

# Kathryn Steakley

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- EDUCATION**     **Ph.D., Astronomy (Expected 2018)**, New Mexico State University, 2018  
*Thesis:* Impact Heating of the Early Martian Climate  
*Advisor:* Dr. Jim Murphy
- B.S., Physics, Astronomy**, University of Washington, 2012
- RESEARCH EXPERIENCE**     **NASA ASTAR Fellow**, New Mexico State University                     Sep 2015 - Present  
Investigating greenhouse warming by impacts on early Mars using a general circulation model  
*Advisor:* Dr. Jim Murphy
- Graduate Assistant**, New Mexico State University                     Aug 2012 - Sep 2015  
Characterized meteorological signatures of convective vortices at Gale Crater  
*Advisor:* Dr. Jim Murphy
- REU Intern**, SETI Institute                                                                     June - Aug 2012  
Analyzed meteor shower activity using network of surveillance cameras, discovered new meteor shower: February epsilon Virginids (IAU #506)  
*Advisor:* Dr. Peter Jenniskens
- PUBLICATIONS**     “Field Measurements of Terrestrial and Martian Dust Devils”,  
Murphy, J, **Steakley, K.**, Balme, M., et al. 2016, Space Science Reviews, 203, 39  
doi:10.1007/s11214-016-0283-y
- “A year of convective vortex activity at Gale Crater”,  
**Steakley, K.**, Murphy, J. 2016, Icarus, 278, p. 180-193,  
doi:10.1016/j.icarus.2016.06.010
- “Discovery of the February epsilon Virginids (FEV, IAU #506)”,  
**Steakley, K.**, Jenniskens, P. 2013, WGN, Journal of the International Meteor Organization, 41, 109
- PRESENTED WORK**     *Talk:* “Revisiting the Impact Heating Hypothesis for Early Mars with a 3D GCM”  
4th International Early Mars Conference, Flagstaff AZ                     Oct 2017
- Poster:* “Exploring post-impact climate conditions on early Mars with the Ames GCM”  
6th International Workshop on the Mars Atmosphere: Modelling and Observations,  
Granada, Spain                                                                     Jan 2017
- Poster:* “Investigating post-impact climate scenarios for early Mars with a 3D GCM”  
American Geophysical Union Fall Meeting, San Francisco CA                     Dec 2016
- Poster:* “Post-impact climate conditions on early Mars: preliminary results from GCM simulations”  
48th AAS Division of Planetary Sciences Meeting, Pasadena CA                     Oct 2016
- Invited Talk:* “Detection of thermal convection vortices in Gale Crater, Mars, with Mars Science Laboratory”  
Int’l Space Science Institute Workshop on Dust Devils, Bern, Switzerland     Feb 2015

*Talk:* “Investigating Dust-less Devils at Gale Crater”  
46th AAS Division of Planetary Sciences Meeting, Tucson AZ Nov 2014

*Talk:* “Investigating Dust(less) Devils at Gale Crater, Mars”  
30th Annual New Mexico Symposium, Socorro NM Nov 2014

*Poster:* “Convective Vortices and Seasonal Variations in the REMS Pressure Data”  
8th International Conference on Mars, Pasadena CA Jul 2014

*Poster:* “Discovery of the February Epsilon Virginids”  
221st American Astronomical Society Meeting, Longbeach CA Jan 2013

*Talk:* “Meteor Showers of the February Sky”  
SETI Institute, Mountain View, CA Aug 2012

**AWARDS AND HONORS** Sky Safari Recognition for Outstanding Outreach Participation 2016, 2017  
NASA Office of Education and MUREP Advanced STEM Training and Research (AS-TAR) Fellowship 2015  
Outstanding Graduate Assistantship Award, New Mexico State University 2014, 2015  
New Mexico Space Grant Consortium Graduate Research Fellowship 2014  
Chambliss Astronomy Student Achievement Hon. Mention, AAS 221st Meeting 2013

**TEACHING EXPERIENCE** **Graduate Teaching Assistant** Aug 2013 - May 2015  
New Mexico State University  
Prepared and ran lab classes, graded assignments and tests, and gave guest lectures  
Astronomy 105: The Planets  
Astronomy 305: The Search for Life in the Universe

**Head Teaching Assistant** Aug - Dec 2014  
New Mexico State University  
Taught labs to new graduate students, organized and ran weekly campus observatory events, assisted in development of lab manuals and keys

**World Wide Telescope Intern** Sep 2010 - Jun 2012  
826 Seattle Tutoring Center  
Incorporated World Wide Telescope, a virtual telescope computer program, into learning programs for children from Sep - Dec 2010.  
Volunteered at 826 Seattle after formal internship ended.

**OUTREACH AND SERVICE** **Graduate Student Organization**  
President, Astronomy Graduate Student Organization Aug 2015 - July 2016  
Secretary, Astronomy Graduate Student Organization Aug 2014 - May 2015

**K-12 Outreach**  
Lynn Middle School Classroom Visit Sep 2017  
Jornada Elementary Classroom Visit May 2017  
Mesquite Elementary School visit to Tombaugh Observatory Apr 2017  
Jornada Elementary Math and Science Night Mar 2017  
Lynn Middle School Classroom Visits Mar 2017  
East Picacho Elementary School visit to Tombaugh Observatory Mar 2017  
Sunrise Elementary School Classroom Visits Feb 2017  
Tombaugh Elementary Astronomy Night Nov 2016  
Sierra Middle School visit to Tombaugh Observatory Nov 2016  
Bassett Middle School Astronomy Night Nov 2016  
Mercer Middle School Science Lessons Mar 2016  
East Picacho Elementary School visit to Tombaugh Observatory Feb 2016

Tombaugh Elementary School Science Fair	Feb 2016
Alameda Elementary School Career Day	Nov 2015
Sierra Middle School Visit to Tombaugh Observatory	Oct 2015
Challenger Learning Center Grand Opening	Sep 2015
PlutoPalooza Family Astronomy Day at Branigan Cultural Center	June 2015
East Picacho Elementary Enrich the Kids Day	June 2015
Monte Vista Elementary School Star Night	May 2015
Alameda Elementary Family Literacy, Math, and Science Night	Apr 2015
Highland Elementary Math and Science Night	Mar 2015
Sierra Middle School Visit Tombaugh Observatory	Nov 2014
Columbia Elementary Math and Science Night	Apr 2014
Vista Middle School Math and Science Night	Feb 2014
North Valley Elementary Science Night	Jan 2014
Elementary School Visit to Tombaugh Observatory	Sep 2013

### **Community Outreach**

New Mexico State University Campus Observatory Events	Aug 2013 - Present
Sky Safari at Tombaugh Observatory	May 2015
Solar Telescope Viewing at Farmer's Market	Jan 2015
Sky Safari at Tombaugh Observatory	Dec 2014
Sky Safari at Tombaugh Observatory	Sep 2014
Sky Safari at Tombaugh Observatory	Dec 2013
Curiosity Landing Party at NASA Ames	Aug 2012
Theodor Jacobsen Observatory Open House	Apr 2012

### **Volunteering**

221st American Astronomical Society Meeting Volunteer	Jan 2013
826 Seattle World Wide Telescope Volunteer	Dec 2010 - Jun 2012
University of Washington Planetarium Show Developer	Jan - Mar 2011