

Sean I. Peters

Curriculum Vitae
Last Updated November 3rd, 2025

Visiting Assistant Professor

Earth and Climate Sciences Department
Middlebury College
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Bluesky: @siprocks

EDUCATION

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

RESEARCH THEMES

I am interested in: 1) the formation and evolution of planetary surfaces / lithospheres, and 2) the interaction of the surface with the 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 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. Vanderkluyzen, 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 for review), Volcanism on Mars, *The Encyclopedia of Volcanoes, Third Edition*.

IN PREPARATION

Peters, S.I., A.B. Clarke, and E.L. Rader (antic. Fall 2025 submission), The role of slope on lava flows erupted under variable effusion rates. To *Journal of Volcanology and Geothermal Research*.

Cooper, E.G.K., I.T.W. Flynn, **S.I. Peters**, E.W. Benson, S.B. Murphy, and E. Sterling (antic. Fall 2025 submission), Piton de la Fournaise as a Terrestrial Analog for Chloris Mons, Venus. To *Journal of Geophysical Research Planets or similar*.

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

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

TEACHING

2023 – present

Faculty Instructor, Middlebury College

Natural Hazards (ECSC 111) – S 2023/S 2024/F 2024

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 **Crystallinity effects on lava flow morphology | University of Idaho Department of Earth and Spatial Sciences and Geological Sciences**
Supervisor: Dr. Erika L. Rader

- 2016 – 2020 **Effects of unsteady effusion rates on lava flow morphology and emplacement | ASU Experimental Volcanology Laboratory**
Project supervisor: Dr. Amanda B. Clarke
Graduate Research Assistant
- 2014 – 2020 **Lava flow dimensions and eruption conditions on Mars | Mars Space Flight Facility**
Advisor: Dr. Philip R. Christensen
Graduate Assistant
- 2012 **Undergraduate Research Fellow, Human-Environment Regional Observatory (HERO), Clark University**
Advisors: Drs. Deborah Martin, John Rogan, and Verna DeLauer
- 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
- 2010 – 2011 **Undergraduate Research Assistant, Advanced Social Psychology Lab, Mississippi State University**
Principal Investigator: Dr. H. Colleen Sinclair
- Investigated the effect of familial and peer influences on relationship decision making and the role of conformity on attitude change toward social policy

STUDENT RESEARCH ASSISTANTS AND ADVISEES

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

Kijani Derenoncourt – thesis advisor (Fall 2025)
Riley Nebolsine
Aris Xanthoudakis
Noor Bhatti
Will McDonald– thesis advisor (Spring 2024)
Peter Warner
Phi Nguyen
Asa Stone
Henry Ericson
Cal Hobson
Remi Beauharnois
Piper Harring – summer 2024

Served as committee member on senior theses – Middlebury College

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

MENTORING

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

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	Shackhouls 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 ***Bates College** Earth and Climate Sciences Seminar Series
From the lab to Mars: volcanic investigations using analog experiments and remote sensing

- Nov. 2023 ***Lamont-Doherty Earth Observatory (Columbia University)** Marine Geology and Geophysics / Seismology, Geology, and Tectonophysics (SGT) Seminar Series
From the lab to Mars: volcanic investigations using analog experiments and remote sensing
- Oct. 2023 **Geological Society of America (GSA) Connects 2023**, Pittsburgh, PA
Peters, S., Clarke, A.B., and E.L. Rader (2023) The impact of lulls and peaks in eruption rate on lava flow propagation, Abstract #392740.

***Peters, S.**, (2023) Balancing research and teaching at a liberal arts college, Abstract #392687.

Moore, S., Atkins, C. A., **Peters, S.**, 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 **Middlebury College – 2023 Fall Faculty Forum**
Linking Lab Experiments to the Natural World
- Feb. 2023 ***University of Maryland** Department of Geology Colloquium
The effects of unsteady eruption rates on lava flow morphology and propagation
- Dec. 2022 ***AGU Fall Meeting**, Virtual
Early Career-Led DEI Initiatives: Actionable Insights Toward a More Just, Equitable, and Inclusive Scientific Environment Panel
- Oct. 2022 ***Sweet Science Seminar, USGS**, Virtual
Lava flow eruption conditions in the Tharsis Volcanic Province on Mars
- Sept. 2022 ***Planetary and Astrobiology Seminar**, Georgia Tech, Virtual
Lava flow eruption conditions in the Tharsis Volcanic Province on Mars
- Aug. 2022 ***Goddard Space Flight Center**, Virtual
Lava flow eruption conditions in the Tharsis Volcanic Province on Mars
- May 2022 ***Carnegie Institute of Science Planetary Reading Group**, Virtual
Lava flow eruption conditions in the Tharsis Volcanic Province on Mars
- Apr. 2020 ***University of Texas Institute of Geophysics Brown Bag Seminar**, Virtual
The emplacement of lava flows: implications for hazards and planetary evolution.

POSTERS

[†]Denotes student presenter

[°]presenting on behalf of student(s)

- 2025 **GSA Connects**, San Antonio, TX
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, accepted.
- 2025 **IAVCEI**, Geneva, Switzerland
[†]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
[†]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
[†]P. Haring, [†]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
[†]McDonald, W.T., [†]K. Derenoncourt, and [°]**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
[†]McDonald, W.T., [†]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

- Antic.* 2025 Geological Society of America (GSA) Connects Meeting
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 th Lunar Planetary Science Conference <i>Session chair</i>
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). <i>Editor & Moderator</i>
2011 – 2012	The International Honor Society in Psychology, MSU <i>Treasurer</i>
2010 – 2012	Mississippi State University Peer Tutoring and Academic Mentoring Program <i>Tutor</i>
2010 – 2011	Health & Wellness Service Program, Mississippi State University <i>Volunteer</i>
2009 – 2010	MSU Astronomy Club <i>Secretary</i>

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 <i>Organizers: Hannah Dietterich, Edward Hinton, Herbert Huppert, and Christopher Kilburn</i>
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- 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

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|-------------|---|
| 2019 | Graduate Professional Student Association (GPSA), ASU
<i>Awards Reviewer</i> |
| 2019 | Intel International Science and Engineering Fair (ISEF)
<i>Grand Awards Judge</i> |
| 2018 | Intel STEM Fair, South Mountain Community College
<i>“Walk on Mars” exhibit</i> |
| 2018 | Earth and Space Exploration Day, Arizona State University
<i>“Walk on Mars” exhibit</i> |
| 2018 | Arizona State University Open Door Event
<i>“Walk on Mars” exhibit</i> |
| 2017 | Mountain Pointe High School
<i>Guest speaker for Marilyn Raming’s Earth Science course</i> |
| 2014 – 2017 | Mars Student Imaging Project (MSIP), Arizona State University
<i>Guest scientist</i> |
| 2013 – 2014 | SESE Open House, Arizona State University
<i>Mars Exhibit</i> |

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*

Other Languages:

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

REFERENCES

Dr. William Amidon	Middlebury College wamidon@middlebury.edu
Dr. Philip R. Christensen	Arizona State University phil.christensen@asu.edu
Dr. Amanda B. Clarke	Arizona State University amanda.clarke@asu.edu
Dr. Ian T.W. Flynn	University of Pittsburgh ITF2@pitt.edu
Julia Johnson	Arizona State University Julia.Johnson@asu.edu
Dr. Heather M. Meyer	JHU Applied Physics Laboratory Heather.Meyer@jhuapl.edu
Dr. Samuel Moore	University of Texas Austin slmoore@austin.utexas.edu
Dr. Erika L. Rader	University of Idaho erader@uidaho.edu
Dr. Jacob A. Richardson	NASA Goddard Space Flight Center jacob.a.richardson@nasa.gov
Dr. Peter C. Ryan	Middlebury College pryan@middlebury.edu
Dr. David West	Middlebury College dwest@middlebury.edu