

## ROSALY M. C. LOPES

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**DATE AND PLACE OF BIRTH:** January 8, 1957. Rio de Janeiro, Brazil

**NATIONALITIES:** U.S., U.K., and Brazil

### **EDUCATION:**

Ph.D.: Planetary Science (Board of Physics), 1986, University College (University of London, UK).  
"Comparative Studies of Volcanic Features on Earth and Mars".

B.Sc. (Hons): Astronomy, 1978, University College (University of London, UK).

### **PRESENT POSITION:**

*Senior Research Scientist, JPL, Earth and Space Sciences Division*

*Major current roles:*

*Deputy Section Manager, Planetary Sciences Section  
Investigation Scientist, Cassini Radar Team  
Co-Investigator, Jupiter System Data Analysis Program*

*Main current responsibilities:*

Represent Cassini Titan Radar Mapper instrument to the Cassini Project. Plan science observations of Saturn, its moons, and rings using the Radar instrument. Geologic interpretation of Titan data from the Cassini Radar Mapper.

Leadership and management of Planetary Sciences Section as Deputy Manager

Research on Io's volcanic activity using Galileo NIMS data and integration of science results with those from other Galileo investigations. Collaborator on New Horizons mission for studies of Io during the Jupiter flyby in 2007.

*Main fields of expertise:* Planetary geology and volcanology, with particular expertise on Io and Titan and analysis of data from flight projects (Galileo, Cassini, New Horizons).

*Approach to research:* Use of remote sensing data collected from spacecraft to further develop

theoretical models of surface processes, in close collaboration with instrument investigations. Recent research efforts have been directed towards:

- (i) Analysis of Io's infrared spectra obtained by Galileo's Near-Infrared Mapping Spectrometer (NIMS)
- (ii) Analysis of geologic features on Titan using the Cassini Radar Mapper, with particular emphasis on cryovolcanic features.

## **COMMITTEES AND OTHER EXPERIENCE:**

### **Current:**

Vice-Chair, Division for Planetary Sciences of the American Astronomical Society (since October 2011)

Member, The National Academies Committee on Planetary Protection Standards for Icy Bodies in the Outer Solar System (2010-2012)

Member, Senior Research Scientist Council, JPL (elected 2010)

Chair, Outer Solar System Task Group (IAU Working Group for Planetary System Nomenclature), 2006-present (Member, 2005-2006)

Member, Advisory Council, The Planetary Society (2007-present)

Member, Editorial Board, Praxis-Springer Publishing Company, 2004-present.

Research Advisor for the National Research Council's postdoctoral NASA Research Associateship Program 1994-present (advised three postdocs to date).

Harlow Shapley Visiting Lecturer, American Astronomical Society, 2006-present.

Speaker, Outer Planets Colloquium Series, NASA/JPL, 2009-present.

### **Previous:**

Member (elected), Division for Planetary Sciences, AAS, Committee (2007-2010)

Associate Graduate Faculty, University of Nevada Las Vegas, 2009-2010

Member, Scientific Organizing Committee, Division for Planetary Sciences meeting, 2010.

Co-Lead, Cassini Satellites Orbiter Science Team (2003-2010)

Member, AAAS Annual Meeting Program Committee (representing planetary sciences, astronomy, education, public outreach, and diversity), 2007-2010

Member (elected), American Astronomical Society's Astronomy Education Board, 2006-2009

Board member, National Academy of Sciences/National Research Council's Space Studies Board:

Committee to study the next announcement of opportunity (AO) for NASA's New Frontiers missions, 2007-2008.

Member, NASA's Titan Saturn System Mission, Science Definition Team Study (published January 2009)

Member, NASA Titan Explorer Flagship Mission Science Definition Team (2007)

Chair, Nominating Committee, American Astronomical Society's Division for Planetary Sciences, 2005-2006 (Member 2003-2005).

Member, DPS 2006 Program Committee

Member, Program Committee, Demeter International Symposium, Toulouse, 14-16 June, 2006.

Advisor to Local Organizing Committee, American Astronomical Society's Division for Planetary Sciences Annual Meeting, 2006.

Member, Subcommittee on Diversity, American Geophysical Union, 2001-2003

Member, Steering Committee of the Commission for Large-Volume Basaltic Provinces, International Association of Volcanology and Chemistry of the Earth's Interior, 2000-2004.

Member, NASA Review Panel (Mars Data Analysis Program, 1998-2001)

Member, Committee for Minorities and Women in Geosciences, Geological Society of America (1996-1999).

Co-chair for Local Organizing Committee, American Astronomical Society Division for Planetary Sciences 2000 meeting

Chief organizer for Cassini-Huygens session at the American Association for the Advancement of Science meeting, Washington, DC, February 2005.

Co-organizer, United Nations/European Space Agency workshops on Basic Space Science, 1992 (San Jose, Costa Rica) and 1994 (Cairo, Egypt).

Convener of numerous meeting sessions, including American Geophysical Union (2000, 2002, 2005, 2006, 2007, 2009, 2010), International Association of Geomorphologists (2011), American Association for the Advancement of Science (2005), International Association of Volcanology and Chemistry of the Earth's Interior (2008), AGU Western Pacific Geophysics Meeting (2008), International Geological Congress (2000)

Member, JPL Director's Advisory Committee for Women, 1992-1994.

## **CAREER HISTORY:**

February 2009- present	Senior Research Scientist, JPL
August 2011-present	Deputy Manager, Planetary Sciences Section, JPL
March 2005- July 2011	Group Supervisor, Geophysics and Planetary Geosciences, JPL
Sept. 2004-February 2009	Principal Scientist, Earth and Space Sciences Division, JPL
Sept. 2002-Sept. 2004	Research Scientist, Senior A, Earth and Space Sciences Division, JPL.
Sept. 1995-2002	Research Scientist, Earth and Space Sciences Division, JPL.
July 1991-Sept.1995	Scientist, Earth and Space Sciences Division, JPL.
July 1989-July 1991	National Research Council Resident Research Associate, JPL.
Feb. 1989-July 1989	Visiting Researcher, Osservatorio Vesuviano, Naples, Italy.
March 1988-Jan. 1989	Acting Curator of Astronomy and Acting Head of the Astronomy Section, Old Royal Observatory, Greenwich, U.K.
June 1985-March 1988	Curator of Modern Astronomy and Deputy Head of Astronomy Section, Old Royal Observatory, Greenwich, U.K.
Oct. 1978-Dec. 1984	Teaching and Research Assistant: University College London; teaching Planetary Geology, Observational Astronomy and Introductory Astronomy courses.

#### **AWARDS AND HONORS:**

*From Wings WorldQuest:*

Women of Discovery Award, 2009

*From city of Juares Tavora, Brazil:*

Honorary citizen, 2009

*From NASA:*

Exceptional Service Medal, 2007

*From the Girl Scouts of America:*

WINGS (Women Inspiring Next Generations) Award, 2007

*From City of Bezerros, Brazil:*

Experimental rocket launch site for high school and college students named “Dr. Rosaly Lopes”, 2007

*From the American Association for the Advancement of Science:*

AAAS Fellow, elected 2006

*From Women at Work and JPL's Diversity and Inclusion Committee:*  
Women at Work Medal of Excellence, 2006

*From the American Astronomical Society, Division for Planetary Sciences:*  
Carl Sagan Medal, 2005

*From the Guinness Book of World Records (2006 edition):*  
Discoverer of the greatest number of active volcanoes

*From Grove of Hope (Education charitable organization):*  
Angel Award (for outreach efforts in Morocco in 2005)

*From GEMS Television, Miami:*  
GEMS Woman of the Year in Science and Technology, 1997

*From the Comision Feminil Mexicana Nacional:*  
Latinas in Science Award, 1990

*From the Jet Propulsion Laboratory:*  
Bonus Award for Outstanding Accomplishment, 1999  
Bonus Award for Outstanding Accomplishment, 2001  
Bonus Award for Outstanding Accomplishment, 2002  
Exceptional Technical Excellence, Galileo Science Planning and Operations Team, 2002  
SPOT Award, Discovery Core Review Panel, 2004  
Bonus Award, Cassini Science Planning Tour Integration Team, 2004  
Team Bonus Award, Cassini Science Team, 2005  
Team Bonus Award, Flagship Study Scientists, 2008

*NASA Group Achievement Awards:*  
Group Achievement Award, Galileo Gaspra Encounter Team, 1993  
Group Achievement Award, Project Galileo Team, 1996  
Group Achievement Award, Galileo Ida Encounter/Dactyl Discovery Team, 1995  
Group Achievement Award, Galileo Orbital Operations Recovery Team, 1997  
Group Achievement Award, Galileo Project Team, 1998  
Group Achievement Award, Galileo Orbital Operations Recovery Team, 2000  
Group Achievement Award, Galileo Millenium Mission Operations Team, 2003  
Group Achievement Award, Cassini Flight Team, 2005  
Group Achievement Award, MER 3<sup>rd</sup> and 4<sup>th</sup> Extended Mission Team, 2008  
Group Achievement Award, Cassini RADAR Team, 2009  
Group Achievement Award, Cassini Satellite Orbiter Science Team, 2009  
Group Achievement Award, Cassini Saturn Target Working Team, 2009  
Group Achievement Award, Cassini Titan Orbiter Science Team, 2009  
Group Achievement Award, Cassini Saturn Tour Flight Team, 2009

## **PROFESSIONAL SOCIETIES:**

Fellow (elected, 2006), American Association for the Advancement of Science  
Member, International Astronomical Union  
Member, American Geophysical Union  
Member, Geological Society of America  
Member and Elected Vice-Chair, American Astronomical Society, Division for Planetary Sciences  
Member, International Association of Volcanology and Chemistry of the Earth's Interior  
Fellow, Royal Geographical Society  
Fellow, Explorers Club

### **SELECTED INVITED TALKS (since 2000)**

Geological Society of America Annual Meeting, Special Session: Planetary Geology 30<sup>th</sup> Anniversary. Minneapolis, October 2011.  
European Planetary Society Congress/Division for Planetary Sciences annual meeting, Nantes, France, October 2011  
SPIE (International Society for Optics and Photonics) Conference, Instruments, Methods and Missions for Astrobiology Symposium, San Diego, August 2011  
Geological Society of America Annual Meeting, November 2010  
Collapse Calderas Workshop, La Reunion, France, October 2010.  
Cities on Volcanoes 2010 meeting, Tenerife, Spain, June 3, 2010.  
3<sup>rd</sup> International Reunion of Astronomy and Astronautics, Campos dos Goytacazes, Brazil, April 21, 2010.  
IAU Symposium “Galileo’s Medicean Moons: 400<sup>th</sup> Anniversary Discovery”, Padova, January 7, 2010  
European Geosciences Union meeting, Vienna, April 2009  
AGU Fall Meeting, December 2008  
Sykes Memorial lecture, University of British Columbia, September 2008  
Panel member, Space Studies Board/National Academy of Sciences “Forging the Future of Space Sciences” colloquium, June 2008  
European Geosciences Union meeting, Vienna, April 2008  
American Geophysical Union Fall Meeting, San Francisco, December 2007.  
Asia Oceania Geosciences Society, Bangkok, Thailand, August 2007 (2 invited talks)  
American Geophysical Union, Spring meeting, Acapulco, Mexico, May 2007  
American Association for the Advancement of Science, San Francisco, February 2007  
American Geophysical Union Fall Meeting, San Francisco, December 2006.  
Geological Society of America annual meeting, Pardee Keynote Symposium “Celebrating 25 Years of Solar System Exploration”, Philadelphia, November 2006.  
Geological Society of America annual meeting, Pardee Keynote Symposium, “Geosciences and the Media”, Philadelphia, November 2006.  
Asia Oceania Geosciences Society, Singapore, July 2006 (2 invited talks)  
Geological Society of America annual meeting, Pardee Keynote Symposium, October 2005  
European Geosciences Union meeting, Vienna, April 2005  
Jupiter After Galileo and Cassini, A Euroconference about the Giant Planets, Lisbon, June 2002  
American Geophysical Union Fall Meeting, San Francisco, December 2001  
Jupiter: Planet, Satellite & Magnetosphere Conference, Boulder, Colorado, June 2001  
American Geophysical Union Fall Meeting, San Francisco, December 2000  
Division for Planetary Sciences of the American Astronomical Society, Pasadena, October 2000  
International Geological Congress, Rio de Janeiro, August 2000

## **SELECTED SEMINARS (since 2000)**

Instituto Federal de Educação, Ciência, e Tecnologia, Alagoas, Brazil, April 2011  
Mount St. Antonio College, Walnut, California, April 2011  
Centro de Astrobiologia, CSIC-INTA, Madrid, Spain, July 2009  
MDSCC, Spain, July 2009  
Politecnica Universidad de Madrid, July 2009  
Arizona State University, September 2008  
Citrus College, Glendora, California (Shapley Lecture), March 2008  
Université Sidi Mohamed Ben Abdellah, Fes, Morocco, November 2007  
George Washington Academy, Casablanca, Morocco, November 2007  
Mauricio de Nassau University, Recife, Brazil, November 2007  
Recife Catholic University, Recife, Brazil, November 2007  
Mt. San Antonio College, Walnut, California, November 2006  
University of Wyoming Anadarka Distinguished Lecturer Series, September 2006  
University of Southern California, April 2006  
University of California, Santa Cruz (IGPP), April 2006  
University of Illinois, Walgreen Lecture, March 2006  
University of Nevada, Las Vegas, October 2005  
University of California at Los Angeles (IGPP), June 2005  
Jet Propulsion Laboratory, Division 31, Science System Engineering Group March 2005  
Cassini Tour Science Talk, JPL, December 2004  
California State University, Los Angeles, May 2004  
California State University, Northridge, April 2004  
Foothill College, San Francisco, December 2003  
University of Southern California, November 2002  
University of Coimbra, Portugal, June 2002  
University of California at Berkeley, April 2002  
Jet Propulsion Laboratory, Division 32, July 2001  
University of Arizona, February 2001  
Sonoma State University, January 2000

## **SELECTED OUTREACH ACTIVITIES:**

**Public lectures:** Over 180 (U.S., England, Canada, Brazil, Italy, Portugal, Mexico, Morocco, Singapore, Bermuda, Spain).

**Media Interviews:** Over 450 (U.S., England, Brazil, Portugal, Mexico, France, Italy, Morocco, Canada, Bermuda, Spain, New Zealand, South Africa, China, Bulgaria), including press (e.g. New York Times, Los Angeles Times), radio (e.g. NPR's Science Friday, The Space Show), and TV (e.g. Nightline, evening news, talk shows, documentaries).

### **TV Documentaries and shows (US only):**

History Channel "Secret Access: US Monuments", due out 2012  
History Channel "Civilizations", due out Fall 2011

NBC/The Weather Channel's "Caught on Camera" (volcano episode), due out 2011  
National Geographic's "Storm Worlds: Alien Winds" (2010)  
National Geographic's "Known Universe: Cosmic Fury" (2009)  
Discovery Channel's "Galactic Storms" (due out 2010)  
Discovery Channel's "Sci-Trek: Volcanoes" (January 2009)  
National Geographic's "Naked Science: Jupiter" (March 2009)  
"Heads Up" Science Series, Knowledge TV, Canada, episode on New Horizons (January 2008)  
History Channel's "Search for E.T.", in "The Universe" series (August 2007)  
PBS "Wired Science" interview on volcanoes (October 2007)  
Discovery Channel's "Titan: Rendezvous with Saturn's Moon" (updated version, May 2007)  
National Geographic Television's "Naked Science: Deadliest Planets" (December 2006)  
History Channel's "Ask Mr. Know-It-All", pilot episode (as expert on volcanic dust), 2006  
History Channel's "Inside the Volcano" (December 2006)  
Discovery Channel's "Rewind 2006" (science stories of 2006, December 2006)  
National Geographic Television's "Hollywood Science: Forces of Nature" (April 2006)  
Nightline's "Galileo" (September 2003)  
Discovery Channel's "Planet Storm" (2001)  
Discovery Channel's "95 Worlds and Counting" (2001)

**Films/software:**

JPL's "*Journey to the Planets and Beyond*", 2006  
"2020 Vision" film, Institution of Engineering and Technology, UK, 2006  
"Starry Night" Astronomy software, 2003  
JPL/NASA's film "*40 Years of Space Exploration*", 2002  
KCET Television in *Hispanic Heritage Month*, 1990-1992

**Profiled in the following books:**

"*Women of Space*" by Laura S. Woodmansee (Apogee Books, 2003)  
"Spotlight on Scientists", Curriculum Guide for Science Enrichment (grades 5-6) by J. Sinsel (Carson-Dellosa, 2006)  
"Extreme Science Jobs" (Scholastic Books, 2004)  
"What do you Want to be?" (The Sally Ride Science Club, 2004)  
"What do you Want to be? Explore Space Sciences", NASA/Sally Ride Science poster (2005), winner of the 2006 Distinguished Achievement Award from the Association of Educational Publishers (AEP).  
"The Inside Story of Jupiter", by B. Geiger, Sally Ride Science, 2006.  
"Focus on Earth Science", Cambridge Physics Outlet, middle school science book, 2006  
"Adventurous Dreams, Adventurous Lives: Today's Explorers Recall the Youthful Dream Launching their Remarkable Lives" (Rocky Mountain Books, September 2007)  
"Lava Scientist: Careers on the edge of volcanoes" (*Extreme Scientists series*), by Sara Latta (Enslow Publishing, 2009)

**Press conferences (since 2000):**

American Geophysical Union, December 2008  
European Geosciences Union meeting, April 2008  
Division for Planetary Sciences meeting, October 2007  
American Geophysical Union Fall Meeting, December 2006  
Division for Planetary Sciences meeting, October 2006  
Division for Planetary Sciences meeting, September 2005

European Geosciences Union Meeting, May 2005  
Division for Planetary Sciences meeting, November 2001  
American Geophysical Union, December 2001  
NASA Space Science Update (press conference), November 1999  
American Geophysical Union, December 1999  
American Geophysical Union, December 1996  
American Geophysical Union, May 2000  
Division for Planetary Sciences meeting, October 2000

## MAIN PUBLICATIONS:

### 1. Books:

Lopes, R. and T.K. Gregg (Eds): *Volcanic Worlds: Exploring the Solar System Volcanoes*. Foreword by Sally Ride. Praxis Publishing Company (Springer-Verlag, 2004). Undergraduate-level book reviewing volcanism in the Solar System in terms of bodies (e.g. Moon, Venus, Io) and processes (e.g. cryovolcanism, volcano/ice interactions). Authors of individual chapters are Rosaly Lopes, Tracy Gregg, Ellen Stofan, Joy Crisp, Susan Sakimoto, Mary Chapman, Gudrun Larsen, Kathy Cashman, Susan Kieffer, Lisa Gaddis, and Louise Prockter.

Lopes, R.: *The Volcano Adventure Guide*. Cambridge University Press (2005). A popular-level book about volcanoes on Earth and how best to visit and learn about them. The book includes an introduction to volcanology. (Portuguese translation by Oficina do Texto, 2008).

Lopes, R. and J.R. Spencer (Eds): *Io After Galileo*. Praxis Publishing Company (Springer-Verlag, 2007). Research-level book on Io focusing on results from the Galileo mission. Chapters range from formation of Io to surface, atmosphere, and torus. Authors of individual chapters include Bill McKinnon, Bill Moore, Gerry Schubert, Fran Bagenal, Robert Carlson, Nick Schneider, and Emmanuel Lellouch.

Lopes, R. and M. Carroll: *Alien Volcanoes*. Foreword by Arthur C. Clarke. John Hopkins University Press, 2008. Popular-level book about volcanoes on Earth and in the Solar System.

Lopes, R. *Volcanoes*. OneWorld Publications, Oxford, England, 2011. Undergraduate-level book about volcanism on Earth and the solar system.

Fagents, S.A., T.K.P. Gregg, and R.M.C. Lopes (Editors). *Modeling Volcanic Processes: The Physics and Mathematics of Volcanism*. Cambridge University Press, in review. Graduate-level book on physical volcanology.

Carroll, M., and R. Lopes (Editors). *Alien Seas*. Springer Publishing Co., in preparation. Popular-level book about the many “seas” in the solar system, from seas of congealed lava on the Moon to sand seas and methane seas on Saturn’s moon Titan. Springer Publishing Co., in preparation.

### 2. Refereed Publications

#### 2011:

97. Hamilton, C.W., C.D. Beggan, S.Still, M.Beuthe, R.M.C. Lopes, D.A. Williams, W. Wright, and J. Radebaugh. Spatial Distribution of Volcanoes on Jupiter’s Moon Io: implications for tidal heating and magma ascent. Submitted to *Earth and Planetary Science Letters*.

96. Le Gall, A., M.A. Janssen, L.C. Wye, A.G. Hayes, H. Zebker, R.D. Lorenz, J. Radebaugh, J.I. Lunine, R.L. Kirk, R.M.C. Lopes, S. Wall, P. Callahan, T. Farr, E. Stofan, T. Farr and the Cassini Radar Team (2011). Cassini SAR, radiometry, scatterometry and altimetry over Titan's dune fields. *Icarus*, doi: 10.1016/j.icarus.2011.03.026, in press.
95. E.P. Turtle, J.E. Perry, A.G. Hayes, R.D. Lorenz, J.W., Barnes, A.S. McEwen, R.A. West, A.D. Del Genio, J.M. Barbara, E.L. Schaller, T.L. Ray, J.I. Lunine, R.M.C. Lopes, E.R. Stofan (2011). Rapid and extensive surface changes near Titan's equator: Evidence of April showers. *Science*, 331, 1414 (2011). DOI: 10.1126/science.1201063
94. Howell, R.R., and R.M.C. Lopes (2011): Morphology, temperature, and eruption dynamics at Pele. *Icarus*, 2011, doi:10.1016/j.icarus.2011.03.008.

## 2010

93. Williams, D., J. Radebaugh, R. Lopes, E. Stofan (2010). Geologic Mapping of the Menrva Region of Titan using Cassini RADAR data. *Icarus*, 212 (2011), 744-750. doi:10.1016/j.icarus.2011.01.014
92. Wall, S., A. Hayes, C. Bristow, R. Lorenz, E. Stofan, J. Lunine, A. Le Gall, M. Janssen, R. Lopes, L. Wye, L. Soderblom, P. Paillou, O. Aharonson, H. Zebker, T. Farr, G. Mitri, R. Kirk, K. Mitchell, C. Notarnicola, D. Casarano, and B. Ventura (2010). The active shoreline of Ontario Lacus, Titan: a morphological study of the lake and its surroundings. *Geophys. Res. Lett.*, vol. 37, L05202, doi:10.1029/2009GL041821.
91. Tobie, G., B. Giese, T.A. Hurford, R.M. Lopes, F. Nimmo, R.T. Pappalardo, F. Postberg, K. Retherford, J. Schmidt, J.R. Spencer, T. Tokano, and E.P. Turtle. Surface, subsurface, and atmospheric exchanges. In: "Moons of the Outer Solar System: exchange processes involving the interiors". Edited by O. Grasset. *Space Science Reviews*, 153:375-410, doi:10.1007/s11214-010-9641-3.
90. Prockter, LM., R.M.C. Lopes, B. Giese, R. Jaumann, R. D. Lorenz, R. T. Pappalardo, G.W. Patterson, P.C. Thomas, E.P. Turtle, R.J. Wagner (2010). Characteristics of Icy Surfaces. In: "Moons of the Outer Solar System: exchange processes involving the interiors". Edited by O. Grasset. *Space Science Reviews*, 153:63-111, doi:10.1007/s11214-010-9649-8.
89. Coustenis, A., T. Tokano, M. Blanc, M. H. Burger, T. A. Cassidy, R. M. Lopes, R.D. Lorenz, K. D. Retherford, G. Schubert (2010). Atmospheres/Exospheres Characteristics of Icy Satellites. In: "Moons of the Outer Solar System: exchange processes involving the interiors". Edited by O. Grasset. *Space Science Reviews*, DOI:10.1007/s11214-009-9615-5.
88. Lopes, R.M.C., E.R. Stofan, R. Peckyno, J. Radebaugh, K.L. Mitchell, G. Mitri, C. A. Wood, R.L. Kirk, S.D. Wall, J. I. Lunine, A. Hayes, R. Lorenz, T. Farr, L. Wye, J. Craig, R.J. Ollerenshaw, M. Janssen, A. LeGall, F. Paganelli, R. West, B. Stiles, P. Callahan, Y. Anderson, P. Valora, L. Soderblom, and the Cassini RADAR Team. Distribution and Interplay of Geologic Processes on Titan from Cassini RADAR Data. *Icarus*, 205, 540-588, doi:10.1016/j.icarus.2009.08.010

87. Kirk, R.L., E. Howington-Kraus, B.L. Redding, T.L. Becker, E.M. Lee, B.W. Stiles, S. Hensley, A.G. Hayes, R.M.C. Lopes, R.D. Lorenz, K.L. Mitchell, J. Radebaugh, F. Paganelli, L.A. Soderblom, E.R. Stofan, C.A. Wood, S.D. Wall, and the Cassini RADAR Team. High Resolution Topographic Models of Titan's Surface Derived by Radar Stereogrammetry with a Rigorous Sensor Model. Submitted to *Icarus*.
86. Mitri, G., M.T. Bland, A.P. Showman, J. Radebaugh, B. Stiles, R.M.C. Lopes, J. Lunine, and R.T. Pappalardo (2010). Mountains on Titan: Modeling and observations. *J. Geophys. Res., Planets*, vol. 115, E10002, doi:10.1029/2010JE003592.
85. Radebaugh, J., R. D. Lorenz, S. D. Wall, R. L. Kirk, C. A. Wood, J. I. Lunine, E. R. Stofan, R. M. C. Lopes, P. Valora, T. G. Farr, A. G. Hayes, B. Stiles, G. Mitri, H. Zebker, M. Janssen, L. Wye, A. LeGall, K. L. Mitchell and the Cassini Radar Team (2010). Regional geomorphology and history of Titan's Xanadu province. *Icarus*, doi:10.1016/j.icarus.2010.07.022.
84. Lopes, R.M.C., Mitchell, K.L., Williams, D.A., and Mitri, G. (2010): Beyond Earth: How extra-terrestrial volcanism has changed our definition of a volcano. In: "What's a volcano? New answers to an old question". Geological Society of America Special Paper 470 (Eds. E. Canon and A. Szakacs). Pp. 11-30.
83. Mitchell, K.L., E. Stofan, J. Radebaugh, P. Paillou, A. Hayes, J.I. Lunine, R.D. Lorenz, B.W. Stiles, R.M. Lopes, S.D. Wall, B. Ventura, C. Notarnicola, D. Caserano, G. Mitri, M. Janssen, T.G. Farr, and S.J. Ostro. Titan's north polar lake district: Insights from the Cassini Titan Radar Mapper. Submitted to *Icarus*.
82. Wood, C.A., R. Lorenz, R. Kirk, R. Lopes, K. Mitchell, E. Stofan (2010). Impact Craters on Titan. *Icarus*, doi:10.1016/j.icarus.2009.08.21, 334-344.

## 2009

81. Wall, S.D., R.M. Lopes, E.R. Stofan, C.A. Wood, J. L. Radebaugh, B. W. Stiles, R.M. Nelson, L.W. Kamp, M. A. Janssen, R.L. Lorenz, J.I. Lunine, T.G. Farr, G. Mitri, P. Paillou, F. Paganelli, and K.L. Mitchell (2009). Cassini RADAR Images at Hotei Arcus and Western Xanadu, Titan: Evidence for recent cryovolcanic activity. *Geophys. Res. Lett.*, 36, L04203, doi:1029/2008GL036415.
80. Nelson, R.M., Kamp, L.W., Lopes, R.M.C., Matson, D.L., Kirk, R.L., Hapke, B.W., Wall, S.D., Boryta, M.D., Leader, F.E., Smythe, W.D., Mitchell, K.L., Baines, K.H., Jaumann, R., Sotin, C., Clark, R.N., Cruikshank, D.P., Drossart, P., Lunine, J.I., Combes, M., Bellucci, G., Bibring, J-P., Capaccioni, F., Cerroni, P., Coradini, A., Formisano, V., Filacchione, G., Langevin, Y., McCord, T.B., Mennella, V., Nicholson, P.D., Sicardy, B., Irwin, P.G.J. (2009). Photometric Changes on Saturn's Moon Titan: Evidence for Cryovolcanism. *Geophys. Res. Lett.*, 36, L04202, doi:10.1029/2008GL036206.
79. Jaumann, R., Kirk, R., Lorenz, R., Lopes, R., E. Stofan, Uwe Keller, H., Wood, C., Turtle, E., Sotin, C., Soderblom, L.A., and Tomasko, M. (2009): Geology and Surface Processes on Titan. In: *Titan after Cassini-Huygens* (Eds R. Brown, Michele Dougherty, Larry

Esposito, Tom Krimigis, Jean-Pierre Lebreton and Hunter Waite), Springer, pp. 75-140.

78. M.A. Janssen, R.D. Lorenz, R. West, F. Paganelli, R. M. Lopes, R.L. Kirk, C. Elachi, S.D. Wall, W.T.K. Johnson, Y. Anderson, R.A. Boehmer, P. Callahan, Y. Gim, L. Roth, B. Stiles, and the Cassini Radar Team (2009). Titan's Surface at 2.2-cm Wavelength Imaged by the Cassini RADAR Radiometer: Calibration and first results. *Icarus*, 200, 222-239, doi:10.1016/j.icarus.2008.10.017.

77. Coustenis, A., and 156 authors including R.M. Lopes (2009): TandEM: Titan and Enceladus Mission. *Experimental Astronomy*, Vol. 23, issue 3, pp. 893-946, DOI: 10.1007/s10686-008-9103-z.

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