Kathryn M. Stack Morgan

Curriculum Vitae
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Jet Propulsion Laboratory
Mail Stop: 264-850
Pasadena, CA 91109 USA

kathryn.m.stack@jpl.nasa.gov
Cell Phone: +1 626-372-3784
Office Phone: +1 818-354-6169

EDUCATION

Ph.D., 2015, California Institute of Technology, Division of Geological and Planetary Sciences, Geology, "Reconstructing Past Depositional and Diagenetic Processes through Quantitative Stratigraphic Analysis of the Martian Sedimentary Rock Record," (advisor, J. Grotzinger)
M.Sc. 2011, California Institute of Technology, Division of Geological and Planetary Sciences, Geology (advisor, J. Grotzinger)
B.A. cum laude, 2008, Williams College (advisor: R.A. Wobus)
Majors: Geosciences (with honors), Astronomy

Additional Training:
2023 USGS Bystander Training
2023 JPL Leadership Mentoring Program
2022 Practicing Allyship: A Culture of Inclusion
2021 JPL Mid-Level Leaders Workshop
2019 Hollaback Bystander Intervention Training
2019 JPL Technical Women's Leadership Journey Program
2019 JPL Ascend Leadership Program
2017 JPL Innovation Foundry Scientist Mission Interface Workshop 3
2015 JPL Mentoring in Action Program
2012 GSA/ExxonMobil Big Horn Basin Field Course, Cody, WY
2010 Agouron Institute Advanced Geobiology Field Course, Southern Spain
2010 Caltech Carbonate Sedimentology Short Course
2008 University of Houston-Yellowstone Bighorn Research Association Geology Field Camp, Red Lodge, MT

PROFESSIONAL EXPERIENCE

2025-present Acting Project Scientist, Mars 2020 Rover Mission
2017-present Deputy Project Scientist, Mars 2020 Rover Mission
2022-present Collaborator, Science Office, Mars Science Laboratory
2016-2022 Participating Scientist, Mars Science Laboratory
2014-present Research Scientist, Jet Propulsion Laboratory, California Institute of Technology, Geophysics and Planetary Geosciences Group
2012-2015 Collaborator, Science Office, Mars Science Laboratory

AWARDS AND HONORS

2024 Induction into the Cheshire High School Alumni Hall of Fame, Cheshire, CT
2023 NASA Group Achievement Award, Mars 2020 Pre-landing Strategic Science Group
2023 NASA Group Achievement Award, Mars 2020 Science Team
2022 JPL Explorer Award
2021 NASA Early Career Public Achievement Medal
2021 The JPL Edward Stone Award for Outstanding Research Publication
2021 NASA Group Achievement Award, Mars 2020 ROASTT Team
2021 NASA Group Achievement Award, Mars 2020 Science Operations Development Team
2021 Mars 2020 Project Voyager Award
2020 Mars 2020 Project Voyager Award
2019 Mars 2020 Project Voyager Award
2018 Mars 2020 Project Voyager Award
2018 NASA Software of the Year Award, JPL OnSight Team Collaborator
2017 NASA Group Achievement Award, MSL Extended Mission-1 Science and Operations Team
2016 Mars Exploration Directorate Team Award
2015 NASA Group Achievement Award, MSL Prime Mission Science and Operations Team
2015 Mars Science Laboratory JPL Voyager Award
2013 Forbes 30 Under 30 in Science and Healthcare
2013 NASA Group Achievement Award, MSL Science Office Development and Operations Team
2012 Caltech Division of Geological and Planetary Sciences Jahns Teaching Prize
2012 GSA/ExxonMobil Bighorn Basin Field Award
2008 Mineralogical Society of America's American Mineralogist Undergraduate Award
2008 Williams College Freeman Foote Prize in Geology

GRANTS AND FELLOWSHIPS

2024-2025 **Co-I**, NASA Mars Exploration Program Technology, "Advanced Biotechnology Metagenomics Technology for Mars Exploration" (PI: Moogega Cooper, JPL; Science PI: Lisa Guan, JPL)
2024-2027 **PI**, NASA ROSES 2023 MDAP, "Revealing the Geologic History of Amazonis Planitia" (Science PI: Joana Voigt, JPL)
2023-2026 **Collaborator**, NASA ROSES 2022 MDAP, "Investigating the Origins of the Vastitas Borealis Formation of Mars" (PI: Steven Sholes, JPL)
2022-2025 **PI**, NASA ROSES 2021 MDAP, "A Global Map of Serpentine on Mars"
2021-2024 **Co-I (JPL Lead)**, NASA ROSES 2020 Planetary Science and Technology from Analog Research, "RAVEN-Rover-Aerial Vehicle Exploration Network" (PI: Christopher Hamilton, ASU)
2020-2022 **PI**, Strategic University Research Partnership, JPL, "Aeolian processes on Mars: hypothesis testing with experiments and remote sensing"

2019-2021 **PI**, NASA ROSES 2018 Planetary Data Archiving, Restoration, and Tools, "Preparing a USGS Geologic Map of the Northeast Syrtis and Jezero Regions" (Science PI: Vivian Sun, JPL)

2018-2021 **PI**, NASA ROSES 2017 Mars Data Analysis Program, "Assessing the Formation Environments of Hydrated Silica on Mars" (Science PI: Vivian Sun, JPL)

2016-2021 **PI**, NASA ROSES 2015 MSL Participating Scientist Program, "Orbital and In Situ Stratigraphic Analysis of Lower Mount Sharp, Gale Crater"

2018-2020 **Co-I**, Strategic Initiative Proposal for the Research and Technology Development Fund, JPL, "MAARS: Machine learning-based Analytics for Autonomous Rover Systems" (PI: Hiro Ono)

2017-2019 **Co-I**, NASA ROSES 2016 Mars Data Analysis Program, "Understanding the Geologic Setting and Depositional Environments of Sedimentary Iron Oxide Deposits On Mars" (PI: Abigail Fraeman, JPL)

2017-2019 **Co-I**, NASA Innovative Advanced Concepts (NIAC) II, "Automaton Rover for Extreme Environments" (PI: Jonathan Sauder, JPL)

2015-2018 **PI**, Strategic Initiative Proposal for the Research and Technology Development Fund, JPL, "Correlating Ancient Sedimentary Environments in the Rock Record of Early Mars"

2011 ExxonMobil Geoscience Grant

2010 Mars Exploration Program Student Travel Grant

2007 NSF-REU Keck Geology Consortium Fellowship

2006 NSF-REU Keck Northeast Astronomy Consortium Fellowship

PEER REVIEWED PUBLICATIONS

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

In Review, Revision, or Submitted

98. MURPHY, A.E., et al., "Spatially resolved complex organic matter detected in an ancient river valley in Jezero crater, Mars," submitted to *PNAS*.
97. VOIGT, J.R.C., C.W. Hamilton, L.P. Kesthelyi, M. Varnam, S.M. Hibbard, and K.M. Stack, "The 2014-2015 Holuhraun Lava Flow-Field in Iceland as a Planetary Analog for Young Volcanic Terrains in Elysium Planitia, Mars," in review at *The Planetary Science Journal.*
96. IVES, L.R.W., K.M. Stack, et al., "Sedimentology and stratigraphy of the fluvial-deltaic Skrinkle Have member, Tenby formation, Jezero crater, Mars," submitted to *Sedimentology.*
95. EMRAN, A. and K. Stack, "Understanding Composition Evolution of Hollows at Dominic Crater, Mercury," submitted to *Icarus*.
94. HUROWITZ, J. et al., "Detection of a Potential Biosignature by the Perseverance Rover on Mars," submitted to *Nature*.
93. WILLIFORD, K., K. Farley, B. Horgan, B. Garczynski, A. Treiman, S. Gupta, A. Jones, S. Siljestrom, E. Cardarelli, E. Clavé, L.E. Mayhew, J. Osterhout, E. Ravanis, K. Stack, et al., "Carbonated ultramafic rocks in Jezero crater, Mars," submitted to *Science*.
92. KATHIR, B.S., et al., "Multispectral Observations of Float Rocks Used to Investigate the Origin of Boulders on the. Western Jezero Fan Front, Mars," in review at *JGR-Planets*.
91. TEBOLT, M. et al., "Characterizing the Facies and Stratigraphy of the Enchanted Lake area in Jezero Crater, Mars," in revision at *JGR-Planets.*

Accepted and Published

90. **STACK, K.M.**, L.R.W. Ives, S. Gupta, M.P. Lamb, M. Tebolt, G. Caravaca, J.P. Grotzinger, P. Russell, D.L. Shuster, A.J. Williams, H. Amundsen, S. Alwmark, A.M. Annex, R. Barnes, J. Bell III, O. Beyssac, T. Bosak, L.S. Crumpler, E. Dehouck, S.J. Gwizd, K. Hickman-Lewis, B.H.N. Horgan, J. Hurowitz, H. Kalucha, O. Kanine, C. Lesh, J. Maki, N. Mangold, N. Randazzo, C. Seeger, R.M.E. Williams, A. Brown, E. Cardarelli, H. Dypvik, D. Flannery, J. Frydenvang, S.-E. Hamran, J.I. Nunez, D. Paige, J.I. Simon, M. Tice, C. Tate, R.C. Wiens (2024). "Sedimentology and Stratigraphy of the Shenandoah Formation, Western Fan, Jezero Crater, Mars," *J. Geophys. Res.-Planets,* https://doi.org/10.1029/2023JE008187.
89. **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*, https://doi.org/10.1029/2021JE007096.
88. **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.
87. **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.
86. **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.
85. **STACK, K.M.** and R.E. Milliken (2015), Reflectance spectroscopy of clay-sulfate Mixtures and implications for quantifying hydrated minerals on Mars, *Icarus*, https://doi.org/10.1016/j.icarus.2014.12.009.
84. **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.org/10.1002/2014JE004617.
83. **STACK, K.M.**, J.P. Grotzinger, R.E. Milliken (2013), Bed Thickness Distributions on Mars: An Orbital Perspective, *J. Geophys. Res.-Planets.*, https://doi.org/10.1002/jgre.20092.
82. Hollocher, K., H.M. Forgeng, **K.M. Stack**, E. Morgan, A. Denny, E.A. Lott (2025), Origin of big garnet amphibolites at Gore Mountain and other localities, Adirondack Mountains, New York State, USA: Whole-rock geochemical constraints, *Geosphere*, https://doi.org/10.1130/GES02812.1.
81. BRYK, A., W.E. Dietrich, K.A. Bennett, V.K. Fox, C.M. Fedo, M.P. Lamb, E.S. Kite, L.M. Thompson, S.G. Banham, J. Schieber, J.A. Grant, A.R. Vasavada, A.A. Fraeman, L.A. Edgar, P.J. Gasda, R.C. Wiens, J.P. Grotzinger, **K. Stack-Morgan**, R.E. Arvidson, O.

Gasnault, S. Le Mouélic, S. Gupta, R.M.E. Williams, R.Y. Sheppard, K.W. Lewis, D.M. Rubin, W. Rapin, M.N. Hughes, M. Turner, S.A. Wilson, J.M. Davis, R.E. Kronyak, L. Le Deit, L.C. Kah, J. Frydenvang, R.J. Sullivan, C.C. Bedford, E. Dehouck, H.E. Newsom, M.C. Malin, "Pediment formation and subsequent erosion in Gale crater: Clues to the climate history of Mars," *Icarus*, https://doi.org/10.1016/j.icarus.2024.116445.

80. EMRAN, A., J. Tarnas, **K.M. Stack,** "Global Distribution of Serpentine on Mars," *Geophysical Research Letters*, https://doi.org/10.1029/2024GL110630.
79. ROYER, C., C.C. Bedford, J.R. Johnson, B.H.N. Horgan, A. Broz, O. Forni, S. Connell, R.C. Wiens, L. Mandon, B.S. Kathir, E.M. Hausrath, A. Udry, J.M. Madariaga, E. Dehouck, R.B. Anderson, P. Beck, O. Beyssac, É. Clavé, S.M. Clegg, E. Cloutis, T. Fouchet, T.S.J. Gabriel, B.J. Garczynski, A. Klidaras, H.T. Manelski, L. Mayhew, J. Núñez, A.M. Olilla, S. Schröder, J.I. Simon, U. Wolf, **K.M. Stack**, A. Cousin, S. Mauric (2024), "Intense alteration on early Mars revealed by high-aluminum rocks at Jezero crater," *Commun Earth Environ,* https://doi.org/10.1038/s43247-024-01837-2.
78. BROZ, A.P., B. Horgan, H. Kalucha, J.R. Johnson, C. Royer, E. Dehouck, L. Mandon, E.L. Cardarelli, B. Garczynski, J.H. Haber, K. Benison, E. Ives, **K.M. Stack**, N. Mangold, T. Bosak, J.I. Simon, P. Gasda, E. Clavé, B.S. Kathir, M. Zawaski, R. Barnes, S. Siljeström, N. Randazzo, J.M. Madariaga, K. Farley, J. Maki, L. Kah, W. Rapin, L. Kivrak, A.J. Williams, E. Hausrath, J. I. Nuñez, F. Gómez, A. Steele, T. Fouchet, J.F. Bell, III, R.C. Wiens (2024), "Diagenetic history and biosignature preservation potential of fine-grained rocks at Hogwallow Flats, Jezero crater, Mars," *J. Geophys. Res.-Planets*, https://doi.org/10.1029/2024JE008520.
77. HERD, C., T. Bosak, E.M. Hausrath, K. Hickman-Lewis, L.E. Mayhew, D.L. Shuster, S. Siljeström, J.I. Simon, B.P. Weiss, M. Wadhwa, M.-P. Zorzano, J.N. Maki, K.A. Farley, **K.M. Stack** (2024), "Sampling Mars: Geologic Context and Preliminary Characterization of Samples Collected by the NASA Mars 2020 Perseverance Rover Mission," *PNAS*, https://doi.org/10.1073/pnas.2404255121.
76. CARR, B.B., M. Varnam, N. Hadland, J. Shah, J.R.C. Voigt, S. Gwizd, **K.M. Stack**, F. Calef, R. Francis, U. Basu, B. Björnsson, C.X. Chen, E. Dong, J.E. Moersch, M. Phillips, J. Springer, C.D. Neish, C.W. Hamilton (2024), "Evaluating the Use of Unoccupied Aircraft Systems (UASs) for Planetary Exploration in Mars Analog Terrain," *The Planetary Science Journal,* https://doi.org/10.3847/PSJ/ad781e.
75. VOIGT, J., V. Sun, **K.M. Stack**, C. Viviano-Beck (2024), "Investigating Hydrated Silica in Syrtis Major: Implications for the Intensity of Water-Rock Interaction," *Geophysical Research Letters*, https://doi.org/10.1029/2024GL108610.
74. MEYER, M., R. Milliken, **K. Stack**, L. Edgar, E. Rampe, M. Turner, K. Lewis, E. Kite, G. Caravaca, A. Vasavada, W. Dietrich, A. Bryk, O. Gasnault, S. Le Mouélic, C. Steeger, R. Sheppard (2025), "Geological context and significance of the clay-sulfate transition region in Mount Sharp, Gale Crater, Mars: An integrated assessment based on orbiter and rover data," *Geologic Society of America Bulletin*, https://doi.org/10.1130/B37355.1.
73. BOSAK, T., D.L. Shuster, E.L. Scheller, S. Siljeström, M.J. Zawaski, L. Mandon, J.I. Simon, B.P. Weiss, **K.M. Stack**, E.N. Mansbach, A.H. Treiman, K.C. Benison, A.J. Brown, A.D. Czaja, K.A. Farley, E.M. Hausrath, K. Hickman-Lewis, C.D.K. Herd, J.R. Johnson, L.E. Mayhew, M.E. Minitti, K.H. Williford, B.V. Wogsland, M.-P. Zorzano, A.C. Allwood, H.E.F. Amundsen, J.F. Bell III, K. Benzerara, S. Bernard, O. Beyssac, D.K. Buckner, M. Cable, F. Calef III, G. Caravaca, D.C. Catling, E. Clavé, E. Cloutis, B.A. Cohen, A. Cousin,

E. Dehouck, A.G. Fairén, D.T. Flannery, T. Fornaro, O. Forni, T. Fouchet, E. Gibbons, F. Gomez Gomez, S. Gupta, K.P. Hand, J.A. Hurowitz, H. Kalucha, D.A.K. Pedersen, G. Lopes-Reyes, J.N. Maki, S. Maurice, J.I. Nuñez, N. Randazzo, J.W. Rice, Jr., C. Royer, M.A. Sephton, S. Sharma, A. Steele, C.D. Tate, K. Uckert, A. Udry, R.C. Wiens, A. Williams (2024), "Astrobiological potential of rocks acquired by the Perseverance rover at a sedimentary fan front in Jezero crater, Mars," *AGU Advances*, https://doi.org/10.1029/2024AV001241.

72. GWIZD, S.J., **K.M. Stack**, R. Francis, F. Calef, B.B. Carr, C. Langley, J. Graff, Þ. Hanning Kristinsson, V. Páll Thorarensen, E. Bernharðsson, M. Phillips, M. Varnam, N. Hadland, J. Shah, J. Moersch, U. Basu, J.R.C. Voigt, C.W. Hamilton (2024), "Comparing rover and helicopter mission architectures in a Mars analog setting in Iceland," *The Planetary Science Journal*, https://doi.org/10.3847/PSJ/ad55f4.
71. CARAVACA, G., G. Dromart, N. Mangold, S. Gupta, L. Kah, C. Tate, R. Williams, S. Le Mouélic, O. Gasnault, J.F. Bell, O. Beyssac, J. Nunez, N. Randazzo, J.W. Rice, L. Crumpler, A. Williams, P. Russell, **K. Stack**, K. Farley, S. Maurice, R. Wiens (2024) "Depositional Facies and Sequence Stratigraphy of Kodiak butte, western Delta of Jezero crater, Mars," *J. Geophys. Res.-Planets*, https://doi.org/10.1029/2023JE008205.
70. MANGOLD, N., G. Caravaca, S. Gupta, R. Williams, G. Dromart, O. Gasnault, S. Le Mouélic, G. Paar, J.F. Bell, III, O. Beyssac, N. Carlot, A. Cousin, E. Dehouck, B.H.N. Horgan, L.C. Kah, J. Lasue, S. Maurice, J. Nunez, D. Shuster, **K. Stack**, B.P. Weiss, R.C. Wiens (2024). "Architecture of fluvial and deltaic deposits exposed along the eastern edge of Jezero crater western fan," *J. Geophys. Res.-Planets,* https://doi.org/10.22541/essoar.170067082.23349203/v1.
69. WEISS, B. E.N. Mansbach, J.L. Carsten, K.W. Kaplan, J.N. Maki, R.C. Wiens, T. Bosak, C.L. Collins, J. Fentress, J.M. Feinburg, Y. Goreva, M. Kennedy Wu, T.A Estlin, D.E. Klein, R.E. Kronyak, R.C. Moeller, M. Peper, A. Reyes-Newell, M.A. Sephton, D.L. Shuster, J.I. Simon, K.H. Williford, **K.M. Stack**, K.A. Farley (2024). "Oriented Bedrock Samples Drilled by the Perseverance Rover on Mars," *Earth and Space Science*, https://doi.org/10.1029/2023EA003322.
68. GWIZD, S., C. Fedo, J. Grotzinger, S. Banham, F. Rivera-Hernández, S. Gupta, **K.M. Stack**, L.A. Edgar, A.R. Vasavada, J. Davis, L.C. Kah (2024) "Evolution of a Lake Margin Recorded in the Sutton Island Member of the Murray formation, Gale Crater, Mars," *J. Geophys. Res.-Planets,* https://doi.org/10.1029/2023JE007919.
67. BRETZFELDER, J.M., **K.M. Stack**, A.A. Fraeman, M. Day, W.E. Dietrich, A.B. Bryk (2023), "Aeolian Bedrock Ridges in Gale Crater, Mars," *Icarus,* https://doi.org/10.1016/j.icarus.2023.11585.
66. RABINOVITCH, J., S.A. Santana, C.D. Karlgaard, E.T. Jens, **K.M. Stack**, D.M. Turner, W.A. Chambers, M. Mehta, A.M. Korzun (2023) "Observed High-Altitude Surface Erosion During the MSL and Mars 2020 Landings," *J. of Spacecraft and Rockets,* https://doi.org/10.2514/1.A35748.
65. HORGAN, B., A. Udry, M. Rice, S. Alwmark, H.E.F. Amundsen, J.F. Bell, L. Crumpler, B. Garzynski, J. Johnson, K. Kinch, L. Mandon, M. Merusi, C. Million, J. Nunez, P. Russell, J.I. Simon, M. St. Clair, **K.M. Stack**, A. Vaughan, B. Wogsland, A. Annex, A. Bechtold, T. Berger, O. Beyssac, A. Brown, E. Cloutis, B.A. Cohen, S. Fagents, L. Kah, K. Farley, D. Flannery, S. Gupta, S.-E. Hamran, Y. Liu, G. Paar, C. Quantin-Nataf, N. Randazzo, E. Ravanis, S. Sholes, D. Shuster, V. Sun, C. Tate, N. Tosca, M. Wadhwa, R.C. Wiens (2023),

Mineralogy, morphology, and emplacement history of the Maaz formation on the Jezero crater floor from orbital and rover observations, *J. Geophys. Res.-Planets.*, https://doi.org/10.1029/2022JE007612.

64. QUANTIN-NATAF, C., S. Alwmark, F.J. Calef, J. Lasue, K. Kinch, **K.M. Stack**, V. Sun, N.R. Williams, E. Dehouck, L. Mandon, N. Mangold, O. Beyssac, E. Clave, S.H.G. Walter, J.I. Simon, A.M. Annex, B. Horgan, J.W. Rice, Jr., D. Shuster, B. Cohen, L. Kah, S. Sholes, B.P. Weiss (2023), The Complex Exhumation History of Jezero Crater Floor Unit and its implication for Mars Sample Return, *J. Geophys. Res.-Planets*, https://doi.org/10.1029/2022JE007628.
63. SUN, V., K.P. Hand, **K.M. Stack**, K.A. Farley, J.I. Simon, C. Newman, S. Sharma, Y. Liu, R.C. Wiens, A.J. Williams, N. Tosca, S. Alwmark, O. Beyssac, A. Brown, F. Calef, E.L. Cardarelli, E. Clavé, B. Cohen, A. Corpolongo, A.D. Czaja, T. Del Sesto, A. Fairen, T. Fornaro, T. Fouchet, B. Carzynsky, S. Gupta, C.D.K. Herd, K. Hickman-Lewis, B. Horgan, J. Johnson, K. Kinch, T. Kizovski, R. Kronyak, R. Lange, L. Mandon, S. Milkovich, R. Moeller, J. Nunez, G. Paar, G. Pyrzak, C. Quantain-Nataf, D.L. Shuster, S. Siljestrom, A. Steele, M. Tice, O. Toupet, A. Udry, A. Vaughan, B. Wogsland (2023), Overview and Results from the Mars 2020 Perseverance Rover's First Science Campaign on the Jezero Crater Floor, *J. Geophys. Res.-Planets,* https://10.1029/2022JE007613.
62. SHARMA, S., R.D. Roppel, A.E. Murphy, L.W. Beegle, R. Bhartia, A. Steele, J. Razzell Hollis, S. Siljestrom, F.M. McCubbin, S.A. Asher, W.J. Abbey, A.C. Allwood, E.L. Berger, B.L. Bleefeld, A.S. Burton, S.V. Bykov, E.L. Cardarelli, P.G. Conrad, A. Corpolongo, A.D. Czaja, L.P. DeFlores, K. Edgett, K.A. Farley, T. Fornaro, A.C. Fox, M.D. Fries, D. Harker, K. Hickman-Lewis, J. Huggett, S. Imbeah, R.S. Jakubek, L.C. Kah, C. Lee, Y. Liu, A. Magee, M. Minitti, K.R. Moore, A. Pascuzzo, C. Rodriguez Sanchez-Vahamonde, E.L. Scheller, S. Shkolyar, **K.M. Stack**, K. Steadman, M. Tuite, K. Uckert, A. Werynski, R.C. Wiens, A.J. Williams, K. Winchell, M.R. Kennedy, A. Yanchilina (2023), Diverse organic mineral-associations in Jezero crater, Mars, *Nature*, https://doi.org/10.1038/s41586-023-06143-z.
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FIRST-AUTHOR or STUDENT/POST-DOC CONFERENCE PRESENTATIONS
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2025

Gwizd, S., et al., "Orbital Perspectives on the Witch Hazel Hill Region of the Jezero Crater Rim: Evidence for Structural Deformation of Possible Noachian Basement Material," LPSC 2025, March 10-14, Abstract #1760.

Sharmili, N., et al., "Exploring the Depositional and Erosional Morphology of Jezero Crater's Western Fan Using Coupled Numerical Models of Sediment Deposition and Erosion, LPSC 2025, March 10-14, Abstract #1193.

Emran, A. et al., "A Survey of Diagenetic and Low-Grade Metamorphic Minerals in Craters on Mars," LPSC 2025, March 10-14, Abstract #2818.

2024

STACK, K. and the Mars 2020 Science Team, "The Mars 2020 Perseverance rover's exploration of the sedimentary rock record in Jezero crater, Mars," SEPM International Sedimentary Geosciences Congress, Flagstaff, AZ, May 5-8, Abstract #33.

IVES, L. et al., "Reassessing the sedimentary depositional origin of the Jezero crater western fan's curvilinear unit," SEPM International Sedimentary Geosciences Congress, Flagstaff, AZ, May 5-8, Abstract #91.

GWIZD, S. et al., "Depositional history of the blocky unit at Jezero crater, Mars," SEPM International Sedimentary Geosciences Congress, Flagstaff, AZ, May 5-8, Abstract #41.

EMRAN, A., A. Flatland, J.D. Tarnas, K. Stack, "Where and How Does Serpentine Form on Mars?" LPSC 2024, The Woodlands, TX and Hybrid, March 11-15, Abstract #1224 (Oral)

EMRAN, A. and K.M. Stack, "Compositional Evolution of Hollows at Dominici Crater on Mercury," LPSC 2024, The Woodlands, TX and Hybrid, March 11-15, Abstract #1216 (Poster)

VOIGT, J.R.C., V.Z. Sun, and K.M. Stack, "The Formation Environments of Hydrated Silica in Syrtis Major, Mars," LPSC 2024, The Woodlands, TX and Hybrid, March 11-15, Abstract #1558.

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STACK, K.M., "One Year in Jezero Crater with the Mars 2020 Perseverance Rover," AbSciCon, Atlanta, GA and Hybrid, May 15-20 (Plenary), https://www.youtube.com/watch?v=W9yzus_KELM.

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).

STACK, K.M., J. Grotzinger, L. Kah, D. Sumner, L. Edgar, M. Rice, D. Oehler, A. Fairen, K. Siebach, and the MSL Science Team, "The distribution and origin of nodules and minibowls within the Sheepbed member: Implications for early diagenesis in Yellowknife Bay, Gale Crater, Mars," 125th Annual Meeting of the Geological Society of America, Denver, Colorado, October 27-31, 2013, Abstract #227794 (Poster).

STACK, K.M., J.P. Grotzinger, J.L. Griffes, R.N. Farley, "Global Distribution of Layered Deposits on Mars," STRATI 2013: 1st International Congress on Stratigraphy, Lisbon, Portugal, July 1-7, 2013, Abstract #180 (Talk).

STACK, K.M., J.P. Grotzinger, D.Y. Sumner, B.L. Ehlmann, R.E. Milliken, J.L. Eigenbrode, S. Gupta, R.M.E. Williams, L.C. Kah, K.W. Lewis, and the MSL Team, "Using outcrop exposures on the road to Yellowknife Bay to build a stratigraphic column, Gale Crater, Mars." LPSC 44, The Woodlands, Texas, March 18-22, 2013, Abstract #1431 (Talk)

2011

STACK, K.M. and R.E. Milliken. "Reflectance Spectroscopy of Clay-Sulfate Mixtures: Implications for quantifying hydrated minerals and determining depositional environments on Mars." LPSC 42, The Woodlands, Texas, March 7-11, 2011, Abstract #2024 (Poster)

STACK, K.M. and J.P. Grotzinger, "Beds, bed thickness, and bed thickness distributions on Mars: An orbital perspective. HiRISE Team Meeting, Flagstaff, Arizona, August 16-18, 2011 (Talk)

2010

STACK, K.M., J.P. Grotzinger, R.E. Milliken. "Statistical analysis of bed thickness distributions in layered deposits on Mars." First International Conference on Mars Sedimentology and Stratigraphy, El Paso, Texas, April 19-21, 2010, Abstract #6013 (Poster)

STACK, K.M., M. Lamb, R.E. Milliken, S. Leprince, J.P. Grotzinger, "Movement and grain size distribution of Bahamian sand shoals from remote sensing." KISS Workshop- Monitoring Earth Surface Changes from Space II, March 29-31, 2010 (Talk)

INVITED LECTURES AND PANELS

2024 Presenter, International Mars Relay Coordination Working Group, JPL, "Mars 2020 Science Update: Perseverance Explores the Inner Margin of Jezero Crater," 10/15
2024 Presenter, International Mars Relay Coordination Working Group, JPL, "Mars 2020 Science Update: Perseverance's Exploration on and around the Jezero Western Fan," 1/18
2023 Invited Speaker, Mars Science Lunch and Learn seminar, Goddard Spaceflight Center, 11/29
2023 Invited Speaker, JPL Mars Forum, "Mars 2020 Mission Update: Perseverance's Exploration of the Jezero Western Fan," 7/20
2023 Invited Speaker, Smithsonian Associates in partnership with George Mason University Observatory, "Mars, Voted Most Likely, A Grand Tour of the Solar System," 8/29
2023 Invited Speaker, Mineralogical Society of Southern California, 6/8
2023 Invited Speaker, Riverside Astronomical Society, 5/6
2023 Presenter, "Mars 2020 Perseverance Rover Status," MEPAG Hybrid Meeting #40, 4/11
2022 Invited Speaker, Van Tuyl Lecture Series, Colorado School of Mines, 10/13
2022 Invited Speaker, Thomas A. Mutch Lecture, Department of Earth Environmental and Planetary Sciences, Brown University, 9/22
2022 Invited Speaker, Middlebury College Geology Department Seminar, 4/15
2022 Invited Speaker, The Planetary Society, Day of Action, 3/8
2022 JPL Von Karman Lecture, 2/17, "Roving with Perseverance: Findings from One Year on Mars" https://www.youtube.com/watch?v=-IAcwLYYFGk.
2021 Invited Speaker, Caltech Division of Geological and Planetary Sciences Chair's Counsel, 11/17
2021 Invited Speaker, UC-Berkeley Earth and Planetary Science Department Seminar, 11/4
2021 Invited Speaker, Kansas Geological Society, 11/3
2021 Invited Plenary, 2021 Mars Society Virtual Convention, 10/15, https://www.youtube.com/watch?v=1pnaLETPWC4
2021 Georgia Tech Astrobiology Fall Distinguished Speaker Series, 9/10
2021 Invited Speaker, Inaugural Annual Meeting of the SEPM Planetary Research Group, 6/24
2021 Invited Speaker, California State University- Northridge Association of Retired Faculty, 3/10.
2021 Invited Speaker, National Academies of Science, Engineering, and Medicine- Space Studies Board, 2/17.
2021 Invited Speaker, Seattle Astronomical Society, 1/21, https://us02web.zoom.us/rec/share/fKzU3PJyqdk30cA2U8usfXTm5JEX8mSbeuU8VhyjUbo_vlFWfn4ng7sVq7NO1B-m.77xmR7kzjqtxnLEj, Passcode: ?e0P2aUj.
2020 Invited Speaker, Kansas Geological Survey, 12/16.
2020 Plenary Speaker, Radiological Sciences Laboratory Annual Retreat, Stanford University, 9/18.
2020 Invited Speaker, Keck Institute for Space Studies, California Institute of Technology, 9/29, https://www.kiss.caltech.edu/lectures/2020_Perseverance.html
2020 Panelist, Explore Mars Virtual Seminar, "Perseverance: Preparing for Launch," 4/23
2020 Invited Speaker, Planetary Science Seminar, Department of Earth, Planetary, and Space Sciences, UCLA, Los Angeles, CA, 1/24.
2018 Invited Speaker, Current Research in Earth, Environmental, and Planetary Sciences, Rice University, Houston, TX, 8/30.

2018 Judd H. and Cynthia S. Oualline Centennial Lecturer in Geological Sciences, Jackson School of Geosciences, University of Texas Austin, Austin, TX, 2/22.
2018 University of Texas Institute for Geophysics (UTIG) Brown Bag Seminar Series, Jackson School of Geosciences, University of Texas Austin, Austin, TX, 2/21.
2016 Mars Forum, Jet Propulsion Laboratory
2015 NASA Young Professional Science and Engineering Web Talk Series
2015 Keynote Speaker, Next Generation Flight Computing Workshop, Sandia National Labs
2015 Keynote Speaker, Chevron Decision Review Board Annual Meeting, JPL
2014 Keynote Speaker, Chevron Fellows Workshop, Pasadena, CA
2014 Keynote Speaker, Chevron Reservoir Management Forum, Chevron Corporation, Bakersfield, CA

PROFESSIONAL SERVICE

2025	LPSC special session co-convener
2024	AGU Fall Meeting lead session convener
2023	AGU Fall Meeting lead session convener
2022	LPSC Program Committee member and session co-convener
2021	LPSC Program Committee member and session convener; GSA session co-convener; AGU session co-convener
2019	Mars 9 Program Committee member
2015-present	Review Panel Member for NASA Mars Data Analysis Program; External Reviewer for NASA Mars Data Analysis Program, Planetary Data Archiving, Restoration, and Tools, Lunar Data Analysis Program
2014-present	Reviewer for Nature Geosciences, Journal of Geophysical Research, Earth and Planetary Science Letters, Icarus, Geophysical Research Letters, Marine Geology, Geologos, Planetary and Space Science, Nature Communications
2015	Session convener, GSA

UNIVERSITY AND JPL COMMITTEES

2023	JPL Hiring Committee, Planetary Science
2017	JPL Hiring Committee, Planetary Science: Mars
2013-2014	Cabinet member, Caltech Identity Project

ADVISING

Postdoctoral Scholars:

2023-present	Samantha Gwizd (Ph.D. University of Tennessee-Knoxville ‘23)
2023-present	Al Emran (Ph.D. University of Arkansas ‘22)
2022-present	Joana Voigt, co-advised with Vivian Sun (Ph.D. University of Arizona, ‘22)
2022-2024	Libby Ives (Ph.D. University of Wisconsin-Milwaukee ’21, now a Geologist at the Michigan Geological Survey)

2022-2023 Emily Cardarelli (Ph.D. Stanford, ‘21, now an Assistant Researcher at UCLA)
2021-2022 Steven Sholes (Ph.D. University of Washington, ‘19, now a Science Operations Systems Engineer at JPL)
2020-2022 Jesse Tarnas (Ph.D. Brown University, ‘20, now a Planetary Scientist and Instrument Specialist at Blue Origin)
2020 Rachel Kronyak (Ph.D. University of Tennessee, Knoxville ‘19, now a Science Operations Systems Engineer at JPL)
2017-2018 Vivian Sun (Ph.D. Brown ‘17, now a Science Operations Systems Engineer at JPL)

JPL Interns:
2024 Noshin Sharmili (graduate student at Penn State University)
2023 Annabel Flatland (undergraduate at Williams College)
2023 Natalie Cavallo (undergraduate at Brown University)
2023 Conner Lesh (B.Sc., CSU Bakersfield, currently a research assistant at UCLA)
2022 Michelle Tebolt (Ph.D. UT-Austin) and Jordan Bretzfelder (Ph.D. UCLA)
2021 Jonathan Sneed (Ph.D. UCLA) and Michelle Tebolt (Ph.D. UT-Austin)
2020 Jonathan Sneed (Ph.D. UCLA) and Sabrina Khan (B.Sc. MIT, currently enrolled in Ph.D. program at Johns Hopkins)
2019 Axel Noblet (Masters, Université de Nantes)
2016-2017 Shannon Cofield (Ph.D. Old Dominion University)

Volunteer Research Assistant:
2018 Tina Seeger (Caltech)

TEACHING EXPERIENCE

2024 Guest Lecturer for the Planetary Surface Exploration Course, University of Basel, 2/28
2023 Guest Lecturer for Life on Mars?, Williams College, 4/4
2022 Guest Lecturer for Introduction to Astronomy (ASTR 102), Williams College, 4/14
2021 Guest Lecturer for The International Geobiology Course, Caltech, 7/9
2020 Guest Lecturer for Planetary Geology (GEOL 0810), Brown University, 4/8
2018 Guest Lecturer for NASA Endeavor STEM Teaching Certificate Project, 3/14
2013 Graduate Teaching Assistant for Sedimentology, Caltech
2013 Graduate Teaching Assistant for Igneous and Metamorphic Petrography, Caltech
2012 Graduate Teaching Assistant for Advanced Field and Structural Geology, Caltech
2011 Graduate Teaching Assistant for Igneous and Metamorphic Petrography, Caltech
2010 Graduate Teaching Assistant for Advanced Field and Structural Geology, Caltech
2008 Undergraduate Teaching Assistant for Mineralogy, Williams College
2007 Undergraduate Teaching Assistant for Mineralogy, Williams College
2007 Undergraduate Teaching Assistant for Global Warming and Natural Disasters, Williams College
2005 Undergraduate Teaching Assistant for Introduction to Astronomy, Williams College

COMMUNITY AND EDUCATIONAL OUTREACH

2024	Guest Speaker, Rosemont Middle School Science Career Fair, La Crescenta, CA, 3/15
2023	JPL Info Session for Caltech Students, 1/12
2022	Caltech Student Tour, JPL Office of Research and Development, 10/28 Guest call-in speaker for EXPLO middle school robotics classes, 6/28 Science and Society Series, Lewes Library, Lewes, DE, 6/7
2021	Guest call-in speaker for EXPLO middle school robotics classes, 7/8 and 7/29 Guest call-in speaker for EXPLO high school robotics class, 7/28 Guest call-in speaker for The Global Classroom "The Big Picture" delivered by Scarisbrick Hall, UK in partnership with the World Health Organization, 6/8 Invited presenter, NASA's Solar System Exploration Division Senior Living Community Outreach Program, 5/19 Guest call-in speaker for Cheshire, CT Girl Scout troop, 4/12 Guest call-in speaker for Cheshire, CT High School Science National Honor Society, 2/11
2020	The Science House, NC State University, Friday Chats, 7/24, https://www.youtube.com/watch?v=OyGCEuxMY70 Guest call-in speaker for EXPLO middle school robotics class, 7/28 NASA/JPL Behind the Spacecraft Youtube LIVE interview, 4/30, https://www.youtube.com/watch?v=z6xUAp3J4Tw
2019	Presenter, NASA's Museum Alliance, 10/22 Guest call-in speaker for EXPLO middle school robotics class, 7/11and 8/1
2018	Guest call-in panelist for Ad Astra Academy, Rio de Janeiro, 8/13 Guest call-in speaker for EXPLO middle school robotics class, 7/12 and 7/27 Presenter, NASA Center JPL Facebook Live Event, 5/22 Panelist for Caltech Alumni Association "Techer Talk," 1/18
2017	Guest Presenter for 7-12th graders, Gulf Coast Exploreum Science Center of Mobile, Mobile, AL, 12/1
2015	Contributor to Curiosity's 3 Years on Mars Reddit AMA
2014	Volunteer, JPL Open House Q&A About Mars and the Mars Rover, Naturalist's Notebook, Seal Harbor, ME, 7/23 Presenter, Science Saturdays, Caltech
2012-2014	Student consultant and representative, Caltech Alumni Association
2011	Volunteer, NASA Spacefest, California Science Center
2010	Organizer, Caltech Geoclub Seminar Series
2010	Presenter, Pasadena Unified School District Middle School Science Day
2010	Guest Presenter for 6th-8th graders, Aveson Charter School
2006	Planetarium Presenter, Hopkins Observatory, Williams College

MEDIA APPEARANCES

2024	Blue Dot, North State Public Radio, "Mars science in 2024: Perseverance and Curiosity rovers and Mars Odyssey orbiter," https://www.mynspr.org/show/blue-dot/2024-10-18/blue-dot-mars-science-in-2024-perseverance-and-curiosity-rovers-and-mars-odyssey-orbiter
2023	CNN Business, "How the Mars rover searches for signs of life," https://www.cnn.com/videos/business/2023/05/17/mars-perseverance-rover-katie-stack-morgan-mc-gr-scn-contd-orig.cnn-business
2022	The Infinite Monkey Cage, "Exploring our solar system," https://www.bbc.co.uk/programmes/p0dcd5n8 On a Mission, JPL Podcast, "The Promise of Perseverance," https://www.nasa.gov/podcasts/on-a-mission/the-promise-of-perseverance-s4e6/
2021	Science Friday, "NASA Scientist Answers Kids' Questions About The Mars Rover," https://www.sciencefriday.com/segments/kids-questions-mars-rover/?fbclid=IwY2xjawGDX-JleHRuA2FlbQIxMAABHRWjPIjRGdDgY72bgfeYYgxrl-2t17oWRzlKuT4GXZ5U05mIy_-UdJeR5w_aem_6kWsHu3Rrbd9qSfxi9UdxA Small Steps, Giant Leaps, A NASA APPEL Knowledge Services Podcast, https://appel.nasa.gov/podcast/episode-52-mars-perseverance-rover-science/ Frank Buckley Interviews, "Katie Stack Morgan & Allen Chen, Mars 2020 Perseverance Rover," https://podcasts.apple.com/us/podcast/katie-stack-morgan-allen-chen-mars-2020-perseverance-rover/id1145043886?i=1000508451940 Geology Bites with Oliver Strimpel, "Geological Mapping of Mars with Perseverance Rover," https://www.geologybites.com/katie-stack Puslar Podcast, Museum of Science, "Which Rocks are Best?" https://www.mos.org/which-mars-rocks-are-best
2020	60 Minutes with Anderson Cooper, https://www.cbsnews.com/news/mars-rover-nasa-ancient-life-60-minutes-2020-05-31/ BBC World Service, Science in Action Podcast, https://www.youtube.com/watch?v=Mtm6K3MqDFI
2017	60 Minutes with Bill Whitaker, https://www.cbsnews.com/news/did-life-ever-exist-on-mars-it-could-have/
2015	Science vs Cinema, The Martian Scientific Deep Dive with Cast and Crew, https://www.youtube.com/watch?v=KCxQ3hYHrZk

PROFESSIONAL ASSOCIATIONS

2019-present	American Geophysical Union
2015-present	Society for Sedimentary Geology
2007-present	Geological Society of America