Kathryn M. Stack Morgan

Publications
18 August 2022

PEER REVIEWED PUBLICATIONS

(underlined = student or post-doc under direct supervision of K. Stack Morgan)

In Review or Submitted

69. SIMON, J. et al. "Samples Collected from the Floor of Jezero Crater with the Mars 2020 Perseverance Rover," submitted to *J. Geophys. Res.-Planets.*
68. CRUMPLER, L. et al. "In Situ Geologic Context Mapping Transect on the Floor of Jezero Crater from Mars 2020 Perseverance Rover Observations," submitted to *J. Geophys. Res.-Planets.*
67. SHARMA, S. et al. "Mapping organic-mineral associations in Jezero crater: Implications for Martian Organic Geochemistry," submitted to *Nature*.
66. YINGST, R.A. et al. "Depositional and Diagenetic Processes of Martian Lacustrine Sediments as Revealed at Pahrump Hills by the Mars Hand Lens Imager, Gale Crater, Mars," submitted to *J. Geophys. Res.-Planets.*
65. FEDO, C.M. et al., "Geology and stratigraphic correlation of the Murray and Carolyn Shoemaker formations across the Glen Torridon region, Gale crater, Mars," submitted to *J. Geophys. Res.-Planets.*
64. SCHELLER, E.L., et al., "Aqueous alteration processes and implications for organic geochemistry in Jezero crater, Mars," in review at *Science.*
63. KHAN, S.Y. et al., "Characterization of clasts in the Glen Torridon region of Gale crater observed by the Mars Science Laboratory Curiosity Rover," in revision at *J. Geophys. Res.-Planets.*

Accepted and Published

62. **STACK, K.M.**, W.E. Dietrich, M.P. Lamb, R.J. Sullivan, J.R. Christian, C.E. Newman, C.D. O'Connell-Cooper, J.W. Sneed, M. Day, M. Baker, R.E. Arvidson, C.M. Fedo, S. Khan, R.M.E. Williams, K.A. Bennett, A.B. Bryk, S. Cofield, L.A. Edgar, V.K. Fox, A.A. Fraeman, C.H. House, D.M. Rubin, V.Z. Sun, J.K. Van Beek (2022), Orbital and In-Situ Investigation of Periodic Bedrock Ridges in Glen Torridon, Gale Crater, Mars, *J. Geophys. Res.-Planets,* 127(6), https://doi.org/10.1029/2021JE007096.
61. **STACK, K.M.** et al. (2020), Photogeologic Map of the Perseverance Rover Field Site in Jezero Crater Constructed by the Mars 2020 Science Team, *Space Science Reviews*, https://doi.org10.1007/s11214-020-00739-x.
60. **STACK, K.M.**, J.P. Grotzinger, M.P. Lamb, S. Gupta, D.M. Rubin, L.C. Kah, L.A. Edgar, D.M. Fey, J.A. Hurowitz, M. McBride, F. Rivera-Hernandez, D.Y. Sumner, J.K. Van Beek, R.M.E. Williams, R. Aileen Yingst (2019), "Evidence for plunging river plume deposits in the Pahrump Hills member of the Murray formation, Gale crater, Mars," *Sedimentology*, https://doi.org/10.1111/sed.12558.
59. **STACK, K.M.**, C.S. Edwards, J.P. Grotzinger, S. Gupta, D.Y. Sumner, F.J. Calef, III, L.A. Edgar, K.S. Edgett, A.A. Fraeman, S.R. Jacob, L.L. Le Deit, K.W. Lewis, M.S. Rice, D. Rubin, R.M.E. Williams, K.H. Williford (2016). Comparing orbiter and rover image-based

mapping of an ancient sedimentary environment, Aeolis Palus, Gale crater, Mars, *Icarus, Special Issue: MicroMars to MegaMars,* https://doi.org.10.1016/j.icarus.2016.02.024.

58. **STACK, K.M.** and R.E. Milliken (2015). Reflectance spectroscopy of clay-sulfate Mixtures and implications for quantifying hydrated minerals on Mars, *Icarus*, 250, 332-356, https://doi.org/10.1016/j.icarus.2014.12.009.
57. **STACK, K.M.**, J.P. Grotzinger, L.C. Kah, M.E. Schmidt, N. Mangold, K.S. Edgett, D.Y. Sumner, K.L. Siebach, M. Nachon, R. Lee, D.L. Blaney, L.P. Deflores, L.A. Edgar, A.G. Fairen, L.A. Leshin, S. Maurice, D.Z. Oehler, M.S. Rice, R.C. Wiens (2014). Diagenetic origin of nodules in the Sheepbed member, Yellowknife Bay formation, Gale Crater, Mars, *J. Geophys. Res*., https://doi.org10.1002/2014JE004617.
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55. FARLEY, K.A., **K.M. Stack**, et al., "Aqueously altered igneous rocks on the floor of Jezero crater, Mars," accepted at *Science.*
54. LIU, Y., et al., "An olivine cumulate outcrop on the floor of Jezero crater, Mars," accepted at *Science*.
53. GWIZD, S., C. Fedo, J. Grotzinger, S. Banham, F. Rivera-Hernández, **K.M. Stack**, K. Siebach, M. Thorpe, L. Thompson, C. O'Connell-Cooper, N. Stein, L. Edgar, S. Gupta, D. Rubin, D. Sumner, A.R. Vasavada (2022). Sedimentological and geochemical perspectives on a marginal lake environment recorded in the Hartmann's Valley and Karasburg members of the Murray formation, Gale crater, Mars, accepted at *J. Geophys. Res.-Planets*, https://doi.org/10.1029/2022JE007280.
52. WIENS, R.C., et al. Compositionally and Density Stratified Igneous Terrain in Jezero Crater, Mars, accepted at *Science Advances.*
51. BENNETT, K. et al. An Overview of the Curiosity Rover's Campaign in Glen Torridon, Gale Crater, Mars,"*J. Geophys. Res.-Planets*, https://doi.org/10.1029/2022JE007185.
50. WATKINS, J., J.P. Grotzinger, N.T. Stein, S.G. Banham, S. Gupta, D.M. Rubin, **K. Stack Morgan**, K.S. Edgett, J. Frydenvang, K.L. Siebach, M.P. Lamb, D.Y. Sumner, K.W. Lewis, "Burial and exhumation of sedimentary rocks revealed by the base Stimson erosional unconformity, Gale crater, Mars," *J. Geophys. Res.-Planets*., https://doi.org/10.1029/2022JE007293.
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48. D.M. RUBIN, M.A.G. Lapotre, A.W. Stevens, M.P. Lamb, C.M. Fedo, J.P. Grotzinger, S. Gupta, **K.M. Stack**, A.R. Vasavada, S.G. Banham, A.B. Bryk, G. Caravaca, J.R. Christian, L.A. Edgar, M.C. Malin (2022), *J. Geophys. Res.-Planets,* https://doi.org/10.1029/2021JE007162.
47. TARNAS, J., **K. Stack Morgan**, M. Parente, J. Mustard, A. Koeppel, K. Moore, B. Horgan, F. Seelos, E. Cloutis, P.B. Kelemen, D. Flannery, A.J. Brown, K. Frizzell, P.C. Pinet, (2021) "Characteristics, origins, and biosignature preservation potential of carbonate-bearing rocks

within and outside of Jezero crater," *J. Geophys. Res.-Planets,* https://doi.org10.1002/essoar.10506705.1.

46. MANGOLD, N., S. Gupta, O. Gasnault, G. Dromart, J.D. Tarnas, S.F. Sholes, B. Horgan, C. Quantin-Nataf, A.J. Brown, S. Le Mouélic, R.A. Yingst, J.F. Bell, O. Beyssac, T. Bosak, F. Calef III, B.L. Ehlmann, K.A. Farley, J.P. Grotzinger, K. Hickman-Lewis, S. Holm-Alwmark, L.C. Kah, J. Martinez-Frias, S.M. McLennan, S. Maurice, J.I. Nunez, A.M. Olilla, P. Pilleri, J.W. Rice, Jr., M. Rice, J.I. Simon, D.L. Shuster, **K.M. Stack**, V.Z. Sun, A.H. Treiman, B.P. Weiss, R.C. Wiens, A.J. Williams, N.R. Williams, K.H. Williford (2021), "Evidence of a delta-lake system and ancient flood deposits at Jezero crater, Mars from the Perseverance rover," *Science*, https://doi.org/10.1126/science.abl4051.
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44. BANHAM, S.G., S. Gupta, D.M. Rubin, K.S. Edgett, J. Van Beek, J.A. Watkins, M. Day, L.A. Edgar, C. Fedo, R.M. Williams, **K.M. Stack**, A.R. Vasavada (2021), "A Rock Record of Complex Aeolian Bedforms in a Hesperian Desert Landscape: the Stimson Formation as Exposed in the Murray Buttes, Gale Crater, Mars," *JGR-Planets*, https://doi.org/10.1029/2020JE006554.
43. RABINOVITCH, J. and **K.M. Stack** (2021), "Characterizing landing site safety on Venus using Venera panoramas and Magellan radar properties," *Icarus*, https://doi.org/10.1016/j.icarus.2021.114429.
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41. MARTIN, P.E., K.A. Farley, C.A. Malespin, P.R. Mahaffy, K.S. Edgett, S. Gupta, W.E. Dietrich, M.C. Malin, **K.M. Stack**, P.M. Vasconcelos (2020), "Billion-year exposure ages in Gale crater (Mars) indicate Mount Sharp formed before the Amazonian Period," *Earth and Planetary Science Letters*, https://doi.org/10.1016/j.epsl.2020.116667.
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39. FRAEMAN, A.A., L.A. Edgar, E.B. Rampe, L.M. Thompson, J. Frydenvang, C.M. Fedo, J.G. Catalano, W.E. Dietrich, T.S.J. Gabriel, A.R. Vasavada, J.P. Grotzinger, J. L'Haridon, N. Mangold, V.Z. Sun, C.H. House, A.B. Bryk, C. Hardgrove, S. Czarnecki, **K.M. Stack**, R.V. Morris, R.E. Arvidson, S.G. Banham, K.A. Bennett, J.C. Bridges, C.S. Edwards, W.W. Fischer, V.K. Fox, S. Gupta, B.H.N. Horgan, S.R. Jacob, J.R. Johnson, S.S. Johnson, D.M. Rubin, M.R. Salvatore, S.P. Schwenzer, K.L. Siebach, N.T. Stein, S. Turner, D.F. Wellington, R.C. Wiens, A.J. Williams, G. David, G.M. Wong (2020), "Evidence for a Diagenetic Origin of Vera Rubin Ridge, Gale Crater, Mars: Summary and Synthesis of Curiosity's Exploration Campaign," *JGR.-Planets*, https://doi.org/10.1029/2020JE006527.

38. WIENS, R.C., K.S. Edgett, **K.M. Stack**, W.E. Dietrich, A.B. Bryck, N. Mangold, C. Bedford, P. Gasda, A. Fairen, L. Thompson, J. Johnson, O. Gasnault, S. Clegg, A. Cousin, O. Forni, J. Frydenvang, N. Lanza, S. Maurice, H. Newsom, A. Ollila, V. Payre, F. Rivera-Hernandez, A. Vasavada (2020), "Origin and Composition of Three Heterolithic Boulder- and Cobble-Bearing Deposits Overlying the Murray and Stimson Formations, Gale Crater, Mars" *Icarus*, 350, https://doi.org/10.1016/j.icarus.2020.113897.
37. MANGOLD, N., G. Dromart, V. Ansan, F. Salese, G. D'Annunzio, M. Kleinhans, M. Masse, C. Quantin, **K. Stack** (2020), "Fluvial Regimes, Morphometry and Age of Jezero Crater Paleolake Inlet Valleys and their Exobiological Significance for the 2020 Rover Mission Landing Site," *Astrobiology*, 20(8), 994-1013, https://doi.org/10.1089/ast.2019.2132.
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31. RIVERA-HERNÁNDEZ, F., D.Y. Sumner, N. Mangold, **K.M. Stack**, O. Forni, H. Newsom, A. Williams, M. Nachon, J. L'Haridon, O. Gasnault, R. Wiens, S. Maurice (2019), "Using ChemCam LIBS data to constrain grain size in rocks on Mars: Proof of concept and application to rocks at Yellowknife Bay and Pahrump Hills, Gale crater," *Icarus*, 321, 82-98.
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29. WILLIFORD, K.H., K.A. Farley, **K.M. Stack**, A.C. Allwood, D. Beaty, L.W. Beegle, R. Bhartia, A.J. Brown, M. de la Torre Juarez, S.-E. Hamran, M.H. Hecht, J. Hurowitz, J.A. Rodriguez-Manfredi, S. Maurice, S. Milkovich, R.C. Wiens (2018). The NASA Mars 2020 Rover Mission and the Serach for Extraterrestrial Life, *From Habitability to Life on Mars*, eds. N.A. Cabrol and E.A. Grin, Elsevier, p. 370.

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25. EDGAR, L.A., S. Gupta, D.M. Rubin, K.W. Lewis, G.A. Kocurek, R.B. Anderson, J.F. Bell III, G Dromart, KS Edgett, JP Grotzinger, C Hardgrove, LC Kah, R Leveille, MC Malin, N Mangold, R.E. Milliken, M. Minitti, M. Palucis, M. Rice, S.K. Rowland, J. Schieber, **K.M. Stack**, D.Y. Sumner, R.M.E. Williams (2018), Shaler: in situ analysis of a fluvial sedimentary deposit on Mars, *Sedimentology*, *65*(1), 96-122, https://doi.org/10.1111/sed.12370.
24. WIENS, R., D. Rubin, W. Goetz, A Fairen, S. Schwenzer, J. Johnson, B. Clark, N Mangold, R. Milliken, **K. Stack Morgan**, D. Oehler, S. Rowland, M. Chan, D. Vaniman, S Maurice, O. Gasnault, W. Rapin, S. Schroeder, S. Clegg, O. Forni, D. Blaney, A. Cousin, V. Payre, C. Fabre, M. Nachon, S. Le Mouelic, V. Sautter, S. Johnstone, F. Calef, A. Vasavada, J. Grotzinger (2017), Centimeter to Decimeter Hollow Concretions and Voids in Gale Crater Sediments, Mars, *Icarus*, https://doi.org/10.1016/j.icarus.2017.02.003.
23. HUROWITZ, J.A., J.P. Grotzinger, W.W. Fischer, R.E. Milliken, E. Dehouck, A.G. Fairen, J. Fydenvang, R. Gellert, S. Gupta, S.M. McLennan, E.B. Rampe, K. Siebach, **K. Stack Morgan**, N. Stein, D.Y. Sumner, A.R. Vasavada, R.C. Wiens (2017), Redox stratification of an ancient lake in Gale crater, Mars, *Science*, https://doi.org10.1126/science.aah6849.
22. RICE, M.S., S. Gupta, A.H. Treiman, **K.M. Stack**, F. Calef, L.A. Edgar, J. Grotzinger, N. Lanza, L. Le Deit, J. Lasue, K.L. Siebach, A. Vasavada, R.C. Wiens, J. Williams (2017), Geologic Overview of the Mars Science Laboratory Rover Mission at The Kimberley, Gale Crater, Mars, *JGR-Planets,* https://doi.org/10.1002/2016JE005200.
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FIRST-AUTHOR or STUDENT/POST-DOC CONFERENCE PRESENTATIONS
(underlined = student or post-doc under direct supervision of K. Stack Morgan)

2022

STACK, K.M., S. Gupta, G. Caravaca, M. Tebolt, M. Tice, D. Shuster, A. Williams, P. Russell, M. Minitti, K. Farley, "Exploration of the Lower Delta Front Succession in Jezero Crater by the Mars 2020 Perseverance Rover," accepted for oral presentation at GSA Connects 2022

BRETZFELDER, J. A.A. Fraeman, K.M. Stack, M.D. Day, "Ridged Bedrock Terrain in Gale Crater, Mars," accepted for oral presentation at GSA Connects 2022

STACK, K.M., "One Year in Jezero Crater with the Mars 2020 Perseverance Rover," AbSciCon, Atlanta, GA and Hybrid, May 15-20 (Plenary).

SHOLES, S.F., K.M. Stack, L.C. Kah, J.I. Simon, D.L. Shuster, N. Mangold, "Topographic Trends of the Geologic Units in Jezero Crater: Lake Levels, Potential Shorelines, and the Crater Floor Units," LPSC 2022, The Woodlands, TX and Hybrid, March 7-11 (Oral).

M. TEBOLT, T.A. Goudge, K.M. Stack, C.M. Fedo, S. Gwizd, F. Rivera-Hernandez, "Constraining the Paleoenvironment of the Darwin Outcrop in Gale Crater from Facies and Stratigraphic Mapping, " LPSC 2022, The Woodlands, TX and Hybrid, March 7-11 (Poster).

2021

STACK, K.M. and the Mars 2020 Science Team, "Geologic Mapping and the Search for Signs of Ancient Life in Jezero Crater with NASA's Perseverance Rover," The Geological Society of London William Smith Virtual Meeting, 2021, October 19-21 (Invited Keynote).

STACK, K.M., K.A. Farley, K.H. Williford and the Mars 2020 Team, "Early Results from the Mars 2020 Perseverance Rover in Jezero Crater, Mars," GSA Connects 2021, Portland, OR, October 10-13 (Oral).

SHOLES, S., K. Stack Morgan, L. Kah, J.I. Simon, "Bridging the Gap: Evaluating the Past Water Levels at Jezero Crater, Mars through Orbital and In Situ Data," GSA Connects 2021, Portland, OR, October 10-13 (Oral).

TARNAS, J., K.M. Stack, S. Gupta, L.C. Kah, D. Shuster, L. Mandon, C. Quantin, R. Wiens, "Stratigraphy of Séítah: Understanding the Oldest Geologic Unit Exposed in the Jezero Crater Floor," GSA Connects 2021, Portland, OR, October 10-13 (Oral).

KHAN, S.Y., K.M. Stack, R.A. Yingst, "Characterization of Clasts in the Glen Torridon Region Observed by the MSL Curiosity Rover," LPSC 52, The Woodlands, Texas, March 15-19, Abstract #2649 (Oral).

KHAN, S.Y., K.M. Stack, "Geochemistry and Stratigraphic Classification of Sandstones Observed by the MSL Curiosity Rover," LPSC 52, The Woodlands, Texas, March 15-19, Abstract #2630 (Poster).

TARNAS, J.D, M. Parente, K.M. Stack, J.F. Mustard, A.H.D. Koeppel, K.H. Williford, F.P Seelos, E.A. Cloutis, P.B. Keleman, R.E Arvidson, D. Flannery, K.R. Moore, A.J. Brown, K.R. Frizzell "Origin of Carbonate-Bearing rocks in Jezero Crater," LPSC 52, The Woodlands, Texas, March 15-19, Abstract #2251 (Oral).

2020

STACK, K.M. and the Mars 2020 Science Team, "Geologic Map of the Perseverance Landing Site by the Mars 2020 Science Team," 2020 Annual Meeting of Planetary Geologic Mappers, July 23, LPI Contrib. No. 2357, https://www.youtube.com/watch?v=RJL-pta10t8.

STACK, K.M., A. Noblet, V. Sun, N. Mangold, "Relative Ages of Inverted Channel Deposits Within the Western Delta, Jezero Crater, Mars," LPSC 51, The Woodlands, Texas, March 16-20, Abstract #1817 (Poster).

SNEED, J.W. K.Stack, M. Day, A. Fraeman, "Large-scale HiRISE Survey Demonstrates a Genetic Relationship Between Martian Periodic Bedrock Ridges and Transverse Aeolian Ridges," AGU 2020, EP018-0009 (Poster).

KRONYAK, R., K.M. Stack, V.Z. Sun, A. Noblet, "Geomorphology and Relative Ages of Inverted Channel Deposits in Jezero Crater's Western Delta, GSA Abstracts with Program. 52(6), https://doi.10.1130/abs/2020AM-355828.

SNEED, J.W., M.D. Day, K.M. Stack, A.A. Fraeman, "Experimental Hypothesis Testing of the Origins of Periodic Bedrock Ridges," Sixth International Planetary Dunes Workshop, Abstract 3022, https://www.hou.usra.edu/meetings/dunes2020/eposter/3040.pdf.

2019

STACK, K.M. R.E. Arvidson, K.A. Bennett, A.B. Bryk, K.S. Edgett, C. Fedo, V.K. Fox, A. Fraeman, C.H. House, J. Rabinovitch, R.J. Sullivan, J. Van Beek, R.M.E. Williams, "In-situ investigation of periodic bedrock ridges in Glen Torridon area with the MSL Curiosity rover, Gale crater, Mars," AGU Fall Meeting, San Francisco, CA, December 9-13, Abstract P33B-02 (Talk).

STACK, K.M., K.A. Farley, K.H. Williford, and the Mars 2020 Team, "Mars 2020 in Jezero Crater: Seeking Signs of Life in an Ancient Martian Delta," IAS 2019, Rome, Italy, September 10-13, Invited Talk.

STACK, K.M., V.Z. Sun, R.E. Arvidson, C. Fedo, M. Day, K. Bennett, L.A. Edgar, V.K. Fox, S. Cofield, "Origin of linear ridges in the clay-bearing unit of Mount Sharp, Gale crater, Mars," LPSC 50, The Woodlands, Texas, March 18-22, Abstract #1210 (Talk).

2018

STACK, K.M., R.M.E. Williams, J.P. Grotzinger, D.M. Rubin, J. Frydenvang, C.H. Steeger, "Sandstones and conglomerates at the foothills of Mount Sharp: Gale crater, Mars: Facies analysis and stratigraphic implications," LPSC 49, The Woodlands, Texas, March 19-23, Abstract #1712 (Talk).

SUN, V.Z., K. Stack, L.C. Kah, A.J. Williams, L.M. Thompson, R.C. Wiens, S. VanBommel, S.S. Johnson, C.H. House, M. Nachon, W.W. Fischer, R.E. Kronyak, M.E. Minitti, K.L. Siebach, D.Y. Sumner," AGU 2018, Washington, D.C., Dec 10-14, Abstract #403274 (Talk).

SEEGER, C.H., K.M. Stack, J.P. Grotzinger, M.P. Lamb, R.M.E. Williams, "Conglomerates in Context: New Observations of Martian Fluvial Deposits in the Foothills of Mount Sharp, Gale Crater," GSA 2018, Indianapolis, Indiana, Nov 4-8, Paper No. 15-6 (Talk).

SUN, V.Z., K.M. Stack, M. Nachon, S.S. Johnson, R.E. Kronyak, R.C. Wiens, M.E. Minitti, L.C. Kah, "Late-stage diagenetic concretions in the lacustrine Murray formation, Gale crater, Mars" GSA Rocky Mountain/Cordilleran Joint Section Meeting, Flagstaff, AZ, May 15-17, Abstract #313603 (Talk).

SUN, V.Z. and K.M. Stack, "Geomorphic mapping of the basement unit within the Northeast Syrtis Mars 2020 Landing Ellipse," GSA Rocky Mountain/Cordilleran Joint Section Meeting, Flagstaff, AZ, May 15-17, Abstract #313607 (Poster).

SUN, V.Z., K.M. Stack, M. Nachon, S.S. Johnson, R.E. Kronyak, R.C. Wiens, M.E. Minitti, L.C. Kah, "Late-stage diagenesis in the Murray formation, Gale crater, Mars: Evidence from

diverse concretion morphologies," LPSC 49, The Woodlands, Texas, March 19-23, Abstract #1587 (Talk).

SUN, V.Z. and K.M. Stack, "Geomorphic mapping of the basement unit within the Northeast Syrtis Mars 2020 Landing Ellipse," LPSC 49, The Woodlands, Texas, March 19-23, Abstract #2179 (Poster).

COFIELD, S. and K.M. Stack, "Geologic mapping and stratigraphic analysis of a candidate Mars 2020 landing site: Jezero crater, Mars," LPSC 49, The Woodlands, Texas, March 19-23, Abstract #2179 (Poster).

2017

STACK, K.M., L.A. Edgar, K.S. Edgett, C.M. Fedo, J.P. Grotzinger, S. Gupta, C.H. House, J.A. Horowitz, L.C. Kah, E.B. Rampe, D.M. Rubin, J. Schieber, N.T. Stein, D.Y. Sumner, "The Murray Formation of Lower Mount Sharp, Gale Crater, Mars: A Record of an Ancient Evolving Lacustrine System Explored by the MSL Curiosity Rover," International Meeting of Sedimentology, October 10-12, Toulouse France (Invited Talk).

STACK, K.M., S.M. Cofield, A.A. Fraeman, "Geologic Map of the MSL Curiosity Rover Extended Mission Traverse of Aeolis Mons, Gale Crater, Mars," LPSC 48, The Woodlands, Texas, March 20-24, Abstract #1889 (Poster).

STACK, K.M., J. Rabinovitch, M.A. Bullock, "Characterization of Safe Landing Sites on Venus Using Venera Panoramas and Magellan Radar Properties," LPSC 48, The Woodlands, Texas, March 20-24, Abstract #1891 (Poster).

COFIELD S., K.M. Stack, A.A. Fraeman, "Geologic Mapping and Stratigraphic Analysis of the "Clay Trough" of Mount Sharp, Gale Crater, Mars," LPSC 48, The Woodlands, Texas, March 20-24, Abstract #2531 (Talk).

COFIELD S.M., K.M. Stack, "Geologic Mapping and Stratigraphic Analysis of a Candidate Mars 2020 Landing Site: Jezero Crater, Mars," GSA Annual Meeting, Seattle, Washington, October 22-25, Paper No. 319-8 (Talk).

2016

STACK, K.M., J.P. Grotzinger, K.S. Edgett, S. Gupta, L.C. Kah, M.P. Lamb, K.W. Lewis, D.M. Rubin, J. Schieber, D.Y. Sumner, "Facies analysis and stratigraphic context of the Pahrump Hills outcrop, type locality of the basal Murray formation, Gale crater, Mars," 2016 GSA Annual Meeting, Denver, Colorado, September 24-28, Paper #20-9 (Talk).

STACK, K.M., S.M. Cofield, A.A. Fraeman, C.S. Edwards, "Geologic map of the MSL Curiosity rover extended mission traverse of Aeolis Mons, Gale Crater Mars," 2016 GSA Annual Meeting, Denver, Colorado, September 24-28, Paper #80-6 (Poster).

2015

STACK, K.M. and J.P. Grotzinger, "Constraining the Timing and Duration of an Ancient Fluvio-Lacustrine System in Gale Crater Using MSL Curiosity Rover Observations," LPSC 46, The Woodlands, Texas, March 16-20, 2015, Abstract #2012 (Invited Talk).

STACK, K.M., J.P. Grotzinger, S. Gupta, L.C. Kah, K.W. Lewis, M.J. McBride, M.E. Minitti, D.M. Rubin, J. Schieber, D.Y. Sumner, L.M. Thompson, J. Van Beek, A.R. Vasavada, R.A. Yingst, "Sedimentology and Stratigraphy of the Pahrump Hills Outcrop, Lower Mount Sharp, Gale Crater, Mars," LPSC 46, The Woodlands, Texas, March 16-20, 2015, Abstract #1994 (Talk).

2014

STACK, K.M., J.P. Grotzinger, D.Y. Sumner, F. Calef, L. Edgar, S. Gupta, K. Lewis, M. Rice, D. Rubin, R.M.E. Williams, "Synthesizing MSL Curiosity Rover Observations and Orbital Geologic Mapping to Build a Regional Stratigraphy for Aeolis Palus, Gale Crater," 126th Annual Meeting of the Geological Society of America, Vancouver, British Columbia, October 19-22, 2014, Paper #202-4 (Talk).

STACK, K.M., J.P. Grotzinger, R.E. Milliken, R.N. Farley, "Global Distribution of Stratified Deposits on Mars," Eighth International Conference on Mars, Pasadena, California, July 14-18, 2014, Abstract #1192 (Talk).

2013

STACK, K.M. and the MSL Science Team, "An Overview of Past Depositional Environments Explored by the Curiosity Rover at Bradbury Landing and Yellowknife Bay, Gale crater, Mars," 125th Annual Meeting of the Geological Society of America, Denver, Colorado, October 27-31, 2013, Paper #6-4 (Invited Talk).

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