

# Sean I. Peters

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speter24@asu.edu

Arizona State University

Mars Space Flight Facility

201 E. Orange Mall Tempe, AZ 85281

## EDUCATION

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Arizona State University, Tempe, AZ

Expected 2019

Ph.D. Candidate in Geological Sciences, Advisor: Philip R. Christensen

School of Earth and Space Exploration, GPA: 4.00/4.00

*Dissertation (working title):* Lava flow emplacement and the development of flow fields and shields

Arizona State University, Tempe, AZ

August 2013 – August 2015

M.S. Geological Sciences, Advisor: Philip R. Christensen

School of Earth and Space Exploration, GPA: 3.79/4.00

*Thesis:* Investigating Late Amazonian Volcanotectonic Activity on Olympus Mons, Mars using Flank Vents and Arcuate Graben

Mississippi State University, Starkville, MS

August 2008 – May 2013

B.S., *magna cum laude*, Psychology; minor in Geosciences, GPA: 3.74/4.00

## PROFESSIONAL EXPERIENCE

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Session Chair, 49<sup>th</sup> Lunar Planetary Science Conference

March 2018

Graduate Research Assistant, Arizona State University

2016 – present

Graduate Teaching Assistant, Arizona State University

2013 – 2015

Human-Environmental Research Observatory, Clark University, Worcester, MA Summer 2012

*Advised by Drs. Verna DeLauer, Deborah Martin, & John Rogan*

Undergraduate Lab Assistant, Mississippi State University

2010 – 2012

*Advised by Dr. H. Colleen Sinclair*

## RESEARCH

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**Mars Space Flight Facility**, Arizona State University

Jan. 2014 – present

Advisor: Dr. Philip R. Christensen

*MS Thesis:* Investigating the Late Amazonian volcanotectonic evolution of Olympus Mons, Mars using flank vents and arcuate graben

- Morphologic, morphometric and spatial analyses of small vents and graben on Mars's largest shield volcano

*Dissertation:* Lava flow emplacement and the development of flow fields and shields

OTES TVAC Test Operator

2015 – 2016

- Test operator and analyst for thermal vacuum chamber testing of OSIRIS-REx Thermal Emission Spectrometer (OTES)

**Experimental Volcanology Laboratory**, Arizona State University

Jan. 2016 – present

Advisor: Dr. Amanda B. Clarke

*Dissertation:* Controls on lava flow morphology using laboratory analogue experiments

- Effects of slope change and unsteady eruption rates on lava flow morphology
- Relating solidified morphology to eruption mechanics

**Human-Environment Regional Observatory (HERO)**, Clark University

Summer 2012

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

Undergraduate Research Fellow

- 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)

**Advanced Social Psychology Lab**, Mississippi State University

2010 – 2012

Principal Investigator: Dr. H. Colleen Sinclair

Undergraduate Research Assistant

- 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

## **HONORS**

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- 2015 – 2016 Graduate Education Doctoral Enrichment Fellowship
- Fall 2012 Dean’s Scholar, Mississippi State University
- 2012 The National Honor Society of Phi Kappa Phi
- 2012 Nominated for membership in Golden Key International Honour Society
- 2009 – 2012 President’s Scholar, Mississippi State University
- 2008 – 2013 Shackhous Honor College, Mississippi State University
- Oct. 2011 Chief Confederate of Advanced Social Psychology Laboratory
- Apr. 2011 Researcher of the Month of Advanced Social Psychology Laboratory

## **PUBLICATIONS**

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### *ACADEMIC*

**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, 10.1002/2016JE005108.

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

### *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.

## **PRESENTATIONS**

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### *POSTERS*

- 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**, San Francisco, CA  
**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 MENTORING**

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2015 – 2016   **Research Mentor**, Arizona State University

*Sundial Mentoring Program*, led by Dr. Anna Zaniewski

- 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*, (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*

## **RELATED ACTIVITIES**

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- Workshops/Field** NASA Volcanology Workshop, NASA/Univ. of Hawai'i, Summer 2016  
*Led by Drs. S. K. Rowland, S. Fagents, & P. Mouginis-Mark*
- NASA Field Investigations to Enable Solar System Science and  
Exploration (FINESSE) team, NASA Solar System Exploration Research  
Virtual Institute (SSERVI), Summer 2016  
*Organized by Scott Hughes; on behalf of Ethan Schaefer*
- Leadership** Volcano Listserv, ASU/PSU/GVP Smithsonian/IAVCEI, 2016 – present  
*Editor & Moderator*
- American Geophysical Union, 2014 – current  
*Student member*
- The National Honor Society of Phi Kappa Phi, 2012 – current
- The International Honor Society in Psychology, MSU, 2011 – 2012  
*Treasurer*
- MSU Astronomy Club, 2009 – 2010  
*Secretary*
- Service/Outreach** Mountain Pointe High School, October 2017

*Guest speaker for Marilyn Raming's Earth Science course*

Panelist & Judge at Phoenix Comicon, 2017

*"How Misinformation Spreads" panel*

*AZ Science Fair*

SESE Open House, 2013 – 2014

*Mars Table*

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

*Volunteer*

**Relevant Skills**

Programming: *HTML, Matlab, Davinci*

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

Languages: *Japanese (conversational); French (novice)*