Dr. Nathan R. Williams
Planetary Geologist, Caltech Postdoctoral Scholar
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Education

Summer 2016: NASA Planetary Volcanology Field Workshop

2011-2016: Arizona State University School of Earth and Space Exploration,
Doctor of Philosophy, Geological Sciences (Planetary Science focus), GPA = 3.93

Fall 2013: Impact Cratering Short Course and Field Camp, NASA Lunar Science Institute, Canadian Lunar Research Network, LPI-JSC Center for Lunar Science and Exploration

2007-2011: Cornell University College of Engineering, Bachelor of Science, Science of Earth Systems Major, Geological Science and Planetary Science Concentrations, GPA = 3.336

2005-2007: Massachusetts Academy of Math and Science at WPI, including a full year of courses at Worcester Polytechnic Institute

Employment

2016-Present: Postdoctoral Scholar, Jet Propulsion Laboratory, California Institute of Technology

2011-2016: Teaching/Research Assistant, Arizona State University School of Earth and Space Exploration

Summer 2011: Intern, Smithsonian Institution National Air and Space Museum

2007-2011: Student Research Assistant IV, Cornell University

Summer 2008: SURE Intern, Southern California Earthquake Center (SCEC)

Mission Operations

Mars Exploration Rover Opportunity, Pancam Instrument Payload Downlink Lead, 2012-2016

Awards

Graduate Excellence Award, College of Liberal Arts & Sciences, Arizona State University, 2014-2015

NASA Earth and Space Science Fellowship, 2012-2015

NASA Group Achievement Award Mars Exploration Rover Science and Operations Team, 2014

Honorable Mention, National Science Foundation Graduate Research Fellowship Program, 2012

Career Development Award, Lunar and Planetary Institute, 2012

University Graduate Fellowship, Arizona State University Graduate College, 2011

Michael Mitchell Prize, Dept. of Earth and Atmospheric Sciences, Cornell University, 2011

Sid Kaufman Travel Grant, Dept. of Earth and Atmospheric Sciences, Cornell University, 2011

Kiersch Scholarship, Cornell University College of Engineering, 2009-2011

Irwin and Joan Jacobs Scholarship, Cornell University College of Engineering, 2007-2011

First-authored Publications

N. R. Williams, J. F. Bell III, T. R. Watters, M. E. Banks, K. Daud, R. A. French, 2016. "Evidence for Recent and Ancient Faulting at Mare Frigoris and Implications for Lunar Tectonic Evolution." *Icarus*, in review.

N. R. Williams, J. F. Bell III, P. R. Christensen, J. D. Farmer, 2015. "Evidence for an Explosive Origin of Central Pit Craters on Mars." *Icarus* 252, p. 175-185.

N. R. Williams, T. R. Watters, M. E. Pritchard, M. E. Banks, J. F. Bell III, 2013. "Fault Dislocation Modeled Structure of Lobate Scarps from Lunar Reconnaissance Orbiter Camera Digital Terrain Models." *JGR* 118. p. 224-233.

Publications Coauthored

T. R. Watters, M. S. Robinson, G. C. Collins, M. E. Banks, K. Daud, N. R. Williams, M. M. Selvans, 2015. "Global thrust faulting on the Moon and the influence of tidal stresses." *Geology* 43, p. 851-854.

M. E. Banks, T. R. Watters, M. S. Robinson, L. L. Tornabene, T. Tran, L. Ojha, N. R. Williams, 2011. "Morphometric Analysis of Small-Scale Lobate Scarps on the Moon Using Data from the Lunar Reconnaissance Orbiter." *JGR* 117. DOI: 10.1029/2011JE003907.

T. R. Watters, M. S. Robinson, R. A. Beyer, M. E. Banks, J. F. Bell III, M. E. Pritchard, H. Hiesinger, C. H. van der Bogert, P. C. Thomas, E. P. Turtle, N. R. Williams, 2010. "Evidence of Recent Thrust Faulting on the Moon Revealed by the Lunar Reconnaissance Orbiter Camera." *Science* 329, 5994. p. 936 - 940.

Conference Abstracts

N. R. Williams, J. F. Bell III, M. Shirzaei, T. R. Watters, M. E. Banks, K. Daud, R. A. French, 2016. "Evidence for Active Tectonism at the Lunar Surface." *LPSC* 47. Abstract #2808.

N. R. Williams, J. F. Bell III, M. Shirzaei, T. R. Watters, 2015. "Inverse Modeling of Wrinkle Ridge Structures on the Moon and Mars." *AGU Fall Meeting*. Abstract #85585.

N. R. Williams, J. F. Bell III, M. S. Robinson, M. Shirzaei, T. R. Watters, M. E. Banks, M. Henriksen, K. Burns, J. Mueting, S. Mattson, 2014. "Fault Dislocation Modeling of Tectonic Landforms in Mare Frigoris." *AGU Fall Meeting*. Abstract #29949.

N. R. Williams, J. F. Bell III, P. R. Christensen, J. D. Farmer, 2014. "Evidence for an Explosive Origin of Central Pit Craters on Mars." *Fifth Planetary Crater Consortium*. Abstract submitted, talk given on Aug. 6.

N. R. Williams, J. F. Bell III, P. R. Christensen, J. D. Farmer, 2014. "Evidence for an Explosive Origin of Central Pit Craters on Mars." *Eighth International Conference on Mars*. Abstract #1041.

N. R. Williams, J. F. Bell III, M. S. Robinson, M. Shirzaei, T. R. Watters, M. E. Banks, M. Henriksen, K. Burns, J. Mueting, S. Mattson, 2014. "Fault Dislocation Modeling of Tectonic Landforms in Mare Frigoris." *SSERVI NASA Exploration Science Forum*. Abstract submitted, talk given on July 21.

N. R. Williams, J. F. Bell III, T. R. Watters, M. E. Banks, M. S. Robinson, 2014. "Timing and Controls of Tectonic Deformation in Mare Frigoris." *LPSC* 45. Abstract #2684.

T. R. Watters, M. S. Robinson, M. E. Banks, K. Kaud, N. R. Williams, M. M. Selvans, G. C. Collins, 2014. "Global Distribution of Lobate Scarps on the Moon: Implications for the Current Stress State." *LPSC* 45. Abstract #2163.

D. M. Nelson, S. D. Koeber, K. Daud, M. S. Robinson, T. R. Watters, M. E. Banks, N. R. Williams, 2014. "Mapping Lunar Maria Extents and Lobate Scarps Using LROC Image Products." *LPSC* 45. Abstract #2861.

N. R. Williams, J. F. Bell III, P. R. Christensen, J. F. Farmer, 2013. "Evidence for an Explosive Origin of Central Pit Craters on Mars." *AGU Fall Meeting*. Abstract (talk) #1794415.

N. R. Williams, J. F. Bell III, T. R. Watters, M. E. Banks, M. S. Robinson, 2013. "Small Graben and Recent Tectonic Deformation in Mare Frigoris." *NLSI Lunar Science Forum*. Abstract #46.

N. R. Williams, J. F. Bell III, T. R. Watters, M. E. Banks, M. S. Robinson, 2013. "Recent Tectonic Deformation in Mare Frigoris." *LPSC* 44. Abstract #2949.

M. E. Banks, T. R. Watters, M. S. Robinson, N. R. Williams, L. S. Walsh, K. Daud, C. Klimczak, K. Burns, S. Mattson, L. Ojha, and N. Gizzi, 2013. "Displacement-Length Relationship of Thrust Faults Associated with Lobate Scarps on the Moon." *LPSC* 44. Abstract #3042.

D. M. Nelson, T. R. Watters, M. E. Banks, M. S. Robinson, N. R. Williams, K. Daud, W. A. von Dassow, 2013. "Mapping Lobate Scarps on the Moon." *LPSC* 44. Abstract #2777.

N. R. Williams, J. F. Bell III, T. R. Watters, M. E. Banks, M. S. Robinson, 2012. "Tectonic Mapping of Mare Frigoris Using Lunar Reconnaissance Orbiter Camera Images." *AGU Fall Meeting*. Abstract #1501247.

M. E. Banks, T. R. Watters, M. S. Robinson, N. R. Williams, 2012. "Updating the Displacement-Length Relationship of Thrust Faults Associated with Lobate Scarps on the Moon: Preliminary Results." *AGU Fall Meeting*. Abstract #1481330.

N. R. Williams, J. F. Bell III, T. R. Watters, M. E. Banks, M. S. Robinson, 2012. "Tectonic Mapping of Mare Frigoris Using Lunar Reconnaissance Orbiter Camera Images." *LPSC* 43. Abstract #2708.

M. E. Banks, T. R. Watters, M. S. Robinson, L. L. Tornabene, T. Tran, L. Ojha, N. R. Williams, and the LROC team, 2012. "Morphometric Analysis of Small-Scale Lobate Scarps on the Moon Using Data from the Lunar Reconnaissance Orbiter." *LPSC* 43. Abstract #2817.

N. R. Williams, T. R. Watters, M. E. Pritchard, M. E. Banks, J. F. Bell III, M. S. Robinson, T. Tran, 2011. "Lobate Scarp Modeling with Lunar Reconnaissance Orbiter Camera Digital Terrain Models." *AGU Fall Meeting*. Poster P43D-1707.

N. R. Williams, M. E. Pritchard, J. F. Bell III, T. R. Watters, M. E. Banks, T. Tran, M. S. Robinson, and the LROC team, 2011. "Two Tectonic Landforms from Lunar Reconnaissance Orbiter Camera Digital Terrain Models." *LPSC* 42. Abstract #1624.

M. E. Banks, T. R. Watters, M. S. Robinson, M. E. Pritchard, J. F. Bell III, N. R. Williams, K. Daud, and Others, and the LROC team, 2011. "The Search for Lunar Lobate Scarps Using Images from the Lunar Reconnaissance Orbiter Camera." *LPSC* 42. Abstract #2736.

N. R. Williams, M. E. Pritchard, J. F. Bell III, T. R. Watters, M. E. Banks, M. S. Robinson, 2010. "The Search for Lunar Thrust Fault Scarps: Findings from LROC's First Year in Orbit." *NLSI Lunar Science Forum*, Poster #179.

N. R. Williams, M. E. Pritchard, J. F. Bell III, T. R. Watters, M. E. Banks, M. S. Robinson, S. J. Lawrence, 2010. "Searching for Lunar Highland Fault Scarps." Talk at *LROC Team Meeting June 2010*.

N. R. Williams, M. E. Pritchard, J. F. Bell III, T. R. Watters, M. S. Robinson, S. J. Lawrence, 2009. "Surveying the Newly Digitized Apollo Metric Images for Highland Fault Scarps on the Moon." *AGU Fall Meeting*. Poster P23C-1287.

T. R. Watters, M. S. Robinson, R. Beyer, J. F. Bell III, M. E. Pritchard, M. E. Banks, B. W. Garry, N. R. Williams, 2009. "A new look at formation and timing of thrust fault scarps on the Moon." *AGU Fall Meeting*. Poster U31A-0013.

N. R. Williams & R. B. Lohman, 2008. "Modeling Sensitivity of GPS Networks to Ground Deformation in Southern California." *SCEC Annual Meeting*. Poster 1-112.

N. R. Williams & D. G. De Paor, 2007. "Using Google Earth's Advanced Features to Visualize the Hawaiian Archipelago." *NEGSA Meeting*. Abstract #118155.

D. G. De Paor & N. R. Williams, 2006. "Solid Modeling of Moment Tensor Solutions and Temporal Aftershock Sequences for the Kiholo Bay Earthquake Using Google Earth With a Surface Bump-out." *AGU Fall Meeting*. Abstract #13477.