.R., Peters N., **Lerner A.H.** *(2015)*. Rapid and slow: Varying magma ascent rates provide the mechanism for small Vulcanian eruptions. *Earth and Planetary Science Letters*, 460: 73-84. https://doi.org/10.1016/j.epsl.2015.03.025

Wang P., Hudak M.R., **Lerner A.H.**, Grubbs R.K., Wang S., Zhang Z., Karapetrova E., Hickmott D.D., Majewski J. *(2014)*. X-ray scattering of calcite thin films deposited by atomic layer deposition: Studies

in air and in calcite saturated water solution. *Thin Solid Films*, 565: 277-284. https://doi.org/10.1016/j.tsf.2014.06.032

Wang P., **Lerner A.H.**, Taylor M., Baldwin J.K., Grubbs R.K., Majewski J., Hickmott D.D. *(2012)*. High-pressure and High-Temperature Neutron Reflectometry Cell for Solid-Fluid Interface Studies. *European Physics Journal Plus*, 127: 76, 1-15. https://doi.org/10.1140/epjp/i2012-12076-0

TEACHING, MEDIA, OUTREACH, AND SERVICE

Teaching assistant, University of Oregon:

Introductory Petrology (Prof. Paul Wallace; Prof. Ilya Bindeman) 2019, 2020
Mineralogy (Prof. Dave Blackwell) 2019

Teaching assistant, Oregon State University:

Volcanology (Prof. Anita Grunder) 2015
Environmental Geology (Prof. Kaplan Yalcin) 2015
Environmental Justice (Prof. Stephen Lancaster) 2015
Global Change and Earth Science (Prof. Peter Clark) 2015
Living with Earthquakes in the Pacific Northwest (Prof. Matthew Nyman) 2014
Physical Geology for Science Majors (Prof. Kaplan Yalcin) 2014

Teaching assistant, Amherst College:

Field Geology of Hawaii 2014
Organized and co-led a two-week field course for 35 undergraduate students to the Big Island of Hawai'i, focusing on volcanology, geology, natural hazards, culture, and environmental issues
Mineralogy (Prof. Jack Cheney) 2009
Introduction to Geology (Profs. Tekla Harms and Peter Crowley) 2008

Media:

Research featured in Scientific American magazine article 2020
"Faraway Magma Reservoirs Complicate Volcano Monitoring" by K. Kornei (Scientific American 323, 4, 20; October 2020; doi:10.1038/scientificamerican1020-20)
KRBV, Oregon State Radio, Inspiration Dissemination: featured interview "Tiny crystals and big insights into supervolcanic eruptions" 2014

Outreach and Service:

Co-founder and organizer of Volcanology Students of Oregon (Volc-OR) conference 2018 – 2020
Co-founded an entirely student-led regional conference for graduate and undergraduate volcanology students in Oregon, which rotates annually between Portland State University, Oregon State University, and University of Oregon.
American Society of Photogrammetry and Remote Sensing (ASPRS) 2015 – 2020
University of Oregon student chapter treasurer (2017 – 2020)
"Guest Volcanologist" lessons for elementary school groups in Eugene, OR 2016
University of Oregon, Department of Earth Sciences field trip blogger 2016
Created and administered field trip blog for a department "Staple's" field trip with USGS partners to the Taos Plateau (New Mexico) and the San Juan Volcanic Field (Colorado): https://blogs.uoregon.edu/staples2016/

University of Oregon, CURIOSITY Graduate Student seminar organizer 2015 – 2017
Executive board organizer and guest speaker and for a graduate-student led interdisciplinary science seminar series: http://blogs.uoregon.edu/curiosity/

Oregon State University's Geology Club: 2015
Guest speaker on Volcanic Hazard Monitoring; mentor for school/career advice

Oregon State University's Louis Stokes Alliance for Minority Participation: 2014
Led geology presentations to a freshman group of this program in order to broaden student exposure to the fields of Science and Technology

Pajarito Environmental Education Center (PEEC), Los Alamos, NM: 2011, 2012
Organized and led geology field trips for community members and local elementary school classes as a "resident geologist"

Amherst College Emergency Medical Services (ACEMS), Amherst, MA 2007 – 2010
Led First-Responder teams for medical crises on the Amherst College campus

HONORS AND AWARDS

Department of the Interior – US Geological Survey STAR Award (Special Thanks for Achieving Results) *($1000)* 2020

University of Oregon Graduate School: Special "OPPS" Travel and Research grant *($500)* 2018, 2020

National Science Foundation: Graduate Research Fellowship (NSF-GRFP) *($138000)* 2015 – 2019

NSF-GRFP Graduate Research Internship Program (GRIP) recipient 2016 – 2019
Gas Geochemistry Internship Collaboration with the USGS to study volcanic degassing at Mount St. Helens *($5000)*

Argonne National Laboratories, Advanced Light Source (APS) user proposal beamtime award*:* "Investigating the effects of mantle source and sulfur degassing on the fO_2 of magmatic systems via μXANES measurements of melt inclusions" (PI – Allan Lerner) *(360 analytical hours)* 2017 – 2019

University of Oregon: Norlin SS Endowment Fund general scholarship *($3000)* 2019

University of Oregon Dept. of Earth Sciences: Staples Scholarship for Research and Emeritus Faculty Tribute Fund awards *($1200, $1000, $1000)* 2016, 2017, 2019

Mazamas Graduate Research Grant *($1076, $1920)* 2014, 2017

Geological Society of America (GSA): Graduate Research Grant *($1159)* 2017

Mineralogical Society of America: Mineralogy/Petrology Research Award (*$5000)* 2017

Jack Kleinman Award for Volcano Research (awarded by USGS and the Community Foundation for Southwest Washington) *($300)* 2016

Geological Society of America (GSA): Graduate Research Grant, with Outstanding Proposal Mention distinction *($2313)* 2014

Oregon State University: Provost's Distinguished Graduate Fellow *($31600)* 2013

Amherst College: *Summa Cum Laude* distinction 2010

Amherst College Geology Department:

Walter F. Pond Prize for the most distinguished senior thesis 2010

Belt-Brophy Prize for student showing the greatest promise for a career in geology 2009

Richard M. Foose Award to support summer field work 2007, 2008, 2010

CONFERENCE CONTRIBUTIONS AND INVITED TALKS

Lerner, A.H., Nadeau, P.A., Liu, E.J., Kunrat, S. *(2021).* Connecting the deep and surficial Dots: Linking petrology and gas measurements to constrain volatile behavior in volcanic systems. 2021 AGU fall meeting, New Orleans, LA (*session conveners, V41A; V45F)*

Lerner, A.H., Sublett, D.M., Cauley, C., Wallace, P.J., Bodnar, R.J. *(2021).* Magma storage depths and excess CO_2 fluids from the explosive Keanakāko'i tephra (Kīlauea Volcano, Hawai'i) based on measurements of melt and fluid inclusions. 2021 AGU fall meeting, New Orleans, LA (*virtual poster, DI25B-0044)*

Lerner, A.H., Wallace, P.J., Gaetani, G.G., Kelly, P.J., Muth, M., Lanzirotti, A., Newville, M., Lee, R.L. *(2021).* Redox conditions of magmas from the 2018 eruption of Kīlauea, Hawai'i: combined Fe- and S-XANES measurements of glasses and the importance of redox re-equilibration in olivine-hosted melt inclusions. 2021 AGU fall meeting, New Orleans, LA (*virtual poster, V45F-09)*

Lerner A.H. The prevalence and significance of offset magma reservoirs at arc volcanoes. Presented at:
2021 Mazamas climbing organization, Research Committee seminar series, Portland, OR *(invited talk)*
2021 USGS - Volcano Science Center, winter seminar series, Vancouver, WA *(invited talk)*
2021 Portland State University - Dept. of Geology, winter seminar series, Portland, OR *(invited talk)*

Kern, C., Nadeau, P., Elias, T., Kelly, P.J., **Lerner, A.H.**, Clor, L.E., Warren, M., Dietterich, H., Lopez, T. *(2021).* Gas emissions from the resumption of eruptive activity at Kīlauea Volcano's summit in December 2020. 2021 EGU meeting, remote *(virtual presentation, EGU21-3470)*

Kunrat, S., Alfianti, H., Kern, C., Primulyana, S., **Lerner, A.H.**, Asrori, M.N., Putra, A., Al Hidayat, D. *(2021).* Continuous monitoring of SO_2 emissions from Sinabung Volcano, Indonesia. 2021 EGU meeting *(virtual presentation, EGU21-3711)*

Lerner, A.H., Wallace, P.J., Shea, T., Mourey, A., Kelly, P.J., Nadeau, P.A., Elias, T., Kern, C., Clor, L.E., Gansecki, C.A., Lee, R.L., Moore, L., Werner, C.A. *(2020).* Magma source depths and magma recycling in the 2018 eruption of Kīlauea, Hawaii, based on volatiles in melt inclusions. 2020 AGU fall meeting, San Francisco, CA (*virtual poster, V002-0007)*

Lerner, A., Muth, M., Wallace, P., Lanzirotti, A., Newville, M., Gaetani, G., Chowdhury, P., Dasgupta, R. *(2020).* Correcting Fe- and S-XANES Beam Damage and Recognizing Rapid Redox Equilibration of Olivine-Hosted Melt Inclusions. 2020 Goldschmidt conference, Honolulu, HI (*virtual presentation)* https://doi.org/10.46427/gold2020.1462

Ebmeier, S.K., **Lerner, A.H.** (presenting author), O'Hara, D., Karlstrom, L., Hurwitz, S., Anderson, K.R. *(2019).* Links between magma flux, reservoir position, and topography at arc volcanoes. 2019 AGU fall meeting, San Francisco, CA *(oral presentation, V13A-05)*

Lerner, A.H., Wallace, P.J., Mourey, A., deGraffenried, R., Shea, T., Lee, R.L., Gansecki, C.A., Nadeau, P., Elias, T., Kern, C., Clor, L.E., Kelly, P.J., Werner, C.A., Moore, L. *(2019).* Sulfur concentrations and oxidation states of products from the 2018 Kīlauea fissure eruption based on melt inclusions, embayments, and matrix glasses. 2019 AGU fall meeting, San Francisco, CA (*poster, V43C-0210)*

Kern, C., Elias, T., Nadeau, P., **Lerner, A.H.**, Werner, C.A., Cappos, M., Clor, L.E., Kelly, P.J., Realmuto, V.J., Theys, N., Carn, S.A. *(2019).* Sulfur dioxide emissions associated with Kīlauea Volcano's 2018 fissure eruption. 2019 AGU fall meeting, San Francisco, CA (*poster, V43C-0209)*

Shea, T., **Lerner, A.H.**, Powers, N., Moore, L., Wallace, P.J., deGraffenried, R., Mourey, A., Cluzel, N., Konter, J.G., Lee, R.L., Gansecki, C.A. *(2019)*. Storage conditions and longevity of rift zone magmas at Kīlauea Volcano, Hawai'i: melt inclusion insights from the 2018 Lower East Rift Zone eruption 2019 AGU fall meeting, San Francisco, CA *(poster, V43C-0207)*

Lerner A.H., Lee R.L., Gansecki C., Wallace P.J., Nadeau P., Elias T., Clor L., Kelly P., Werner C., Moore, L. *(2019)*. Insights into magma mixing and sulfur degassing during the 2018 Kīlauea fissure eruption via mineral and melt inclusion geochemistry. 2019 GSA-Cordilleran regional meeting, Portland, OR. (*poster, 24-7)*

Lerner A.H. *(2019)*. Kīlauea's 2018 fissure eruption – chronology, processes, and impacts of Kīlauea's largest eruption in 200 years. Central Oregon Geoscience Society, Bend, OR *(invited talk)*

Lerner A.H., Lee R.L., Gansecki C., Nadeau P., Wallace P.J., Elias T., Kern C., Thornber C., Clor L., Kelly P., Werner C., Cappos M., Moore, L. *(2018)*. Insights into magma mixing and sulfur degassing during the 2018 Kīlauea fissure eruption via mineral and melt inclusion geochemistry. 2018 AGU fall meeting, Washington D.C. (*poster, V43J-0281)*

Lerner A.H., Wallace P.J., Thornber C., Kelly P., Coombs M., Mandeville C. *(2018)*. Sulfur degassing and magma oxidation state at Mount St. Helens (WA) and Augustine (AK) Volcanoes. Presented at 2018 Goldschmidt conference, Boston, MA (*poster, 04J-105*)

Lerner A.H., Wallace P.J., Karlstrom L. *(2017)* Investigating the connection between sulfur degassing and the oxidation state of melt at Mount St. Helens and Augustine volcanoes + The Occurrence of Offset Magma Reservoirs at Holocene Volcanoes. Presented at USGS Cascade Volcano Observatory, Vancouver, WA (*invited talk*)

Lerner A.H., Kern C. *(2017)* Mapping volcanic unrest: Gas monitoring with the NOVAC network. Presented at 2017 ASPRS Columbia River Regional tech exchange, Vancouver, WA (*oral presentation*)

Lerner A.H., Wallace P.J. *(2017)* Investigating the connection between sulfur degassing and the oxidation state of melt at Mount St. Helens and Augustine volcanoes (USA) via XANES. Presented at 2017 IAVCEI-CCVG meeting, Baños, Ecuador (*oral presentation*)

Lerner A.H., Wallace P.J., Thornber C., Kelly P., Coombs M., Mandeville C. *(2017)*. Investigating the connection between sulfur degassing and the oxidation state of melt at Mount St. Helens, Washington, and Augustine Volcano, Alaska. Presented at 2017 IAVCEI meeting, Portland, OR (*poster, VO13A-160*)

Kelly P., Saing U., Primulyana S., Suparjan, Purwanto H.B., Setiono S., Gunawan H., Rinehart A., **Lerner A.**, Kern C., Paskievitch J. *(2017)*. Continuous Multi-GAS monitoring yields new insights into gas emissions from Kawah Ijen volcano, Indonesia. Presented at 2017 IAVCEI meeting, Portland, OR (*oral presentation, PE42C-6*)

Primulyana S., Kern C., **Lerner A.**, Saing U., Kunrat S., Alfianti H., Marlia M. *(2017)* Gas and ash emissions associated with the 2010 – present activity of Sinabung Volcano, Indonesia. Presented at 2017 IAVCEI meeting, Portland, OR (*poster, PE43A-094*)

Lerner A.H., Karlstrom L., Hurwitz S., Anderson K., and Ebmeier S. *(2016)*. Rethinking Volcanic Plumbing Systems: The Prevalence of Offset Magma Reservoirs at Holocene Volcanoes. Presented at 2016 AGU Fall meeting, San Francisco, CA *(poster, V53C-3096)*

Lerner A.H., and Kent A.J.R. *(2015)*. Insights into the Geochemical Evolution of the Youngest Toba Tuff Magma Chamber using Zircon-hosted Melt Inclusions. Presented at 2015 AGU Fall meeting, San Francisco, CA *(poster, V13B-3120)*

Lerner A.H., and Kent A.J.R. *(2014)*. Using Zircon-hosted Melt Inclusions to Track the Late Volatile Evolution of the 74 ka Youngest Toba Tuff, Sumatra. Presented at:

2014 AGU Fall meeting, San Francisco, CA *(poster, V51A-4722)*

2014 GSA National Meeting, Vancouver, BC *(poster, 250586)*

Hickmott D.D., **Lerner A.H.**, Wang P., Majewski J., Taylor M., Grubbs R.K. *(2011)*. Neutron Reflectometry at Elevated Pressures and Temperatures - Novel P-T Cell and Preliminary Experiments. Presented at 2011 AGU Fall Meeting, San Francisco, CA *(poster, V21A-2473)*

Lerner A.H., Wang P., Hickmott D.D., Majewski J., Taylor M. *(2011)*. Determination of Calcite-Fluid Interfaces at High P/T via Neutron Reflectometry. Presented at 2011 Los Alamos National Laboratory (LANL) Student Symposium *(poster)*

Lerner A.H., Crowley P.D., Hazlett R.W., Nicolaysen K.P. *(2010)*. Eruption Dynamics of the 7.7 ka Driftwood-Pumice Fall, Makushin Volcano, AK. Presented at:

2011 Los Alamos Geological Society, May Meeting, Los Alamos, NM *(invited talk)*

2010 AGU Fall Meeting, San Francisco, CA, 13-17 Dec *(poster, V11D-2335)*

2010 Northeast ArcGIS Users Group Spring Meeting, Smith College, MA, 11 May *(poster)*

2010 KECK Geology Undergraduate Research Symposium, Houston, TX, 15-18 April *(talk + poster)*

2010 GSA Northeast/Southeast Joint Regional Meeting, Baltimore, MD 13-16 March *(poster, 52-3)*

PROFESSIONAL SOCIETY MEMBERSHIPS

American Geophysical Union (AGU)

International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI)

Mineralogical Society of America (MSA)

The Geochemical Society (GS)

ADDITIONAL SKILLS AND INTERESTS

Former Emergency Medical Technician (EMT-Basic) in NY and MA from 2007 – 2011

Mountain bike enthusiast and former vice-president/coach of the Amherst College Biking Intercollegiate Racing Team (AMBIR) from 2008 – 2010

Intermediate-Advanced Spanish language proficiency

Knowledge of industrial welding, micro-welding, and machine shop equipment operation

PADI Open Water Diver