

Sean I. Peters

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EDUCATION

- 2020 **PhD, Arizona State University (ASU)**
Geological Sciences, School of Earth and Space Exploration (SESE)
- *Dissertation:* The emplacement of lava flows: implications for volcanic hazards and planetary evolution
Advisor: Philip R. Christensen
Committee: Amanda Clarke, Jonathan Fink, Kelin Whipple, Thomas Sharp
- 2015 **M.S., Arizona State University (ASU)**
Geological Sciences, School of Earth and Space Exploration (SESE)
- *Thesis:* Investigating Late Amazonian Volcanotectonic Activity on Olympus Mons, Mars using Flank Vents and Arcuate Graben
Advisor: Philip R. Christensen
Committee: Amanda Clarke, Kelin Whipple
- 2013 **B.S., Mississippi State University (MSU) – *magna cum laude***
Psychology; minor: Geosciences

PUBLICATIONS / WRITING

IN PREPARATION

Peters, S.I., A.B. Clarke, and E. L. Rader (in prep), The effects of unsteady effusion rates on lava flow morphology and emplacement: results from laboratory analogue experiments. To *Journal of Volcanology and Geothermal Research*.

Peters, S.I. and A.B. Clarke (in prep), The effects of slope and unsteady effusion rates on lava flow morphology and emplacement: additional results from laboratory analogue experiments. To *Journal of Volcanology and Geothermal Research*.

PEER-REVIEWED

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 thesis.

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.

OTHER PUBLICATIONS

Peters, S.I. (2019) Volcanoes on Other Planets, *Ask an Earth and Space Scientist* (ASU).

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.

HONORS & FELLOWSHIPS

2018 – 2019	ASU College of Liberal Arts and Sciences (CLAS) Student Leader	
2015 – 2016	Graduate Education Doctoral Enrichment Fellowship, ASU	\$17,000
2012	MSU Dean’s Scholar	
2012	The National Honor Society of Phi Kappa Phi	
2012	Nominated for membership in Golden Key International Honour Society	
2011 – 2012	The International Honor Society of Psychology	
2009 – 2012	MSU President’s Scholar	
2008 – 2013	MSU Shackhous Honor College	

SELECTED EMPLOYMENT / OPPURTUNITIES

- 2021 Assistant Language Teacher (ALT), Himeji Board of Education via Phoenix Sister Cities Teach Abroad Program
- 2020 Lucy Thermal Emission Spectrometer (LTES) thermal vacuum chamber (TVAC) Test Operator
Instrument operator and analyst for the EMIRS instrument during TVAC testing
- 2020 Senior Research Specialist, Arizona State University
- 2016 – 2020 Graduate Research Associate, Arizona State University
- 2019 Emirates Mars Infrared Spectrometer (EMIRS) thermal vacuum chamber (TVAC) Test Operator
Instrument operator and analyst for the EMIRS instrument during TVAC testing
- 2015 – 2016 OSIRIS-Rex Thermal Emission Spectrometer (OTES) thermal vacuum chamber (TVAC) Test Operator
Instrument operator and analyst for OTES instrument during TVAC testing
- 2015 – 2016 Doctoral Research Fellow
- 2013 – 2015 Graduate Teaching Assistant, Arizona State University
- 2012 Human-Environmental Research Observatory, Clark University, Worcester, MA
Advised by Drs. Verna DeLauer, Deborah Martin, & John Rogan
- 2010 – 2012 Undergraduate Lab Assistant, Mississippi State University
Advised by Dr. H. Colleen Sinclair

PRESENTATIONS

INVITED TALKS

- April 2020 **University of Texas Institute of Geophysics Brown Bag Seminar**, Remote
Peters, S.I., The emplacement of lava flows: implications for hazards and planetary evolution.

POSTERS

- Mar. 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.

- Dec. 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.
- Sept. 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.
- Mar. 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.
- Dec. 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.
- Mar. 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.
- Mar. 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.
- Dec. 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.
- Mar. 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.
- Dec. 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.

TEACHING AND MENTORSHIP

- 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 – 2020 **Graduate Mentor**, Arizona State University
SESE Graduate Mentoring Program
- 2019 **Prison Teaching Internship**, Arizona State University
Teaching Assistant, led by Dr. Cornelia Wells
Introduction to Geology / Astronomy
- 2015 – 2016 **Research Mentor**, Arizona State University
Sundial Mentoring Program, led by Dr. Anna Zaniwski
- 2014 – 2017 **Guest Scientist**, Arizona State University
Mars Student Imaging Project (MSIP), led by Sheri Klug-Boonstra
- 2013 – 2015 **Graduate Teaching Assistant**, Arizona State University
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**, Mississippi State University
Introductory Psychology Statistics (lab section), (Drs. C. Williams, M. Giesen, & J. Keeley), Fall 2011/2012, Spring 2012
- 2010 – 2012 **Tutor**, Mississippi State University
Mississippi State University Peer Tutoring and Academic Mentoring Program

RESEARCH

- 2020 – 2021 **Senior Research Specialist (post-doc)**, ASU Mars Space Flight Facility
Supervisor: *Dr. Philip R. Christensen*
- 2016 – 2020 **Graduate Research Associate**, ASU Experimental Volcanology Laboratory

Advisor: Dr. Amanda B. Clarke

Experimental investigation of lava flow dynamics with application to natural hazards, modelling, and extraterrestrial settings

2014 – 2020

Graduate Research Associate, ASU Mars Space Flight Facility

Advisor: Dr. Philip R. Christensen

Modelling and remote-sensing geomorphologic studies of volcanic settings on Mars

2012

Undergraduate Research Fellow, Human-Environment Regional Observatory (HERO), Clark University

Advisors: Drs. Deborah Martin, John Rogan, and Verna DeLauer

Investigating the consequences of the Asian long-horned beetle infestation of central Massachusetts, specifically the socio-economic and ecological impacts on the urban forest of Worcester, MA and surrounding towns.

Policy Making Assessment group – Investigated socio-ecological variability, place making, policy and decision-making (e.g. archival research, transcription, interviews)

2010 – 2011

Undergraduate Research Assistant, Advanced Social Psychology Lab, Mississippi State University

Principal Investigator: Dr. H. Colleen Sinclair

Interpersonal Relationship Study – Investigating the effect of familial and peer influences on relationship decision making.

Political Psychology Project – Investigating the role of conformity and attitude change in a political discussion

Online Lecture Course – Presented a chapter on discrimination for online social psychology course

SERVICE & PROFESSIONAL CONTRIBUTIONS

Workshops/Field Experience

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
- 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
Led by Drs. S. K. Rowland, S. Fagents, & P. Mouginis-Mark

Leadership

- 2020 SESE Justice, Equity, Diversity, and Inclusion Task Force
Member
- 2018 – 2019 SESE Graduate Council
President
- 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
- 2014 – *present* American Geophysical Union
Member
- 2011 – 2012 The International Honor Society in Psychology, MSU
Treasurer
- 2009 – 2010 MSU Astronomy Club
Secretary

Service/Outreach

- Served on NASA review panel
Executive Secretary, Panelist
- Journal of Volcanology and Geothermal Research
Reviewer
- Icarus

Reviewer

- 2019 Graduate Professional Student Association (GPSA)
Awards Reviewer
- 2019 Intel International Science and Engineering Fair (ISEF)
Grand Awards Judge
- 2018 49th Lunar Planetary Science Conference
Session chair
- 2018 Intel STEM Fair, South Mountain Community College
“Walk on Mars” exhibit
- 2018 Earth and Space Exploration Day
“Walk on Mars” exhibit
- 2018 Panelist at Phoenix Comic Fest
“Black Panther and the Culture of the Unconquered”
“This Just in from Deep Space”
“Political Science for Teens”
- 2018 ASU Open Door
“Walk on Mars” exhibit
- 2017 Mountain Pointe High School
Guest speaker for Marilyn Raming’s Earth Science course
- 2017 Phoenix Comicon
Panelist for “How Misinformation Spreads”
Judge for the AZ Science Fair
- 2013 – 2014 SESE Open House
Mars Exhibit
- 2010 – 2011 Health & Wellness Service Program, Mississippi State University
Volunteer

Relevant Skills

Programming: *HTML, Matlab, Davinci*

Software: *JMARS, ESRI ArcGIS, MS Office Suite, Image J*

Languages: *Japanese, Spoken – Conversational level*

Japanese, Written – Hiragana & Katakana
Japanese, Reading – Hiragana & Katakana

References

Dr. Philip R. Christensen	Arizona State University phil.christensen@asu.edu
Dr. Amanda B. Clarke	Arizona State University amanda.clarke@asu.edu
Julia Johnson	Arizona State University Julia.Johnson@asu.edu
Dr. Erika L. Rader	University of Idaho erader@uidaho.edu