

Raquel G. Nuno

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EDUCATION

- University of California, Los Angeles** October 2014-2018 (expected)
Ph.D. in Geology (Planetary Science) *Los Angeles, CA*
- Arizona State University** August 2013 – September 2014
Graduate studies in Geological Sciences *Tempe, Arizona*
- University of California, Los Angeles** August, 2012
Bachelor of Science in Geophysics and Space Physics *Los Angeles, California*

EXPERIENCE

- UCLA Department of Earth, Planetary, and Space Sciences** October 2014-Present
Graduate Student Researcher *Los Angeles, CA*
- Recalibrate Viking Orbiters 1 and 2 Mars Atmospheric Water Detector (MAWD) column water abundance
 - Mars 2020 Rover site selection project
- School of Earth and Space Exploration, Arizona State University** July 2013 – September 2014
Graduate Research Assistant, Lunar Reconnaissance Orbiter Camera Science Operations Center (LROC) *Tempe, AZ*
- Used advanced image processing software and techniques: ISIS (Integrated Software for Imagers and Spectrometers), ArcGIS, ENVI, and Quantum GIS
 - Wrote BASH scripts to pipeline image processing tasks and minimize human hours
 - Created high level IDL and MATLAB routines for data analysis; used statistical analysis for data visualization and automatic classifications
 - Manually classified over 1500 lunar craters by age
 - A primary LROC science blogger; published over 20 professional science articles targeted to the general public
- Sky Safari** 2014
Astronomer *Phoenix, AZ*
- Provide professional stargazing services for corporate events, hotel guests, and private parties
 - Entertain clients by operating high optical power telescopes to explore the night sky
 - Educate clients by discussing the latest space science news and theories
- UCLA Department of Earth and Space Sciences** June 2012 – July 2013
Research Assistant, Associate System Administrator *Los Angeles, CA*
- Looked for localized water vapor sources in the Viking Orbiter Mars Atmospheric Water Detector (MAWD) data
 - In charge of purchasing, building, and maintaining a 300 node computing cluster and 1 Petabyte fileserver
- UCLA Zaidel Cognitive Neuroscience Laboratory** March 2011-April 2012
Research Assistant, Cognitive Neuroscience and Hemispheric Laterality *Los Angeles, CA*
- Performed EEG testing as part of research project on the cognitive neuroscientific underpinnings of anxiety
 - Responsible for integrating Tobii eye-tracking device with existing EEG testing interface; integration has been instrumental in acquiring research funding
- UCLA Institute of Geophysics and Planetary Physics** January 2011-October 2011
Laboratory Assistant, ELFIN-Lomonosov Mission, THEMIS Mission *Los Angeles, CA*
- Responsible for testing engineering models of particle detectors to be deployed with ELFIN-Lomo satellite mission
 - Analyzed THEMIS satellite magnetometer data using IDL to calibrate spacecraft measurements
- Jet Propulsion Laboratory** May 2010 – September 2010
Intern, Space and Astrophysical Plasmas *Pasadena, CA*
- Optimized several spectral analysis procedures in programming language IDL to analyze over 7 years of NASA's Ulysses mission magnetometer data; analysis resulted in co-authoring several research papers and conference presentations
 - Assisted in redesigning JPL's Magnetometer Laboratory; resulted in a more efficient and safe work environment
- Kelly Scientific Resources** August 2007 - August 2009
Technical Support Specialist, Johnson & Johnson *Raritan, NJ*
- Troubleshooting technical issues from clinical laboratories in 6 different countries and 4 different languages, via telephone

- support; decreased laboratory down time
- Developed and maintained strong relationships with customers, often requested by name by customers to address their technical issues

United States Air Force

Medical Laboratory Technician, Langley Air Force Base

July 2002- July 2006
Langley Air Force Base, VA

- Tested and analyzed over 200K/year specimens of human origin by established scientific laboratory techniques
- Calibrated, maintained and effectively utilized medical diagnostic devices valued at over \$1 million
- Identified and corrected abnormal trends in quality control
- Phlebotomized over 75 patients daily; with patient satisfaction rating of 4.7 out of 5
- Served as primary trainer for 12 students in the Air Force Medical Laboratory Training Program
- Laboratory Basic Life Support instructor

PUBLICATIONS

Peer-reviewed Journal Articles:

1. Cannon, B. E., Smith, C. W., Isenberg, P. A., Vasquez, B. J., Joyce, C. J., Murphy, N., & **Nuno, R. G.**, (2014). Ulysses Observations Of Magnetic Waves Due To Newborn Interstellar Pickup Ions. II. Application Of Turbulence Concepts To Limiting Wave Energy And Observability. *The Astrophysical Journal*, 787(2), 133.
2. Cannon, B. E., Smith, C. W., Isenberg, P. A., Vasquez, B. J., Murphy, N., & **Nuno, R. G.**, (2014). Ulysses Observations Of Magnetic Waves Due To Newborn Interstellar Pickup Ions. I. New Observations And Linear Analysis. *The Astrophysical Journal*, 784(2), 150.

Talks

1. **Nuno, R. G.**, Mahanti, P., Boyd, A. K., & Robinson, M. S., (2014). Automated Classification of Copernican and Eratosthenian Craters, *LROC Science Team Meeting*, Tempe, AZ.
2. **Nuno, R. G.**, Paige, D. A., Zurek, R. W. (2012). A Search for Localized Water Vapor Sources on Mars Utilizing Viking MAWD Data, *American Astronomical Society, DPS Meeting 44*, 206.09.
3. **Nuno, R. G.**, (2012). The Moon: Mythology and Popular Culture, *International Observe the Moon Night*, University of California Los Angeles, Los Angeles, CA.

Conference Proceedings and Abstracts:

1. **Nuno, R. G.**, Paige, D. A., Sullivan, M., Restoration and Recalibration of the Viking MAWD Datasets, American Geophysical Union, Fall Meeting 2014, abstract P51B-3912.
2. Boyd, A. K., Robinson, M. S., Sato, H., **Nuno, R. G.**, (2014) Empirical Photometric Normalization for the Seven Band UV-VIS Lunar Reconnaissance Orbiter Wide Angle Camera, American Geophysical Union, Fall Meeting 2014, abstract #P13B-3816.
3. **Nuno, R. G.**, Mahanti, P., Boyd, A. K., & Robinson, M. S., (2014). Automated Classification of Copernican and Eratosthenian Craters Utilizing LROC WAC Normalized Reflectance. *45th Lunar and Planetary Science Conference*.
4. Boyd, A. K., **Nuno, R. G.**, Robinson, M. S., Denevi, B. W., & Hapke, B. W., (2013). LROC WAC 100 Meter Scale Photometrically Normalized Map of the Moon. *American Geophysical Union*.
5. Cannon, B. E., Smith, C. W., Isenberg, P. A., Vasquez, B. J., Joyce, C. J., Murphy, N., & **Nuno, R. G.**, (2013). Preliminary Analysis Of Magnetic Waves Due To Newborn Interstellar Pickup Ions. In *SOLAR WIND 13: Proceedings of the Thirteenth International Solar Wind Conference. AIP Conference Proceedings* (Vol. 1539, pp. 334–337).
6. **Nuno, R. G.**, Boyd, A. K., & Robinson, M. S., (2013). Occurrence and Magnitude of High Reflectance Materials on the Moon. *American Geophysical Union*.
7. **Nuno, R. G.**, Paige, D. A., & Zurek, R. W., (2013). Searching for Localized Water Vapor Sources on Mars Utilizing Viking MAWD Data. *44th Lunar and Planetary Science Conference*.
8. **Nuno, R. G.**, Paige, D. A., Zurek, R. W., (2012). A Search for Localized Water Vapor Sources on Mars Utilizing Viking MAWD Data, American Astronomical Society, DPS Meeting 44, 206.09.
9. Smith, C. W., Isenberg, P. A., Joyce, C. J., Cannon, B. E., Murphy, N., **Nuno, R. G.**, Schwadron, Nathan A., (2010). Ulysses and Voyager Observations of Waves Due to Interstellar Pickup H⁺ and He⁺. *PICKUP IONS THROUGHOUT THE HELIOSPHERE AND BEYOND: Proceedings Of The 9th Annual International Astrophysics Conference. AIP Conference Proceedings*, Volume 1302, pp. 186-191.

TECHNICAL SKILLS

Programming Languages: IDL, MATLAB, LabVIEW, C++, Bash
 Software: ISIS (Integrated Software for Imagers and Spectrometers), ENVI, ArcGIS, Quantum GIS, MS Office Suite, Photoshop, InDesign
 Systems: Windows, Mac, Linux

LANGUAGES

- Portuguese – native language
- English – fluent
- Spanish – speak/read with moderate proficiency (non-technical)
- French – speak, read, and write at the introductory level

AWARDS

- Fall 2013 and Spring 2014 ASU University Graduate Grant
- 2013 ASU University Graduate Fellowship
- 2013 NASA Robert H. Goddard Exceptional Achievement for Science Award – The LRO Science Mission Team
- 2013 NASA Group Achievement Award Diviner – Lunar Radiometer Science Mission Team
- 2006 Department of the Air Force The Air Force Achievement Medal

PROFESSIONAL MEMBERSHIPS

- American Astronomical Society – Division of Planetary Sciences
- American Geophysical Union – Planetary Sciences
- Association for Women in Science

OUTREACH

- 2013-2014 Volunteer at various Lunar Reconnaissance Orbiter Camera EPO, education, and public outreach events
- 2012 Volunteer at Explore Your Universe event at UCLA
- 2012 Volunteer at Observe the Moon night at UCLA
- 2009-2011 Math and Physics tutor for Military Veterans at Los Angeles City College
- 2005 Air Force One Tutoring Program – Huntington Middle School