Jennifer Leigh Whitten

Department of Earth and Environmental Sciences | Tulane University | New Orleans, LA USA
206 Blessey Hall | 504−862−3257 | jwhitten1@tulane.edu

EMPLOYMENT

Assistant Professor, Tulane University (January 2019-present)

Postdoctoral Fellow, Smithsonian Institution (September 2014–December 2018)

EDUCATION

Brown University, Providence, Rhode Island
Planetary Geosciences Group, Department of Geological Sciences
Master of Science, Advisor: Dr. James W. Head (May 2011)
PhD, Advisor: Dr. James W. Head (May 2014)

The College of William and Mary, Williamsburg, Virginia
Magna Cum Laude, Phi Beta Kappa
Bachelor of Science, Geology, Advisor: Dr. Gregory Hancock (May 2009)

RESEARCH EXPERIENCE

I research how planetary surfaces are created and modified. Towards this end, my research incorporates a wide variety of space- and ground-based data types, including visible-near infrared spectral data, visible imagery, topography, and radar image/sounder data. I have participated in several radio telescope observation campaigns of Venus and the Moon at the Green Bank and Arecibo observatories (August, March & June 2015; March & April 2017) to study the distribution of crater ejecta and search for surface change. I have conducted field analog research most recently in Iceland (August 2017; May 2018) to study the morphology of pit chains, and also in the Antarctic Dry Valleys to characterize glacial retreat rates (Oct. to Dec.2011). I am/have participating/ed on several mission teams including the Moon Mineralogy Mapper, SHARAD, MESSENGER and the VERITAS teams. Currently, I have active research projects on Mercury, Venus, Mars, and Enceladus, ranging from polar studies on Mars to the distribution and extent of volcanic deposits on Mercury and Venus.

SELECT PUBLICATIONS

Landis, M.E., **Whitten, J.L.** (2022) Geologic context of the bright MARSIS reflectors in Ultimi Scopuli, South Polar Layered Deposits, Mars, *Geophys. Res. Lett.* 49, e2022GL098724. doi: 10.1029/2022GL098724.

Whitten, J.L., Campbell, B.A., Plaut, J.J. (2020) The ice content of the Dorsa Argentea Formation from radar sounder data, *Geophys. Res. Lett.* 47, e2020GL090705. doi:10.1029/2020GL090705.

Whitten, J.L., Martin, E.S., (2019) Icelandic pit chains as planetary analogs: Using morphologic measurements of pit chains to determine regolith thickness, *J. Geophys. Res.* 124, 2983–2999, doi:10.1029/2019JE006099.

Whitten, J.L., Campbell, B.A. (2018) Lateral continuity of layering in the Mars South Polar Layered Deposits from SHARAD sounding data, *J. Geophys. Res.* 123, 1541–554, doi:10.1029/2018JE005578.

Campbell, B., Weitz, C., Morgan, G., **Whitten, J.** (2018) Evidence for Impact Melt Sheets in Lunar Highland Smooth Plains and Implications for Polar Landing Sites, *Icarus* 314, 294–298, doi:10.1016/j.icarus.2018.05.025.

Byrne, P.K., **Whitten, J.L.,** Klimczak, C., McCubbin, F.M., Ostrach, L.R. (2018) The Volcanic Character of Mercury, Mercury: The View after MESSENGER, eds. S.C. Solomon, L.R. Nittler, B.J. Anderson, Cambridge Univ. Press, pp. 287–323, doi:10.1017/9781316650684.012.

Whitten, J.L., Campbell, B.A., Morgan, G.A. (2017) A subsurface depocenter in the South Polar Layered Deposits of Mars, *Geophysical Research Letters* 44, doi:10.1002/2017GL074069.

Campbell, B.A., Morgan, G.A., **Whitten, J.L.**, Carter, L.M., Glaze, L.S., Campbell, D.B. (2017) Pyroclastic flow deposits on Venus as indicators of renewed plume activity, *J. Geophys. Res.* 122, doi:10.1002/2017JE005299.

Whitten, J.L., Campbell, B.A. (2016) Recent volcanic resurfacing of Venusian craters, *Geology* G3768-1, doi:10.1130/G37681.1. **Cover Image,** Geology July 2016.

Whitten, J.L., Head, J.W. (2015c) Rembrandt basin: Distinguishing between volcanic and impact-produced plains, *Icarus* 258, 350–365, doi:10.1016/j.icarus.2015.06.022.

Whitten, J.L., Head, J.W. (2015b) Lunar cryptomaria: Mineralogy and composition of ancient volcanic deposits, *PSS* 106, 67–81, doi:10.1016/j.pss.2014.11.027.

Whitten, J.L., Head, J.W. (2015a) Lunar cryptomaria: Physical characteristics, distribution and implications for ancient volcanism, *Icarus* 247, 150–171, doi:10.1016/j.icarus.201409.031.

Whitten, J.L., Head, J.W, Denevi, B.W., Solomon, S.C. (2014) Intercrater plains units on Mercury: Insights into unit definition, characterization and origin using MESSENGER datasets, *Icarus* 241, 97–113, doi:10.1016/j.icarus.2014.06.013.

Whitten, J.L., Head, J.W., Staid, M.I., Pieters, C.M., Mustard, J.F., Clark, R., Nettles, J., Klima, R.L., Taylor, L.A. (2011) Lunar mare deposits associated with the Orientale impact basin: New insights into mineralogy, history, mode of emplacement, and relation to Orientale Basin evolution from Moon Mineralogy Mapper (M3) data from Chandrayaan-1, *J. Geophys. Res. 116*, E00G09, doi:10.1029/2010JE003736.

HONORS AND AWARDS

2020 **Ken & Ruth Arnold Early Career Professorship, Earth & Ecological Sci.** (2020–2022)

2017 **Early Career Fellow**, NASA

2017 **NASA Group Achievement Award**, MESSENGER Project Team

2015 **Peer Recognition Team Award**, Smithsonian National Museum of Natural History

2012 **U.S. Congressional Antarctic Service Medal**, United States Antarctic Program

PROFESSIONAL MEMBERSHIPS

Phi Beta Kappa Member (2008–present); American Geophysical Union (2011–present); National Association of Geoscience Teachers (2020–present); Geological Society of America (2010–present); Association for Women Geoscientists (2011–present)