

MATHIEU G. A. LAPÔTRE

Address: Department of Geological Sciences, Stanford University,
450 Jane Stanford Way, Bldg. 320, Rm. 206-207, Stanford, CA 94305, USA.

Email: mlapotre@stanford.edu

Appointments

Assistant Professor of Geological Sciences	Stanford University	2019–present
Assistant Professor (by courtesy) of Geophysics	Stanford University	2020–present
John Harvard Distinguished Science Fellow	Harvard University	2017–2019

Education

Ph.D. Geology	California Institute of Technology	2017
M.S. Planetary Sc.	California Institute of Technology	2014
M.S. Environmental Sc. & Eng. (Excellence Track)	Université de Strasbourg, France	2011
M.S. Geophysical Eng. (Diplôme d'Ingénieur)	EOST, Université de Strasbourg, France	2011
B.S. Geophysics (minor in Astrophysics)	Université de Strasbourg, France	2009

Awards & Honors

Luna B. Leopold Early Career Award, American Geophysical Union	2021
Robert P. Sharp Lecturer, American Geophysical Union	2021
Scialog Fellow, Heising-Simons Foundation, Research Corporation for Science Advancement	2021–2023
Kavli Fellow, U.S. National Academy of Sciences	2020
John Harvard Distinguished Science Fellow, Harvard University	2017–2019
John Crowell Best Ph.D. Dissertation Award, 2 nd place, SEPM Soc. Sed. Geol. Pacific Section	2017
NASA Group Achievement Award, MSL Extended Mission-1 Science & Operations Team	2017
NASA-NIA RASC-AL Space Design Contest, best overall, best in theme, PEACH award	2016
Dwornik Award, Honorable Mention, Graduate Oral Presentation, LPSC	2016
SETI & NASA Astrobiology Institutes Travel Award	2016
NASA Earth & Space Science Fellowship	2012–2015
NASA Group Achievement Award, MSL Prime Mission Science & Operations Team	2015
AGU Outstanding Student Paper Award	2014
National Center for Airborne Laser Mapping (NCALM) Seed Grant	2013
Robert P. Sharp Graduate Student Fellowship, Caltech	2012–2013

Professional Services

Peer reviewer for: *Nature*, *Nature Communications*, *Science Advances*, *Proceedings of the National Academy of Sciences*, *Geology*, *Earth & Planetary Science Letters*, *Geophysical Research Letters*, *Journal of Geophysical Research: Planets*, *Bulletin of the Geological Society of America*, *Sedimentology*, *Astrobiology*, *Icarus*, *Water Resources Research*, *Earth Surface Processes & Landforms*, *Planetary & Space Science*, *Aeolian Research*, *Earth & Space Science*.

Awards Committee Member, AGU Earth & Planetary Surface Processes (2022).

Panel reviewer for: *NASA Mars Data Analysis*, *NASA Earth & Space Science Fellowship*.

External reviewer for: *NASA Mars Data Analysis Program*, *NASA Solar System Workings Program*, *NSF Geomorphology & Land-Use Dynamics Program*, *U.S. Department of Energy (Office of Science)*, *NSERC Discovery Grant Program*.

Science Organizing Committee member for: 9th *International Conference on Mars* (2019), *Bay Area Planetary Science meeting* (2019–2022).

Session convener/chair at: *AGU* 2018, 2019; *GSA* 2016, 2020; *LPSC* 2019, 7th *International Planetary Dunes Workshop* 2022.

Student Advisor for the *Planetary Geology Division* of the *Geological Society of America*, 2015–2017.

Student Representative, Board of Directors, *Ecole et Observatoire des Sciences de la Terre*, 2008–2011.

Internal Affairs Representative of the Strasbourg University Geophysical Society, 2008–2009.

University Services

Graduate curriculum committee	Geological Sciences, Stanford University	2019–present
Graduate admissions committee	Geological Sciences, Stanford University	2020–present

Mentorship

High-School Research Advisor: Joseph Schull (St Paul’s School, London, 2020).

Undergraduate Research Advisor: Jade Fischer (MIT, 2018), Phoebe Murray (Vassar College, 2019), Veronica Pratt (Stanford, 2019–2020), Sebastian Pérez López (Stanford, 2020–2021), Emiliano Gonzalez (Cal Poly Pomona, 2022), Brian Amaro (Stanford, 2022).

M.S. Thesis Reader: Erin Barry (Stanford, 2020).

Ph.D. Qualifying Exam Committee Member: Tyler Hall (Stanford GS, 2020), Travis Clow (Stanford GS, 2021), Matthew Reinhold (Stanford GS, 2021), Ji In Jung (Stanford GP, 2022).

Ph.D. Committee Member: Robert Sare (Stanford, 2019–2020), Aaron Steelquist (Stanford, 2019–2021), Matthew Reinhold (Stanford, 2019–present), Noah Athens (Stanford, 2020–2021).

External Ph.D. Thesis Examiner: Valentin Bickel (ETH Zurich/Max Planck Inst. Solar Syst. Res., 2021).

Ph.D. Advisor: Michael Hasson (Stanford, 2020–present), Colin Marvin (Stanford, 2021–present).

Postdoctoral Advisor: Lior Rubanenko (Stanford, 2020–present), Andrew Gunn (Stanford, 2021–2022), Nils Prieur (Stanford, 2021–present).

Teaching

Recurring Courses

GS 224. Rivers: The arteries of Earth’s continents, Stanford (grad., 2020, 2022).

GS 120/220. Planetary Surface Processes: Shaping the Landscape of the Solar System, Stanford (undergrad. & grad., 2021).

GS 124 (co-taught with Profs. Laura Schaefer & Sonia Tikoo). Introduction to Planetary Science, Stanford (undergrad., 2021).

GS 3 (co-taught with Prof. George Hilley). Earth & Planetary Processes & Mechanics, Stanford (undergrad., 2022).

GS 249 (co-taught with Prof. Donald Lowe). Deciphering depositional environments in the pre-vegetation rock record (grad., 2021).

GS 192. Undergraduate Research in Geological Sciences, Stanford (undergrad., 2019).

Guest Lectures

Earth 1a (guest lect.). Know Your Planet – Research Frontiers, Stanford (undergrad., 2021).

GP 101 (guest lect.). Frontiers of Geophysical Research at Stanford, Stanford (undergrad., 2020–2021).

EPS 120 (guest lect.). Intro. To Planetary Science, Harvard (undergrad. & grad., Prof. Roger Fu, 2018).

Past

Ge 125 (TA). Geomorphology, Caltech (undergrad. & grad., Prof. Michael Lamb, 2016).

Ge151 (TA & guest lect.). Planetary Surfaces (undergrad. & grad., Prof. Bethany Ehlmann, 2014–2015).

Ge101 (TA). Introduction to Geology and Geochemistry, Caltech (grad., Prof. Brian Wernicke), 2013.

Extended Talks, Seminars, & Lectures

2022: NASA Ames Research Center, UC Santa Cruz.

2021: UC Berkeley, CU Boulder, Stanford Geophysics, Sharp Lecture (AGU).

2020: University of Michigan, Tech Briefs Mars 2020 webinar (formerly NASA Tech Briefs), Northern Arizona University.

2019: Institut de Physique du Globe de Strasbourg (IPGS), UN Reno.

2018: Institut de Physique du Globe de Paris (IPGP), Stanford University, MIT, Harvard University, Dartmouth College, Rice University.

2017: MSL Team Meetings (Pasadena, Montreal), Harvard University, UT Austin, CRISM Team Meeting (Houston), NASA Jet Propulsion Laboratory, Brown University.

2016: NASA Jet Propulsion Laboratory, MSL Team Meeting (Pasadena), UCLA, Cal State LA.
2015: Tokyo Tech, MSL Team Meeting (Paris), CRISM Team Meeting (Baltimore).
2013: GFZ Potsdam.

Visiting Positions & Professional Experience

NASA Mars Science Laboratory (MSL) Special Expert Consultant	2017–2018
NASA Mars Science Laboratory (MSL) Science and Operations Team Collaborator	2013–2017
Graduate Student Researcher and Teaching Assistant, Caltech	2012–2017
Graduate Researcher, University of Cambridge, UK (advisor: Prof. A. Woods)	Jun.–Dec. 2011
Undergraduate Researcher, Caltech (advisor: Prof. M. Lamb)	Jan.–Jun. 2011
Undergraduate Research Scholar, MIT (advisor: Prof. T. Perron)	Jun.–Aug. 2010
Erasmus Student, Oslo University, Norway (advisors: Drs. O. Galland & M. Dabrowski)	2009–2010
Researcher and Developer in Seismic Modeling, NORSAR, Kjeller, Norway	2009–2010
Undergraduate Visiting Scholar, UC Berkeley (advisor: Prof. M. Manga)	Jun.–Aug. 2009

Peer-Reviewed Publications

Published, In Press, or Accepted (* = student/postdoc advised or co-advised)

41. Ielpi, A., **M.G.A. Lapôtre** (in press). Linking sediment flux to river migration in arid landscapes through mass balance. *J. Sed. Res.*
40. Steelquist, A., G. Hilley, **M.G.A. Lapôtre** (in press). Bedrock channel initiation, gully expansion, and channel head arrest. *GSA Bulletin*.
39. *Gunn, A., *L. Rubanenko, **M.G.A. Lapôtre** (2022). Accumulation of windblown sand in impact craters on Mars. *Geology*, <https://doi.org/10.1130/G49936.1>
38. **Lapôtre, M.G.A.**, J.L. Bishop, A. Ielpi, D.R. Lowe, K.L. Siebach, N.H. Sleep, S.M. Tikoo (2022). Mars as a time machine to Precambrian Earth. *J. Geol. Soc.*, <https://doi.org/10.1144/jgs2022-047>
37. **Lapôtre, M.G.A.**, M. Malaska, M. Cable (2022). The role of seasonal sediment transport and sintering in shaping Titan's landscapes: A hypothesis. *Geophys. Res. Lett.*, 49(8), <https://doi.org/10.1029/GL097605>
36. Rubin, D.M., **M.G.A. Lapôtre**, 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). Ancient winds, waves, and atmosphere in Gale crater, Mars, inferred from sedimentary structures and wave modeling. *J. Geophys. Res. Planet.*, 127(4), <https://doi.org/10.1029/2021JE007162>
35. Ielpi, A. **M.G.A. Lapôtre**, M. Gibling, C.K. Boyce (2022). The impact of vegetation of meandering rivers. *Nature Reviews Earth & Environment*, 3, 165–178, <https://doi.org/10.1038/s43017-021-00249-6>
34. Diniega, S., D.M. Burr, M. Chojnacki, **M.G.A. Lapôtre**, C. Swann (2022). Martian dunes: A crucial record of present and past Mars surface environment and aeolian processes. *Treatise on Geomorphology* (2nd Edition), 7, pp. 617–636, <https://doi.org/10.1016/B978-0-12-818234-5.00177-2>
33. *Rubanenko, L., *S. Pérez-López, *J. Schull, **M.G.A. Lapôtre** (2021). Automatic detection and segmentation of barchan dunes on Mars and Earth using a convolutional neural network. *IEEE J-STARS*, <https://doi.org/10.1109/JSTARS.2021.3109900>
32. Diniega, S., A.M. Bramson, B. Buratti, P. Buhler, D.M. Burr, M. Chojnacki, S.J. Conway, C.M. Dundas, C.J. Hansen, A.S. McEwen, **M.G.A. Lapôtre**, J. Levy, L. Mc Keown, S. Piqueux, G. Portyankina, C. Swann, T.N. Titus, J.M. Widmer (2021). Modern Mars' geomorphological activity, driven by wind, frost, and gravity. *Geomorphology*, 380, <https://doi.org/10.1016/j.geomorph.2021.107627>

31. **Lapôtre, M.G.A.**, R.C. Ewing, & M.P. Lamb (2021). An evolving understanding of enigmatic large ripples on Mars. *J. Geophys. Res. Planet.*, 126(2), <https://doi.org/10.1029/2020JE006729>
30. Kurokawa, H., B.L. Ehlmann, De Sanctis, M.C., **M.G.A. Lapôtre**, Usui, T., Stein, N.T., Prettyman, T.H., Raponi, A., & Ciarnello, M. (2020). A probabilistic approach to determination of Ceres' average surface composition from Dawn VIR and GRaND data. *J. Geophys. Res. Planet.*, 125(12), <https://doi.org/10.1029/2020JE006606>
29. Ielpi, A., **M.G.A. Lapôtre**, A. Finotello, & M. Ghinassi (2020). Planform-asymmetry and backwater effects on river-cutoff kinematics and clustering. *Earth Surf. Proc. Land.*, 46(2), 357–370, <https://doi.org/10.1002/esp.5029>
28. **Lapôtre, M.G.A.**, & A. Ielpi (2020). The pace of fluvial meanders on Mars and implications for the western delta deposits of Jezero crater, Mars. *AGU Advances*, 1(2), <https://doi.org/10.1029/AV000141>
27. **Lapôtre, M.G.A.**, J. G. O'Rourke, L. K. Schaefer, K. L. Siebach, C. Spalding, S. Tikoo, & R. D. Wordsworth (2020). Probing space to understand Earth. *Nature Rev. Earth & Env.*, 1, 170–181, <https://doi.org/10.1038/s43017-020-0029-y>
26. Ielpi, A. M., **M.G.A. Lapôtre**, A. Finotello, M. Ghinassi, & A. D'Alpaos (2020). Channel mobility drives a diverse stratigraphic architecture in the dryland Mojave River (California, USA). *Earth Surf. Proc. Land.*, 45(8), 1717–1731, <https://doi.org/10.1002/ep.4841>
25. Ielpi, A. & **M.G.A. Lapôtre** (2020). A ten-fold slowdown in river meander migration driven by plant life. *Nature Geosci.*, 13, 82–86, <https://doi.org/10.1038/s41561-019-0491-7>
24. **Lapôtre, M.G.A.**, A. Ielpi, M.P. Lamb, R.M.E. Williams, & A.H. Knoll (2019). Model for the formation of single-thread rivers in barren landscapes and implications for pre-Silurian and martian fluvial deposits. *J. Geoph. Res. Earth Surf.*, 124(12), 2757–2777, <https://doi.org/10.1029/2019JF005156>
23. Ielpi, A., & **M.G.A. Lapôtre** (2019). Barren meandering streams in the modern Toiyabe Basin of Nevada, and their relevance to the study of the pre-vegetation rock record. *J. Sed. Res.*, 89(5), 399–415, <https://doi.org/10.2110/jsr.2019.25>
22. Ielpi, A., & **M.G.A. Lapôtre** (2019). Biotic forcing militates against river meandering in the modern Bonneville Basin of Utah. *Sedimentology*, 66(5), 1896–1929, <https://doi.org/10.1111/sed.12562>
21. Rampe, E.B., **M.G.A. Lapôtre**, & 27 coauthors (2018). Sand mineralogy within the Bagnold Dunes, Gale crater, as observed in situ and from orbit. *Geoph. Res. Letters*, 45(18), 9488–9497, <https://doi.org/10.1029/2018GL079073>
20. Baker, M., **M.G.A. Lapôtre**, M. Miniti, C. Newman, R. Sullivan, C.M. Weitz, B.L. Ehlmann, A. Vasavada, K. Edgett, N.T. Bridges, & K. Lewis (2018). The Bagnold Dunes in southern summer: Active sediment transport on Mars observed by the Curiosity rover. *Geoph. Res. Letters*, 45(17), 8853–8863, <https://doi.org/10.1029/2018GL079040>
19. Weitz, C.M., R. Sullivan, **M.G.A. Lapôtre**, S. Rowland, J. Grant, M. Baker, & A. Yingst (2018). Sand grain sizes and shapes in eolian bedforms at Gale crater, Mars. *Geoph. Res. Letters*, 45(18), 9471–9479, <https://doi.org/10.1029/2018GL078972>
18. **Lapôtre, M.G.A.**, R.C. Ewing, C.M. Weitz, K. Lewis, M.P. Lamb, B.L. Ehlmann, & D.M. Rubin (2018). Morphologic diversity of martian ripples: Implications for large-ripple formation. *Geoph. Res. Letters*, 45(19), 10229–10239, <https://doi.org/10.1029/2018GL079029>
17. **Lapôtre, M.G.A.**, & E.B. Rampe (2018). Curiosity's investigation of the Bagnold Dunes, Gale crater: Overview of the two-phase campaign and introduction to the special collection. *Geoph. Res. Letters*, 45(19), 10200–10210, <https://doi.org/10.1029/2018GL079032>
16. **Lapôtre, M.G.A.**, M.P. Lamb (2018). Substrate controls on valley formation by groundwater on Earth and Mars. *Geology*, 46(6), 531–534, <https://doi.org/10.1130/G40007.1>
15. Baker, M.M., C.E. Newman, **M.G.A. Lapôtre**, R. Sullivan, N.T. Bridges, K.W. Lewis (2018). Coarse sediment transport in the modern Martian environment. *J. Geophys. Res. Planet.*, 123(6), 1380–1394, <https://doi.org/10.1002/2017JE005513>

14. Banham, S., S. Gupta, D. Rubin, J. Watkins, K.S. Edgett, D.Y. Sumner, J.P. Grotzinger, K. Lewis, L. Edgar, K. Stack, R. Barnes, J. Bell III, M.D. Day, R.C. Ewing, **M.G.A. Lapôtre**, N. Stein, F. Rivera-Hernandez, A. Vasavada (2018). Ancient Martian aeolian processes and palaeogeomorphology reconstructed from the Stimson formation on the lower slope of Aeolis Mons, Gale crater, Mars. *Sedimentology*, 65(4), 993-1042, <https://doi.org/10.1111/sed.12469>
13. Conte, D., & 14 coauthors including **M.G.A. Lapôtre** (2017). Advanced concept for a crewed mission to the Martian moons. *Acta Astronautica*, 139, 545-563, <https://doi.org/10.1016/j.actaastro.2017.07.044>
12. Ewing, R.C., **M.G.A. Lapôtre**, K. Lewis, M. Day, N. Stein, D.M. Rubin, N.T. Bridges, R. Sullivan, W.W. Fischer, M.P. Lamb, S. Gupta (2017). Sedimentary processes of the Bagnold Dunes: Implications for the eolian rock record of Mars. *J. Geophys. Res. Planet.*, 122(12), 2544-2573, <https://doi.org/10.1002/2017JE005324>
11. Ehlmann, B.L., K.S. Edgett, B. Sutter, C.N. Achilles, M.L. Litvak, **M.G.A. Lapôtre**, A.A. Fraeman, & 32 coauthors (2017). Chemistry, mineralogy, and grain size of the Bagnold Dune Field: A synthesis of MSL Curiosity rover observations. *J. Geophys. Res. Planet.*, 122(12), 2510-2543, <https://doi.org/10.1002/2017JE005267>
10. Bridges, N.T., & 11 coauthors including **M.G.A. Lapôtre** (2017). Martian aeolian activity at the Bagnold Dunes, Gale crater: The view from the surface and orbit. *J. Geophys. Res. Planet.*, 122(10), 2077-2110, <https://doi.org/10.1002/2017JE005263>
9. **Lapôtre, M.G.A.**, B.L. Ehlmann, S. Minson, R. Arvidson, F. Ayoub, A.A. Fraeman, R. Ewing, N. Bridges (2017). Compositional variations in sands of the Bagnold Dunes, Gale crater, Mars, from visible-shortwave infrared spectroscopy and comparison to ground-truth from the Curiosity rover. *J. Geophys. Res. Planet.*, 122(12), 2489-2509, <https://doi.org/10.1002/2016JE005133>
8. **Lapôtre, M.G.A.**, B.L. Ehlmann, S. Minson (2017). A probabilistic approach to remote compositional analysis of planetary surfaces. *J. Geophys. Res. Planet.*, 122(5), 983-1009, <https://doi.org/10.1002/2016JE005248>
7. **Lapôtre, M.G.A.**, M.P. Lamb, B. McElroy (2017). What sets the size of current ripples? *Geology*, 45(3), 243-246, <https://doi.org/10.1130/G38598.1>
6. Kreisch, C.D., J.A. O'Sullivan, R.E. Arvidson, D.V. Politte, L. He, N.T. Stein, J. Finkel, E.A. Guinness, M.J. Wolff, **M.G.A. Lapôtre** (2017). Regularization of Mars Reconnaissance Orbiter CRISM along-track oversampled hyperspectral imaging observations of Mars. *Icarus*, 282, 136-151, <https://doi.org/10.1016/j.icarus.2016.09.033>
5. **Lapôtre, M.G.A.**, R. Ewing, M.P. Lamb, W.W. Fischer, J. P. Grotzinger, D. Rubin, K. Lewis, M. Ballard, M. Day, S. Gupta, & 12 other coauthors (2016). Large wind ripples on Mars: A record of atmospheric evolution. *Science*, 353, 6294, 55-58, <https://doi.org/10.1126/science.aaf3206>
4. **Lapôtre, M.G.A.**, M.P. Lamb, R.M.E. Williams (2016). Canyon formation constraints on the discharge of catastrophic outburst floods on Earth and Mars. *J. Geophys. Res. Planet.*, 121, 7, 1232-1263, <https://doi.org/10.1002/2016JE005061>
3. **Lapôtre, M.G.A.**, M. P. Lamb (2015). Hydraulics of floods upstream of horseshoe canyons and waterfalls. *J. Geophys. Res. Earth Surf.*, 120, 7, 1227-1250, <https://doi.org/10.1002/2014JF003412>
2. Arvidson, R.E. and 21 coauthors including **M.G.A. Lapôtre** (2015). Mars Reconnaissance Orbiter and Opportunity observations of Burns formation and underlying strata: Crater hopping at Meridiani Planum. *J. Geophys. Res. Planet.*, 120, 3, 429-451, <https://doi.org/10.1002/2014JE004686>
1. Perron, J.T., P.W. Richardson, K.L. Ferrier, **M.G.A. Lapôtre** (2012). The root of branching river networks. *Nature*, 492, 100-103, <https://doi.org/10.1038/nature11762>

White Papers

- Burr, D. & 12 coauthors including **M.G.A. Lapôtre** (2020). NASA Planetary Wind Tunnel Facilities. Submitted for consideration by the *Planetary Science & Astrobiology Decadal Survey 2023–2032*.

- Diniega, S. & 16 coauthors including **M.G.A. Lapôtre** (2020). Mars as a “natural laboratory” for studying surface activity on a range of planetary bodies. Submitted for consideration by the *Planetary Science & Astrobiology Decadal Survey 2023–2032*.
- Newman, C. & 37 coauthors including **M.G.A. Lapôtre** (2020). Towards more realistic simulation and prediction of Martian dust storms. Submitted for consideration by the *Planetary Science & Astrobiology Decadal Survey 2023–2032*, <https://doi.org/10.1002/essoar.10503781.1>

Conference Abstracts

First-Authored (* = student/postdoc advised or co-advised)

- Lapôtre, M.G.A.**, M.M. Baker, S. Carpy, M. Chojnacki, M. Day, S. Diniega, O. Durán-Vinent, R.C. Ewing, L. Fenton, M. Golombek, *A. Gunn, L. Kerber, C. Newman, J. Radebaugh, *L. Rubanenko, S. Silvestro, C. Swann, D. Tirsch, D. Vaz, C. Weitz, H. Yizhaq, J. Zimelman (2022). Martian eolian science: Recent advances, remaining questions, and roadmap for future in situ investigations. *Optimizing Planetary In Situ Surface-Atmosphere Interaction Investigations Workshop*, Boise, ID, Abstract #7010.
- Lapôtre, M.G.A.**, R.C. Ewing, *L. Rubanenko, P. Claudin, S. Carpy, *A. Gunn (2022). Stability of eolian bedforms on planetary surfaces – recent advances and remaining questions. *7th International Planetary Dunes Workshop*, Alamosa, CO, Abstract #3014.
- (invited) **Lapôtre, M.G.A.** (2021). The power of comparative planetology to decipher the mechanics of surface processes and their records. *AGU Fall Meeting 2021*, EP44A–01.
- Lapôtre, M.G.A.**, M.J. Malaska, M.L. Cable (2021). The role of seasonal sediment transport and sintering in shaping Titan’s landscapes. *Titan Through Time Workshop V*.
- (invited) **Lapôtre, M.G.A.**, R.C. Ewing, & M.P. Lamb (2021). An evolving understanding of enigmatic large ripples on Mars. *EGU General Assembly 2021*, EGU21–525.
- Lapôtre, M.G.A.**, M. Malaska, & M. Cable (2021). Interplay between grain sintering and transport-induced abrasion in creating sand-sized sediments on Titan. *52nd LPSC*, Abstract #1135.
- (invited) **Lapôtre, M.G.A.**, & A. Ielpi (2020). Single-thread rivers in barren landscapes: Formation, lateral migration, and deposits of pre-Silurian and ancient Martian rivers. *AGU Fall Meeting*, EPO05–04.
- (invited) **Lapôtre, M.G.A.**, A. Ielpi (2020). An extraterrestrial perspective on river meandering: Martian fluvial deposits and their significance for early Mars. *35th IAS Meeting of Sedimentology* (meeting postponed).
- Lapôtre, M.G.A.** (2020). The pace of fluvial meanders on Mars and implications for the landing site of NASA’s next Mars rover. *2020 U.S. Kavli Frontiers of Science Symposium*.
- Lapôtre, M.G.A.**, A. Ielpi (2020). Deciphering the paleoenvironmental archives of Jezero crater through physical sedimentology: Orbiter-based predictions. *51st LPSC*, Abstract #1521.
- Lapôtre, M.G.A.**, A. Ielpi (2019). Formation duration and intermittency of the western delta deposits of Jezero crater, Mars. *Bay Area Planetary Science Meeting 2019*.
- Lapôtre, M.G.A.**, A. Ielpi (2019). The Western Jezero delta deposit as a quantitative paleoclimate record: Timescales and intermittency of surface flows on Early Mars. *AGU Fall Meeting*, P54C-08.
- Lapôtre, M.G.A.** and 32 coauthors (2019). Martian eolian science since the Eighth International Conference on Mars: Summary of advances and remaining questions. *Ninth International Conference on Mars*, #6201.
- (invited) **Lapôtre, M.G.A.** (2019). When one planet is not enough: Making progress in geology using other planets as full scale experiments. *Geophysical Research Abstracts*, Vol. 21, EGU2019-3185, *EGU General Assembly 2019*.
- Lapôtre, M.G.A.**, A. Ielpi (2019). Single-thread rivers without land plants: A model to interpret martian fluvial deposits. *50th LPSC*, Abstract #22519.

- Lapôtre, M.G.A.**, A. Ielpi (2018). The meandering-river paradox(es) of Earth and Mars: Are plants really needed to make rivers meander? *AGU Fall Meeting*, EP32A-02.
- Lapôtre, M.G.A.**, E.B. Rampe (2018). Curiosity's investigation of the Bagnold Dunes, Gale crater: Overview of a two-phase scientific campaign. *GSA Annual Meeting 2018*, Paper no. 54-3.
- Lapôtre, M.G.A.**, R.C. Ewing, C.M. Weitz, K.W. Lewis, M.P. Lamb, B.L. Ehlmann, D.M. Rubin, N.T. Bridges (2018). Morphologic diversity of martian ripples: Implications for low-intensity transport as a mechanism for large-ripple formation. *10th International Conference on Aeolian Research*.
- Lapôtre, M.G.A.**, E.B. Rampe (2018). Curiosity's investigation of the Bagnold Dunes, Gale crater: Overview of a two-phase scientific campaign. *10th International Conference on Aeolian Research*.
- Lapôtre, M.G.A.**, M.P. Lamb (2017). The role of subsurface water in carving Hesperian amphitheater-headed valleys. *AGU Fall Meeting*, P33B-2877.
- Lapôtre, M.G.A.**, R.C. Ewing, M.P. Lamb, C.M. Weitz, D. Rubin, N.T. Bridges, B.L. Ehlmann (2017). Morphological diversity of Martian eolian bedforms as revealed by the Curiosity rover at Gale crater, Mars. *GSA Annual Meeting 2017*, Paper no. 244-9.
- Lapôtre, M.G.A.**, M.P. Lamb (2017). Did Hesperian amphitheater-headed valleys form by groundwater sapping? *48th LPSC*, Abstract #2860.
- (invited) **Lapôtre, M.G.A.**, R.C. Ewing, M.P. Lamb, W.W. Fischer, J.P. Grotzinger, D. Rubin, K. Lewis, M. Ballard, M. Day, S. Gupta, S. Banham, N.T. Bridges (2016). Origin of the two scales of wind ripples on Mars. *AGU Fall Meeting*, EP24A-02.
- Lapôtre, M.G.A.**, M.P. Lamb, R.C. Ewing, B. McElroy (2016). Uniting ripple-formation theory under water and winds: A universal scaling relation for the wavelength of fluid-drag ripples across fluids and planetary bodies. *AGU Fall Meeting*, EP43D-06.
- Lapôtre, M.G.A.**, B.L. Ehlmann, S.E. Minson, R.E. Arvidson, F. Ayoub, A.A. Fraeman, R.C. Ewing, N.T. Bridges (2016). Compositional variations in sands of the Bagnold Dunes at Gale crater, Mars, from visible-shortwave infrared spectroscopy and comparison to ground-truth from the Curiosity rover. *GSA Annual Meeting 2016*, Paper no. 140-12.
- Lapôtre, M.G.A.**, R.C. Ewing, M.P. Lamb, W.W. Fischer, K. Lewis, M. Ballard, M. Day, D. Rubin, J.P. Grotzinger (2016). Orbital and in-situ observations in support of the existence of an unknown stable aeolian bedform regime on Mars. *47th LPSC*, Abstract #1510.
- Lapôtre, M.G.A.**, B.L. Ehlmann, A.A. Fraeman, S.E. Minson, F. Ayoub, R.C. Ewing, R.E. Arvidson, N.T. Bridges (2016). A quantitative assessment of aeolian fractionation at the Bagnold Dunes of Gale crater, Mars, from orbit to the ground. *47th LPSC*, Abstract #1513.
- Lapôtre, M.G.A.**, B.L. Ehlmann, S.E. Minson, F. Ayoub, R.E. Arvidson, J. Buz, A.A. Fraeman, N.T. Bridges, R.Ewing, D.M. Rubin (2015). Implications of active surface processes for the interpretation of the Martian sedimentary rock record: Aeolian sands, sediments, and their sources at Gale Crater. *GSA Annual Meeting 2015*, Paper no. 71-15.
- Lapôtre, M.G.A.**, B.L. Ehlmann, F. Ayoub, S.E. Minson, N.T. Bridges, A.A. Fraeman, R.E. Arvidson, J.L. Eigenbrode, R.C. Ewing, J.R. Johnson (2015). The Bagnold dunes at Gale Crater - A key to reading the geologic record of Mount Sharp. *46th LPSC*, Abstract #1634.
- Lapôtre, M.G.A.**, M.P. Lamb (2015). How much water on Hesperian Mars - Insights from canyon morphology. *ELSI 3rd International Symposium*, 'Life in the Universe', Tokyo, Japan. Abstract P3-03.
- Lapôtre, M.G.A.**, M.P. Lamb (2014). Hydraulic reconstruction of canyon-carving floods on Earth and ancient Mars. *AGU Fall Meeting*, EP11B-04.
- Lapôtre, M.G.A.**, B.L. Ehlmann, R.E. Arvidson, S.E. Minson, F. Ayoub, N.T. Bridges (2014). Two tales of Martian sands and dust. *8th International Conference on Mars*, Abstract #1126.
- Lapôtre, M.G.A.**, M.P. Lamb (2014). Is the width of canyons a diagnostic indicator of the discharge of floods on Earth and Mars? *45th LPSC*, Abstract #1422.
- Lapôtre, M.G.A.**, B.L. Ehlmann, R.E. Arvidson (2014). Quantitative mineralogic and granulometric inversion of Visible Near Infrared Spectra of Aeolian Bedforms on Mars. *45th LPSC*, Abstract #1431.

- Lapôtre, M.G.A.**, M.P. Lamb (2013). Is canyon width a diagnostic indicator of the discharge of megafloods on Earth and Mars? *AGU Fall Meeting*, EP53A-0712.
- Lapôtre, M.G.A.**, M.P. Lamb (2013). Hydraulics of outburst floods spilling over a steep-walled canyon: Implications for paleo-discharges on Mars. *Geophysical Research Abstracts*, Vol. 15, EGU2013-5761, *EGU General Assembly 2013*.
- Lapôtre, M.G.A.**, M.P. Lamb, C. Haliday (2012). Flow focusing as a control on the width of canyons formed by outburst floods. *AGU Fall Meeting*, EP51A-0961.
- Lapôtre, M.G.A.**, M.P. Lamb (2011). Hydraulic control on the width of waterfall escarpments on Earth and Mars. *7th TOPO-EUROPE Workshop*, Davos, Switzerland.
- Lapôtre, M.G.A.**, O. Galland, M. Dabrowski (2010). Mechanics of saucer-shaped sills emplacement - Can we predict the crack deflection? *AGU Fall Meeting*, T23A-2234.
- Lapôtre, M.G.A.**, C. Gerlein, C. Huber, J. Watkins, M. Manga (2009). Deformation of a buoyant bubble at low Reynolds number: A model of interaction between a plume head and a subducting slab. *AGU Fall Meeting*, T13B-1867.

Others (* = student/postdoc advised or co-advised)

- *Marvin, C., *A. Gunn, M. Day, **M.G.A. Lapôtre** (2022). Quantifying dune interactions on planetary surfaces: Exploring pattern-development dependence on environmental conditions. *7th International Planetary Dunes Workshop*, Alamosa, CO, Abstract #3023.
- *Rubanenko, L., *S. Pérez-López, L.K. Fenton, R.C. Ewing, **M.G.A. Lapôtre** (2022). Winds on Mars inferred from the global distribution of barchan dunes using a convolutional neural network. *7th International Planetary Dunes Workshop*, Alamosa, CO, Abstract #3022.
- Berger, L.M., R.C. Ewing, **M.G.A. Lapôtre**, *M. Hasson (2022). Topographic analysis of a coarse-grained ripple field, Algodones Dunes, California. *7th International Planetary Dunes Workshop*, Alamosa, CO, Abstract #3032.
- *Schneider, S., T. Chen, A. Bylard, **M.G.A. Lapôtre**, M. Cutkosky, M. Pavone (2022). ReachBot: A small robot for large mobile manipulation tasks in martian cave environments. *AbSciCon 2022*, Abstract #417-06.
- *Marvin, C., **M.G.A. Lapôtre**, *A. Gunn, M. Day (2022). Quantifying dune interactions on planetary surfaces: Updated methodology and implications for dune pattern analyses. *53rd LPSC*, Abstract #1236.
- *Rubanenko, L., *S. Pérez-López, L.K. Fenton, R.C. Ewing, **M.G.A. Lapôtre** (2022). Global map of surface winds on Mars from barchan dune migration directions and horn asymmetry using a convolutional neural network *53rd LPSC*, Abstract #1209.
- *Priour, N.C., *L. Rubanenko, Z. Xiao, H. Kerner, S.C. Werner, **M.G.A. Lapôtre** (2022). A large training dataset of boulder sizes and shapes as a first step towards the automated detection of rock fragments on planetary surfaces. *53rd LPSC*, Abstract #1835.
- Berger, L.M., R.C. Ewing, **M.G.A. Lapôtre**, *M. Hasson (2022). Topographic analysis of a coarse-grained ripple field, Algodones Dunes, California. *53rd LPSC*, Abstract #1772.
- Young, B.M., M.P. Bishop, R.C. Ewing, **M.G.A. Lapôtre**, *A. Gunn (2022). Using topographic structure to map sand dunes: Results from White Sands dune field and applications to Mars *53rd LPSC*, Abstract #1734.
- Bedford, C.C., E.B. Rampe, M.T. Thorpe, R.C. Ewing, M. Nachon, K. Mason, E. Champion, L. Berger, B. Horgan, P. Sinha, A. Rudolph, E. Reid, **M.G.A. Lapôtre**, *M. Hasson, P. Gray (2022). Characterizing the effects of glaciation on the volcanic source rocks of the SAND-E Mars analog mission and its implications for Mars. *53rd LPSC*, Abstract #2817.
- Bedford, C.C., E.B. Rampe, M.T. Thorpe, R.C. Ewing, M. Nachon, K. Mason, E. Champion, L. Berger, B. Horgan, P. Sinha, A. Rudolph, E. Reid, **M.G.A. Lapôtre**, *M. Hasson, P. Gray (2022). Identifying the products of volcano-ice interactions in the martian sedimentary record. *53rd LPSC*, Abstract #2844.

- Rudolph, A., B. Horgan, P. Sinha, R.C. Ewing, E.B. Rampe, **M.G.A. Lapôtre**, M. Nachon, M.T. Thorpe, C.C. Bedford, K. Mason, L. Berger, *M. Hasson, E. Champion, P. Gray, E. Reid, M. Faragalli (2022). Comparing the influence of transport vs. alteration on the composition of cold climate Mars-analog sediments. *53rd LPSC*, Abstract #2254.
- Sinha, P., B. Horgan, A. Rudolph, R.C. Ewing, E.B. Rampe, **M.G.A. Lapôtre**, M. Nachon, M.T. Thorpe, C.C. Bedford, K. Mason, E. Champion, P. Gray, E. Reid, M. Faragalli (2022). Color analysis of visible images for assessing sediment provenance during orbital and in situ planetary exploration. *53rd LPSC*, Abstract #2312.
- Champion, E., R.C. Ewing, M. Nachon, E.B. Rampe, B. Horgan, **M.G.A. Lapôtre**, M.T. Thorpe, C.C. Bedford, P. Sinha, A. Rudolph, K. Mason, M. Tice, P. Gray, E. Reid (2022). μ XRF investigation of geochemical and physical grain characteristics in a glacio-fluvial-aeolian catchment in southwest Iceland. *53rd LPSC*, Abstract #2409.
- *Hasson, M., *A. Gunn, **M.G.A. Lapôtre**, A. Ielpi (2021). Point-bar and channel-fill deposits of an unvegetated distributary fluvial system: Implications for Jezero crater, Mars. *AGU Fall Meeting 2021*, P15E–2138.
- *Gunn, A., **M.G.A. Lapôtre** (2021). Accumulation rates of aeolian sediments in martian impact craters. *AGU Fall Meeting 2021*, EP12A–06.
- *Rubanenko, L., *A. Gunn, *S. Pérez-López, *J. Schull, **M.G.A. Lapôtre**, L. Fenton, R.C. Ewing (2021). Global surface winds inferred from barchan dunes on Mars using a convolutional neural network. *AGU Fall Meeting 2021*, EP21A–03.
- *Steelquist, A., **M.G.A. Lapôtre**, G.E. Hilley (2021). Drainage initiation and expansion in bedrock landscapes. *AGU Fall Meeting 2021*, EP41B–03.
- Preston, S., K.L. Siebach, **M.G.A. Lapôtre** (2021). New constraints on grain size of eolian sediments in the Stimson Sandstone, Gale crater, Mars, and implications for paleoclimate. *AGU Fall Meeting 2021*, EP15B–1333.
- Bedford, C.C., E.B. Rampe, M. Thorpe, R.C. Ewing, M. Nachon, K. Mason, L. Berger, E. Champion, B.H.N. Horgan, P. Sinha, A. Rudolph, **M.G.A. Lapôtre**, *M. Hasson, P.C. Gray, E. Reid (2021). The role of glaciovolcanic sources in Iceland’s Mars-analog sedimentary systems. *AGU Fall Meeting 2021*, P21a–04.
- (invited) Pavone, M., M. Cutkosky, **M.G.A. Lapôtre**, *S. Schneider, T. Chen, A. Bylard (2021). ReachBot: A small robot for large mobile manipulation tasks in martian cave environments. *2021 NASA Innovative Advanced Concepts (NIAC) Symposium*.
- Sinha, P., B. Horgan, A. Rudolph, R.C. Ewing, E.B. Rampe, **M.G.A. Lapôtre**, M. Nachon, M.T. Thorpe, C.C. Bedford, K. Mason, E. Champion, P. Gray, E. Reid, M. Faragalli (2021). Assessing sediment provenance on Earth and Mars using visible and near-infrared (VNIR) spectroscopy and decorrelation stretches (DCS) of visible images. *Workshop on Terrestrial Analogs for Planetary Exploration*, Abstract #8082.
- Ewing, R.C., E.B. Rampe, B. Horgan, **M.G.A. Lapôtre**, M. Nachon, M.T. Thorpe, C.C. Bedford, P. Sinha, K.G. Mason, E. Champion, P. Gray, A. Soto, M. Faragalli, E. Reid (2021). Overview of logistics and operations for SAND-E: Semi-Autonomous Navigation for Detrital Environments. *Workshop on Terrestrial Analogs for Planetary Exploration*, Abstract #8119.
- Mason, K.G., R.C. Ewing, M. Nachon, E.B. Rampe, B. Horgan, **M.G.A. Lapôtre**, M.T. Thorpe, C.C. Bedford, P. Sinha, E. Champion, P. Gray (2021). Grain size and shape analysis of basaltic aeolian and fluvial sediment in a volcanic catchment: Þórisjökull glacier, Iceland. *Workshop on Terrestrial Analogs for Planetary Exploration*, Abstract #8118.
- Bedford, C., E.B. Rampe, M. Thorpe, R.C. Ewing, M. Nachon, B. Horgan, **M.G.A. Lapôtre**, K.G. Mason, P. Sinha, E. Champion, P. Gray, E. Reid (2021). Investigating the geochemical and mineralogical evolution of basaltic sediments in the Mars analog Þórisjökull glacio-fluvio-aeolian sedimentary system using Mars rover techniques. *Workshop on Terrestrial Analogs for Planetary Exploration*, Abstract #8091.

- (invited) *Rubanenko, L., **M.G.A. Lapôtre**, *J. Schull, *S. Pérez-López, L.K. Fenton, & R.C. Ewing (2021). Mapping surface winds on Mars from the global distribution of barchan dunes employing an instance segmentation neural network. *EGU General Assembly 2021*, EGU21–12960.
- *Rubanenko, L., **M.G.A. Lapôtre**, *J. Schull, *S. Pérez-López, L.K. Fenton, & R.C. Ewing (2021). Mapping Mars' surface winds from the global distribution of barchan dunes employing artificial intelligence. *52nd LPSC*, Abstract #1650.
- Champion, E., R.C. Ewing, M. Nachon, E.B. Rampe, B. Horgan, **M.G.A. Lapôtre**, M.T. Thorpe, C.C. Bedford, P. Sinha, K. Mason, & M. Tice (2021). μ XRF investigation of relationships between geochemistry and physical grain characteristics in a glacio-fluvial-aeolian catchment in Iceland. *52nd LPSC*, Abstract #2429.
- Mason, K.G., R.C. Ewing, M. Nachon, E.B. Rampe, B. Horgan, **M.G.A. Lapôtre**, M.T. Thorpe, C.C. Bedford, P. Sinha, E. Champion, P. Gray (2021). Sediment sorting and rounding in a basaltic glacio-fluvio-aeolian environment: Þórisjökull glacier, Iceland. *52nd LPSC*, Abstract #1752.
- Sinha, P., B. Horgan, A. Rudolph, R.C. Ewing, E.B. Rampe, **M.G.A. Lapôtre**, M. Nachon, M. Thorpe, C. Bedford, K. Mason, E. Champion, P. Gray, E. Reid, M. Faragalli (2021). Decorrelation stretches (DCS) of visible images as a tool for assessing sediment provenance on Earth and Mars. *52nd LPSC*, Abstract #2682.
- (invited) Ielpi, A., **M.G.A. Lapôtre**, A. Finotello, & M. Ghinassi (2021). Planform-asymmetry and backwater effects in river-cutoff kinematics and clustering. *SEPM International Sedimentary Geosciences Congress 2021* (meeting postponed).
- Rampe, E.B., B.H.N. Horgan, A.M. Rutledge, R.J. Smith, N. Scudder, R.C. Ewing, **M.G.A. Lapôtre**, C.C. Bedford, & M.T. Thorpe (2020). Astrobiology field sites in proglacial mafic terrains in Oregon and Iceland. *Open University Astrobiology Mini-Symposium*.
- *Rubanenko, L., *J. Schull, & **M.G.A. Lapôtre** (2020). Mapping and analysis of eolian bedforms on Mars using fully convolutional instance segmentation networks. *AGU Fall Meeting*, P008–06.
- (invited) Ielpi, A. & **M.G.A. Lapôtre** (2020). The case for barren meanders in Earth's modern endorheic basins as analogs to early Mars' rivers. *AGU Fall Meeting*, EPO41–03.
- (invited) Baker, M.M., C. Newman, **M.G.A. Lapôtre**, & 28 coauthors (2020). Surface investigations of aeolian activity on Mars: Recent advances and outstanding questions. *AGU Fall Meeting*, EP022–01.
- Ewing, R.C., M. Nachon, E.B. Rampe, B.H.N. Horgan, **M.G.A. Lapôtre**, M.M. Tice, E. Reid, M. Battler, M. Faragalli, C.C. Bedford, M. Thorpe, P. Sinha, P.C. Gray, K. Mason, & E. Champion (2020). Translating analog field studies for mission science and operations on Mars 2020: Approaches from Iceland and Padre Island, TX. *AGU Fall Meeting*, P059–02.
- Finotello, A., A. Ielpi, E.D. Lazarus, M. Ghinassi, **M.G.A. Lapôtre**, S. Favaro, & A. D'Alpaos (2020). Quantifiable effects of vegetation on river meander morphology and dynamics. *AGU Fall Meeting*, EP004–0006.
- Bedford, C.C., E.B. Rampe, M.T. Thorpe, R.C. Ewing, K. Mason, E. Champion, M. Nachon, B. Horgan, P. Sinha, E. Reid, **M.G.A. Lapôtre**, P. Gray (2020). Identifying the products of volcano-ice interaction in Icelandic Mars analog sedimentary environments using Mars rover techniques. *AGU Fall Meeting*, P059–03.
- Ielpi, A., **M.G.A. Lapôtre**, A. Finotello, M. Ghinassi, & A. d'Alpaos (2020). Predictions of stratigraphic architecture in relation to channel mobility of dryland rivers: Insight from the Mojave River of California (USA). *GSA Annual Meeting 2020*, Paper no. 87–9.
- Mason, K.G., R.C. Ewing, M. Nachon, E.B. Rampe, B. Horgan, **M.G.A. Lapôtre**, M.T. Thorpe, C.C. Bedford, P. Sinha, & E. Champion (2020). Fluvial and eolian sediment sorting and rounding in a basaltic pro-glacial catchment: Þórisjökull glacier, Iceland. *GSA Annual Meeting 2020*, Paper no. 229–2.
- Bedford, C.C., E.B. Rampe, M.T. Thorpe, R.C. Ewing, K. Mason, E. Champion, M. Nachon, B. Horgan, P. Sinha, E. Reid, **M.G.A. Lapôtre**, & P.C. Gray (2020). An investigation into the effectiveness of Mars rover techniques in identifying source-to-sink sedimentary processes in basaltic environments. *GSA Annual Meeting 2020*, Paper no. 229–4.

- Burr, D.M., M. Day, L. Fenton, **M.G.A. Lapôtre**, L. Neakrase, C. Swann, I. Walker, I., & D. Williams (2020). Facilities for planetary aeolian experimental research: A draft white paper. *6th International Planetary Dunes Workshop, Abstract #3029*.
- Weitz, C. M., R.J. Sullivan, **M.G.A. Lapôtre**, S. K. Rowland, J. A. Grant, M. M. Baker, & R. A. Yingst (2020). Physical properties of sand grains in the Bagnold Dunes at Gale crater, Mars. *6th International Planetary Dunes Conference, Abstract #3004*.
- Ielpi, A. & **M.G.A. Lapôtre** (2020). Plants hold back the migration of river meanders. Submitted to *35th IAS Meeting of Sedimentology* (meeting postponed).
- Ewing, R. C. E., E. B. Rampe, B. H. N. Horgan, **M.G.A. Lapôtre**, M. Nachon, M. T. Thorpe, C. C. Bedford, P. Sinha, K. Mason, E. Champion, P. Gray, A. Soto, M. Faragalli, & E. Reid (2020). Overview and initial results of SAND-E: Semi-Autonomous Navigation for Detrital Environments. *51st LPSC, Abstract #2857*.
- Champion, E., R. C. Ewing, M. Nachon, E. B. Rampe, B. H. N. Horgan, **M.G.A. Lapôtre**, M. T. Thorpe, C. C. Bedford, P. Sinha, K. Mason, M. Tice (2020). Investigating relationships between geochemistry and physical grain characteristics along a glacio-fluvial-aeolian sediment transport pathway using μ XRF. *51st LPSC, Abstract #2883*.
- Mason, K. G., R. C. Ewing, M. Nachon, E. B. Rampe, B. H. N. Horgan, **M.G.A. Lapôtre**, M. T. Thorpe, C. C. Bedford, P. Sinha, E. Champion (2020). Sediment sorting and rounding in a basaltic glacio-fluvio-aeolian environment: Þhórisjökull glacier, Iceland. *51st LPSC, Abstract #2720*.
- Nachon, M., R. C. Ewing, F. Marcantonio, L. Romero, D. Schimmenti, M. Tice, E. B. Rampe, B. H. N. Horgan, **M.G.A. Lapôtre**, M. T. Thorpe, C. C. Bedford, K. Mason, P. Sinha, E. Champion, A. D. Harrington, & the SAND-E engineering team (2020). Dust from Mars-analog plains (Iceland): Physico-compositional properties as a function of grain-size fraction. *51st LPSC, Abstract #2250*.
- Thorpe, M. T., E. B. Rampe, K. L. Siebach, C. C. Bedford, R. C. Ewing, R. Christofferson, P. Sinha, B. H. N. Horgan, **M.G.A. Lapôtre**, M. Nachon, K. Mason, E. Champion, & the SAND-E team (2020). Clay sediments from basaltic terrains: Implications for sedimentary processes on Mars. *51st LPSC, Abstract #1566*.
- Bedford, C. C., E. B. Rampe, M. T. Thorpe, R. C. Ewing, B. H. N. Horgan, M. Nachon, **M.G.A. Lapôtre**, P. Sinha, K. Mason, E. Champion, E. Reid (2020). Identifying the products of volcano-ice interaction in basaltic sediments in Iceland and their implications for Mars. *51st LPSC, Abstract #2478*.
- Rampe, E. B., R. C. Ewing, M. T. Thorpe, C. C. Bedford, B. Horgan, **M.G.A. Lapôtre**, P. Sinha, M. Nachon, K. Mason, E. Champion, P. Gray, A. Soto, & E. Reid (2020). Using XRD to characterize sediment sorting in a Mars analog glacio-fluvio-eolian basaltic sedimentary system in Iceland. *51st LPSC, Abstract #2365*.
- Sinha, P., B. H. N. Horgan, R. C. Ewing, E. B. Rampe, **M.G.A. Lapôtre**, M. Nachon, M. Thorpe, A. Rudolph, C. Bedford, K. Mason, E. Champion, P. C. Gray, E. Reid & M. Faragalli (2020). Decorrelation stretches (DCS) of visible images as a tool for sedimentary provenance investigations on Earth and Mars. *51st LPSC, Abstract #1495*.
- Sinha, P., B. H. N. Horgan, R. C. Ewing, E. B. Rampe, **M.G.A. Lapôtre**, M. Nachon, M. Thorpe, C. Bedford, K. Mason, E. Champion, P. C. Gray, E. Reid & M. Faragalli (2020). SAND-E: A Rover-Based Mars Analog Study of a Mafic Sedimentary Environment, Iceland. *Seventh International Conference on Mars Polar Science & Exploration*, Abstract #6056.
- Ewing, R. C., E. B. Rampe, B. H. N. Horgan, **M.G.A. Lapôtre**, & 8 other coauthors (2019). SAND-E: Semi-Autonomous Navigation for Detrital Environments First Results. *AGU Fall Meeting*, EP24A-05.
- *Steelquist, A. T., G. Hilley, & **M.G.A. Lapôtre** (2019). Drainage initiation in bedrock landscapes. *AGU Fall Meeting*, EP53I-2247.
- Ielpi, A., **M.G.A. Lapôtre** (2019). Evolution of land plants impacted global rates of meander migration and biogeochemical fluxes. *AGU Fall Meeting*, EP41A-02.

- Chojnacki, M., L. Fenton, M. Banks, S. Silvestro, D. Vaz, A. Urso, R.C. Ewing, **M.G.A. Lapôtre** (2019). Wind-driven sand motion across Mars and implications from orbital analysis. *Ninth International Conference on Mars*, Abstract #6361.
- Ielpi, A., **M.G.A. Lapôtre** (2019). Plant life hinders river meandering in the Bonneville Basin of Utah. *Geological Association of Canada – Mineralogical Association of Canada – International Association of Hydrogeologists Conference 2019*.
- Ruangsirikulchai, A., K. Wilson, H.J. Hassenruck-Gudipati, **M.G.A. Lapôtre**, D.C. Mohrig (2019). Developmental History of Return-Flow Channels Caused by Hurricane Harvey at San Jose Island, Texas, USA. *Geophysical Research Abstracts*, Vol. 21, EGU2019-1475, *EGU General Assembly 2019*.
- Rampe, E.B., T.F. Bristow, D.F. Blake, D.T. Vaniman, **M.G.A. Lapôtre**, & 22 other coauthors (2019). Mineralogy of modern regolith and ancient sedimentary deposits in Gale crater, Mars from the Curiosity rover. *2019 Soil Science Society of America Meeting*, Abstract #148-1.
- Ruangsirikulchai, A., K. Wilson, H.J. Hassenruck-Gudipati, **M.G.A. Lapôtre**, D.C. Mohrig (2018). Evolution of return-flow channels cut into San Jose Island, Texas, caused by hurricane Harvey. *AGU Fall Meeting*, EP23C-2347.
- Ewing, R.C., & 6 other coauthors including **M.G.A. Lapôtre** (2018). Overview of SAND-E: Semi-Autonomous Navigation for Detrital Environments. *AGU Fall Meeting*, P51C-11.
- (invited) Baker, M.M., C.E. Newman, **M.G.A. Lapôtre**, K.W. Lewis, M.E. Minitti, R. Sullivan, A. Vasavada, C.M. Weitz, D.M. Rubin, & N.T. Bridges (2018). Characterizing the modern-day Aeolian environment at Gale crater, Mars. *AGU Fall Meeting*, EP43A-08.
- Rampe., E.B., **M.G.A. Lapôtre**, & 27 coauthors (2018). Using Mineralogy of the Bagnold Dune Field in Gale Crater to Interpret Eolian Sediment Sorting on the Martian Surface. *GSA Annual Meeting 2018*, Paper no. 54-2.
- Kurokawa, H., B.L. Ehlmann, E. Ammanito, M.C. De Sanctis, **M.G.A. Lapôtre**, T. Usui, N.T. Stein, T. Prettyman, A. Raponi, & M. Ciarniello (2018). A probabilistic approach to deriving Ceres average surface composition from Dawn VIR data. *JpGU 2018*, MIS18-P10.
- Kurokawa, H., B.L. Ehlmann, E. Ammanito, M.C. De Sanctis, **M.G.A. Lapôtre**, T. Usui, N.T. Stein, T. Prettyman, A. Raponi, & M. Ciarniello (2018). A Bayesian approach to deriving Ceres surface composition from Dawn VIR data: Initial quantification of bright spot and typical dark material phases with this method. *49th LPSC*, Abstract #1908.
- Rampe, E.B., T.F. Bristow, D.F. Blake, D.T. Vaniman, C.N. Achilles, N. Castle, S.J. Chipera, P.I. Craig, D.J. Des Marais, R.T. Downs, J. Farmer, R. Hazen, B. Horgan, **M.G.A. Lapôtre**, D.W. Ming, R.V. Morris, S.M. Morrison, T.S. Peretyazhko, A.H. Treiman, V. Tu, & A.S. Yen (2018). Mineralogy of Aeolian sand in Gale crater, Mars. *49th LPSC*, Abstract #1654.
- Weitz, C.M., R.J. Sullivan, **M.G.A. Lapôtre**, S.K. Rowland, K.S. Edgett, J.A. Grant, & R.A. Yingst (2018). Grain size measurements of eolian ripples in Gale crater, Mars. *49th LPSC*, Abstract #1257.
- (invited) Lamb, M.P., **M.G.A. Lapôtre**, I.J. Larsen, & R.M.E. Williams (2017). Bedrock canyons carved by the largest known floods on Earth and Mars. *AGU Fall Meeting*, U43A-03.
- (invited) Ehlmann, B.L., K.S. Edgett, B. Sutter, C.N. Achilles, M.L. Litvak, **M.G.A. Lapôtre**, & 34 other coauthors (2017). The sands of the Bagnold Dunes, Mars. *AGU Fall Meeting*, P51H-10.
- Baker, M., **M.G.A. Lapôtre**, N.T. Bridges, M. Minitti, C. Newman, B.L. Ehlmann, A. Vasavada, K. Lewis (2017). The Bagnold Dunes in the southern summer season: Active sediment transport on Mars observed by MSL. *AGU Fall Meeting*, P33F-04.
- Weitz, C.M., R. Sullivan, **M.G.A. Lapôtre**, S. Rowland, K.S. Edgett, J.A. Grant, R.A. Yingst (2017). Grain size measurements of eolian ripples in Gale crater, Mars. *AGU Fall Meeting*, P31A-2787.
- Banham, S., S. Gupta, D. Rubin, J. Watkins, K.S. Edgett, D.Y. Sumner, J.P. Grotzinger, K. Lewis, L. Edgar, K. Stack, R. Barnes, J. Bell III, M.D. Day, R.C. Ewing, **M.G.A. Lapôtre**, N. Stein, F. Rivera-Hernandez, A. Vasavada (2017). From lakes to sand seas: A record of early Mars climate change explored in northern Gale crater, Mars. *AGU Fall Meeting*, P33F-02.
- Ewing, R.C., **M.G.A. Lapôtre**, K. Lewis, M.D. Day, N.T. Stein, D.M. Rubin, R. Sullivan, S.G. Banham, M.P. Lamb, N.T. Bridges, S. Gupta, W.W. Fischer (2017). Relating sedimentary processes in the

- Bagnold Dunes to the development of crater basin aeolian stratification. *AGU Fall Meeting*, B23A-2051.
- Ewing, R.C., **M.G.A. Lapôtre**, K. Lewis, M.D. Day, N.T. Stein, D.M. Rubin, R. Sullivan, S.G. Banham, M.P. Lamb, N.T. Bridges, S. Gupta, W.W. Fischer (2017). Relating sedimentary processes in the Bagnold Dunes to the development of crater basin aeolian stratification. *GSA Annual Meeting 2017*, Paper no. 24-4.
- Lamb, M.P., **M.G.A. Lapôtre**, I.J. Larsen, & R.M.E. Williams (2017). Morphodynamics of bedrock canyons carved by megafloods. *10th Symposium on River, Coastal and Estuarine Morphodynamics*, Padova, Italy.
- Banham, S.G., S. Gupta, D.M. Rubin, J.A. Watkins, D.Y. Sumner, J.P. Grotzinger, K.W. Lewis, K.S. Edgett, L.A. Edgar, K.M Stack, J. Bell, R. Ewing, M.D. Day, & **M.G.A. Lapôtre** (2017). Anatomy of an ancient eolian sandstone on Mars: The Stimson formation in Gale crater. *2017 National Astronomy Meeting*, Hull, UK.
- Baker, M., K.W. Lewis, N.T. Bridges, C. Newman, J. Van Beek, **M.G.A. Lapôtre** (2017). Aeolian transport of coarse sediment in the modern martian environment. *Dust in the Atmosphere of Mars and Its Impact on Human Exploration workshop*, Houston, TX, Abstract #6021.
- Bridges, N.T., B.L. Ehlmann, C. Achille, A. Cousin, C. Edwards, R. Ewing, J. Johnson, **M.G.A. Lapôtre**, C. Newman, C. O'Connel-Cooper, D. Rubin, R. Sullivan (2017). Investigation of the Bagnold Dunes by the Curiosity rover: Summary of results from the first investigation of an active dune field on another planet. *5th International Planetary Dunes Workshop*, St. George, UT, Abstract #3031.
- Banham, S.G., S. Gupta, D.M. Rubin, J.A. Watkins, D.Y. Sumner, J.P. Grotzinger, K.W. Lewis, K.S. Edgett, L.A. Edgar, K.M Stack, J. Bell, R. Ewing, M.D. Day, & **M.G.A. Lapôtre** (2017). Anatomy of an ancient eolian sandstone on Mars: The Stimson formation in Gale crater. *5th International Planetary Dunes Workshop*, St. George, UT, Abstract #3039.
- (invited) Lamb, M.P., **M.G.A. Lapôtre**, I.J. Larsen, & R.M.E. Williams (2017). Erosional threshold for the formation of bedrock canyons carved by megafloods on Earth and Mars. *Geophysical Research Abstracts*, Vol. 19, EGU2017-614, *EGU General Assembly 2017*.
- Achilles, C.N., R.T. Downs, D.W. Ming, E.B. Rampe, R.V. Morris, A.H. Treiman, S.M. Morrison, D.F. Blake, D.T. Vaniman, R.C. Ewing, S.J. Chipera, A.S. Yen, T.F. Bristow, B.L. Ehlmann, **M.G.A. Lapôtre**, R. Gellert, R.M. Hazen (2017). Ground-truth mineralogy vs. orbital observations at the Bagnold Dune Field. *48th LPSC*, Abstract #2889.
- Bridges, N.T., R. Sullivan, C.E. Newman, S. Navarro, J. van Beek, R.C. Ewing, F. Ayoub, S. Silvestro, O. Gasnault, S. Le Mouelic, **M.G.A. Lapôtre**, W. Rapin (2017). Martian aeolian activity at the Bagnold Dunes, Gale crater: The view from the surface and orbit. *48th LPSC*, Abstract #1983.
- Banham, S.G., S. Gupta, D.M. Rubin, J.A. Watkins, D.Y. Sumner, J.P. Grotzinger, K.W. Lewis, K.S. Edgett, L.A. Edgar, K.M. Stack, J. Bell, M.D. Day, R.C. Ewing, **M.G.A. Lapôtre** (2017). The Stimson formation: Determining the morphology of a dry aeolian dune system and its climatic significance in Gale crater, Mars. *48th LPSC*, Abstract #2014.
- Ballard, M.J., R.C. Ewing, & **M.G.A. Lapôtre** (2017). Variations in bedform wavelength by elevation on Mars. *48th LPSC*, Abstract #2430.
- Ehlmann, B.L., S.S. Johnson, B. Horgan, P.B. Niles, E.S. Amador, P.D. Archer, Jr, S. Byrne, C.S. Edwards, A.A. Fraeman, D.P. Glavin, T.D. Glotch, C. Hardgrove, P.O. Hayne, E.S. Kite, N.L. Lanza, **M.G.A. Lapôtre**, J. Michalski, M. Rice, A.D. Rogers (2017). Mars exploration science in 2050. *Planetary Science Vision 2050 Workshop*, Abstract #8236.
- Bridges, N.T., R. Sullivan, R.C. Ewing, C.E. Newman, F. Ayoub, **M.G.A. Lapôtre**, & J. Van Beek (2016). Sand dune dynamics on Mars: Integration of surface imaging, wind measurements, and orbital remote sensing. *AGU Fall Meeting*, EP24A-05.
- (invited) Ewing, R.C., N.T. Bridges, R. Sullivan, **M.G.A. Lapôtre**, W.W. Fischer, M.P. Lamb, D.M. Rubin, K. Lewis, S. Gupta (2016). Aeolian sedimentary processes at the Bagnold Dunes Mars: Implications for modern dune dynamics and sedimentary structures in the aeolian stratigraphic record of Mars. *GSA Annual Meeting 2016*, Paper no. 140-3.

- Baker, M.M., K. Lewis, **M.G.A. Lapôtre**, C.E. Newman, J. Van Beek, & N.T. Bridges (2016). Aeolian transport of coarse sediment in the modern martian environment. *GSA Annual Meeting 2016*, Paper no. 140-9.
- Gupta, S., S. Banham, D. Rubin, J. Watkins, D.Y. Sumner, J.P. Grotzinger, K. Lewis, K.S. Edgett, L. Edgar, K. Stack, M. Day, R. Ewing, **M.G.A. Lapôtre** (2016). Anatomy of an ancient aeolian sandstone on Mars: The Stimson formation, Gale crater, Mars. *48th DPS Annual Meeting*, Abstract 507.01.
- Ehlmann, B.L., N.T. Bridges, A.A. Fraeman, **M.G.A. Lapôtre**, K.S. Edgett, J.R. Johnson, A. Cousin, A.S. Yen, P. Conrad, L. Thompson, J. Van Beek, D. Vaniman, S. Schroder, A. Vasavada, & the MSL Science Team (2016). Chemistry and mineralogy in-situ at the Bagnold sand dunes: Evidence for aeolian sorting and size-dependence in sand composition. *47th LPSC*, Abstract #1536.
- Ewing, R.C., N.T. Bridges, R. Sullivan, **M.G.A. Lapôtre**, W.W. Fischer, M.P. Lamb, D. Rubin, K.W. Lewis, S. Gupta (2016). Aeolian sedimentary processes at the Bagnold Dunes, Mars: Implications for modern dune dynamics and sedimentary structures in the aeolian stratigraphic record of Mars. *47th LPSC*, Abstract #2783.
- Bridges N.T., B.L. Ehlmann, R.C. Ewing, C.E. Newman, R. Sullivan, P.G. Conrad, A. Cousin, K.S. Edgett, M.R. Fisk, A.A. Fraeman, J.R. Johnson, M.P. Lamb, **M.G.A. Lapôtre**, S. Le Mouelic, G.M. Martinez, P.-Y. Meslin, P. Pinet, L.M. Thompson, J. Van Beek, A.R. Vasavada, R.C. Wiens (2016). Investigation of the Bagnold Dunes by the Curiosity rover: Overview of initial results from the first study of an active dune field on another planet. *47th LPSC*, Abstract #2298.
- Achilles, C.N., D.T. Vaniman, D.F. Blake, T.F. Bristow, E.B. Rampe, D.W. Ming, S.J. Chipera, R.V. Morris, S.M. Morrison, R.T. Downs, K.V. Fendrich, B.L. Ehlmann, A.S. Yen, P.C. Sarrazin, A.H. Treiman, P.I. Craig, **M.G.A. Lapôtre**, K.S. Edgett, R. Gellert, J.A. Crisp, J.M. Morookian, J.P. Grotzinger, D.J. Des Marais, J.D. Farmer (2016). Mineralogy of eolian sands at Gale crater. *47th LPSC*, Abstract #2532.
- Baker, M., K.W. Lewis, N.T. Bridges, C.E. Newman, J. Van Beek, **M.G.A. Lapôtre** (2016). Aeolian transport of coarse sediment in the modern martian environment. *47th LPSC*, Abstract #2894.
- Ballard, M., R.C. Ewing, **M.G.A. Lapôtre** (2016). Variations in bedform wavelength by elevation on Mars. *47th LPSC*, Abstract #2977.
- Ewing, R.C., N.T. Bridges, R. Sullivan, **M.G.A. Lapôtre**, W.W. Fischer, M.P. Lamb, D. Rubin, K.W. Lewis, S. Gupta (2016). Aeolian sedimentary processes at the Bagnold Dunes, Mars: Implications for modern dune dynamics and sedimentary structures in the aeolian stratigraphic record of Mars. *Geophysical Research Abstracts*, Vol. 18, EGU2016-10731, *EGU General Assembly 2016*.
- Bridges N.T., B.L. Ehlmann, R.C. Ewing, C.E. Newman, R. Sullivan, P.G. Conrad, A. Cousin, K.S. Edgett, M.R. Fisk, A.A. Fraeman, J.R. Johnson, M.P. Lamb, **M.G.A. Lapôtre**, S. Le Mouelic, G.M. Martinez, P.-Y. Meslin, L.M. Thompson, J. Van Beek, A.R. Vasavada, R.C. Wiens (2016). Overview of initial results from studies of an active dune field on Mars by the Curiosity rover. *Geophysical Research Abstracts*, Vol. 18, EGU2016-9711, *EGU General Assembly 2016*.
- Rubin, D.M., R.C. Ewing, **M.G.A. Lapôtre**, S.G. Banham, S. Gupta, J.P. Grotzinger (2016). Comparison of cross-bedding in eolian dunes in the Namib Desert and the eolian Stimson sandstone in Gale crater, Mars. *35th International Geological Congress, Cape Town, SA*.
- Banham, S.G., S. Gupta, & others including **M.G.A. Lapôtre** (2016). Sedimentary architecture and evolution of the Stimson formation: Reconstruction of aeolian environments in Mars' early history. *32nd IAS Meeting of Sedimentology*, Abstract #340.
- Ehlmann, B.L., C.N. Achilles, N.T. Bridges, P. Conrad, A. Cousin, K. Edgett, A.A. Fraeman, J.R. Johnson, **M.G.A. Lapôtre**, M. Litvak, S. Rowland, S. Schroder, B. Sutter, N. Stein, L. Thompson, J. Van Beek, D. Vaniman, A. Vasavada, A. Yen, & the MSL Science Team (2016). Chemistry and mineralogy in-situ at the Bagnold dunes, Gale Crater: Evidence for size-dependence in martian sand composition. *Goldschmidt Conference 2016, Yokohama, Japan*.
- Achilles, C.N., R.T. Downs, D.T. Vaniman, D.F. Blake, R.V. Morris, D.W. Ming, A.S. Yen, E.B. Rampe, T.F. Bristow, S.J. Chipera, S.M. Morrison, A.H. Treiman, K.V. Fendrich, P.C. Sarrazin, P.I. Craig, B.L. Ehlmann, **M.G.A. Lapôtre**, K.S. Edgett, R. Gellert, J.A. Crisp, J.P. Grotzinger, D.J. Des Marais, J.D.

- Farmer, J.M. Morookian (2016). Mineralogy of eolian sands at Gale crater, Mars. *Goldschmidt Conference 2016, Yokohama, Japan*.
- Fraeman, A.A., R.E. Arvidson, B.L. Ehlmann, B. Clark, A. Cousin, D. Des Marais, R. Gellert, J.R. Johnson, **M.G.A. Lapôtre**, S. Schröder, N. Stein, R. Sullivan, D. Wellington (2015). Physical and material properties of Gale Crater sandy deposits: From Rocknest to Parhump. *46th LPSC*, Abstract # 1682.
- Bridges, N.T. and 20 coauthors including **M.G.A. Lapôtre** (2015). Investigation of the Bagnold Dunes by the Curiosity rover: Plans for the first study of an active dune field on another planet. *4th International Planetary Dunes Workshop*, Abstract #8028.
- Bridges, N.T., R.E. Arvidson, F. Ayoub, B.L. Ehlmann, A.A. Fraeman, **M.G.A. Lapôtre**, J. Martin-Torres, H. Newsom, D. Rubin, R. Sullivan (2014). Studies of Aeolian Bedforms and Wind Activity in Gale Crater from Surface to Orbital Scales. *GSA Annual Meeting 2014*, Paper no. 202-12.
- (invited) Lamb, M.P., B. Mackey, M. Fongstad, **M.G.A. Lapôtre**, K. Farley (2012). Rapid canyon formation by extreme floods. *AGU Fall Meeting*, EP53I-03.
- (invited) Woods, A.W. and the students of the BP Institute (2011). The intrusion of buoyant plumes in the energy industry, *Wyss Lecture*, Harvard University.
- Perron, J.T., P.W. Richardson, **M.G.A. Lapôtre**, K. Ferrier (2011). Reading rock types, climate, and life from emergent patterns in landscapes. *24th Kongsberg Seminar*, Norway.
- Galland, O., **M.G.A. Lapôtre**, E.-R. Neumann, S. Plank (2011). Experimental modelling of ground deformation above shallow magma intrusion. *Volcanic and Magmatic Studies Group Annual Meeting*, Cambridge, UK.
- (invited) Perron, J.T., **M.G.A. Lapôtre** (2010). The branching instability in valley networks. *AGU Fall Meeting*, H41J-02.

Outreach

- Mars Landing Watch Party. Organized and led a virtual event open to the broad Stanford community to celebrate Perseverance's landing on Mars on Feb. 18, 2021. Presented Mars 2020 mission goals and landing site, created a "guess the landing site" game, and answered questions from the audience with the help of Paul Wercinski, NASA engineer at the Ames Research Center.
- Tech Briefs Mars 2020 webinar (formerly NASA Tech Briefs). Presented Mars 2020 mission goals and landing site to an engineering and technology oriented audience.
- Movie Night, Department of Geological Sciences, Stanford. Screening of "The Martian" followed by Q&A about Mars geology and exploration.
- Interviewee and science consultant for BBC (UK) and NOVA (USA) Science Documentary Series *The Planets*, Episode *Mars*. The series was broadcasted in the Summer of 2019 (UK/USA).
- Volunteer at the Planetary Geology Division Booth at the GSA Annual Meetings in 2015 (Baltimore, MD), 2016 (Denver, CO), and at the LPSC 2017. Presented various orbital datasets to a general audience. Answered questions about planets and moons of the solar system.
- Volunteer at the Curiosity Landing Planetfest 2012, Pasadena. Answered questions about Mars and its geologic history to a general audience.

Media Coverage

- Lapôtre et al. (2022) "The role of seasonal sediment transport and sintering in shaping Titan's landscapes: A hypothesis." was covered by multiple news outlets including the *Universe Today*, *SyFy Wire*, *Forbes*, *Space.com*, *Daily Galaxy*, *Phys.org*, *Stanford News* (04/2022).
- A story written in mud, *Stanford Earth Matters* (01/2022).
- NASA backs concepts for deep-drilling Mars rover and interstellar-object probe, *GeekWire* (02/2021).
- Mars landing: Cause for celebration, *Stanford Earth Dean's Desk* (02/2021).

Les géologues pris dans les pièges des dunes martiennes (“Geologists bogged down in martian sand dunes,” in French), *Le Monde* (02/2021).

Stanford scientists anticipate the Mars 2020 rover launch, *Stanford News*, *Stanford Earth Matters* (07/2020).

Mars 2020: The legacy continues for NASA space robotics, *Tech Briefs* (06/2020).

The pace of fluvial meanders on Mars and implications for the western delta deposits of Jezero crater, *EOS*, *Stanford News*, *Stanford Earth Matters*, *CTV News*, *Science & Avenir*, *TechBriefs*, and various science and tech blogs including *BGR.com* (04/2020).

What other planets can teach us about Earth: Stanford researchers explain, *Stanford News*, *Stanford Earth Matters* (03/2020).

Fact or fiction? The science of Star Wars, *Stanford Earth Matters* (12/2019).

A tenfold slowdown in river meander migration driven by plant life, *SciGlow* (12/2019).

Seeing Mars in a grain of sand, *EOS*, (10/2018).

A rover’s eye view of moving Martian dunes, *EOS* (11/2017).

Curiosity rover spies shifting sands on Mars, *EOS* (06/2017).

NASA rover samples active linear dune on Mars, *NASA* (05/2017).

Gloopy fluid makes bigger ripples, *The Guardian* (02/2017).

Reconstructing catastrophic floods on Earth and Mars, *EOS* (07/2016).

Lapôtre et al. (2016) “Large wind ripples on Mars: A record of atmospheric evolution” was covered by multiple news outlets including the *Wall Street Journal*, the *Washington Post*, *Time Magazine*, the *Daily News*, *Popular Mechanics*, *Space.com*, & *Natural History Magazine*.

Sandy ripples point to Mars’s past, *Science* (04/2016).

Comment les bassins des rivières évoluent? (“How do river basins evolve?” in French), interview for *Pour la Science* (03/2014).

Comment leur forme vient aux rivières? (“What gives rivers their shapes?” in French) Interview about *Perron et al.* (2012), *Le Temps* (12/2012).

Pourquoi les rivières ne sont pas de longs fleuves tranquilles? (“Why aren’t all rivers long quiet rivers?” in French) Interview about *Perron et al.* (2012) for *Le Monde* (12/2012).