

KARA BRUGMAN

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RESEARCH INTERESTS

Magma genesis and volatile solubility on exoplanets, Earth, and solar system bodies, diffusion chronometry, geothermometry, volcano science and hazards, high-silica magmatic systems

PROFESSIONAL PREPARATION

- 2020 Ph.D., Arizona State University (ASU)
Geological Sciences, School of Earth and Space Exploration (SESE)
• Dissertation: *Timescales and Characteristics of Magma Generation in Earth and Exoplanets* // Advisor: Christy Till
- 2014 B.A., University of Colorado, Boulder (CU) – *summa cum laude* and *with distinction*
Geological Sciences, minor: Astrophysical and Planetary Sciences
• Honors thesis: *Understanding the History of Arabia Terra, Mars Through Crater-Based Tests* // Advisor: Brian Hynek

PROFESSIONAL APPOINTMENTS

- 2026–curr. Assistant Professor, Department of Earth & Planetary Sciences, Institute of Meteoritics, University of New Mexico (UNM)
- 2023–2025 Associate Research Scientist, FORCE, Eyring Materials Center, ASU
- 2020–2022 Postdoctoral Fellow, Carnegie Institution for Science Earth & Planets Laboratory (EPL)
- 2014–2018 National Science Foundation Graduate Research Fellow, ASU
- 2014–2020 Research Assistant, SESE, ASU
- 2016, 2019 Teaching Assistant, SESE, ASU
- 2011–2014 Research Assistant, Laboratory for Atmospheric and Space Physics, Boulder, CO

PUBLICATIONS

// PEER-REVIEWED

- Brugman, K., Dunning, S.G., Cody, G.D., Wang, J., Bullock, E., Steele, A., Badro, J., Shahar, A. (in review) Hydrogen solubility and speciation in primitive silicate melt. *Planetary Science Journal*.
- Kim, J., Arrowsmith, J. R., Clarke, A. B., Roggensack, K., Semken, S., **Brugman, K.** (2026). The Eruptive Behavior of Distributed Volcanism Forming Low Shield Edifices—A Case Study of Sentinel-Arlington Volcanic Field, U.S.A., Chapter F in M. P. Poland, M. H. Ort, W. K. Stovall, R. G. Vaughan, C. B. Connor, M. E. Rumpf (Eds.), *Distributed volcanism—Characteristics, processes, and hazards: U.S. Geological Survey Professional Paper 1890* (pp. 32), 10.3133/pp1890F.

- Edmund, E., Chuvashova, I., Konopkova, Z., Husband, R., Strohm, C., Appel, K., Bähitz, C., Ball, O., Bouffetier, V., **Brugman, K.**, et al. (2024) The thermal conductivity of bridgmanite at lower mantle conditions using a multi-technique approach. *Journal of Geophysical Research: Solid Earth*, 129(6), 10.1029/2024JB028823.
- Kueter, N., **Brugman, K.**, Miozzi, F., Cody, G.D., Yang, J., Strobel, T.A., Walter, M.J. (2023) Water speciation and hydrogen isotopes in hydrous stishovite: implications for the deep Earth water cycle. *Contributions to Mineralogy and Petrology*, 178(48), 10.1007/s00410-023-02028-6.
- Piette, A.A.A., Gao, P., **Brugman, K.**, Shahar, A., Lichtenberg, T., Miozzi, F., Driscoll, P. (2023) Rocky planet or water world? Observability of low-density lava world atmospheres. *The Astrophysical Journal*, 954(29), 110.3847/1538-4357/acdef2.
- Brugman, K.**, Bose, M., Till, C.B. (2022) Common Assumptions and Methods Yield Overestimated Diffusive Timescales, as Exemplified in a Yellowstone Post-Caldera Lava. *Contributions to Mineralogy and Petrology*, 177(63), 19, 10.1007/s00410-022-01926-5.
- Brugman, K.**, Phillips, M.G., Till, C.B. (2021). Experimental Determination of Mantle Solidi and Melt Compositions for Two Likely Rocky Exoplanet Compositions. *Journal of Geophysical Research: Planets*, special issue *Exoplanets: The Nexus of Astronomy and Geoscience*, 126(7), 19, 10.1029/2020JE006731.
- Brugman, K.K.** and Till, C.B. (2019). A low-aluminum clinopyroxene-liquid geothermometer for high-silica magmatic systems. *American Mineralogist*, 104(7), 996–1004, 10.2138/am-2019-6842.
- Hynek, B.M., T.M. McCollum, E.C. Marcucci, **K. Brugman**, K.L. Rogers (2013). Assessment of environmental controls on acid-sulfate alteration at active volcanoes in Nicaragua: Applications to relic hydrothermal systems on Mars, *Journal of Geophysical Research—Planets*, Special Issue: *Early Mars*, 118, 2083–2104, 10.1002/jgre.20140.

// OTHER PUBLICATIONS

- Brugman, K., & Till, C. B. (2025) Geochemical Habitability. Habitable Worlds Observatory Community Working Group Science Case Development Document.
- Meadows, V., Stapelfeldt, K., Crisp, D., Robinson, T.D., Mayorga, L., Quick, L.C., Kane, S.R., Azevedo Silva, T., **Brugman, K.**, Head, J.W., Mamajek, E., Dong, C. (2025) Identifying Solar System Investigations Most Impactful to Exoplanet Science. Community White Paper for NASA Decadal Astrobiology Research and Exploration Strategy.
- Community Consensus Report (2022) A Consensus Report on Recommendations from the 2022 Advancing IDEA in Planetary Science Conference, submitted to NASA, 10.5281/zenodo.6656887.
- Izenberg N., R.T. Daly, K.E. Mandt, C.R. Richey, L.R. Ostrach, J.T. Keane, S.J. Robbins, R.N. Watkins, J.A. Cordova, L. Riesbeck, J.H. Roberts, I. Daubar, J. Scully, S. Howell, S. Hosseini, R. Pappalardo, M. Vidaurri, N. Zellner, S. Vance, M. Bose, M.W. Busch, L. Feaga, P.A. Yanamandra-Fisher, **K.K. Brugman**, G. Arney, E. Kohler, A.M. Tárano, J. Noviello, C. Ernst, M.M. Daswani, H. Hartnett (2021) Planetary and Astrobiology Blank Papers: Science White Papers Cancelled or

Downscaled Due to Direct Impact of COVID-19 and National-scale Civil Action, *Planetary Science and Astrobiology Decadal Survey 2023–2032 and Bulletin of the AAS* 53(4), 10.3847/25c2cfcb.d2881794.

Kohler, E., C. He, S.H. Shim, **K.K. Brugman**, A.C. Johnson, P.C. Vergeli, M.A. Thomson, H. Graham, M.S. Gudipati, B. Fleury, B.L. Henderson (2020) The Importance of Prioritizing Exoplanet Experimental Facilities, *Planetary Science and Astrobiology Decadal Survey 2023–2032*, arXiv:2007.13924.

Marley, M.S., S. Harman, H.B. Hammel, P.K. Byrne, J. Fortney, A. Accomazzi, S.E. Moran, M.J. Way, J.L. Christiansen, N.R., Izenberg, T. Holt, S. Vahidinia, E. Kohler, **K.K. Brugman** (2020) Enabling Effective Exoplanet/Planetary Collaborative Science, *Planetary Science and Astrobiology Decadal Survey 2023–2032*, arXiv:2007.10549.

Till, C.B., M.E. Pritchard, C.A. Miller, **K.K. Brugman**, J. Ryan-Davis (2018). Super-volcanic Investigations. *Nature Geoscience*, 11(4), 10.1038/s41561-018-0100-1.

GRANTS & FUNDING

2026–2029 NSF GLOW Exploring effects of rocky exoplanet composition on habitability and target selection, Principal Investigator
2024–2029 NASA ICAR Tracing Rocky Exoplanet Compositions, Co-Investigator
2020–2022 Carnegie Institution for Science Postdoctoral Fellowship
2020 NASA Exoplanets Science Institute Travel Grant
2019–2020 ASU Graduate College Completion Fellowship
2019 Geochemical Society Planetary Science Grant
2019 ASU Graduate & Professional Student Association Individual Travel Grant
2016, '18, '19 ASU Graduate Education Travel Grant
2014–2018 NSF Graduate Research Fellowship

INVITED TALKS & COLLOQUIA

2026 New Mexico Tech Dept. of Earth and Environmental Science Colloquium
2026 New Mexico State University Dept. of Geological Sciences Colloquium
2026 UNM Center for Astrophysics Research and Technology
2026 NASA SSERVI/UNM CASA Moon Planetary Sample Science Seminar
2024 Corning Materials at High Pressure Seminar
2023 Arizona State University, School of Earth & Space Exploration Colloquium
2023 Lunar and Planetary Institute Seminar
2022 Carnegie EPL Seminar
2022 University of Maryland, Planetary Astronomy Lunch Seminar
2021 American Geophysical Union Fall Meeting, New Orleans
2021 European Geophysical Union, Geochemistry, Mineralogy, Petrology & Volcanology Division Campfires
2021 University of California Los Angeles, Geocheminar
2021 Goldschmidt Conference, Lyon
2021 Ruhr-University of Bochum, Institute of Geology, Mineralogy and Geophysics Colloquium

2021	Smithsonian National Museum of Natural History, Dept. of Mineral Sciences Seminar
2021	International Volcanology Seminar
2021	Stanford University, Geological Sciences Seminar
2021	The University of Chicago, Geophysical Sciences Seminar
2020	California Institute of Technology, Geoclub
2020	NASA Goddard, Exoplanet Seminar
2020	Harvard & Smithsonian Center for Astrophysics, Exoplanet Presentation Lounge
2019	Arizona State University, School of Earth & Space Exploration Colloquium
2019	Goldschmidt Conference, Barcelona
2018	Hot Life in the Desert Meeting, Arizona
2017	American Geophysical Union Fall Meeting, San Francisco

CONFERENCE PRESENTATIONS

**invited †talk*

Brugman, K., Iacovino, K., Wolf, A. S., Foley, B. J., Marshall, L. X., Till, C. B., Sahu, C. (2026). Searching for Habitable Exoplanets by Tracing Rocky Exoplanet Compositions (TREC). AGU Fall Meeting, San Francisco, CA.

Iacovino, K., **Brugman, K.**, Desch, S., Till, C. B. (2026). Ground-truthing exoplanet geochemistry models. AGU Fall Meeting, San Francisco, CA, USA.

Martinez, E., & **Brugman, K.** (2026). Petrologic Models Fail Beyond Earth-Like Compositions: Targeting the Exoplanet Experiments that Matter Most. AGU Fall Meeting, San Francisco, CA.

Shahar, A., Codillo, E., Miozzi, F., Thompson, M., **Brugman, K.**, Wang, J., Badro., J., Young, E., Alexander, C. (2026). The Importance of Hydrogen during Planetary Differentiation. AGU Fall Meeting, San Francisco, CA.

†**Brugman, K.**, Iacovino, K., Marshall, L. X., Sahu, C., Wolf, A. S., Foley, B. J., Till, C. B. (2026). Tracing Rocky Exoplanet Compositions (TREC) to Inform Our Search for Habitable Exoplanets. 58th Annual Meeting, Division of Planetary Sciences, AAS. Spokane, WA.

†**Brugman, K.**, Iacovino, K., Marshall, L.X., Till, C.B. (2026). Geochemical habitability: Petrological experiments are needed to further exoplanet research. Goldschmidt, Montréal, Québec, Canada.

*†Iacovino, K., Wolf, A.S., Till, C.B., Sahu, C., Marshall, L.X., Foley, B., **Brugman, K.** (2026). From Star to Surface: Tracing rocky exoplanet compositions. Goldschmidt, Montréal, Québec, Canada.

†Iacovino, K., **Brugman, K.**, Till, C.B., Marshall, L.X. (2026). Completing the Chemical pipeline: From star to planet, and planet to mantle, crust, atmosphere. Inner Solar System Workshop, Houston, TX.

†**Brugman, K.**, Iacovino, K., Till, C.B., Wolf, A. (2026). Geochemistry's Role in the Search for Habitable Exoplanets. 247th Meeting of the American Astronomical Society, Phoenix, AZ.

†Till, C.B., **Brugman, K.**, Iacovino, K. (2025). A Change Will Do You Good: Geological Perspectives on Interdisciplinary Terrestrial and Exoplanet Science. AGU Fall Meeting, New Orleans, LA.

- [†]**Brugman, K.**, Till, C.B. (2025). Geochemical Habitability: Experiments to Improve HWO ROI. Towards the Habitable Worlds Observatory Symposium, Washington, D.C.
- [†]**Brugman, K.**, Thompson, M.A., Miozzi, F., Dunning, S.G., Bower, D.J., Cody, G.D., Wang, J., Steele, A.S., Badro, J., Sossi, P.A., Shahar, A. (2025). Experimental Determination of Hydrogen Solubility in Silicate Magma Oceans. Goldschmidt, Prague, Czech Republic.
- Brugman, K.**, Leinenweber, K., Navrotsky, A., Sharp, T., Smith, D., Shim, S.H., Tsuno, K., Leinbach, L. (2025). FORCE: The United States' Newest IHPV Laboratory. IAVCEI Scientific Assembly, Geneva, Switzerland.
- [†]**Brugman, K.**, Dunning, S.G., Cody, G.D., Wang, J., Bullock, E.S., Steele, A., Badro, J., Shahar, A. (2025). Hydrogen Solubility in Terrestrial Magma Oceans. Lunar and Planetary Science Conference, The Woodlands, TX.
- Sharp, T., Shim, S.H., Leinenweber, K., Smith, D., Navrotsky, A., **Brugman, K.**, Chen, S., Tsuno, K., Leinbach, L., (2024). FORCE (Facility for Open Research in a Compressed Environment) Progress, instrumentation and Initial Experiments. AGU Fall Meeting Abstract MR31B-2986, Washington, D.C.
- Brugman, K.** (2024). FORCE: A hub for exoplanet experiments from crust to mantle. Exoplanets in Our Backyard III, Louisville, TN.
- [†]**Brugman, K.**, Dunning, S.G., Badro, J., Cody, G.D., Wang, J., Shahar, A. (2024). Experimental Determination of Hydrogen Solubility in Silicate Magma Oceans. Goldschmidt, Chicago, IL.
- Unterborn, C.T., Desch, S.J., Hartnett, H.E., **Brugman, K.**, Simon, M., and Young, P. (2024) The TREC team: To Boldly Know the Impact of Elemental Abundances on Planetary Evolution and Biosignature Detection. Astrobiology Science Conference, Providence, RI.
- Brugman, K.**, Dunning, S.G., Badro, J., Cody, G.D., Wang, J., Shahar, A. (2024). Hydrogen Solubility in Rocky Silicate Magma Oceans. Earth and Planets Origin and Evolution, Paris, France.
- Piette, A.A.A., Gao, P., **Brugman, K.**, Shahar, A., Lichtenberg, T., Miozzi, F., Driscoll, P. (2024). Rocky planet or water world? The observability of low-density lava world atmospheres. Exoplanets 5, Leiden, Netherlands.
- [†]Piette, A.A.A., Gao, P., **Brugman, K.**, Shahar, A., Lichtenberg, T., Miozzi, F., Driscoll, P. (2024). Rocky planet or water world? Observability of low-density lava world atmospheres. Rocky Worlds III, Zurich, Switzerland.
- [†]Goncharov, A.F., Edmund, E., McWilliams, R.S., Sanchez-Valle, C., **Brugman, K.**, Badro, J. (2023). X-ray Free Electron Laser flash measurements of thermal conductivity of bridgmanite in Earth's lower mantle. AGU Fall meeting Abstract MR24A-02, San Francisco, CA.
- Leinbach, L., **Brugman, K.**, Leinenweber, K., Navrotsky, A., Sharp, T., Shim, S.H., Smith, D., Tsuno, K. (2023). FORCE (Facility for Open Research in a Compressed Environment) Progress and Future Advances. AGU Fall Meeting Abstract MR21B-0049, San Francisco, CA.

- †**Brugman, K.**, Shahar, A., Badro, J., Cody, G.D., Wang, J. (2023). Solubility of H₂ in primitive melts as determined by experiments. XVIII International Symposium on Experimental Mineralogy, Petrology and Geochemistry, Milan, Italy.
- †Kueter, N., **Brugman, K.**, Miozzi, F., Cody, G.D., Yang, J., Strobel, T.A., Walter, M.J. (2023). Water speciation and hydrogen isotopes in hydrous stishovite. XVIII International Symposium on Experimental Mineralogy, Petrology and Geochemistry, Milan, Italy.
- †Edmund, E., McWilliams, R.S., **Brugman, K.**, Badro, J., Sanchez-Valle, C., Goncharov, A.F. on behalf of EuXFEL Proposal 3160 (2023). Thermal Conductivity of Bridgmanite at Lower Mantle Conditions. Joint 28th AIRAPT and 60th EHPRG International Conference on High Pressure Science and Technology, Edinburgh, Scotland.
- †Leinenweber, K., Navrotsky, A., Smith, D., Sharp, T., Shim, S.H., Tsuno, K., **Brugman, K.** (2022). FORCE – A Newly Created “Facility for Open Research in a Compressed Environment”. AGU Fall Meeting Abstract MR45A-03, Chicago, IL.
- †Kueter, N., **Brugman, K.**, Miozzi, F., Cody, G.D., Walter, M.J., Yang, J., Strobel, T.A. (2022). Water speciation in partially deuterated hydrous stishovite at 450 °C and 9 GPa. GeoMinKöln Abstract 264, University of Cologne, Germany.
- †**Brugman, K.**, Shahar, A., Badro, J., Cody, G. (2022). Experimental Determination of H₂ Solubility in Primitive Melts. Goldschmidt Abstract 10267, Honolulu, Hawai‘i.
- *†**Brugman, K.** (2021). Exoplanet Research at the Intersection of Geosciences and Astronomy. AGU Fall Meeting Abstract 907377, New Orleans, LA.
- *†**Brugman, K. K.**, Phillips, M. G., Till, C. B. (2021). Using Experimental Petrology to Explore Exoplanet Melts and Solids: Preliminary Implications for Habitability. Goldschmidt, Lyon, France.
- †**Brugman, K.K.**, Phillips, M.G., Till, C.B. (2021). Petrological Experiments on Rocky Exoplanet Compositions Reveal Clues to Habitability. Lunar and Planetary Sciences Conference Abstract 1967, The Woodlands, TX.
- †**Brugman, K.K.**, Phillips, M.G., Till, C.B. (2020). Exoplanet Crust Compositions as Determined by Petrological Experiments. Exoplanets in Our Backyard, Houston, TX.
- Brugman, K.K.**, Phillips, M.G., Till, C.B. (2019). Experimental Determination of Rocky Exoplanet Crust Compositions. AGU Fall Meeting Abstract P51G-3437, San Francisco, CA.
- †**Brugman, K.K.**, Till, C.B. (2019). New clinopyroxene-liquid geothermometer indicates a broad crystallization interval for low-Al clinopyroxene in high-silica magmatic systems. GSA Annual Meeting Abstract 337075, Phoenix, AZ.
- *†**Brugman, K.K.**, Phillips, M.G., Till, C.B. (2019). Stars to Planets: Experimental Determination of Exoplanet Mantle Solids and Crust Compositions. Goldschmidt, Barcelona, Spain.

- Brugman, K.K.,** Till, C.B. (2018). Clinopyroxene-Liquid Thermometry Hints at Cold Storage for High-Silica Systems. IAVCEI Commission on Collapse Calderas: VII International Workshop on Collapse Calderas, Toba Caldera, Sumatra, Indonesia.
- Brugman, K.K.,** Till, C.B. (2018). A Revised Low-Al Clinopyroxene-Liquid Geothermometer for High-Silica Igneous Systems. EOS AGU Chapman: Merging Geophysical, Petrochronologic, and Modeling Perspectives of Large Silicic Magma Systems Abstract P-28, Quinamávida, Maule Region, Chile.
- *†Brugman, K.K.,** Till, C.B. (2017). Taking Yellowstone's Temperature: A New Clinopyroxene Geothermometer to Improve Timescales of Pre-Eruptive Events. AGU Fall Meeting Abstract U13B-03, New Orleans, LA.
- Brugman, K.K.,** Till, C.B. (2017). A Revised Clinopyroxene-Liquid Geothermometer for Silicic Igneous Systems with Applications to Diffusion Chronometry of the Scaup Lake Rhyolite, Yellowstone Caldera, WY. AGU Fall Meeting Abstract V11C-0365, New Orleans, LA.
- Brugman, K.K.,** Till, C.B. (2017). Investigation of the Applicability of Clinopyroxene Geothermometers to Silicic Igneous Systems. IAVCEI Scientific Assembly Abstract ME43C-044, Portland, OR.
- †Brugman, K.K.,** Till, C.B., Bose, M. (2016). Clinopyroxene Diffusion Chronometry of the Scaup Lake Rhyolite, Yellowstone Caldera, WY. AGU Fall Meeting Abstract V13F-02, San Francisco, CA.
- Brugman, K.K.,** Till, C.B., Bose, M., Hervig, R. (2015). Development of Clinopyroxene as an Igneous Geospeedometer Using NanoSIMS. AGU Fall Meeting Abstract V31B-3030, San Francisco, CA.
- Brugman, K.K.,** Hynek, B.M., Robbins, S.J. (2015). Crater-based tests unlock the mystery of the origin and evolution of Arabia Terra, Mars. Lunar and Planetary Science Conference, The Woodlands, TX.

HONORS

2025	ASU Supervisor of the Year (nominee)
2016, '17, '20	ASU College of Liberal Arts and Sciences Graduate Excellence Award
2016	AGU Outstanding Student Paper Award
2014	Rocky Mountain Association of Geologists Outstanding Student
2014	CU Boulder Bruce F. Curtis Scholarship
2013, 2014	CU Arts and Sciences Dean's Scholars' Award
2013	CU Boulder T. Keith Marks Award for Outstanding Geological Sciences Majors

GRADUATE COMMITTEE MEMBERSHIP

**primary advisee*

2026-curr.	Hannah Silverman*	UNM	Ph.D.
2026	Susmita Garai	UNM	Ph.D.
2025-curr.	Ashley Bear	UNM	M.S.
2025-curr.	Zayed Abdur Rezzak	UNM	Ph.D.
2023-2024	Jisoo Kim	ASU	Ph.D.

TEACHING EXPERIENCE

Ongoing	Igneous and Metamorphic Petrology	UNM
Ongoing	Keys to Success in EPS	UNM
2019	Geochemistry, Invited lecturer “Crystal Chemistry”	ASU
2019	Geochemistry, Teaching Assistant	ASU
2016	Introduction to Geology, Laboratory Instructor	ASU
2013–2014	Introduction to Geology, Learning Assistant	CU

PRIOR RESEARCH EXPERIENCE

2023–2025	Research scientist, FORCE, ASU: end-loaded piston-cylinder (PC), multi-anvil (MA; Kawai-type and DIA), high-pressure torsion apparatus (HPT), internally heated pressure vessel (IHPV), XRD, EPMA, Raman, FTIR, Python
2020–2022	Postdoctoral researcher, EPL, Carnegie: PC, MA, NMR, FTIR, EPMA, Raman, Python
2014–2020	Graduate researcher, ASU Experimental Petrology and Igneous Processes Center (EPIC): PC, 1 atm vertical furnace, SIMS, NanoSIMS, EPMA, Python, C
2018	Visiting researcher, Earth Observatory of Singapore
2017	Visiting researcher, MIT Experimental Petrology lab: cold-seal pressure vessel
2011–2014	Undergraduate researcher, Laboratory for Atmospheric and Space Physics/CU Boulder: XRD/XRF, ArcGIS

FIELD EXPERIENCE

2017	Sample collection, Medicine Lake Volcano and Mt. Shasta, CA
2015	Sample collection, Yellowstone National Park, WY
2014	Tephra stratigraphy and mapping, Iceland
2012	Mapping, Front Range, CO

SERVICE & CONTRIBUTIONS TO DIVERSITY

// INCLUSION, DIVERSITY, EQUITY, & ACCESSIBILITY

2024	Participant, Advancing IDEA in Planetary Science Conference
2022	Participant, The Second National Conference: Justice in Geoscience
2022	Participant, Advancing IDEA in Planetary Science Conference
2021–curr.	Member, PetroNET Petrology and High-T Geochemistry Community
2021–2022.	Member, Carnegie Institution Unlearning Racism in Geoscience (URGE) Pod
2021–curr.	Member, Asian Americans and Pacific Islanders in Geosciences (AAPliG)
2021–2022.	Member, Carnegie EPL Anti-Racist Reading Group
2019–curr.	Pen pal, Letters to a Pre-Scientist
2015–2018	Co-chair, ASU SESE Women in Science Program
2014–2017	Peer mentor, ASU SESE Women in Science Program
2015	Peer mentor, AGU Fall Meeting

// SESSION & CONFERENCE CONVENER/CHAIR

2026	“The Exoplanetary Web”, AAS Division of Planetary Sciences
2026	“From Protoplanetary Disks to Exoplanet Atmospheres and Climate”, Goldschmidt
2025	“Chemistry and Climate of Exoplanets”, Goldschmidt
2024–curr.	Co-convener, Exoplanets in Our Backyard IV

- 2022 “Experimental petrology in planetary science: Insights into the diversity of both planets and the scientists who study them”, Goldschmidt
- 2019 “Volatile Elements in Magmatic and Planetary Processes: Budgets, Fluxes, and Behavior”, AGU Fall Meeting
- 2017 “Crystals: Microscale archives of macroscale igneous processes”, AGU Fall Meeting

// LEADERSHIP

- 2023–curr. Advisory Board member, STEAM Superheroes
- 2022–2023 Advisory Board member, Nichelle Nichols Foundation
- 2021–2022 Representative, Carnegie Institution Postdoctoral Association (*elected*)
- 2016–2020 Student representative, AGU Volcanology, Geochemistry, and Petrology section
- 2016–2018 Graduate student representative, ASU Technology Advisory Board
- 2015–2018 Co-chair, ASU SESE Women in Science Program
- 2017 AGU Student & Early Career Scientist Conference Planning Committee
- 2014–2017 ASU SESE Graduate Council delegate (*elected*)
- 2012–2013 GSA 125th Annual Meeting Student Planning Committee

// ADDITIONAL MENTORING

- 2024–curr. Mentor, Geoscience Education and Mentorship Support (GEMS)
- 2023–2025 Mentor and supervisor, FORCE undergraduate workers
- 2019–curr. Pen pal, Letters to a Pre-Scientist
- 2014–2017 Peer mentor, ASU SESE Women in Science Program
- 2015 Peer mentor, AGU Fall Meeting

// OUTREACH

- 2023–2025 ASU Open Door (annual campus-wide public lab visit and outreach event)
- 2023–2025 ASU SESE Earth and Space Exploration Day (annual department outreach event)
- 2022 Carnegie EPL Summer Undergraduate Research Internship program
- 2014–2020 ASU Open Door
- 2014–2019 ASU SESE Earth and Space Exploration Day
- 2019–curr. Judge for Future Engineers
- 2015 Article for the Space Exploration Network (SEN.com) about the ASU-NExSS project, “The next steps in our search for life”
- 2014–2018 ASU SESE Open House (monthly department outreach event)

// WORKSHOP PARTICIPATION

- 2026 Early Career Geosciences Faculty Workshop (National Association of Geoscience Teachers)
- 2026 UNM Student Experience Project Faculty Fellow
- 2026 Designing for Depth and Engagement Community of Practice (UNM Center for Teaching & Learning)
- 2025 Course Design Workshop (National Association of Geoscience Teachers)
- 2024 Exoplanets in Our Backyard III (Louisville, KY)
- 2024 Reviews in Mineralogy and Geochemistry: Vol. 90 Exoplanets Workshop (Goldschmidt)
- 2024 ERC Earth and Planets Origin and Evolution Workshop (IPGP)
- 2023 FORCE Winter Workshop on High Pressure Research

2023 Modelling volatile behaviour in magmas (IAVCEI Scientific Assembly)
 2021 NExSS/AAS Habitable Worlds Workshop
 2021 URGE Curriculum
 2020 NExSS Quantitative Habitability Workshop (NASA Earths in Other Solar Systems)
 2020 Melts, Glasses, Magmas (LMU Munich)
 2020 Exoplanets in Our Backyard (LPI)
 2019 SZ4D CONVERSE Volcanic Sampling and Eruption Dynamics Workshop (AGU Fall Meeting)
 2019 SZ4D CONVERSE Petrology, Geochemistry, Experimental, Communication and Sampling Communities Workshop (GSA Annual Meeting)
 2015, '16, '19 Workshop on Secondary Ion Mass Spectrometry (ASU)
 2018 IAVCEI VII International Workshop on Collapse Calderas (Toba Caldera, Indonesia)
 2017 ENKI Datathon (ASU)
 2016 How to Have a Successful Congressional District Visit (AGU)
 2016 Working with Diverse Students on Societally Relevant Geoscience Issues (InTeGrate)
 2014 alphaMELTS Workshop (Caltech)
 2014 Global Seminar: Quaternary Geology and Volcanology (Iceland)

// PEER REVIEWER

NSF Division of Earth Sciences (EAR)	Geology
NASA	Journal of Petrology
Contributions to Mineralogy and Petrology	Nature Communications
Geochimica et Cosmochimica Acta	Volcanica

PROFESSIONAL AFFILIATIONS

American Astronomical Society – since 2025
 Geochemical Society – since 2019
 International Association of Volcanology and Chemistry of the Earth's Interior – since 2018
 Association for Women in Science – since 2016
 American Geophysical Union – since 2013
 Association for Women Geoscientists – since 2012
 The Geological Society of America – since 2012