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Education:

- 2005 Ph.D. – Cornell University, Astronomy
Advisor: Professor Donald B. Campbell
Thesis: “Investigating Mantling Deposits on Venus and Regoliths on Asteroids
Using Radar Polarimetry”
- 2002 M.S. – Cornell University, Astronomy
- 1999 B.S. – University of Illinois, Astronomy and Physics (Magna Cum Laude, with Honors)

Research Experience:

- 2016-present *Associate Professor*
University of Arizona, Department of Planetary Sciences
- 2010-2016 *Civil Servant, Research Space Scientist*
Planetary Geodynamics Lab, NASA Goddard Space Flight Center
- 2004-2010 *Postdoctoral Research Associate*
Smithsonian Institution Center for Earth and Planetary Studies
- 1999-2004 *Graduate Research Assistant*
Cornell University Astronomy Department
- 1998 *Research Experience for Undergraduates Summer Internship*
National Optical Astronomy Observatory, Tucson
- 1997 *Research Experience for Undergraduates Summer Internship*
Cornell University Astronomy Department
- 1996-1999 *Undergraduate Research Assistant*
University of Illinois Astronomy Department

Mission and Large Institute Involvement:

- 2022-2027 Team Lead, EnVision VenSAR Science Team
- 2019-2024 Co-I, Geophysical Exploration Of the Dynamics and Evolution of the Solar System (GEODES), Solar System Exploration Research Virtual Institute, PI Nicholas Schmerr, U. Maryland.
- 2018 Co-I, European Space Agency *EnVision* mission Phase 0/A study
- 2017- Co-Investigator, *Shadowcam on Korea Pathfinder Lunar Orbiter*
- 2016- Deputy PI, *Mini-RF on Lunar Reconnaissance Orbiter*
- 2015- Co-Investigator, *REASON radar on the Europa flagship mission*
- 2014- Co-Investigator, *RIMFAX radar on the Mars2020 Rover*
- 2014-2018 Co-Investigator, “*Volatiles, Regolith and Thermal Investigations Consortium for Exploration and Science (VORTICES)*”, Solar System Exploration Research Virtual Institute (SSERVI) 2013, PI: Andy Rivkin (APL)
- 2014-2018 Collaborator, “*Remote In-Situ and Synchrotron Studies for Science and Exploration*”, Solar System Exploration Research Virtual Institute (SSERVI) 2013, PI: Timothy Glotch (SUNY Stony Brook)
- 2011-2015 *Mini-RF Science Team Member*, Lunar Reconnaissance Orbiter

2009-
2009-2012 *SHARAD Science Team Member, Mars Reconnaissance Orbiter*
Co-Investigator, “*Scientific and Exploration Potential of the Lunar Poles*”, PI: D. B. J. Bussey, NASA Lunar Science Institute (NLSI)

Funded Research Proposals:

2023-2026 **Principal Investigator**, *SESAR-LITE: Probing the Lunar Subsurface to Meet Artemis Science Goals*, NASA Development and Advancement of Lunar Instrumentation (DALI)

2022-2027 **Principal Investigator**, *EnVision VenSAR Science Team Participation: Polarimetry and Interdisciplinary Science*, NASA VenSAR Science Team.

2020-2024 **Principal Investigator**, *Investigating Possible Pyroclastic Deposits on Venus*, NASA Solar System Workings (SSW), PI

2019-2022 **Principal Investigator**, *Space Exploration Synthetic Aperture Radar (SESAR): A Digital Beamforming Polarimetric Synthetic Aperture Radar for Subsurface Imaging*, NASA Maturation of Instruments for Solar System Exploration (MatISSE)

2016-2019 **Principal Investigator**, “*Scalable Beamforming Radar Processor for High Resolution Imaging of Planetary Surfaces*”, NASA Planetary Instrument Concepts for the Advancement of Solar System Observations (PICASSO)

2016-2018 Co-Investigator, “*Constraining the Surface Properties of Mars2020 Landing Sites from Radar Data*”, JPL Competitive Request for Proposal (RFP) No. NT-2692-081715, PI: Gareth Morgan (Smithsonian)

2015-2016 **Principal Investigator**, “*Investigating the causes of radar-detected layering in ice*”, NASA Solar System Workings Program (SSW)

2014-2017 Co-Investigator, “*Characterizing Thawing Permafrost Carbon Emissions: An Integrated Pilot Study in Support of Satellite Evaluation/Design and Earth System Modeling Capabilities*”, NASA Interdisciplinary Research in Earth Science, PI: Emily Wilson (GSFC)

2014-2016 Co-Investigator, “*Earth-based Radar Studies of the Moon and Venus*”, NASA Solar System Observations (SSO), PI: Bruce Campbell (Smithsonian)

2013-2017 **Principal Investigator**, “*Remote Sensing Studies of Volcanic Deposits on Venus, Earth, and the Moon*”, NASA Planetary Geology and Geophysics Program (PG&G)

2013-2016 **Principal Investigator**, “*Investigating the Structure and Physical Properties of the Lunar Regolith using Radar and Infrared Data*”, NASA Lunar Advanced Science and Exploration Research (LASER)

2012 **Principal Investigator**, “*Application of the DBSAR Radar to Planetary Geology Studies*”, Internal Research and Development Program, NASA GSFC

2011-2012 **Principal Investigator**, “*Remote Sensing Studies of Volcanic Terrains on Venus, Earth and the Moon*”, NASA Planetary Geology and Geophysics Program (PG&G)

2009-2010 Co-Investigator, “*Volcanic Studies through EVA Simulations*”, PI: W. B. Garry (GSFC), Moon and Mars Analog Mission Activities (MMAMA)

2008-2011 **Principal Investigator**, “*Radar Polarimetric Studies of the Lunar Poles and Lunar Pyroclastic Deposits*”, NASA Lunar Reconnaissance Orbiter Participating Scientist Program (LROPS)

2007-2009 **Principal Investigator**, “*Physical Properties of Titan’s Surface from Modeling of Cassini Radar Data*”, NASA Cassini Data Analysis Program (CDAP)

2006-2009 **Principal Investigator**, “*Radar Sounding of Volcanic Terrains on Mars*”, NASA Mars Reconnaissance Orbiter Participating Scientist Program (MROPS)

2006-2008 **Principal Investigator**, “*Searching for Regolith on Asteroids Using Radar Polarimetry*”, NASA Planetary Astronomy Program (PASP)

Honors and Awards:

2022 First Runner Up – NASA Government Invention of the Year Award, Spaceborne Synthetic Aperture Radar Team, for patent GSC-17016-1

2021 University of Arizona Distinguished Scholar Award
 2016 NASA Early Career Achievement Medal
 2015 Presidential Early Career Award for Scientists & Engineers (awarded in 2019)
 2011 NASA Group Achievement Award: SHARAD Science Team
 2009 NASA Group Achievement Award: SHARAD Radar Processing and Analysis team
 2006 NASA Fellowship for Early Career Researchers in Planetary Science
 2003 Eleanor Norton York Prize (for department service), Cornell University
 1999-2003 National Science Foundation Graduate Research Fellowship
 1999 Cornell University Graduate Fellowship
 1998-1999 Barry M. Goldwater Excellence in Education Scholarship

Professional Organizations and Activities:

2021-2022 NASA Science Study Team Member for European Space Agency EnVision mission
 2018 Member, Venus Landed Platform Study Working Group, NASA HQ study
 2018-2020 NASA Planetary Advisory Committee
 2017-2020 Venus Exploration Analysis Group (VEXAG) Steering Committee Member
 2015-2017 Co-convenor of AGU Fall Meeting Planetary Radar sessions
 2015 Member of NEX-SAG Committee, NASA HQ advisory group for new Mars orbiter
 2014 Local Organizing Committee for International Workshop on Instrumentation for Planetary Missions, Nov. 4-7, Greenbelt MD
 2009-2011 Arecibo Observatory Users and Scientific Advisory Committee
 2006-present NASA Review Panel Member and External Reviewer
 2007 Scientific Organizing Committee for Frontiers of Astronomy with the World's Largest Radio Telescope meeting, Washington D.C.
 2001-2004 Co-Organizer, Cornell Astronomy Department Planetary Science Seminar Series
 2003-present American Geophysical Union Member
 1999-present American Astronomical Society Member
 1999-present Division for Planetary Sciences Member

Academic Committees:

2021-present Academic Program Review Chair
 2018-2022 Executive Council, Earth Dynamics Observatory
 2019-2020 Chair, Strategic Planning Committee
 2018-2019 Chair, Graduate Admissions and Advising Committee
 2016-2018 Graduate Admissions and Advising Committee
 2016-2019 Strategic Planning Committee
 2017-2018 Faculty Search Committee for Earth Dynamics Observatory
 2017-2019 Department Life Committee
 2016-2017 Strategic Budget Committee

Undergraduate Students Supervised:

Kaitlin Kratter (astronomy), Molly Simon (planetary science), Julie Rose (astronomy), Jack Madden (astronomy), Christine Dong (geology), Madison Douglas (geology), Emileigh Shoemaker (physics), Triana Henz (astronomy), Ellen Jesina (current, astronomy)

Graduate Students Supervised:

Indujaa Ganesh (2022, now a postdoc at U. Alaska), Emileigh Shoemaker (2023, now a postdoc at NASA Goddard Space Flight Center), Orion Hon (current)

Postdocs Supervised:

Ali Bramson (Purdue University), David Hollibaugh-Baker (NASA GSFC), Catherine Neish (Western University, Ontario Canada)

Courses Taught as Primary Instructor:

- PTY5 495B Science Writing for the Physical Sciences (Spring 2022)
- PTY5 595B Science and Exploration of the Moon (Fall 2020)
- PTY5/GEOS 549: Radar Remote Sensing of Planetary Surfaces (Spring 2020, Spring 2023)
- PTY5 596A: Planetary Surface Processes Seminar (each semester Fall 2019 through Fall 2022)
- PTY5 170A1: Earth Evolution of a Habitable World (Fall 2017, Fall 2018)
- PTY5 442/542: Mars (Spring 2018)

Outreach Activities:

- June 30 2019 Panel Member, Arizona Public Media preview of *Chasing the Moon*
- Nov. 19 2018 Steward Observatory Evening Lecture Series, Topic: Mars2020 Mission
- Fall 2017 College of Science “Science Café”, Topic: New Views of the Moon
- Fall 2017 LPL Evening Lecture Series, Topic: Seeing Underground on Mars
- 2010-2017 Outreach activities at Goddard including: Observe the Moon night, lunar eclipse “live shots” TV interviews, Museum Alliance and other online presentations, CRESST intern seminar, SISTERS program for middle school girls.
- 2005-2010 Activity leader for occasional National Air and Space Museum public programs (Space Day, Mars Day, Moon Day)
- 2005-2010 Presenter of public “Curator’s Choice” museum talks about research and artifacts
- 1999-2004 Designer and participant for the Cornell University Ask an Astronomer website (<http://curious.astro.cornell.edu/>)
- 2002-2004 Workshop Leader for Expanding Your Horizons program for middle school girls
- 2001-2004 Workshop Leader for Focus for Teens 4H career camp for high school students

Invited Talks:

- Sept. 24, 2018 Science Visitor and Colloquium Program talk, NASA Jet Propulsion Laboratory
- Aug. 17, 2018 Keynote lecture, Lunar and Planetary Laboratory Conference
- June 25-29, 2018 Invited lecturer, Workshop in Planetary Geology and Geophysics of the Solar System summer school, Petnica, Serbia
- July 15, 2017 Cornell’s Legacy of Arecibo Discoveries, Cornell University
- Feb. 27, 2017 Planetary Science Vision 2050 Workshop, abstract 8078
- Apr. 28, 2016 Geology Department Colloquium, Penn State University
- Feb. 26, 2016 Department Colloquium, University of Arizona Lunar and Planetary Laboratory
- Aug. 12, 2015 Observatory Seminar, Arecibo Observatory, Arecibo, PR
- Oct. 31, 2014 Geology Department Seminar, University of Maryland, University Park, MD
- Oct. 28, 2013 50 years of Scientific Achievement and Future Directions at Arecibo Symposium, Arecibo Observatory, Puerto Rico
- Nov. 10 2011 Department Lunch Seminar, University of Maryland, Department of Astronomy
- Nov. 5 2010 Center for Exoplanets and Habitable Worlds Seminar, Penn State University
- Apr. 29, 2010 Lab Seminar, NASA Goddard Space Flight Center, Planetary Geodynamics Lab
- Mar. 10 2010 Department Seminar, Arizona State University, School of Earth and Space Exploration
- Nov. 2, 2009 Department Colloquium, Harvard University, Department of Earth and Planetary Sciences
- Feb. 17 2009 Department Colloquium, Washington University, Department of Earth and Planetary Sciences

Publications

Book Chapters:

1. **Carter, L. M.**, M. S. Gilmore, R. C. Ghail, P. K. Byrne, S. E. Smrekar, T. M. Ganey, and N. Izenberg, Sedimentary Processes on Venus, in revision for Space Science Reviews, 2023.
2. Herrick, R. R., E. T. Bjornes, **L. M. Carter**, T. Gerya, Taras, R. C. Ghail, C. Gillmann, M. Gilmore, S. Hensley, M. A. Ivanov N. R. Izenberg, N. T. Mueller, J. G. O'Rourke, T. Rolf, S. E. Smrekar, M. B. Weller, Resurfacing History and Volcanic Activity of Venus, Space Science Reviews, 219, doi: 10.1007/s11214-023-00966-y, 2023.
3. Karunatillake, S., **L. M. Carter**, H. B. Franz, L. Hallis and J. Hurowitz, Geochemical Interpretations Using Multiple Remote Datasets, in *Remote Compositional Analysis: Techniques for Understanding Spectroscopy, Mineralogy and Geochemistry of Planetary Surfaces*, Cambridge University Press, 2020.
4. Neish, C. D. and **L. M. Carter**, Planetary Radar, in *Encyclopedia of the Solar System*, Elsevier, 2014.

Non-refereed/Commentary:

1. **Carter, L. M.**, Hot Spots on an Ice World, *Nature Astronomy*, 1, 0084, doi:10.1038/s41550-017-0084, 2017.

Refereed Papers:

1. Shoemaker, E. S., D. M. H. Baker, J. A. Richardson, **L. M. Carter**, S. Scheidt, P. Whelley, K. Young, Mapping Ice Buried by the 1875 and 1961 Tephra of Askja Volcano, Northern Iceland using Ground-Penetrating Radar: Implications for Askja Caldera as a Geophysical Testbed for In-Situ Resource Utilization, submitted to J. Geophys. Res., 2023.
2. D. M. H. Baker, **L. M. Carter**, Buried Glaciers and Ice Content of Mantling Materials in Deuteronilus Mensae, Mars, J. Geophys. Res., 128, doi:10.1002/jgre.v128.7, 2023.
3. Bramson, A. M., **L. M. Carter**, G. W. Patterson, M. M. Sori, G. A. Morgan, L. M. Jozwiak, C. A. Nypaver, J. T. S. Cahill, Burial Depths of Extensive Shallow Cryptomaria in the Lunar Schiller-Schickard Region, Planetary Science Journal, 3, doi:10.3847/PSJ/ac8670, 2023.
4. Ganesh, I., **L. M. Carter** and T. N. Henz, Radar Backscatter and Emissivity Models of proposed Pyroclastic Density Current deposits on Venus, J. Geophys Res., 127 (10), e2022JE007318, 2022.
5. Hamran, S.-E., D. A. Paige, A. Allwood, H. E. F. Amundsen, T. Berger, S. Brovoll, **L. M. Carter**, T. Casademont, L. Damsgård, H. Dypvik, S. Eide, A. Fairén, R. Ghent, J. Kohler, M. T. Mellon, D. C. Nunes, D. Plettmeier, P. Russell, M. Siegler and M. Jørgen Øyan, Ground penetrating radar observations of subsurface structures in the floor of Jezero Crater, Science Advances 2022.
6. Shoemaker, E. S., **L. M. Carter**, W. B. Garry, G. A. Morgan and J. J. Plaut, New Insights into Subsurface Stratigraphy Northwest of Ascraeus Mons, Mars using the SHARAD and MARSIS Radar Sounders, J. Geophys. Res., 127, 10.1029/2022JE007210, 2022.
7. Ganesh, I., L. A. McGuire, and **L. M. Carter**, Modeling the dynamics of dense pyroclastic flows on Venus: insights into pyroclastic eruptions, J. Geophys. Res., 10.1029/2021JE006943, 2021.
8. Hamran, S.-E., D. A. Paige, H. E. F. Amundsen, T. Berger, S. Brovoll, **L. M. Carter**, L. Damsgård, H. Dypvik, J. Eide, S. Eide, R. Ghent, Ø. Hellenen, J. Kohler, M. Mellon, D. C. Nunes, D. Plettmeier, K. Rowe, P. Russell, and M. Jørgen Øyan, Radar Imager for Mars' Subsurface Experiment—RIMFAX, Space Science Reviews, 216(8), 128, doi:10.1007/s11214-020-00740-4.
9. Ganesh, I., **L. M. Carter**, and I. B. Smith, SHARAD mapping of Arsia Mons Caldera, Journal of Volcanology and Geothermal Research, 390, 106748, 2020.
10. Smith, I. B., P. O. Hayne, S. Byrne, P. Becerra, M. Kahre, W. Calvin, C. Hvidberg, S. Milkovich, P. Buhler, M. Landis, B. Horgan, A. Kleinböhl, M. R. Perry, R. Obbard, J. Stern, S. Piqueux, N.

- Thomas, K. Zacny, **L. M. Carter**, L. Edgar, J. Emmett, T. Navarro, J. Hanley, M. Koutnik, N. Putzig, B. L. Henderson, J. W. Holt, B. Ehlmann, S. Parra, D. Lalich, C. Hansen, M. Hecht, D. Banfield, K. Herkenhoff, D. A. Paige, M. Skidmore, R. L. Staehle and M. Siegler (2020), The Holy Grail: A road map for unlocking the climate record stored within Mars' polar layered deposits, *Planetary and Space Science*, 184, 104841, doi:10.1016/j.pss.2020.104841.
11. Campbell, B. A., D. B. Campbell, **L. M. Carter**, J. Chandler, J. Giorgini, M. Nolan, P. Perrilat, G. A. Morgan and J. L. Whitten, The Rotation Rate of Venus from 29 Years of Earth-Based Radar Observations, *Icarus*, 332, 19-23, 2019.
 12. Baker, D. M. H. and **L. M. Carter**, Probing supraglacial debris on Mars 2: Crater morphology, *Icarus*, 319, 264-280, 2019.
 13. Baker, D. M. H. and **L. M. Carter**, Probing supraglacial debris on Mars 1: Constraints on the accessibility of global ice, *Icarus*, 319, 745-769, 2019.
 14. Shoemaker, E. S., D. M. H. Baker and **L. M. Carter**, Radar sounding of open basin lakes on Mars, *J. Geophys. Res.*, 123, 1395-1406, doi: 10.1029/2018JE005591, 2018.
 15. Campbell, B. A., J. L. Whitten, G. A. Morgan, **L. M. Carter**, L. S. Glaze and D. B. Campbell, Pyroclastic flow deposits on Venus as indicators of renewed magmatic activity, *J. Geophys. Res.*, 122, 1580-1596, doi:10.1002/2017JE005299, 2017.
 16. Orosei, R., A. P. Rossi, F. Cantini, C. Caprarelli, **L. M. Carter**, I. Papiano, M. Cartacci, A. Cicchetti, R. Noschese, Radar Sounding of Lucus Planum, Mars, by MARSIS, *J. Geophys. Res.*, 122, 1405-1418, doi:10.1002/2016JE005232, 2017.
 17. Ghail, R. C., D. Hall, P. J. Mason, R. R. Herrick, **L. M. Carter**, E. Williams, VenSAR on EnVision: taking earth observation radar to Venus, *Int. J. Appl. Earth Observ. Geoinf.*, 64, 365-376, doi: 10.1016/j.jag.2017.02.008, 2017.
 18. Martin-Wells, K., D. B. Campbell, B. A. Campbell, and **L. M. Carter**, "Secondary Crater Initiated Debris Flow on the Moon", *Icarus*, 291, 176-191, 2017.
 19. Bandfield, J. L., J. T. S. Cahill, **L. M. Carter**, C. D. Neish, G. W. Patterson, J.-P. Williams, D. A. Paige, Distal Ejecta from Lunar impacts: Extensive regions of rocky deposits, *Icarus*, 283, 282, doi:10.1016/j.icarus.2016.05.013, 2017.
 20. **Carter, L. M.**, B. A. Campbell, C. D. Neish, M. C. Nolan, G. W. Patterson, J. R. Jensen and D. B. J. Bussey, A comparison of radar polarimetry data of the Moon from the Lunar Reconnaissance Orbiter Mini-RF instrument and Earth-based systems, *IEEE Trans. Geosci. Rem. Sens.*, 55, 1915-1927, doi:10.1109/TGRS.2016.2631144, 2017.
 21. Neish, C. D., C. W. Hamilton, S. S. Hughes, S. Kobs Nawotniak, W. B. Garry, J. R. Skok, R. C. Elphic, E. Schaefer, **L. M. Carter**, J. L. Bandfield, G. R. Osinski, D. Lim, J. L. Heldmann, Terrestrial analogues for lunar impact melt flows, *Icarus*, 281, 73, doi:10.1016/j.icarus/2016.08.008, 2017.
 22. Patterson, G. W., A.M. Stickle, F.S. Turner, J.R. Jensen, D.B.J. Bussey, P. Spudis, R.C. Espiritu, R.C. Schulze, D.A. Yocky, D.E. Wahl, M. Zimmerman, J.T.S. Cahill, M. Noland, **L. Carter**, C.D. Neish, R.K. Raney, B.J. Thomson, R. Kirk, T.W. Thompson, B.L. Tise, I.A. Erteza, C.V. Jakowatz, Bistatic radar observations of the Moon using Mini-RF on LRO and the Arecibo Observatory, *Icarus*, 283, 2, doi: j.icarus.2016.05.017, 2016.
 23. Ghent, R. R., **L. M. Carter**, J. L. Bandfield, C. J. Tai Udovicic, B. A. Campbell, Lunar crater ejecta: Physical properties revealed by radar and thermal infrared observations, *Icarus*, 273, 182, doi:10.1016/j.icarus.2015.12.014, 2015.
 24. Morgan, G. A., B. A. Campbell, **L. M. Carter**, and J. J. Plaut, Evidence for the episodic erosion of the Medusae Fossae Formation preserved within the youngest volcanic province on Mars, *Geophys. Res. Lett.*, 42, 7336, doi:10.1002/2015GL065017, 2015.
 25. Campbell, B. A., D. B. Campbell, G. A. Morgan, **L. M. Carter**, M. C. Nolan and J. F. Chandler, Evidence for Crater Ejecta on Venus Tessera Terrain from Earth-based radar images, *Icarus*, 250, 123, doi:10.1016/j.icarus.2014.11.025, 2015.

26. Simon, M. S., **L. M. Carter**, B. A. Campbell, R. J. Phillips, and S. Mattei, Studies Of Lava Flows in the Tharsis Region of Mars Using Shallow Radar (SHARAD), *J. Geophys. Res.*, doi:10.1002/2014JE004666, 119, 2291-2299, 2014.
27. Ghent, R. R., P. O. Hayne, J. L. Bandfield, B. A. Campbell, C. C. Allen, **L. M. Carter**, and D. A. Paige, Constraints on the recent rate of lunar ejecta breakdown and implications for crater ages, *Geology*, doi:10.1130/G35926.1, 2014.
28. Neish, C. D., J. Madden, **L. M. Carter**, B. R. Hawke, T. Giguere, V. J. Bray, G. R. Osinski and J. T. S. Cahill, Global Distribution of lunar impact melt flows, *Icarus*, 239, 105-117, doi:j.icarus.2014.05.049, 2014.
29. Campbell, B. A., B. R. Hawke, G. A. Morgan, **L. M. Carter**, D. B. Campbell and M. C. Nolan, Improved discrimination of volcanic complexes, tectonic features, and regolith properties in Mare Serenitatis from Earth-based radar mapping, *J. Geophys. Res.*, 119, 313-330, doi:10.1002/2013JE004486, 2014.
30. Cahill, J. T. S., B. J. Thomson, G. W. Patterson, D. B. J. Bussey, C. D. Neish, N R. Lopez, F. S. Turner, T. Aldridge, M. McAdam, H. M. Meyer, R. K. Raney, **L. M. Carter**, P. D. Spudis, H. Hiesinger, and J. H. Pasckert, The Miniature Radio Frequency Instrument's (Mini-RF) global observations of Earth's Moon, *Icarus*, 243, 173-190, doi:10.1016/j.icarus.2014.07.018, 2014.
31. Russell, P. S., J. A. Grant, K. K. Williams, **L. M. Carter**, W. B. Garry and I. J. Dauber, Ground penetrating radar geologic field studies of the ejecta of Barringer Meteorite Crater, Arizona, as a planetary analog, *J. Geophys. Res.*, 118, 1915-1933, doi: 10.1002/jgre.20145, 2013.
32. Morgan, G. A., B. A. Campbell, **L. M. Carter**, J. J. Plaut and R. J. Phillips, 3D Reconstruction of the Source and Scale of Buried Young Flood Channels on Mars, *Science*, 340, 607, doi:10.1126/science.1234787, 2013.
33. Campbell, B. A., N. E. Putzig, **L. M. Carter**, G. A. Morgan, R. J. Phillips, and J. J. Plaut, Roughness and Near-Surface Density of Mars from SHARAD Radar Echoes, *J. Geophys. Res.*, 118, 1-15, doi:10.1002/jgre.20050, 2013.
34. **Carter, L. M.**, C. D. Neish, D. B. J. Bussey, P. D. Spudis, G. W. Patterson, J. T. Cahill, and R. K. Raney, Initial observations of lunar impact melts and ejecta flows with the Mini-RF radar, *J. Geophys. Res.*, 117, E00H09, doi:10.1029/2011JE003911, 2012.
35. Phillips, R. J., B. J. Davis, K. L. Tanaka, S. Byrne, M. T. Mellon, N. E. Putzig, M. A. Kahre, B. A. Campbell, **L. M. Carter**, I. B. Smith, J. W. Holt, S. E. Smrekar, D. C. Nunes, J. J. Plaut, A. F. Egan, T. N Titus, and R. Seu, Massive CO₂ Ice Deposits Sequestered in the South Polar Layered Deposits of Mars, *Science*, 332, doi: 10.1126/science.1203091, 2011.
36. Campbell, B. A., N. E. Putzig, **L. M. Carter** and R. J. Phillips, Autofocus Correction of Phase Dispersion Effects on SHARAD Echoes, *IEEE Geosci. Rem. Sens. Lett.*, 8, doi:10.1109/LGRS.2011.2143692, 2011.
37. **Carter, L. M.**, D. B. Campbell and B. A. Campbell, Geologic studies of planetary surfaces using radar polarimetric imaging, *Proc. IEEE*, 99, doi:10.1109/JPROC.2010.2099090, 2011.
38. Black, G. J., D. B. Campbell and **L. M. Carter**, Ground-Based Radar Observations of Titan: 2000-2008, *Icarus*, doi:10.1016/j.icarus.2010.10.025, 2011.
39. Neish, C. D., D. B. J. Bussey, P. Spudis, W. Marshall, B. J. Thomson, G. W. Patterson, and **L. M. Carter**, The nature of lunar volatiles as revealed by Mini-RF observations of the LCROSS impact site, *J. Geophys. Res.*, 116, E01005, doi:10.1029/2010JE003647, 2011.
40. Ghent, R. R., V. Gupta, B.A. Campbell, S. A. Ferguson, J. Brown, R. Ferguson and **L. M. Carter**, Generation and atmospheric entrainment of fine-grained ejecta in planetary impacts, *Icarus*, 209, doi:10.1016/j.icarus.2010.05.005, 2010.
41. Campbell, B. A., **L. M. Carter**, D. B. Campbell, M. C. Nolan, J. F. Chandler, R. R. Ghent, B. R. Hawke, R. F. Anderson and K. S. Wells, Earth-Based S-band Radar Mapping of the Moon: New Views of Impact Melt Distribution and Mare Physical Properties, *Icarus*, 208, doi:10.1016/j.icarus.2010.03.011, 2010.

42. Spudis, P. D. and 29 coauthors, Initial results for the north pole of the Moon from Mini-SAR, Chandrayaan-1 mission, *Geophys. Res. Lett.*, *37*, L06204, doi:10.1029/2009GL042259, 2010.
43. Wells, K. S., D. B. Campbell, B. A. Campbell, and **L. M. Carter**, Detection of Small Lunar Secondary Craters in Circular Polarization Ratio Radar Images, *J. Geophys. Res.*, *115*, E06008, doi:10.1029/2009JE003491, 2010.
44. **Carter, L. M.**, B. A. Campbell, J. W. Holt, R. J. Phillips, N. E. Putzig, S. Mattei, R. Seu, and C. H. Okubo, Dielectric Properties of Lava Flows West of Ascræus Mons, Mars, *Geophys. Res. Lett.*, *36*, L23204, doi:10.1029/2009GL041234, 2009.
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