

# Sean I. Peters

## *Curriculum Vitae*

Last Updated December 6<sup>th</sup>, 2025

**Visiting Assistant Professor**  
Earth and Climate Sciences Department  
Middlebury College  
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ORCID: [0000-0002-9003-8867](http://orcid.org/0000-0002-9003-8867)  
Bluesky: [@siprocks](https://bluesky.social/@siprocks)  
[Link to Google Scholar](#)

## **EDUCATION**

08.2020	<b>Ph.D. – Geological Sciences</b> , Arizona State University, USA. <i>Dissertation title: Investigating lava flow emplacement: implications for volcanic hazards and planetary evolution</i> <i>Advisor: Dr. Philip R. Christensen</i>
08.2015	<b>M.S. – Geological Sciences</b> , Arizona State University, USA. <i>Thesis title: Investigating Late Amazonian Volcanotectonic Activity on Olympus Mons, Mars using Flank Vents and Arcuate Graben</i> <i>Advisor: Dr. Philip R. Christensen</i>
05.2013	<b>B.S. – Psychology</b> , Mississippi State University, USA. <i>Minor: Geosciences</i> <i>Magna cum laude</i>

## RESEARCH THEMES

I am interested in: 1) the formation and evolution of planetary surfaces / lithospheres, and 2) the interactions between a planet's interior, surface, atmosphere, hydrosphere, and – on Earth – biosphere.

*Volcano formation, evolution, and hazards:* In seeking to understand how the creation and evolution of the lithosphere, I study how volcanoes form and how their products behave during and after emplacement. My focus has been on effusive and mildly explosive eruptions which produce lava flows and low relief vent constructs.

Planetary science: I study the origin and evolution of planetary interiors and surfaces using orbital-based images; topographic, thermophysical, and spectral data; and the use of laboratory analog experiments.

With more collaborations, my research interests will evolve and include other methodologies, geologic processes, planetary bodies, and mission involvement. Additionally, student involvement sits at the heart of my research, and I want to provide ample opportunities for students in interesting and impactful science.

## ACADEMIC EMPLOYMENT

07.2024 – *present* **Visiting Assistant Professor**, Middlebury College

01.2023 – 06.2024 **Postdoctoral Fellow of Geology**, Middlebury College  
*Faculty Instructor*

08.2021 – 2022 **Postdoctoral Fellow of Geology**, University of Idaho  
*Supervisor: Dr. Erika L. Rader*

01 – 08.2021 **Assistant Language Teacher (ALT)**, Himeji Board of Education via Phoenix Sister Cities Teach Abroad Program  
*Supervisors: Takayuki Kamata and Shigeo Furuta*

08.2020 – 01.2021 **Senior Research Specialist**, Arizona State University  
*Supervisor: Dr. Philip R. Christensen*

## PUBLICATIONS

### PEER REVIEWED ARTICLES, CHAPTERS, AND THESES

Russo, F.P., I.T.W. Flynn, **S.I. Peters**, and M.S. Ramsey (2025), The Effects of Measured Slope on Martian Lava Flow Modeling. *Icarus*, 434, <https://doi.org/10.1016/j.icarus.2025.116544>.

**Peters, S.I.**, A.B. Clarke, and E.L. Rader (2024), The impacts of lulls and peaks in effusion rate on lava flow propagation, *Journal of Volcanology and Geothermal Research*, 451, <https://doi.org/10.1016/j.jvolgeores.2024.108099>.

Rader, E.L., **S. Peters**, L. Vanderkluysen, A.B. Clarke, and H. Sheth (2024), Morphological transitions between resurfacing and distal breakout lava flows in flood basalts: insights from analog experiments, *Bulletin of Volcanology*, Volume 86, Article 8, <https://doi.org/10.1007/s00445-023-01693-6>.

**Peters, S.I.**, A.B. Clarke, and E.L. Rader (2022), The effects of unsteady effusion rates on lava flow morphology and emplacement: results from laboratory analogue experiments, *Journal of Volcanology and Geothermal Research*, 432, <https://doi.org/10.1016/j.volgeores.2022.107674>.

**Peters, S.I.**, P.R. Christensen, and A.B. Clarke (2021), Lava flow eruption conditions in the Tharsis Volcanic Province on Mars, *Journal of Geophysical Research – Planets*, 126, Issue 7, <https://doi.org/10.1029/2020JE006791>.

**Peters, S.I.** (2020), Investigating lava flow emplacement: implications for volcanic hazards and planetary evolution, *Arizona State University*, PhD dissertation.

**Peters, S.I.** and P.R. Christensen (2017), Flank Vents and Graben as Indicators of Late Amazonian Volcanotectonic Activity on Olympus Mons, *Journal of Geophysical Research – Planets*, 112, Issue 3, <https://doi.org/10.1002/2016JE005108>.

**Peters, S.I.** (2015), Investigating Late Amazonian Volcanotectonic Activity on Olympus Mons, Mars using Flank Vents and Arcuate Graben, *Arizona State University*, MS thesis.

### **SUBMITTED – UNDER REVIEW**

Richardson, J.A., **S.I. Peters**, A. M. Ostwald, P.L. Whelley, J.R. Voigt, and E.L. Rader (submitted), Volcanism on Mars, *The Encyclopedia of Volcanoes: Third Edition*.

### **IN PREPARATION**

**Peters, S.I.**, I.T.W. Flynn, S. W. R. Tsang, and M. Gor (antic. December 2025 submission), Working title: A review of thermomechanical erosion in lava emplacement within the inner solar system. To *Geomechanics and Geophysics for Geo-Energy and Geo-Resources special issue*.

Cooper, E.G.K., I.T.W. Flynn, **S.I. Peters**, E.W. Benson, S.B. Murphy, and E. Sterling (antic. January 2026 submission), Volcanism at Piton de la Fournaise as an Analog for Chloris Mons, Venus. To *Journal of Geophysical Research Planets*.

**Peters, S.I.**, A.B. Clarke, and E.L. Rader (antic. Spring 2026 submission), The role of slope on lava flows erupted under variable effusion rates. To *Journal of Volcanology and Geothermal Research*.

### **COMMENTARIES AND SCIENCE ARTICLES**

Flynn, I.T.W, and **S.I. Peters** (2025), The Usefulness of Notebook LM’s Audio Overview for Planetary Scientists, *Perspectives of Earth and Space Scientists*, vol. 6, Issue 1, <http://dx.doi.org/10.1029/2025CN000282>.

**Peters, S.I.** (2019) Volcanoes on Other Planets, *Ask an Earth and Space Scientist* (ASU) <https://dev-aaess-drup-7.ws.asu.edu/explore/alien-lava>.

### **CREATIVE WRITING**

**Peters, S.**, A Museum of Personal Mystery, *Authors of Tomorrow*, 2008.

**Peters, S.**, WE, *Anthology of Poetry by Young Americans*, vol. LXXXVII, 2002 Edition.

## **FUNDING**

### **PENDING – SUBMITTED/UNDER REVIEW**

Quantifying the thermal evolution and mass distribution of lava flows in 4D  
 Collaborator  
 2025 – 2028

### **AWARDED**

<b>Duration</b>	<b>Title</b>	<b>Funder</b>	<b>Role/Personnel</b>	<b>Amount</b>	<b>Status</b>
<b>2025</b>	Faculty Professional Development Fund (FPDF)	Middlebury College	Recipient	\$800	Complete
<b>EPSC-DPS Meeting</b>	DPS Travel Grant	American Astronomical Society	Recipient	\$1000	Awarded
<b>Summer 2025</b>	Summer Research Assistant (SRA)	Middlebury College Undergraduate Research Office (URO)	Faculty Advisor	\$6160	Complete
<b>Spring 2025</b>	Undergraduate Collaborative Research Fund (UCRF)	Middlebury URO	Faculty Advisor	\$1460	Complete
<b>2024-2025</b>	FPDF	Middlebury College	Recipient	~\$3,952	Complete
<b>2024-2027</b>	Evolving volcanic eruption styles as recorded in Valles Marineris	NASA MDAP	Co-Investigator	~\$159,000 (subaward) ~\$1,000,000 total	In Progress
<b>Summer 2024</b>	SRA	Middlebury URO	Faculty Advisor	\$5700	Complete
<b>Summer 2024</b>	SRA	Middlebury URO	Faculty Advisor	\$4864	Complete
<b>Spring 2024</b>	UCRF	Middlebury URO	Faculty Advisor	\$1000	Complete
<b>2023-2024</b>	FPDF	Middlebury College	Recipient	\$3993	Complete
<b>2022-2023</b>	FPDF	Middlebury College	Recipient	\$2997	Complete

## **TEACHING**

2023 – present

**Faculty Instructor**, Middlebury College  
*Natural Hazards (ECSC 111) – S 2023/S 2024/F 2024 / S2026*  
*Physical Volcanology (ECSC 375) – F 2023/2024*  
*Readings & Research (ECSC 500) – W 2024, F 2024, W 2025*  
*Geology of Rocky Planets (ECSC 1005) – W 2025 / 2026*  
*Collaborative Capstone Research Seminar (ECSC 705) – S 2025*

*First-Year Seminar: Space for Society – one small step or a giant leap? – F 2025*  
*Data in Earth Science (ECSC 140) – S 2026*

10–11.2022

**Guest Instructor**, University of Idaho  
*Introduction to Volcanology* (Dr. Erika L. Rader)  
*Exploring the Solar System*

2021

**Assistant Language Teacher (ALT)**, Himeji Board of Education, Himeji, Hyogo, Japan  
- *Himeji Shiritsu Hanada Junior High*  
- *Himeji Shiritsu Masui Junior High*  
- *Himeji Shiritsu Masui Elementary School*  
- *Himeji Shiritsu Mizukami Elementary School*  
- *Himeji Shiritsu Tohori Elementary School*  
- *Himeji Shiritsu Hanada Elementary School*

2019

**Prison Teaching Intern**, ASU  
*Teaching Assistant* (Dr. Cornelia Wells)  
*Introduction to Geology / Astronomy*

2013 – 2015

**Graduate Teaching Assistant**, ASU  
*Introduction to Physical Geology Lab*, (J. Johnson), *Spring 2014/2015*  
*Fundamentals of Planetary Geology*, (Dr. M. S. Robinson), *Fall 2014*  
*Physical Geology*, (Dr. D. DeVacchio & T. Perkins), *Fall 2013/2014*  
*Historical Geology*, (Dr. D. Burt), *Fall 2013*

2011 – 2012

**Undergraduate Teaching Assistant**, MSU  
*Introductory Psychology Statistics (lab section)*  
Dr. C. Williams, *Fall 2011*  
Dr. M. Giesen, *Spring 2012*  
Dr. J. Keeley, *Fall 2012*

2011

**Guest Lecturer**, Mississippi State University  
*Social Psychology (online)*, Dr. E. Colleen Sinclair

## RESEARCH

2023 – present

**PRESSURE (Planetary Research, Earth Science, and Space Undergraduate Experience) | Department of Earth and Climate Sciences | Middlebury College**  
*Faculty Supervisor*  
- Areas of interest: volcanic rilles, channelized lava flow emplacement, analog experimentation of effusive and explosive eruptions, etc.

2021 – 2022	<b>Crystallinity effects on lava flow morphology   University of Idaho Department of Earth and Spatial Sciences and Geological Sciences</b> <i>Supervisor: Dr. Erika L. Rader</i>
2016 – 2020	<b>Effects of unsteady effusion rates on lava flow morphology and emplacement   ASU Experimental Volcanology Laboratory</b> <i>Project supervisor: Dr. Amanda B. Clarke</i> <i>Graduate Research Assistant</i>
2014 – 2020	<b>Lava flow dimensions and eruption conditions on Mars   Mars Space Flight Facility</b> <i>Advisor: Dr. Philip R. Christensen</i> <i>Graduate Assistant</i>
2012	<b>Undergraduate Research Fellow, Human-Environment Regional Observatory (HERO), Clark University</b> <i>Advisors: Drs. Deborah Martin, John Rogan, and Verna DeLauer</i>
	<ul style="list-style-type: none"><li>- Policy Making Assessment Group – Investigated the socio-economic and ecological consequences of the Asian long-horned beetle infestation of central Massachusetts on the urban forest of Worcester and surrounding towns. Focus: place making, decision making, archival research, interviews, transcription</li></ul>
2010 – 2011	<b>Undergraduate Research Assistant, Advanced Social Psychology Lab, Mississippi State University</b> <i>Principal Investigator: Dr. H. Colleen Sinclair</i>
	<ul style="list-style-type: none"><li>- Investigated the effect of familial and peer influences on relationship decision making and the role of conformity on attitude change toward social policy</li></ul>

### **STUDENT RESEARCH ASSISTANTS AND ADVISEES**

*Undergraduate research assistants in PRESSURE – Middlebury College. In order of most recent.*

*Peter Warner  
Calder Lange  
Nico McGree  
Kijani Derenoncourt – thesis advisor (F 2025 / S 2026)  
Riley Nebolsine  
Aris Xanthoudakis  
Noor Bhatti  
Will McDonald – thesis advisor (S 2024)*

Phi Nguyen  
Asa Stone  
Henry Ericson  
Cal Hobson  
Remi Beauharnois  
Piper Herring – summer 2024

***Served as committee member on senior theses – Middlebury College***

2024 – 2025	Piper Herring
2023 – 2024	Eliza Todd Erin Hansbrough Lizzy Vanderkloot
Spring 2023	Abby Santis Max Hanscom

**MENTORING**

Summer 2023	<b>Research Mentor (Hybrid)</b> , University of Texas Austin <i>Strengthening Traineeships and Research Opportunities for Next Generation (STRONG) Geoscientists</i>
2022 – 2023	<b>Mentor (Virtual)</b> <i>Geosciences Education &amp; Mentorship Support (GEMS) Mentor Match Program</i>
2019 – 2020	<b>Graduate Mentor</b> , ASU <i>SESE Graduate Mentoring Program</i>
2015 – 2016	<b>Mentor (General and research)</b> , ASU <i>Sundial Mentoring Program</i> (Dr. Anna Zaniewski)

**AWARDS AND HONORS**

2022	Meet A Scientist – American Geophysical Union (AGU) Volcanology, Geochemistry, and Petrology (VGP) Committee
2018 – 2019	ASU College of Liberal Arts and Sciences (CLAS) Student Leader
2012	MSU Dean's Scholar
2012	Nominated for membership in Golden Key International Honour Society

2009 – 2012	Mississippi State University President's Scholar
2008 – 2013	Shackhous Honor College, MSU

## **PRESENTATIONS**

### **TALKS AND PANELS**

\*Denotes an invited talk

2025                   **GSA Connects**, San Antonio, TX  
\*Matiella Novak, M.A., Whelley, P.L., Richardson, J.A., Meyer, H.M., and **Peters, S.I.** (2025), Searching for Mars' Ancient Tephra: Alteration mineral sequences as a window into pre-Amazonian volcanism, *2025 Geological Society of America Connects*, Abstract, accepted.

**Peters, S.I.**, Flynn, I.T.W., Bhatti, N., Goddard, Z.E., Mahmoud, D., and Rodriguez, A.X. (2025), A Catalog of Volcanic Vents in the Elysium Volcanic Province, Mars, *2025 Geological Society of America Connects*, Abstract, accepted.

2025                   **EPSC-DPS**, Helsinki, Finland  
**Peters, S.I.**, W.T. McDonald, and K. Derenoncourt (2025), Assessing the Origin and Evolution of Effusive Volcanic Channels on Mars, *Europlanet Science Congress – Division of Planetary Sciences Joint Meeting 2025*.

2025                   **IAVCEI**, Geneva, Switzerland  
**Peters, S.I.**, A.B. Clarke, and E.L. Rader (2025), The effects of lull and peaks in effusion rate on lava flows propagated on slopes: insights from analog experiments, *The International Association of Volcanology and Chemistry of the Earth's Interior Scientific Assembly 2025*, Abstract.

2024                   \***AGU24 Fall Meeting**, Washington, DC  
**Peters, S.I.**, (2024) Engaging Students in Space Science at Predominantly Undergraduate Institutions, Abstract #ED34B-01.

Sept. 2024           **Middlebury College** – 2024 Fall Faculty Forum  
Doing geology in space: exploring volcanoes on Mars

Apr. 2024           **Middlebury College** Carol Rifelj Faculty Series  
*The volcanic evolution of Mars: insights from comparative planetology*

Nov. 2023           \***Vermont State University – Johnson** Science Colloquium Series  
*From the lab to Mars: applying physical volcanology to extraterrestrial surfaces*

Nov. 2023	<b>*Bates College Earth and Climate Sciences Seminar Series</b> <i>From the lab to Mars: volcanic investigations using analog experiments and remote sensing</i>
Nov. 2023	<b>*Lamont-Doherty Earth Observatory (Columbia University)</b> Marine Geology and Geophysics / Seismology, Geology, and Tectonophysics (SGT) Seminar Series <i>From the lab to Mars: volcanic investigations using analog experiments and remote sensing</i>
Oct. 2023	<b>Geological Society of America (GSA) Connects 2023</b> , Pittsburgh, PA <b>Peters, S.</b> , Clarke, A.B., and E.L. Rader (2023) The impact of lulls and peaks in eruption rate on lava flow propagation, Abstract #392740.  <b>*Peters, S.</b> , (2023) Balancing research and teaching at a liberal arts college, Abstract #392687.
	Moore, S., Atkins, C. A., <b>Peters, S.</b> , Velazquez Santana, L., Ulrich, R., and E., Wilson (2023) What we learned from intentional mentoring of STEM majors from minority serving institutions, Abstract #396120.
Sept. 2023	<b>Middlebury College</b> – 2023 Fall Faculty Forum <i>Linking Lab Experiments to the Natural World</i>
Feb. 2023	<b>*University of Maryland</b> Department of Geology Colloquium <i>The effects of unsteady eruption rates on lava flow morphology and propagation</i>
Dec. 2022	<b>*AGU Fall Meeting</b> , Virtual <i>Early Career-Led DEI Initiatives: Actionable Insights Toward a More Just, Equitable, and Inclusive Scientific Environment Panel</i>
Oct. 2022	<b>*Sweet Science Seminar, USGS</b> , Virtual <i>Lava flow eruption conditions in the Tharsis Volcanic Province on Mars</i>
Sept. 2022	<b>*Planetary and Astrobiology Seminar</b> , Georgia Tech, Virtual <i>Lava flow eruption conditions in the Tharsis Volcanic Province on Mars</i>
Aug. 2022	<b>*Goddard Space Flight Center</b> , Virtual <i>Lava flow eruption conditions in the Tharsis Volcanic Province on Mars</i>
May 2022	<b>*Carnegie Institute of Science Planetary Reading Group</b> , Virtual <i>Lava flow eruption conditions in the Tharsis Volcanic Province on Mars</i>

Apr. 2020

**\*University of Texas Institute of Geophysics Brown Bag Seminar,**

## Virtual

## *The emplacement of lava flows: implications for hazards and planetary evolution.*

## POSTERS

<sup>†</sup>Denotes student presenter

*°presenting on behalf of student(s)*

2025

**GSA Connects**, San Antonio, TX

<sup>†</sup>Cooper, E.G.K., Flynn, I.T.W., Peters, S.I., Benson, E.W., Murphy, S.B., and Sterling, E.D. (2025), Piton de la Fournaise as a Terrestrial Analog to Chloris Mons, Venus, 2025 *Geological Society of America Connects*, Abstract #8077.

<sup>†</sup>Nebolsine, R.N., and S.I. Peters (2025), Constraining eruption parameters for terrestrial and Martian lava flows, *2025 Geological Society of America Connects*, Abstract #9283.

2025

IAVCEI, Geneva, Switzerland

<sup>†</sup>K. L. Derenoncourt and S. I. Peters, (2025), Sinuous volcanic channels on Tharsis Montes (Mars) Rift Aprons, *International Association of Volcanology and Chemistry of the Earth's Interior Scientific Congress 2025*, abstract.

2025

LPSC, Houston, TX

<sup>†</sup>McDonald, W.T. and S.I. Peters (2025), Lava channel formation on Martian central volcanoes, *Lunar and Planetary Science Conference 2025*, abstract, 2247.

2024

AGU24 Fall Meeting, Washington, DC

<sup>†</sup>P. Harring, <sup>†</sup>R. Beauharnois, **S. I. Peters**, and I.T.W. Flynn (2024), Observed Differences in Martian Channelized Lava Flow Rheologies and Emplacement, *American Geophysical Union 2024*.

2024

**Goldschmidt, Chicago, IL**

<sup>†</sup>McDonald, W.T., <sup>†</sup>K. Derenoncourt, and <sup>°</sup>S. I. Peters (2024), Lengths and Distribution of Lava Channels on Martian Central Volcanoes, *Goldschmidt 2024*, Abstract, 22973. <https://doi.org/10.46427/gold2024.22973>

2024

Earth and Climate Sciences Dept. Seminar, Middlebury College

<sup>†</sup>McDonald, W.T., <sup>†</sup>K. Derenoncourt, and **S.I. Peters** (2024), Lengths and Distribution of Lava Channels on Martian Central Volcanoes

2024

## COV12, Antigua, Guatemala

**Peters, S.I.**, A.B. Clarke, and E.L. Rader (2024) The impacts of lulls and peaks in eruption rate on lava flow propagation: insights from analog experiments, *Cities on Volcanoes 12*, Abstract, 17.

2023  
**LPSC**, The Woodlands, TX  
**Peters, S.I.** (2023) A survey of volcanically emplaced rilles, *2023 Lunar and Planetary Science Conference*, Abstract, 1713.

2023  
**IAVCEI**, Rotorua, Aotearoa (NZ)  
**Peters, S.I.**, A.B. Clarke, and E.L. Rader (2023) The effects of unsteady vent conditions on lava flow propagation, morphology, and surface texture, *The International Association of Volcanology and Chemistry of the Earth's Interior Scientific Assembly 2023*, Abstract, 589.

2022  
**LPSC**, Virtual  
**Peters, S.I.**, and E. L. Rader (2022) Potential contributions of VNIR imaging and laboratory analogue experiments to inform modeling efforts, *2022 Lunar Planetary Science Conference*, Abstract, 1150.

2020  
**LPSC**, The Woodlands, TX  
**Peters, S.I.**, and P.R. Christensen (2020) Constraining Martian lava flow eruption rates in the Tharsis Volcanic Province, *2020 Lunar Planetary Science Conference*, Abstract, accepted. Conference cancelled due to Covid-19.

2019  
**AGU Fall Meeting**, San Francisco, CA  
**Peters, S.I.**, and A.B. Clarke (2019), The role of unsteady effusion rates on lava flow emplacement: results from laboratory analogue experiments, *2019 American Geophysical Union*, Abstract, V23F-0270.

2019  
**GSA Fall Meeting**, Phoenix, AZ  
**Peters, S.I.**, and A.B. Clarke (2019), The effects of unsteady effusion rates on lava flow morphology and emplacement: results from laboratory analogue wax experiments, *2019 Geological Society of America fall meeting*, Abstract, 337812.

2018  
**LPSC**, The Woodlands, TX  
**Peters, S.I.**, P.R. Christensen, and A.B. Clarke (2018) Constraining lava flow eruption rates on Mars using laboratory analogue wax experiments, *2018 Lunar Planetary Science Conference*, Abstract, 3002.

2017  
**AGU Fall Meeting**, New Orleans, LA  
**Peters, S.I.** and A.B. Clarke (2017), Controls on lava flow morphology and propagation: Using laboratory analogue experiments, *2017 American Geophysical Union*, Abstract, V43F-0586.

2017                   **LPSC**, The Woodlands, TX  
Schaefer, E.I., C.W. Hamilton, C.D. Neish, M.M. Sori, A.M. Bramson, S.P. Beard, **S.I. Peters**, T.A. Miller, and E.L. Rader (2017), Seeing Pahoehoe from Orbit (Without Squinting), *2017 Lunar Planetary Science Conference*, Abstract, 2343.

2016                   **LPSC**, The Woodlands, TX  
**Peters, S.I.** and P.R. Christensen (2016), Investigating the Volcanotectonic Evolution of Olympus Mons using Flank Vents and Arcuate Graben, *2016 Lunar Planetary Science Conference*, Abstract, 209-1634.

2015                   **AGU Fall Meeting**, San Francisco, CA  
**Peters, S.I.** and P.R. Christensen (2015), Investigating Late Amazonian Volcanotectonic Activity on Olympus Mons, Mars using Flank Vents and Arcuate Graben, *2015 American Geophysical Union*, Abstract, P33C-2139.

2015                   **LPSC**, The Woodlands, TX  
**Peters, S.I.** and P.R. Christensen (2015), The Characterization and Implications of Flank Vents on Olympus Mons, *2015 Lunar Planetary Science Conference*, Abstract, 141-2008.

2014                   **AGU Fall Meeting**, San Francisco, CA  
**Peters, S.I.** and P.R. Christensen (2014), The Implications of Flank Vents on Olympus Mons, *2014 American Geophysical Union*, Abstract, P41B-3898.

### **PLANETARY MISSION EXPERIENCE**

2020                   Lucy Thermal Emission Spectrometer (LTES) thermal vacuum chamber (TVAC) Test Operator  
*Instrument operator and analyst for the EMIRS instrument during TVAC testing*

2019                   Emirates Mars Infrared Spectrometer (EMIRS) TVAC Test Operator  
*Instrument operator and analyst for the EMIRS instrument during TVAC testing*

2015 – 2016           OSIRIS-Rex Thermal Emission Spectrometer TVAC Test Operator  
*Instrument operator and analyst for OTES instrument during TVAC testing*

### **LEADERSHIP & PROFESSIONAL SERVICE**

2025 – present       AGU Volcanology, Geochemistry, and Petrology (VGP) Communications Committee

**Member**

2025                   GSA Connects  
                         Petrology, Volcanology, and Mantle Plumes across the Solar System  
(T163)  
*Session Convener*

2024                   GeoFutures 2024: Planetary Geoscience  
*Program Committee, GSA representative*

2020                   SESE Justice, Equity, Diversity, and Inclusion Task Force  
*Member*

2018 – 2019           SESE Graduate Council  
*President*

2018                   49<sup>th</sup> Lunar Planetary Science Conference  
*Session chair*

2016 – 2019           Volcano Listserv, collaborative venture among Arizona State University (ASU), Portland State University (PSU), the Global Volcanism Program (GVP) of the Smithsonian Institution's National Museum of Natural History, and the International Association for Volcanology and Chemistry of the Earth's Interior (IAVCEI).  
*Editor & Moderator*

2011 – 2012           The International Honor Society in Psychology, MSU  
*Treasurer*

2010 – 2012           Mississippi State University Peer Tutoring and Academic Mentoring Program  
*Tutor*

2010 – 2011           Health & Wellness Service Program, Mississippi State University  
*Volunteer*

2009 – 2010           MSU Astronomy Club  
*Secretary*

**Reviewer**

\*Reviewer assignments listed in alphabetical order, not chronologically, and may constitute multiple assignments.

American Academy of Science Planetary Science Journal  
Communications Earth & Environment

Icarus  
Journal of Geophysical Research: Planets  
Journal of Volcanology and Geothermal Research  
NASA  
NSF  
Oxford University Press  
Volcanica

### **PROFESSIONAL DEVELOPMENT, WORKSHOPS, AND FIELD EXPERIENCE**

June 2025                   **Bridging the gap between mathematical modelling of lava flows and field observations** | Edinburgh Futures Institute  
*Organizers: Hannah Dietterich, Edward Hinton, Herbert Huppert, and Christopher Kilburn*

2024                   Middlebury Language School  
*Japanese Immersion Program (2 of 8 weeks completed)*  
*Withdrew*

2023                   **Planetary Data Training Workshop**, Arizona State University  
*Led by David Williams and David Nelson*

2023                   **National Association of Geoscience Teachers (NAGT) Virtual Mentoring Workshop**  
*Led by Anne Eggers and Stefany Sit*

2022                   Krafla lava flow, Myvatn, Iceland  
*Led by Dr. Erika L. Rader*

2016                   El Pinacate y Gran Desierto de Altar Biosphere Reserve, Mexico  
*Led by Dr. Amanda B. Clarke*

2016                   SP Crater Lava Flow, San Francisco Volcanic Field, Flagstaff, AZ  
*Independent field excursion*

2016                   **NASA Field Investigations to Enable Solar System Science and Exploration (FINESSE) team**, NASA Solar System Exploration Research Virtual Institute (SSERVI)  
*Organized by Dr. Scott Hughes; on behalf of Ethan Schaefer*

2016                   **NASA Volcanology Workshop**, NASA/Univ. of Hawai'i Manoa  
*Led by Drs. S. K. Rowland, S. Fagents, & P. Mouginis-Mark*

### **OUTREACH**

2025                   Weybridge Elementary, Weybridge, VT  
*Guest speaker*

2024                   International Observe the Moon Night, Montpelier, VT  
*Ask a NASA Scientist*

2024                   Solar Eclipse Event, Rumney Memorial, Middlesex, VT  
*Drs. Patrick and Nikki Whelley*

2017/2018/2022       Phoenix Fan Fusion – Panelist or Judge  
“*Everything I Learned I Learned from Anime*”  
“*Vulcan’s Wrath*”  
  
“*Black Panther and the Culture of the Unconquered*”  
“*This Just in from Deep Space*”  
“*Political Science for Teens*”  
  
*Panelist for “How Misinformation Spreads”*  
*AZ Science Fair Judge*

2019                   Graduate Professional Student Association (GPSA), ASU  
*Awards Reviewer*

2019                   Intel International Science and Engineering Fair (ISEF)  
*Grand Awards Judge*

2018                   Intel STEM Fair, South Mountain Community College  
“*Walk on Mars*” exhibit

2018                   Earth and Space Exploration Day, Arizona State University  
“*Walk on Mars*” exhibit

2018                   Arizona State University Open Door Event  
“*Walk on Mars*” exhibit

2017                   Mountain Pointe High School  
*Guest speaker for Marilyn Raming’s Earth Science course*

2014 – 2017           Mars Student Imaging Project (MSIP), Arizona State University  
*Guest scientist*

2013 – 2014           SESE Open House, Arizona State University  
*Mars Exhibit*

## **PROFESSIONAL MEMBERSHIPS**

2014 – <i>present</i>	American Geophysical Union
2024 – <i>present</i>	AAS Division of Planetary Sciences
2023 – <i>present</i>	Geological Society of America
2022 – <i>present</i>	International Association of Volcanology and Chemistry of the Earth's Interior
2012	The National Honor Society of Phi Kappa Phi
2011 – 2012	The International Honor Society of Psychology

## **RELEVANT / TECHNICAL SKILLS**

Fieldwork: Lava flow margin characterization (2016 – Idaho, USA); in situ sampling of lava flows (Arizona, USA and Iceland); characterization of tephra deposits by digging pits (Mexico); in situ characterization of lava flows using LIBS (2022 – Iceland)

Laboratory: analog experimentation using polyethylene glycol wax to simulate lava flow emplacement; infrared spectrometer; scanning electron microscope

Software/Programming: **Proficient** – *Image J, JMARS, MS Office Suite, Overleaf (LaTeX), Tracker*. **Some experience** – *Davinci, ESRI ArcGIS, HTML, ISIS3, Matlab, Rstudio*

### Other Languages:

*Japanese, Spoken – Conversational level | Written – Hiragana & Katakana, some Kanji | Reading – Hiragana & Katakana, some Kanji*

## **REFERENCES**

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