# Devon M. Burr, Ph.D.

**Associate Professor**

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## EDUCATION

Ph.D. *University of Arizona*, Tucson, AZ. (2003)
Dissertation title: Investigations into young outflow channels on Mars
major: **Geosciences** (advisor: Victor Baker)
minor: **Planetary Sciences** (advisor: Alfred McEwen)
M.S. *University of Iowa*, Iowa City, IA. (1998)
**Geology**
M.A. *St. John's College*, Santa Fe, NM. (1996)
**Liberal Arts** Classical and Modern Philosophy
B.S. *United States Naval Academy*, Annapolis, MD. (1989), Distinguished graduate
**Political Science** (Honors Program)

## EMPLOYMENT HISTORY

Associate Professor (Aug. 2013 – present)
*Earth and Planetary Sciences Department, UT Knoxville*
Assistant Professor (Aug. 2008 – Aug 2013)
*Earth and Planetary Sciences Department, UT Knoxville*
Principal Investigator (Aug. 2005 – 2008)
*Carl Sagan Center for the Study of Life in the Universe, SETI Institute*
Eugene M. Shoemaker Fellow (Feb. 2003 – Mar. 2005)
*Astrogeology Branch, U.S. Geological Survey*
Research and Teaching Assistant *(*1998-2000)
*Departments of Geosciences and Planetary Sciences, University of Arizona*
Graduate Research Assistant *(*1994-1995)
*Los Alamos National Laboratory, NIS-1*
United States Naval Officer (1989-1994)
*Meteorology/Oceanography specialty*

## AWARDS

*Post-graduate*

Professional Development Award: Exploration Field Work on Sinuous Ridges in the Atacama Desert, Chile, as Analogs for Sinuous Ridges on Mars
*University of Tennessee* (Feb. 2012)
Junior Faculty Research/Creative Achievement Award
*College of Arts and Sciences, University of Tennessee* (Dec. 2011)
Faculty Achievement Award
*Earth and Planetary Sciences Department, University of Tennessee* (May 2011)
Professional Development Award: Travel Funding for Titan Analog Experiments in the NASA Ames Research Center Planetary Wind Tunnel
*University of Tennessee* (Feb. 2010)
NASA Early Career Fellow
*Science Mission Directorate/Planetary Science Division, NASA* (2007)
Kavli Fellow (Nov. 8-10, 2007)

*Invited Speaker, National Academy of Sciences, 19th Annual Kavli Frontiers of Science Symposium, Irvine, CA, on "Planetary Habitability"*

*Graduate*

NASA Graduate Student Researcher Program fellowship (2000-2003)
Goddard Space Flight Center, Greenbelt, MD
Fulbright Fellowship (Dec. 2000-Aug. 2001)
National Energy Authority, Reykjavik, Iceland
Institute for the Study of Planet Earth (2000) award recipient
graduate student grant, University of Arizona, Tucson, AZ
Iowa Fellow (Aug. 1996 - May 1998)
University of Iowa, Iowa City, IA
Graduate Student Summer Program (Summer, 1997) participant
Goddard Space Flight Center, Greenbelt, MD

*Undergraduate*

Award for Best Student Presentation at the Geosciences Department Symposium (Apr. 2002)
University of Arizona, Tucson, AZ
Outstanding Student Paper (Planetary Sciences Division) (May, 2000)
American Geophysical Union Spring Meeting, Washington, D.C.
Distinguished Graduate; member of various honor societies (May, 1989)
United States Naval Academy, Annapolis, MD
Academy Exchange Scholar (Aug – Dec., 1987)
United States Coast Guard Academy, New London, CT

## EXTERNAL GRANTS AND SUBMITTED PROPOSALS (PI AND CO-I ONLY)

Total grant funding received to date: ~**$2.7M**

*Received in 2016*

The Titan Tumbler: Investigating Endmember Sedimentological Processes on Titan
2-year grant from the NASA Solar System Workings Program
Role: CoI

*Received in 2015*

Digitizing, generation, and archiving of planetary aeolian threshold data from wind tunnel experiments
3-year grant from the NASA Planetary Data Archiving, Restoration, and Tools Program
Role: PI

*Received in 2014*

Characterizing the history of a diverse inverted fluvial landscape: Mapping and Morphometry of the Aeolis Dorsa Region
4-year grant from the NASA Mars Data Analysis Program
Role: PI

Establishing Fieldwork as a Standard Research Component: an Early Career Fellowship Proposal
2-year grant from the NASA Early Career Fellowship Program
Role: PI

Aeolian Sediment Transport and Landscape Modification on Titan
4-year grant from the NASA Outer Planets Research Program
Role: Co-I [PI: Nathan Bridges, Johns Hopkins University Applied Physics Laboratory]

Planetary Geomorphology: 45th Annual Binghamton Geomorphology Symposium
1-year grant from the National Science Foundation
Role: PI

*Received in 2012*
An Integrated Study of the Evolution of Cerberus Fossae, Mars: Fracture Mechanics, Volcanology, and Megafloods
3-year grant from the NASA Mars Data Analysis Program
Role: Co-I [PI: Simon Kattenhorn, University of Idaho]

*Received in 2009*
Environmental Implications of Highly Sinuous Channels on Mars
3-year grant from the NASA Mars Fundamental Research Program
Role: Co-I [PI: Alan Howard, University of Virginia]

*Received in 2008*
Aeolian Saltation under Titan Conditions: wind tunnel experiments and integrated numerical modeling
3-year grant from the NASA Outer Planets Research Program
Role: PI

Mapping, Characterization, and Analysis of Channel/Valley Features on Titan
2-year grant (+NCE) from the NASA Cassini Data Analysis Program
Role: PI

*Received in 2007*
Aeolian Sediment Movement under Titan Conditions: wind tunnel experiments and modeling
3-year grant (+NCE) from the NASA Planetary Geology and Geophysics Program
Role: PI

Raised Curvilinear Features (RCFs) in the western Medusae Fossae Formation (MFF): mapping, characterization, and modeling
3-year grant from the NASA Mars Data Analysis Program + Education and Public Outreach supplement
Role: PI

*Received in 2006*
Pingos on Earth and Mars
2-year grant from the NASA Mars Fundamental Research Program
Role: PI

*Received in 2005*
Catastrophic Flooding in Fissure-headed Channels: mapping and modeling of Athabasca Valles

3-year grant from the NASA Mars Data Analysis Program
Role: PI

*Received in 2003*
Understanding Flood Flow from Source to Sink
3-year grant from the NASA Mars Data Analysis Program
Role: Co-I [PI: Alfred McEwen, University of Arizona]

## RESEARCH

As a planetary geologist, I use geomorphology (the study of the shape of land surfaces) to understand the evolution and processes of planetary bodies. Within this discipline, I have focused on landscapes resulting from the fluid-sedimentary processes of flood, fluvial, and aeolian processes on bodies with atmospheres, as well as studies of ground ice on Mars. In more recent work, I have mentored students in studies of cryo-tectonic processes on diverse icy satellites.

My approaches are multi-fold, involving primarily the use of spacecraft images and topographic data derived from those images. These extraterrestrial data are often combined with analysis of similar data of and field investigations (see listing below) on terrestrial analogues. I have also used multispectral data from spacecraft and contributed to investigations using telescopic data of planetary bodies. When appropriate, I develop and apply 1-D numerical models to understand basic geomorphic processes.

In recent years, the use of wind tunnel experiments with associated numerical modeling has become a salient part of my research, and is revising our understanding of sedimentary behavior in extraterrestrial conditions.

### SELECT SOFTWARE SKILLS

Integrated Software for Imagers and Spectrometers (ISIS)
*Freeware from the USGS Astrogeology Branch used to process and analyze spacecraft data*

Ames Stereo Pipeline
*Freeware from the NASA Ames Intelligent Robotics Group used to create lower resolution digital elevation models from stereo pair images*

SOCET SET
*Proprietary software used to create higher resolution digital elevation models from stereo pair images*

ArcGIS
*Proprietary software used to co-analyze images and topographic data, and in planetary geological mapping*

### SELECT TERRESTRIAL ANALOG FIELD INVESTIGATIONS

Inverted paleochannels as analogs for inverted paleochannels on Mars
*Atacama Desert, Chile: Dec 2011, May-June 2012*

Non-vegetated meandering channel as an analog for sinuous paleochannels on Mars
*Quninn River, Blackrock Desert, Utah: Dec 2009, June 2010, Oct 2011*

Branching plateau as an analog for inverted paleo-channel networks on Mars
*Queensland, Australia: June 2008*

Inverted lava-capped and cemented river channels as analogs for sinuous ridges on Mars
*Utah, northern California: Summer 2006, 2007*

Pingos as analogs for pitted mound features on Mars
*Tuktoyaktuk Penninsula, NWT, Canada: May 2003*

Jókulhlaup (glacial flood) channels as analogs for outflow channels on Mars
*Various locations in Iceland: Spring and Summer, 2001*

## SELECT EXPERIMENTAL INVESTIGATIONS

Titan Wind Tunnel experiments in the Planetary Aeolian Laboratory
*NASA Ames Research Center, Mountain View, CA.*

## PUBLICATIONS

GS indicates graduate student author, UG indicates undergraduate student author, PD indicates post-doctoral research associate under my supervision.

### Editorships (2)

**Burr, D.M.**, P. A. Carling, and V. R. Baker, eds., (2009) Megaflooding on Earth and Mars. Cambridge University Press, 330 pp. http://www.cambridge.org/catalogue/catalogue.asp?isbn=9780521868525

**Burr, D.M.** and A. D. Howard (2015) *Geomorphology*, Special Issue: Planetary Geomorphology.

### Authorships: Journal manuscripts

***2016***

51. Cartwright[GS], R.J. and **D.M. Burr**, Using Synthetic Aperture Radar data of terrestrial analogs to test for alluvial fan formation mechanisms on Titan, *Icarus*, submitted.
50. Jacobsen, R.E.[GS] and **D. M. Burr**, The Aeolis Dorsa, Mars, analyzed with insights from terrestrial analog deposits, encapsulate a history of decreasing hydrologic activity, *Geosphere*, submitted.
49. Beddingfield[GS], C. B., **D. M. Burr**, and L. Tran (2016) Polygonal impact craters on Dione: Evidence for tectonic structures outside the Wispy Terrain, *Icarus*, 274, 163-194, 10.1016/j.icarus.2016.03.020.

***2015***

48. Beddingfield[GS], C. B., D. M. Burr, and W. M. Dunne (2015), Shallow normal fault slopes on Saturnian icy satellites, *J. Geophys. Res. Planets*, 120, 2053–2083, 10.1002/2015JE004852.
47. **Burr, D. M.**, N. T. Bridges, J. K. Smith, J. R. Marshall, B. R. White, and D. W. Williams (2015) The Titan Wind Tunnel: a new tool for investigating extraterrestrial aeolian environments. *Aeolian Res.* 205-214, 10.1016/j.aeolia.2015.07.008.
46. Baker, V. R., C. Hamilton, **D. M. Burr**, V. Gulick, G. Komatsu, W. Luo, J.W. Rice, J.A.P. Rodriguez (2105) Fluvial geomorphology of Earth-like planetary surfaces: a review. *Geomorphology*, 245, 149-182, 10.1016/j.geomorph.2015.05.002.
45. **Burr, D. M.,** A. D. Howard (2015) Introduction to the special issue: Planetary geomorphology. *Geomorphology*., 240, 1-7, 10.1016/j.geomorph.2014.11.015.
44. Lefort, A., **D. M. Burr,** F. Nimmo and R. E. Jacobsen[GS] (2015) Channel slope reversal near the Martian dichotomy boundary: testing tectonic hypotheses. *Geomorphology*, 240, 121-136, 10.1016/j.geomorph.2014.09.028.
43. Matsubara,Y., A. D. Howard, **D. M. Burr,** R. M. E. Williams, W. E. Dietrich, J. M. Moore (2015) River meandering on Earth and Mars: A comparative study of Aeolis Dorsa meanders, Mars and possible terrestrial analogs of the Usuktuk River, AK, and the Quinn River, NV. *Geomorphology*, 240, 102-120, 10.1016/j.geomorph.2014.08.031.


42. **Burr, D. M.**, N. T. Bridges, J. R. Marshall, J. K. Smith, B. R. White, J. P. Emery (2015) Higher-than-predicted saltation thresholds on Titan. *Nature* 517, 60-66, 10.1038/nature14088.
41. Beddingfield[GS], C.B., **D. M. Burr**, and J. P. Emery (2015) Fault geometries on Uranus' satellite Miranda: Implications for internal structure and heat flow. *Icarus* 247, 35-52, 10.1016/j.icarus.2014.09.048.

***2014***

40. Morgan[GS], A. M., Howard, A. D., Hobley, D. E. J., Moore, J. M., Dietrich, W. E., Williams, R. M. E., **Burr, D. M.**, Grant, J. A., Wilson[GS], S. A., Matsubara[GS], Y. (2014) Sedimentology and climatic

environment of alluvial fans in the martian Saheki crater and a comparison with terrestrial fans in the Atacama Desert. *Icarus* 229, 131-156, 10.1016/j.icarus.2013.11.007.

39. Chojnacki[GS], M., **D. M. Burr**, J. E. Moersch and J. J. Wray (2014) Valles Marineris dune sediment provenance and pathways. *Icarus* 232, 187-219, 10.1016/j.icarus.2014.01.011.
38. Chojnacki [GS], M., **D. M. Burr** and J. E. Moersch (2014) Valles Marineris dune fields as compared with other Martian populations: diversity of dune compositions, morphologies, and thermophysical properties. *Icarus* 230, 96-142, 10.1016/j.icarus.2013.08.018.

***2013***

37. **Burr, D. M**., S. A. Drummond [GS], R. Cartwright [GS], B .A. Black [GS], and J. T. Perron (2013) Morphology of fluvial networks on Titan: evidence for structural control. *Icarus* 226, 742-759 10.1016/j.icarus.2013.06.016.
36. Williams, R. M. E., R. P. Irwin, **D. M. Burr**, T. Harrison, P. McClelland (2013) Variability in martian sinuous ridge form: Case study of Aeolis Serpens in the Aeolis Dorsa, Mars, and insight from the Miracking paleoriver, South Australia. *Icarus* 225, 308-324, 10.1016/j.icarus.2013.03.016.
35. Fenton, L. K., R. K. Hayward, B. H. N. Horgan, R. M. Rubin, T. N. Titus, M. A. Bishop, **D. M. Burr**, M. Chojnacki [GS], C. L. Dinwiddie, L. Kerber, A. LeGall, T. I. Michaels, L. D.V.Neakrase, C. E. Newman, D. Tirsch, H. Yizhaq, J.R. Zimbelman (2013) Summary of the Third International Planetary Dunes Workshop: Remote Sensing and Image Analysis of Planetary Dunes, Flagstaff, Arizona, USA, June 12–15, 2012. *Aeolian Research* 8, 29-38, 10.1016/j.aeolia.2012.10.006.
34. **Burr, D. M.,** J. T. Perron, M. P. Lamb, R. P. Irwin, G. C. Collins, A. D. Howard, L. S. Sklar, J. M. Moore, M. Ádámkovics, V. R. Baker, S. A. Drummond[GS], and B. A. Black[GS] (2013) Fluvial features on Titan: insights from morphology and modeling. *Geol. Soc. Am. Bull*., doi: 10.1130/B30612.1.

***2012***

33. Black[GS], B. A., Perron, J. T., **Burr, D. M.**, and Drummond[GS], S. A (2012) Estimating erosional exhumation on Titan from drainage network morphology. *J. Geophys. Res*., 117, E08006, 10.1029/2012JE004085.
32. Lefort, A.[PD], **D.M. Burr**, R.A. Beyer, and A.D. Howard (2012) Inverted fluvial features in the Aeolis–Zephyria Plana, Western Medusae Fossae Formation, Mars: evidence for post-formation modification. *J. Geophys. Res.-Planets*, 117, E03007, 10.1029/2011JE004008.
31. Barnes, J. W., L. Lemke, R. Foch, C. P. McKay, R. A. Beyer, J. Radebaugh, D. H. Atkinson, R. D. Lorenz, S. Le Mouélic, S. Rodriguez, J. Gundlach, F. Giannini, S. Bain, F. M. Flasar, T. Hurford, C. M. Anderson, J. Merrison, M. Ádámkovics, S. A. Kattenhorn, J. Mitchell, **D. M. Burr**, A..Colaprete, E. Schaller, A. J. Friedson, K.S. Edgett, A. Coradini, A. Adriani, K. M. Sayanagi, M. J. Malaska, D. Morabito, K. Reh (2012) AVIATR – Aerial Vehicle for In-Situ and Airborne Titan Reconnaissance, A Titan Airplane Mission Concept, *Exp. Astron.*, 10.1007/s10686-011-9275-9.

***2011***

30. Chojnacki, M.[GS], **D. M. Burr,** J. E. Moersch and T. I. Michaels (2011) Orbital observations of contemporary dune activity in Endeavour Crater, Meridiani Planum, Mars. *J. Geophys. Res.*, 116, E00F19, 10.1029/2010JE003675.
29. **Burr, D. M.** (2011) Sedimentology in a reduced-gravity environment: Submarine analogs for streamlined forms on Mars. *Geology*, July 2011, v. 39, no. 7, p. 703–704; 10.1130/focus072011.1. ***INVITED*.**
28. Emery, J.P., **D. M. Burr**, and D. P Cruikshank (2011) Near-infrared spectroscopy of Trojan asteroids: evidence for two compositional groups. *Astronomical J.* 141: 25 (18 pp), 10.1088/0004-6256/141/1/25.

***2010***

27. **Burr, D. M.,** R. M. E. Williams, K. D. Wendell[UG], M. Chojnacki[GS], and J. P. Emery (2010) Inverted fluvial features in the Aeolis/Zephyria Plana region, Mars: Formation mechanism and initial paleodischarge estimates, *J. Geophys. Res.*, 115, E07011, 10.1029/2009JE003496.
26. Chojnacki, M.[GS], J. E. Moersch, and **D. M. Burr** (2010) Climbing and falling dunes in Valles Marineris, Mars. *Geophys. Res. Lett. 37*, L08201, doi: 10.1029/2009GL042263.

25. **Burr, D. M**., (2010) Palaeoflood-generating mechanisms on Earth, Mars, and Titan. *Global and Planetary Change*, 70, 5–13 (Special Issue, J. Woodward, P. Brewer, M. Macklin and S. Tooth, eds) 10.1016/j.gloplacha.2009.11.003.

***2009***

24. **Burr, D. M.,** R. E. Jacobsen[UG], D. L. Roth[UG], C. B. Phillips, K. L. Mitchell, D. Viola[UG] (2009) Fluvial network analysis on Titan: evidence for subsurface structures and west-to-east wind flow, southwestern Xanadu, *Geophys. Res. Lett.,* 36, L22203, doi: 10.1029/2009GL040909.
23. **Burr, D. M.**, M-T. Enga[UG], R. M. E. Williams, J. R. Zimbelman, A. D. Howard, T. A. Brennand (2009) Pervasive aqueous paleoflow features near the equator, Mars. *Icarus*, 10.1016/j.icarus.2008.10.014.
22. **Burr, D. M**., K. L. Tanaka, and K. Yoshikawa (2009) Pingos on Earth and Mars: morphology and distribution. *Planet. Space Sci*. 10.1016/j.pss.2008.11.003.
21. **Burr, D. M.**, B. C. Bruno, P. D. Lanagan, L. S. Glaze, W. L. Jaeger, R. J. Soare, J.-M. Wan Bun Tseung[UG], J. A. Skinner, S. M. Baloga (2009) Mesoscale raised rim depression (MRRDs) on Earth: A review of the characteristics, processes, and spatial distributions of analogs for Mars. *Planetary and Space Science*, 10.1016/j.pss.2008.11.011.
20. **Burr, D. M.,** L. Wilson, and A. S. Bargery[GS] (2009) Floods from Fossae: a review of Amazonian-aged extensional tectonic megaflood channels on Mars. In Megaflooding on Earth and Mars, D. M. Burr, V. R. Baker and P. A. Carling (eds), Cambridge University Press, Cambridge, UK. pp. 194-208.
19. Carling, P. A., **D. M. Burr**, T. F. Johnsen, and T. A. Brennand (2009) A review of open-channel megaflood depositional landforms on Earth and Mars. In Megaflooding on Earth and Mars, D. M. Burr, V. R. Baker and P. A. Carling (eds), Cambridge University Press, Cambridge, UK. pp. 33-49.
18. Wilson, L., A. S. Bargery[GS] and **D. M. Burr** (2009) Dynamics of fluid flow in Martian outflow channels. In Megaflooding on Earth and Mars, D. M. Burr, V. R. Baker and P. A. Carling (eds), Cambridge University Press, Cambridge, UK. pp. 290-311.

***2007***

17. Barnes, J., J. Radebaugh, R. H. Brown, S.Wall, L. Soderblom, J. Lunine, **D. Burr**, C. Sotin, S. Le Mouelic, S. Rodriguez, B. J. Buratti, R. Clark, K. H. Baines, R. Jaumann, P.D. Nicholson, R. L. Kirk, R. Lopes, R. D. Lorenz, K. Mitchell, C.A. Wood, and the Cassini RADAR Team (2007) Near-Infrared Spectral Mapping of Titan's Mountains and Channels. *J. Geophys. Res.* 112 (E11) CiteID E11006, 10.1029/2007JE002932.
16. Keszthelyi, L., R. P. Denlinger, D. R. H. O'Connell, and **D. M. Burr** (2007) Initial insights from 2.5D hydraulic modeling of floods in Athabasca Valles, Mars. *Geophys. Res. Lett.* 34(21), CiteID L21206, 10.1029/2007GL031776.
15. Phillips, C. B, **D. M. Burr**, and R. A. Beyer (2007) Mass movement within a slope streak on Mars. *Geophys. Res. Lett.* 34 (L21202), 10.1029/2007GL031577.

***2006***

14. **Burr, D. M.** and A. H. Parker[UG] (2006) Grjotá Valles and implications for flood sediment deposition on Mars. *Geophys. Res. Lett.* 33, L22201, 10.1029/2006GL028011.
13. **Burr, D. M.**, J. P. Emery, R. D. Lorenz, G. C. Collins and P. A. Carling (2006) Sediment transport by liquid overland flow: application to Titan. *Icarus,***181**, 235-242, 10.1016/j.icarus.2005.11.012.
12. Bruno, B. C., S. A. Fagents, C. W. Hamilton[GS], **D. M. Burr**, and S. M. Baloga (2006) Identification of volcanic rootless cones and ice mounds on Earth and Mars: using spatial distribution as a remote sensing tool. *J. Geophys. Res.* **111**(E6), E06017, 10.1029/2005JE002510.

***2005***

11. **Burr, D. M.**, R. J. Soare, J.-M. Wan Bun Tseung[UG] and J. P. Emery (2005) Young (late Amazonian), near surface, ground ice features near the equator, Athabasca Valles, Mars. *Icarus* **178**, 56-73, 10.1016/j.icarus.2005.04.012.
10. **Burr, D. M.** (2005) Clustered streamlined forms in Athabasca Valles, Mars: Evidence for sediment deposition during floodwater ponding. *Geomorphology* **69**, 242-252,

10.1016/j.geomorph.2005.01.009.

9. McEwen, A. S., B. S. Preblich[GS], E. P. Turtle, N. A. Artemieva, M. P. Golombek, M. Hurst, R. L. Kirk, **D. M. Burr**, and P. R. Christensen, (2005) The rayed crater Zunil and interpretations of small impact craters on Mars. *Icarus* **176**, 351-381; 10.1016/j.icarus.2005.02.009.
8. Emery,J.P., **D.M. Burr** , D.P. Cruikshank, R.H. Brown and J. B. Dalton (2005) Near-infrared (0.8-4.0 μm) spectroscopy of Mimas, Enceladus, Tethys, and Rhea. *Astronomy and Astrophysics* **435**, 353-362, 10.1051/0004-6361:20042482.
7. Soare, R. J., **D. M. Burr**, and J.-M. Wan Bun Tseung[UG] (2005) Possible pingos and a periglacial landscape in northwest Utopia Planitia. *Icarus* **174**, 373-382, 10.1016/j.icarus.2004.11.013.

***2004 and earlier***

6. **Burr, D. M.**, P. A. Carling, R. A. Beyer[GS] and N. Lancaster (2004) Flood-formed dunes in Athabasca Valles, Mars: morphology, modeling, and implications. *Icarus* **171**, 68-83, 10.1016/j.icarus.2004.04.013.
5. **Burr, D. M.**[GS] (2003) Hydraulic modelling of Athabasca Vallis, Mars. *Hydrological Sciences Journal*, 48(4), 655-664.
4. **Burr, D. M.**[GS], J.A. Grier, A.S. McEwen and L.P. Keszthelyi, (2002) Repeated aqueous flooding from the Cerberus Fossae: evidence for very recently extant, deep groundwater on Mars. *Icarus* **159**, 53-73, 10.1006/icar.2002.6921.
3. **Burr, D. M.**[GS], A.S. McEwen and S.E.H. Sakimoto (2002) Recent aqueous floods from the Cerberus Fossae, Mars. *Geophys. Res. Lett.*, 29(1), 10.1029/2001GL013345.


2. **Burr, D. M.**[GS] and A.S. McEwen, (2002) Recent extreme floods on Mars. In: The Extremes of the Extremes: Extraordinary Floods (ed. by Á. Snorrason, H. P. Finnsdóttir & M. Moss) (Proc. of a Symp. at Reykjavik, July 2000). Publ. no. 271, IAHS Press, Wallingford, Oxfordshire, UK.
1. Nordholt, J. E., J. J. Berthelier, **D. M. Burr**[GS]**,** H. O. Funsten, R. Goldstein, J. M. Illiano, K. P. McCabe, D. J. McComas, D. M. Potter, and D. T. Young (1996) The Cassini Ion Mass Spectrometer: performance metrics and techniques *in* AGU Monograph on Measurement Techniques in Space Plasmas, 209-214.

## Authorships: Paper presentations at Professional Meetings

***Invited (12)***

**Burr, D. M.** (2016) Sedimentary deposits from non-vegetated fluvial systems: some extra-terrestrial perspectives. 32nd IAS Meeting of Sedimentology, May 23-25, Marrakech, Morocco. [**INTERNATIONAL]**

**Burr, D. M.,** E. V. Nield, J. P. Emery, N. T. Bridges J. K. Smith, J. R. Marshall, J. F. Kok, X. Yu, S. M. Horst (2016) Experimental (wind tunnel) investigations into aeolian entrainment: application to extraterrestrial environments. 32nd IAS International Meeting of Sedimentology, May 23-25, Marrakech, Morocco. [**INTERNATIONAL]**

**Burr, D. M.** (2013) A comparative survey of some aspects of fluvial landforms on Mars and Titan, EPSC, London, UK, Sept 8-13, 2013. [**INTERNATIONAL]**

Hobley, D.E.J., A.D. Howard, A.M. Morgan, Y. Matsubara, J.M. Moore, R.A. Parsons, R.M.E. Willilams, **D. M. Burr**, A. G. Hayes, W. E. Dietrich (2012) Surface processes on a mud-dominated Mars analogue alluvial fan, Atacama Desert, northern Chile. *Eos*, Vol. 93, Number 52, December 2012, Fall Meet. Suppl.

**Burr, D. M.** (2012) Some terrestrial-like morphologies of extraterrestrial channelized flow. Geol. Soc. Am. Annual Meeting, Charlotte, NC, Paper 193-14.

Howard, A. D., Y. Matsubara, **D. M. Burr**, R. M. E. Williams, J. Moore. W. E. Dietrich (2012) Mud meanders of the Blackrock Desert. *Soil to Sea Geomorphology: East Coast 2012*, University of Pennsylvania, Philadelphia, May 17-19.

**Burr, D. M.** and A.D. Howard (2011) Planetary fluvial geomorphology studies using terrestrial analogs.

Geol. Soc. Am. Annual Meeting, Minneapolis, Minnesota, Paper 284-2.

Howard, A. D., **D. M. Burr**, R. M. E. Williams (2009) Highly Sinuous Meanders on Mars: Morphology, Hydrology and Terrestrial Analogs. *Eos*, Vol. 90, Number 52, 29 December 2009, Fall Meet. Suppl., Abstract H44C-04.

**Burr, D. M.**, N. Bridges, R. Greeley, J. Marshall, B. White, C. McKay (2009) Analog Experiments in the Titan Wind Tunnel. Titan Dunes Workshop, Las Vegas, NV, Nov. 2-3.

**Burr, D. M.** (April 2009) University of Illinois Urbana-Champaign Colloquium Speaker.

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