

# Timothy A. Goudge

## Curriculum Vitae

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The University of Texas at Austin  
Jackson School of Geosciences  
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### Research Interests

My science is driven by interests in: using remote sensing to investigate the record of surface processes on planetary bodies; reconstructing the ancient martian surface environment from its geology and sedimentary rock record; understanding how distinct boundary conditions on planetary surfaces affect sedimentary processes; and quantitative analysis of infrared spectroscopy data to remotely characterize mineralogy.

### Education

**Brown University**, Providence, Rhode Island, USA

2015

**Doctor of Philosophy (PhD) in Geological Sciences**

Dissertation Title: *Paleolakes on Mars: Insights into timing, morphology, and mineralogy.*

Advisors: Jim Head and Jack Mustard

2012

**Master of Science (ScM) in Geological Sciences**

Advisors: Jim Head and Jack Mustard

**Queen's University**, Kingston, Ontario, Canada

2009

**Bachelor of Science (BSc) in Geological Engineering**

Focus in Geotechnical Engineering; Graduated Honors, 1<sup>st</sup> Class

### Professional Experience

2019 – Present

**Assistant Professor**

Department of Earth and Planetary Sciences, Jackson School of Geosciences,  
The University of Texas at Austin

2015 – 2019

**Jackson School Distinguished Postdoctoral Fellow**

Jackson School of Geosciences, The University of Texas at Austin

2010 – 2015

**Graduate Student Research Assistant**

Department of Geological Sciences, Brown University

### Academic Honors and Awards

2024 – Present

CIFAR Fellow, Earth 4D: Subsurface Science & Exploration Program

2024

Rosenstiel Award, Rosenstiel School of Marine, Atmospheric, and Earth  
Science, University of Miami

2023	Jackson School of Geosciences Community Partnership, Diversity, Equity and Inclusion Award
2021	NASA Planetary Science Early Career Award
2021 – 2023	CIFAR Azrieli Global Scholar, Earth 4D: Subsurface Science & Exploration Program
2021	AGU Ronald Greeley Early Career Award in Planetary Sciences
2019, 2020	G. Moses and Carolyn G. Knebel Distinguished Teaching Award <i>Best geology course, as judged by the students. 2019 – graduate level (Intro. Remote Sensing); 2020 – undergraduate level (Sed. Rocks)</i>
2020	Geosphere Exceptional Reviewer
2018	National Center for Earth-Surface Dynamics 2 Synthesis Postdoctoral Fellowship
2015 – 2017	Jackson School Distinguished Postdoctoral Fellowship, The University of Texas at Austin
2015	GeoClub Award ( <i>for outstanding departmental service by a graduate student</i> ), Brown University
2012 – 2015	Natural Sciences and Engineering Research Council of Canada (NSERC) Postgraduate Scholarship
2012, 2013	GSA Northeastern Section Student Travel Grant
2010 – 2011	First Year Graduate Fellowship, Brown University
Prior to 2010 ( <i>at Queen's Univ.</i> )	J. P. Bickell Foundation Mining Scholarship (2008–2009); Gartner Lee Scholarship in Geological Engineering (2008–2009); J. J. Denny Memorial Scholarship in Geological Engineering (2007–2008); Morley E. Wilson Scholarship in Geological Sciences (2006–2008); Annie Bentley Lillie Book Prize for First Year Calculus (2006–2007); Dean's Scholar (2005–2008); Dean's Award (2005–2006); Dean's Entrance Scholarship in Applied Science (2005–2006)

## **Refereed Journal Publications**

*Goudge mentee.* #Graduate student, †postdoctoral fellow, §undergraduate student.

### **2024:**

1. **Goudge, T. A.**, A. M. Morgan, G. Stucky de Quay, and C. I. Fassett (2024), Spatial patterns of valley network erosion on early Mars, *Icarus*, 116224, DOI: 10.1016/j.icarus.2024.116224.
2. Miller, R. C., C. Grima, S. P. S. Gulick, **T. A. Goudge**, A. T. Russell, M. R. Perry, N. E. Putzig, and B. A. Campbell (2024), Dynamic development of the Athabasca Valles outflow system from volcanic facies and 15 m scale roughness, *Icarus*, 115691, DOI: 10.1016/j.icarus.2023.115691.
3. Hiatt, E., M. A. Shadab, S. P. S. Gulick, **T. A. Goudge**, and M. A. Hesse (2024), Limited recharge of the southern highlands aquifer on Early Mars, *Icarus*, 408, 115774, DOI: 10.1016/j.icarus.2023.115774.

### **2023:**

4. Hughes, C. M., M. S. Rice, C. J. Barnhart, T. E. Swanson, A. M. Pfeiffer, and **T. A. Goudge** (2023), Sources of clay-rich sediment in Eberswalde crater, Mars with implications for biopreservation potential, *J. Geophys. Res. Planets*, 128, e2022JE007545, DOI: 10.1029/2022JE007545.

5. **Goudge, T. A.**, J. M. Swartz, T. Y. Dong<sup>†</sup>, and D. Mohrig (2023), Characterizing the response of the coastal Rio Grande to upstream damming, *Geomorphology*, *426*, 108604, DOI: 10.1016/j.geomorph.2023.108604.
6. **Goudge, T. A.**, C. I. Fassett, M. Coholich<sup>§</sup>, and E. R. Bamber<sup>#</sup> (2023), Assessing controls on the incomplete draining of martian open-basin lakes, *J. Geophys. Res. Planets*, *128*, e2022JE007443, DOI: 10.1029/2022JE007443.

**2022:**

7. <sup>#</sup>Bamber, E. R., **T. A. Goudge**, C. I. Fassett, G. R. Osinski, and G. Stucky de Quay (2022), Paleolake inlet valley formation: Factors controlling which craters breached on early Mars, *Geophys. Res. Lett.*, *49*, e2022GL101097, DOI: 10.1029/2022GL101097.
8. Michalski, J. R., **T. A. Goudge**, S. A. Crowe, J. Cuadros, J. F. Mustard, and S. S. Johnson (2022), Geological Diversity and Microbiological Potential of Lakes on Mars, *Nature Astronomy*, *6*, 1133–1141, DOI: 10.1038/s41550-022-01743-7.
9. <sup>†</sup>Dong, T. Y., and **T. A. Goudge** (2022), Quantitative relationships between river and channel-belt planform patterns, *Geology*, *50*, 1053–1057, DOI: 10.1130/G49935.1.
10. Hassenruck-Gudipati, H. J., T. S. Ellis, **T. A. Goudge**, and D. Mohrig (2022), A multi-proxy assessment of terrace formation in the lower Trinity River Valley, Texas, *Earth Surf. Dynam.*, *10*, 635–651, DOI: 10.5194/esurf-10-635-2022.
11. <sup>#</sup>Bamber, E. R., **T. A. Goudge**, C. I. Fassett, and G. R. Osinski (2022), Constraining the formation of paleolake inlet valleys across crater rims, *Icarus*, *378*, 114945, DOI: 10.1016/j.icarus.2022.114945.
12. <sup>#</sup>Tebolt, M., and **T. A. Goudge** (2022), Global investigation of martian sedimentary fan features: Using stratigraphic analysis to study depositional environment, *Icarus*, *372*, 114718, DOI: 10.1016/j.icarus.2021.114718.

**2021:**

13. Fassett, C. I., and **T. A. Goudge** (2021), Modeling the hydrodynamics, sediment transport, and valley incision of outlet-forming floods from martian crater lakes, *J. Geophys. Res. Planets*, *126*, e2021JE006979, DOI: 10.1029/2021JE006979.
14. **Goudge, T. A.**, A. M. Morgan, G. Stucky de Quay<sup>†</sup>, and C. I. Fassett (2021), The importance of lake breach floods for valley incision on early Mars, *Nature*, *597*, 645–649, DOI: 10.1038/s41586-021-03860-1.
15. <sup>†</sup>Stucky de Quay, G., **T. A. Goudge**, E. S. Kite, C. I. Fassett, and S. D. Guzewich (2021), Limits on runoff episode duration for early Mars: Integrating lake hydrology and climate models, *Geophys. Res. Lett.*, *48*, e2021GL093523, DOI: 10.1029/2021GL093523.
16. Baum, M., R. Wordsworth, and **T. A. Goudge** (2021), Consequences of proposed shoreline deformation scenarios for Jezero crater, Mars, *Planet. Sci. J.*, *2*, 218, DOI: 10.3847/PSJ/ac01de.
17. Levy, J. S., C. I. Fassett, J. W. Holt, R. Parsons, W. Cipolli, **T. A. Goudge**, M. Tebolt<sup>#</sup>, L. Kuentz, J. Johnson, F. Ishraque, B. Cvijanovich, and I. Armstrong (2021), Surface boulder banding indicates martian debris-covered glaciers formed over multiple glaciations, *Proc. Natl. Acad. Sci.*, *118*, e2015971118, DOI: 10.1073/pnas.2015971118.

**2020:**

18. <sup>†</sup>Stucky de Quay, G., **T. A. Goudge**, and C. I. Fassett (2020), Precipitation and aridity constraints from paleolakes on early Mars, *Geology*, *48*, 1189–1193, DOI: 10.1130/G47886.1.

19. Cardenas, B. T., D. Mohrig, C. M. Hughes, **T. A. Goudge**, J. S. Levy, T. Swanson, J. Mason, and F. Zhao (2020), The anatomy of exhumed river-channel belts: Bedform- to belt-scale river kinematics of the Ruby Ranch Member, Cretaceous Cedar Mountain Formation, Utah, USA, *Sedimentology*, *67*, 3655–3682, DOI: 10.1111/sed.12765.
20. Swartz, J. M., **T. A. Goudge**, and D. Mohrig (2020), Quantifying coastal fluvial morphodynamics over the last 100 years on the lower Rio Grande, USA and Mexico, *J. Geophys. Res. Earth Surface*, *125*, e2019JF005443, DOI: 10.1029/2019JF005443.
21. Cook, C. W., A. M. Bramson, S. Byrne, J. W. Holt, M. S. Christoffersen, D. Viola, C. M. Dundas, and **T. A. Goudge** (2020), Sparse subsurface radar reflectors in Hellas Planitia, Mars, *Icarus*, *348*, 113847, DOI: 10.1016/j.icarus.2020.113847.
22. Brown, A. J., C. E. Viviano, and **T. A. Goudge** (2020), Olivine-carbonate mineralogy of the Jezero crater region, *J. Geophys. Res. Planets*, *125*, e2019JE006011, DOI: 10.1029/2019JE006011.
23. #Tebolt, M., J. Levy, **T. Goudge**, and N. Schorghofer (2020), Slope, elevation, and thermal inertia trends of martian recurring slope lineae initiation and termination points: Multiple possible processes occurring on coarse, sandy slopes, *Icarus*, *338*, 113536, DOI: 10.1016/j.icarus.2019.113536.

**2019:**

24. Cardenas, B. T., T. Swanson, **T. A. Goudge**, R. W. Wagner, and D. Mohrig (2019), The effect of remote sensing resolution limits on aeolian sandstone measurements and the reconstruction of ancient dune fields on Mars: Numerical experiment using the Page Sandstone, Earth, *J. Geophys. Res. Planets.*, *124*, 3244–3256, DOI: 10.1029/2019JE006191.
25. Tarnas, J. D., J. F. Mustard, H. Lin, **T. A. Goudge**, E. S. Amador, M. S. Bramble, C. H. Kremer, X. Zhang, Y. Itoh, and M. Parente (2019), Orbital identification of hydrated silica in Jezero crater, Mars, *Geophys. Res. Lett.*, *46*, 12,771–12,782, DOI: 10.1029/2019GL085584.
26. Schorghofer, N., J. S. Levy, and **T. A. Goudge** (2019), High-resolution thermal environment of recurring slope lineae in Palikir crater, Mars, and its implications for volatiles, *J. Geophys. Res. Planets*, *124*, 2852–2862, DOI: 10.1029/2019JE006083.
27. Lim, Y., J. S. Levy, **T. A. Goudge**, and W. Kim (2019), Ice cover as a control on the morphodynamics and stratigraphy of Arctic deltas, *Geology*, *47*, 399–402, DOI: 10.1130/G45146.1.
28. Shahrzad, S., K. M. Kinch, **T. A. Goudge**, C. I. Fassett, D. H. Needham, C. Quantin-Nataf, and C. P. Knudsen (2019), Crater statistics on the dark-toned, mafic floor unit in Jezero Crater, Mars, *Geophys. Res. Lett.*, *46*, 2408–2416, DOI: 10.1029/2018GL081402.
29. Kocurek, G., R. C. Martindale, M. Day, **T. A. Goudge**, C. Kerans, H. J. Hassenruck-Gudipati, J. Mason, B. T. Cardenas, E. I. Petersen, D. Mohrig, D. S. Aylward, C. M. Hughes, and C. M. Nazworth (2018), Antecedent aeolian dune topographic controls on carbonate and evaporite facies: Jurassic Todilto Member, Wanakah Formation, Ghost Ranch, New Mexico, USA, *Sedimentology*, *66*, 808–837, DOI: 10.1111/sed.12518.
30. Bramble, M. S., **T. A. Goudge**, R. E. Milliken, and J. F. Mustard (2019), Testing the deltaic origin of fan deposits at Bradbury crater, Mars, *Icarus*, *319*, 363–366, DOI: 10.1016/j.icarus.2018.09.024.
31. Hughes, C. M., B. T. Cardenas, **T. A. Goudge**, and D. Mohrig (2019), Deltaic deposits indicative of a paleo-coastline at Aeolis Dorsa, Mars, *Icarus*, *317*, 442–453, DOI: 10.1016/j.icarus.2018.08.009.

32. de Haas, T., S. J. Conway, F. E. G. Butcher, J. Levy, P. M. Grindrod, **T. A. Goudge**, and M. R. Balme (2019), Time will tell: Temporal evolution of martian gullies and paleoclimatic implications, *Geol. Soc. London Spec. Pub.* **467**, 165–186, DOI: 10.1144/SP467.1.

33. **Goudge, T. A.**, C. I. Fassett, and D. Mohrig (2019), Incision of paleolake outlet canyons on Mars from overflow flooding, *Geology*, **47**, 7–10, DOI: 10.1130/G45397.1.

#### 2018:

34. **Goudge, T. A.**, and C. I. Fassett (2018), Incision of Licus Vallis, Mars from multiple lake overflow floods, *J. Geophys. Res. Planets*, **123**, 405–420, DOI: 10.1002/2017JE005438.

35. Cardenas, B. T., D. Mohrig, and **T. A. Goudge** (2018), Fluvial stratigraphy of valley fills at Aeolis Dorsa, Mars: Evidence for base-level fluctuations controlled by a downstream water body, *Geol. Soc. Amer. Bull.*, **130**, 484–498, DOI: 10.1130/B31567.1.

36. Liu, Y., **T. A. Goudge**, J. G. Catalano, and A. Wang (2018), Spectral and stratigraphic mapping of hydrated minerals associated with interior layered deposits near the southern wall of Melas Chasma, Mars, *Icarus*, **302**, 62–79, DOI: 10.1016/j.icarus.2017.11.006.

37. **Goudge, T. A.**, D. Mohrig, B. T. Cardenas, C. M. Hughes, and C. I. Fassett (2018), Stratigraphy and paleohydrology of delta channel deposits, Jezero crater, Mars, *Icarus*, **301**, 58–75, DOI: 10.1016/j.icarus.2017.09.034.

38. Salvatore, M. R., **T. A. Goudge**, M. S. Bramble, C. S. Edwards, J. L. Bandfield, E. S. Amador, J. F. Mustard, and P. R. Christensen (2018), Bulk mineralogy of the NE Syrtis and Jezero crater regions of Mars derived through thermal infrared spectral analyses, *Icarus*, **301**, 76–96, DOI: 10.1016/j.icarus.2017.09.019.

#### 2017:

39. **Goudge, T. A.**, J. M. Russell, J. F. Mustard, J. W. Head, and S. Bijaksana (2017), A 40,000 year record of clay mineralogy at Lake Towuti, Indonesia: Paleoclimate reconstruction from reflectance spectroscopy and perspectives on paleolakes on Mars, *Geol. Soc. Amer. Bull.*, **129**, 806–819, DOI: 10.1130/B31569.1.

40. **Goudge, T. A.**, R. E. Milliken, J. W. Head, J. F. Mustard, and C. I. Fassett (2017), Sedimentological evidence for a deltaic origin of the western fan deposit in Jezero crater, Mars and implications for future exploration, *Earth Planet. Sci. Lett.*, **458**, 357–365, DOI: 10.1016/j.epsl.2016.10.056.

41. Levy, J. S., **T. A. Goudge**, J. W. Head, and C. I. Fassett (2017), Candidate volcanic and impact-induced ice depressions on Mars, *Icarus*, **285**, 185–194, DOI: 10.1016/j.icarus.2016.10.021.

#### 2016:

42. **Goudge, T. A.**, C. I. Fassett, J. W. Head, J. F. Mustard, and K. L. Aureli (2016), Insights into surface runoff on early Mars from paleolake basin morphology and stratigraphy, *Geology*, **44**, 419–422, DOI: 10.1130/G37734.1.

43. Weider, S. Z., L. R. Nittler, S. L. Murchie, P. N. Peplowski, T. J. McCoy, L. Kerber, C. Klimczak, C. M. Ernst, **T. A. Goudge**, R. D. Starr, N. R. Izenberg, R. L. Klima, and S. C. Solomon (2016), Evidence from MESSENGER for sulfur- and carbon-driven explosive volcanism on Mercury, *Geophys. Res. Lett.*, **43**, 3653–3661, DOI: 10.1002/2016GL068325.

#### 2015:

44. **Goudge, T. A.**, K. L. Aureli, J. W. Head, C. I. Fassett, and J. F. Mustard (2015), Classification and analysis of candidate impact crater-hosted closed-basin lakes on Mars, *Icarus*, **260**, 346–367, DOI: 10.1016/j.icarus.2015.07.026.

45. Weber, A. K., J. M. Russell, **T. A. Goudge**, M. R. Salvatore, J. F. Mustard, and S. Bijaksana (2015), Characterizing clay mineralogy in Lake Towuti, Indonesia, with reflectance spectroscopy, *J. Paleolimnol.*, *54*, 253–261, DOI: 10.1007/s10933-015-9844-4.
46. **Goudge, T. A.**, J. F. Mustard, J. W. Head, C. I. Fassett, and S. M. Wiseman (2015), Assessing the mineralogy of the watershed and fan deposits of the Jezero crater paleolake system, Mars, *J. Geophys. Res. Planets*, *120*, 775–808, DOI: 10.1002/2014JE004782.
47. Dickson, J. L., J. W. Head, **T. A. Goudge**, and L. Barbieri (2015), Recent climate cycles on Mars: Stratigraphic relationships between multiple generations of gullies and the latitude dependent mantle, *Icarus*, *252*, 83–94, DOI: 10.1016/j.icarus.2014.12.035.
48. **Goudge, T. A.**, J. F. Mustard, J. W. Head, M. R. Salvatore, and S. M. Wiseman (2015), Integrating CRISM and TES hyperspectral data to characterize a halloysite-bearing deposit in Kashira crater, Mars, *Icarus*, *250*, 165–187, DOI: 10.1016/j.icarus.2014.11.034.

**2014:**

49. **Goudge, T. A.**, J. W. Head, L. Kerber, D. T. Blewett, B. W. Denevi, D. L. Domingue, J. J. Gillis-Davis, K. Gwinner, J. Helbert, G. M. Holsclaw, N. R. Izenberg, R. L. Klima, W. E. McClintock, S. L. Murchie, G. A. Neumann, D. E. Smith, R. G. Strom, Z. Xiao, M. T. Zuber, and S. C. Solomon (2014), Global inventory and characterization of pyroclastic deposits on Mercury: New insights into pyroclastic activity from MESSENGER orbital data, *J. Geophys. Res. Planets*, *119*, 635–658, DOI: 10.1002/2013JE004480.
50. Izenberg, N. R., R. L. Klima, S. L. Murchie, D. T. Blewett, G. M. Holsclaw, W. E. McClintock, E. Malaret, C. Mauceri, F. Vilas, A. L. Sprague, J. Helbert, D. L. Domingue, J. W. Head, **T. A. Goudge**, S. C. Solomon, C. A. Hibbitts, and M. D. Dyar (2014), The low-iron, reduced surface of Mercury as seen in spectral reflectance by MESSENGER, *Icarus*, *228*, 364–374, DOI: 10.1016/j.icarus.2013.10.023.

**2012:**

51. **Goudge, T. A.**, J. F. Mustard, J. W. Head, and C. I. Fassett (2012), Constraints on the history of open-basin lakes on Mars from the composition and timing of volcanic resurfacing, *J. Geophys. Res. Planets*, *117*, E00J21, DOI: 10.1029/2012JE004115.
52. Watters, T. R., S. C. Solomon, C. Klimczak, A. M. Freed, J. W. Head, C. M. Ernst, D. M. Blair, **T. A. Goudge**, and P. K. Byrne (2012), Extension and contraction within volcanically buried impact craters and basins on Mercury, *Geology*, *40*, 1123–1126, DOI: 10.1130/G33725.1.
53. **Goudge, T. A.**, J. W. Head, J. F. Mustard, and C. I. Fassett (2012), An analysis of open-basin lake deposits on Mars: Evidence for the nature of associated lacustrine deposits and post-lacustrine modification processes, *Icarus*, *219*, 211–229, DOI: 10.1016/j.icarus.2012.02.027.

**2011:**

54. Head, J. W., C. R. Chapman, R. G. Strom, C. I. Fassett, B. W. Denevi, D. T. Blewett, C. M. Ernst, T. R. Watters, S. C. Solomon, S. L. Murchie, L. M. Prockter, N. L. Chabot, J. J. Gillis-Davis, J. L. Whitten, **T. A. Goudge**, D. M. H. Baker, D. M. Hurwitz, L. R. Ostrach, Z. Xiao, W. J. Merline, L. Kerber, J. L. Dickson, J. Oberst, P. K. Byrne, C. Klimczak, and L. R. Nittler (2011), Flood volcanism in the northern high latitudes of Mercury revealed by MESSENGER, *Science*, *333*, 1853–1856, DOI: 10.1126/science.1211997.

**Non-Refereed Publications**

1. **Goudge, T.**, I. Larsen, J. O'Connor, and G. Wells (2024), Penrose Conference Report: The role of outburst floods in Earth and planetary evolution, *GSA Today*, *34* (2), 14–16.

2. Piatek, J. L., K. E. Vander Kaaden, **T. A. Goudge**, J. L. Molaro, and M. P. Milazzo (2020), Breaking Down Barriers: Accessibility in Planetary Science, *White Paper for Planetary Science and Astrobiology Decadal Survey 2023-2032*.
3. Diniega, S., J. Castillo-Rogez, I. Daubar, J. Filiberto, **T. Goudge**, K. Lynch, A. Rutledge, J. Rathbun, J. Scully, R. Smith, C. Richey, C. Tai Udovicic, and M. Villarreal (2020), Ensuring a safe and equitable workspace: The importance and feasibility of a Code of Conduct, along with clear policies regarding authorship and team membership, *White Paper for Planetary Science and Astrobiology Decadal Survey 2023-2032*.
4. Horgan, B., J. L. Bishop, A. Brown, W. Calvin, C. Edwards, A. Fraeman, **T. Goudge**, L. C. Kah, E. Kite, K. Lynch, R. M. Ramirez, E. Rampe, W. Rapin, M. Rice, F. Rivera-Hernández, K. Stack, J. Tarnas, A. Treiman, and C. Viviano (2020), The evolution of habitable environments on terrestrial planets: Insights and knowledge gaps from studying the geologic record of Mars, *White Paper for Planetary Science and Astrobiology Decadal Survey 2023-2032*.
5. Murchie, S. L., R. E. Arvidson, J. L. Bishop, W. M. Calvin, J. Carter, J. Christian, R. N. Clark, C. M. Dundas, B. L. Ehlmann, V. K. Fox, A. A. Fraeman, **T. A. Goudge**, B. H. Horgan, M. N. Hughes, E. K. Leask, A. S. McEwen, J. F. Mustard, M. Parente, K. E. Powell, F. P. Seelos, K. D. Seelos, J. D. Tarnas, C. E. Viviano, and J. J. Wray (2020), Maximizing the Science and Resource Mapping Potential of Orbital VSWIR Spectral Measurements of Mars, *White Paper for Planetary Science and Astrobiology Decadal Survey 2023-2032*.
6. Brown, A. J., C. E. Viviano, and **T. A. Goudge** (2020), Mars 2020 team using Australian rocks in search for life on Mars, *Eos*, 101, DOI: 10.1029/2020EO146438.

## Teaching

### **Department of Earth and Planetary Sciences, The University of Texas at Austin:**

#### GeoData (GEO 371T)

- Spring 2024

#### Sedimentary Rocks (GEO 416M)

- Fall 2022
- Fall 2021
- Fall 2020; *voted best undergraduate course by DGS students (Knebel Teaching Award)*

#### Introduction to Remote Sensing for Geoscientists (GEO 455S/485S)

- Fall 2023
- Spring 2022
- Spring 2021
- Spring 2020
- Spring 2019; *voted best graduate course by DGS students (Knebel Teaching Award)*

#### Mars Sedimentology (GEO 291)

- Spring 2016; *co-taught as postdoctoral instructor with David Mohrig*

### **Additional Teaching Experience:**

- |      |   |
|------|---|
| 2014 | Graduate Teaching Assistant; <i>Mars, Moon, and the Earth (GEOL 0050)</i> ; Department of Geological Sciences, Brown University           |
| 2014 | Sheridan Teaching Certificate I – Reflective Teaching; <i>The Harriet W. Sheridan Center for Teaching and Learning</i> , Brown University |

2007 – 2008 Undergraduate Teaching Assistant; *Earth's Physical Environment (APSC 151); Department of Geological Sciences and Geological Engineering, Queen's University*

## **Student Advising**

### **Postdoctoral Fellows:**

2023 – Present Rhianna Moore. *PhD at University of Tennessee, Knoxville.*  
 2022 – 2023 Andrew Moodie. *PhD at Rice University. Jackson School Distinguished Postdoctoral Fellow.*  
 2020 – 2022 Tian Dong. *PhD at Rice University. NSF Postdoctoral Fellow.*  
 2019 – 2021 Gaia Stucky de Quay. *PhD at Imperial College London.*

### **Graduate Students:**

2022 – Present Morgan Carrington. *BS at University of California, Los Angeles. Co-advised w/ J. Johnson*  
 2020 – Present Mariel Nelson. *BA at University of California, Berkeley. Co-advised w/ D. Mohrig*  
 2020 – Present Emily Bamber. *MSc at University of Oxford.*  
 2019 – 2024 Michelle Tebolt. *BA at Colgate University.*

### **Undergraduate Students:**

2023 – Present Liesel Papenhausen, *Undergraduate Research Assistant, Dept. Earth and Planetary Sciences, UT Austin.*  
 2022 – 2024 Juan Vazquez, *Undergraduate Research Assistant & Mentee, Champions of Diversity Program, Dept. Earth and Planetary Sciences, UT Austin.*  
 2022 Nisa Downey, *Undergraduate Guided Research Mentee, Dept. Geological Sciences, UT Austin.*  
 2020 – 2021 Junwoo Kim, *Environmental Science Capstone Research Experience, Dept. Geological Sciences, UT Austin. Co-advised w/ G. Stucky de Quay.*  
 2020 – 2021 Irineo Sanchez, *Honors Thesis, Dept. Geological Sciences, UT Austin.*  
 2019 – 2020 Nirvana Kaur, *Dept. Geological Sciences, UT Austin.*  
 2018 – 2020 Marianne Coholich, *Honors Thesis, Dept. Geological Sciences, UT Austin. Co-advised w/ W. Kim.*

### **Committee Membership:**

#### ***PhD:***

- Berit Rasmussen, *Department of Earth and Planetary Sciences, UT Austin. Primary advisor D. Rempe.*
- Lucia Bellino, *Department of Earth and Planetary Sciences, UT Austin. Primary advisor C. Sun.*
- Ebony Williams, *Department of Earth and Planetary Sciences, UT Austin. Primary advisor B. Cardenas.*
- Thanos Klidas, *Department of Earth, Atmospheric and Planetary Sciences, Purdue University. Primary advisor B. Horgan.*



- Will Bailey, *Department of Earth and Planetary Sciences, UT Austin. Primary advisors D. Mohrig and C. Olariu.*
- Grace Guryan, *Dept. Earth and Planetary Sciences, UT Austin. Primary advisor J. Johnson.*
- Eric Hiatt, *Institute for Geophysics and Dept. Earth and Planetary Sciences, UT Austin. Primary advisors M. Hesse and S. Gulick.*
- Scarlett Hsia, *Department of Earth and Planetary Sciences, UT Austin. Primary advisor C. Kerans.*
- Shawn Fullmer, *Department of Earth and Planetary Sciences, UT Austin. Primary advisor C. Kerans.*
- Cole Speed, *Department of Earth and Planetary Sciences, UT Austin. Primary advisors Z. Sylvester and D. Mohrig.*
- Kristian Chan, *Institute for Geophysics, UT Austin. Primary advisors D. Blankenship and C. Grima.*
- Dallas Dunlap, *Bureau of Economic Geology, UT Austin. Primary advisor T. Meckel.*
- Charlie Zheng, *Department of Earth and Planetary Sciences, UT Austin. Primary advisor C. Kerans. PhD, 2023.*
- Matthew Svensson, *Department of Earth Sciences, U. Western Ontario. Primary advisor G. Osinski. PhD, 2022.*
- Sophie Goliber, *Institute for Geophysics, UT Austin. Primary advisor G. Catania. PhD, 2022*
- Natalie Wolfenbarger, *Institute for Geophysics, UT Austin. Primary advisor D. Blankenship. PhD, 2022.*
- Chris Liu, *Department of Geological Sciences, UT Austin. Primary advisor D. Mohrig. PhD, 2022.*
- Kathleen Wilson, *Department of Geological Sciences, UT Austin. Primary advisor D. Mohrig. PhD, 2022.*
- Paul Morris, *Department of Geological Sciences, UT Austin. Primary advisors J. Covault and D. Mohrig. PhD, 2022.*
- Hima Hassenruck-Gudipati, *Department of Geological Sciences, UT Austin. Primary advisor D. Mohrig. PhD, 2021.*

**MSc:**

- Emily Hugo, *Department of Earth and Planetary Sciences, UT Austin. Primary advisors G. Catania and D. Mohrig.*
- Ebony Williams, *Department of Earth and Planetary Sciences, UT Austin. Primary advisor B. Cardenas. MSc, 2023.*
- Russell Miller, *Dept. Geological Sciences, UT Austin. Primary advisors S. Gulick and C. Grima. MSc, 2022.*
- Nicole Guinn, *Dept. Geological Sciences, UT Austin. Primary advisor J. Gardner. MSc, 2020.*

**Undergraduate Honors Thesis:**

- Christina Raymond, *Department of Earth and Planetary Sciences, UT Austin. Primary advisor D. Mohrig.*
- Sean Coen, *Department of Earth and Planetary Sciences, UT Austin. Primary advisor J. Johnson.*
- Mercedes Jordan, *Department of Earth and Planetary Sciences, UT Austin. Primary advisors S. Gulick and C. Grima.*
- Laura Arnold, *Dept. Geological Sciences, UT Austin. Primary advisor D. Breecker. BSc, 2022.*

- Juanita Vargas-Londoño, *Departamento de Ciencias de la Tierra, Universidad EAFIT. Primary advisor J. F. Paniagua-Arroyave. BSc, 2020.*
- Harry Hull, *Dept. Geological Sciences, UT Austin. Primary advisor J. Snedden. BSc, 2019.*
- Jake Gearon, *Dept. Geological Sciences, UT Austin. Primary advisor M. Young. BSc, 2019.*

### ***PhD Qualification Exam:***

- Graciela Lopez Campos, *Department of Earth and Planetary Sciences, UT Austin. Primary advisor M. Nikolidakou.*
- Dimitri Voytan, *Institute for Geophysics, UT Austin. Primary advisor M. Sen. Exam 12/2021.*
- Logan Schmidt, *Dept. Geological Sciences, UT Austin. Primary advisor D. Rempel. Exam 4/2019.*

### **Invited Talks**

2024	University of Miami, 2024 Rosenstiel Award Seminar and Department of Marine Geosciences Geotopics Seminar ( <i>2 talks</i> )
2023	Dawson College, SPACEweek Talk
2023	University of Toronto, Department of Earth Sciences Seminar
2023	IAG International Geomorphology Week 2023, North America Webinar
2023	University of Kerala, Department of Geology Seminar
2021	Life in the Universe 2021: Our Past, Present and Future Selves
2021	University of Miami, Department of Marine Geosciences Geotopics Seminar
2021	Massachusetts Institute of Technology, Chemical Oceanography, Geology, Geochemistry, and Geobiology (COG <sup>3</sup> ) Seminar
2021	Northern Arizona University, Planetary Surface Brown Bag Seminar
2020	University of California, Los Angeles/University of California, Berkeley/Jet Propulsion Laboratory, Planetary Science Seminar
2020	GSA Annual Meeting
2020	University of Western Ontario, Western Space Weekly Webinar
2020	The University of Massachusetts Amherst, Department of Geosciences Lecture Series
2020	California Institute of Technology, Geoclub Seminar
2019	Rice University, Department of Earth, Environmental and Planetary Sciences Colloquium
2019	Midwestern State University, Kimbell School of Geosciences Colloquium
2019	The University of Arizona, Lunar and Planetary Laboratory Colloquium
2019	PICO Presentation, 2019 SEPM Annual Meeting
2019	Tulane University, Department of Earth and Environmental Sciences Seminar
2018	GSA Annual Meeting
2018	McMaster University, School of Geography & Earth Sciences Seminar
2018	Queen's University, Department of Geological Sciences and Geological Engineering Seminar
2018	The University of Texas at Austin, Department of Geological Sciences Seminar

2018	Stanford University, Department of Geological Sciences Seminar
2017	AGU Fall Meeting
2017	NASA Marshall Space Flight Center, NSSTC Space Science Seminar
2017	NASA Ames Research Center, Space Science & Astrobiology Division Seminar
2017	USGS Menlo Park, Geology, Minerals, Energy and Geophysics Group Seminar
2017	Southwest Research Institute, Space Science and Engineering Division Seminar
2017	NASA Jet Propulsion Laboratory, Seminar
2017	Rice University, Sedimentology Seminar
2017	58 <sup>th</sup> Brown-Vernadsky Microsymposium
2017	The University of Texas at Austin, UT Institute for Geophysics Seminar
2017	SETI Institute, Weekly Colloquium
2016	University of Manitoba, Department of Geological Sciences Seminar
2016	The University of Texas at Austin, DeFord Lecture Series (Department of Geological Sciences Seminar)
2016	GSA Annual Meeting
2013	Massachusetts Institute of Technology, Planetary Internal Colloquium Series

## **Professional Service**

### **To the University:**

2024 – Present	Chair, Department of Earth and Planetary Sciences Committee for Student, Faculty, and Staff Engagement and Success
2023 – Present	Research Mentor & Instructor, <i>GeoFORCE 12<sup>th</sup> Grade Academy</i>
2022 – Present	Co-Chair, Department of Earth and Planetary Sciences Tx DRONE (Texas Digital Remote Observation and Education Laboratory) Oversight Committee
2020 – Present	Summer Short Course Instructor (Remote Sensing), <i>Jackson School Undergraduate Research Traineeship Experience (RTX)</i>
2020 – Present	Faculty Advisor, <i>Hola Geo/GeoLatinas Austin Local Team</i>
2020 – Present	Executive Committee, <i>UT Center for Planetary Systems Habitability</i>
2018 – Present	Leadership Committee, <i>UT Geoscience Empowerment Network</i>
2018 – Present	Judge for Jackson School of Geosciences Student Research Symposium
2023 – 2024	Chair, Department of Earth and Planetary Sciences Excellence in Earth and Planetary Science Postdoctoral Fellows Program search committee
2023	Facilitator, Champions of Diversity Figure Generation Workshop
2023	Facilitator, UT Austin Institute for Neuroscience Mentor Training
2022 – 2023	Chair, Department of Earth and Planetary Sciences Diversity, Equity and Inclusion Committee
2021 – 2023	Champions of Diversity Cohort, Jackson School of Geosciences
2021 – 2022	Member, Department of Geological Sciences Excellence in Earth Science Postdoctoral Fellows Program search committee
2021 – 2022	Member, ad hoc committee for changing the name of the Department of Geological Sciences

2020 – 2021	Sub-pod Group Leader, JSG Megapod, Unlearning Racism in Geoscience (URGE)
2020 – 2021	Member, UT Institute for Geophysics Research Associate search committee
2019 – 2021	Lead, Jackson School AGU Bridge Program proposal initiative
2020, 2021	Faculty Annual Evaluation Committee, Subsurface, Surface and Life Program, Department of Geological Sciences
2020	Member, Graduate Studies Committee ad hoc committee on graduate admissions process
2020	Member, Department of Geological Sciences Chair ad hoc search committee
2019	Early career researcher interviewer group, Jackson School of Geosciences Dean search committee
2016 – 2018	Team member, Pop-Up Institute, <i>Understanding Planetary Habitability</i>

### **To the Community:**

2016 – Present	Judge for Dwornik Award at the Lunar and Planetary Science Conference
2015 – Present	Peer Reviewer for <i>Nature</i> ; <i>Proceedings of the National Academy of Sciences</i> ; <i>Nature Geoscience</i> ; <i>Geology</i> ; <i>Nature Communications</i> ; <i>Science Advances</i> ; <i>Geophysical Research Letters</i> ; <i>Earth and Planetary Science Letters</i> ; <i>Geomorphology</i> ; <i>Geological Society of America Bulletin</i> ; <i>Geosphere</i> ; <i>Scientific Reports</i> ; <i>Journal of Geophysical Research – Planets</i> ; <i>Journal of Geophysical Research – Earth Surface</i> ; <i>Icarus</i> ; <i>Planetary Science Journal</i> ; <i>Astrobiology</i> ; <i>Planetary and Space Science</i> ; <i>Space Science Reviews</i> ; <i>Planetary Data System (PDS)</i>
2015 – Present	Review Panelist and External/Ad Hoc Reviewer for NASA ROSES and NSF
2015 – Present	Judge for Outstanding Student Paper Award at the American Geophysical Union Fall Meeting
2021 – 2023	Co-Convener, 2023 GSA Penrose Conference, “ <i>The role of outburst floods in Earth and planetary evolution</i> ”
2020 – 2023	Member, AGU Africa Space Science Award Committee
2022	Facilitator, AGU Bridge Mentor Training
2022	Session Co-Chair at 53 <sup>rd</sup> Lunar and Planetary Science Conference
2021	External Reviewer for Swiss National Science Foundation
2021	Session Co-Chair at 52 <sup>nd</sup> Lunar and Planetary Science Conference
2019	Reviewer for AGU Fall Meeting Travel Grants
2014 – 2018	Lead advocate for Jezero crater paleolake as a landing site for the NASA Mars 2020 rover
2018	Program Committee for 49 <sup>th</sup> Lunar and Planetary Science Conference
2017	Session Co-Chair at 48 <sup>th</sup> Lunar and Planetary Science Conference
2014	Session Co-Chair at 2014 GSA Annual Meeting

### **Public Outreach**

2024	Activity Coordinator, UT Austin STEM Girl Day
2021	Guest speaker for the Fall Professional Learning Institute for OnRamps Earth, Wind, and Fire Instructors

2021	Guest speaker for Introduction to Astronomy and Planetary Science, Prison Education Project
2021	Guest speaker at Sun City Georgetown Nature Club
2020	Panelist, AIR Centre Roundtable: Oceans in the Solar System
2020	Guest speaker at Northwest Austin Rotary Club
2020	Guest speaker at Hot Science – Cool Talks
2019	Guest speaker at the University of Texas at Austin Undergraduate Geological Society; the Austin Geological Society; Senior University Georgetown; UT GIS Day Lightning Talks; Astronomy on Tap ATX
2018	Presenter at the 2018 AISD Science + Mathematics X Conference
2011 – 2016	Volunteer for Mars Exploration Student Data Teams (MESDT)
2011 – 2015	Vartan-Gregorian Elementary School Volunteer Science Teacher
2014	Guest speaker at University of Maryland Observatory; Skyscrapers, Inc.
2012 – 2014	Vartan-Gregorian Elementary School Volunteer Science Teacher Program Organizer
2011	Judge for Athena Science Challenge

### **First-Authored Conference Abstracts and Presentations (*past 2 years*)**

*\*Oral presentation*

*Goudge mentee: #Graduate student, †postdoctoral fellow, §undergraduate student.*

1. **\*Goudge, T. A.**, A. M. Morgan, G. Stucky de Quay, and C. I. Fassett (2024), Spatial patterns of valley network erosion on Mars, *55<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 1076.
2. **\*Goudge, T. A.** (2023), Overview of Outburst Floods on Mars (and Other Planetary Bodies), *GSA Penrose Conference: The Role of Outburst Floods in Earth and Planetary Evolution*.
3. **\*Goudge, T. A.**, E. R. Bamber<sup>#</sup>, M. Coholich<sup>§</sup>, C. I. Fassett, A. M. Morgan, G. R. Osinski, and G. Stucky de Quay (2023), Impact crater lakes and fluvial valley incision on early Mars, *54<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 2747.

### **Co-Authored Conference Abstracts and Presentations (*past 2 years*)**

*Goudge mentee: #Graduate student, †postdoctoral fellow, §undergraduate student.*

1. Svensson, M. J. O., G. R. Osinski, and **T. A. Goudge** (2024), Initial results from a comprehensive review of impact crater lake evolution on Earth, *55<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 2775.
2. <sup>§</sup>Vazquez, J. A., **T. A. Goudge**, and M. D. Nelson (2024), Examining bend asymmetry of sinuous lava channels across the lunar surface, *55<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 2726.
3. Svensson, M. J. O., **T. A. Goudge**, G. R. Osinski, and F. J. Longstaffe (2024), Testing spectral uniqueness in lacustrine carbonates of Jezero and Ries craters, *55<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 2634.
4. Hiatt, E., M. A. Shadab, S. P. S. Gulick, **T. A. Goudge**, and M. A. Hesse (2024), Martian lakes; A critical requirement for transient groundwater models, *55<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 2608.

5. #Carrington, M. A., **T. A. Goudge**, and J. P. L. Johnson (2024), Constraining processes responsible for amphitheater-headed canyon formation on Mars, *55<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 2601.
6. †Moore, R. D., **T. A. Goudge**, A. Klidas, B. Horgan, and W. H. Farrand (2024), Global scale physical landscape constraints on the formation of Noachian clay sequences on Mars, *55<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 2263.
7. #Tebolt, M. A., **T. A. Goudge**, M. Nelson#, and C. Olariu (2024), Multiscale UAV-based analysis of fluvial-to-coastal sedimentary outcrop, *55<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 1557.
8. Klidas, A., R. Navarre, B. Horgan, W. Farrand, A. Broz, **T. Goudge**, and R. Moore† (2024), Global topography of clay deposits signify an epoch of warm and humid climate on early Mars, *55<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 1516.
9. Grima, C., W. Kofman, A. Hérique, P. Beck, S. P. S. Gulick, **T. A. Goudge**, C. Gerekos (2024), Updated basal detectability of an ice covered Mars by MARSIS, *55<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 1514.
10. #Bamber, E. R., **T. A. Goudge**, and G. Stucky de Quay (2024), How do impact craters influence fluvial structure? A modeling approach, *55<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 1110.
11. #Bamber, E., **T. A. Goudge**, C. Fassett, G. Osinski, and G. Stucky de Quay (2023), Modeling Mars' competition between impact crater rims and fluvial connectivity, *2023 AGU Fall Meeting*, Abstract EP31D-2119.
12. Moodie, A. J., and **T. A. Goudge** (2023), Fluvial activity preferentially removes smaller craters (<50 m) from Mars interbedded-crater record, but atmospheric paleo-pressure interpretations are robust, *2023 AGU Fall Meeting*, Abstract EP33B-06.
13. Dong, T. Y., L. M. Vulis, A. Tejedor, H. Ma, and **T. A. Goudge** (2023), The scaling regimes of distributary delta networks, *2023 AGU Fall Meeting*, Abstract EP43A-06.
14. #Carrington, M., **T. A. Goudge**, and J. P. L. Johnson (2023), Constraining geomorphic processes responsible for forming amphitheater-headed canyons on Earth and Mars, *AGU Fall Meeting*, Abstract EP53C-1709.
15. #Bamber, E., **T. Goudge**, C. I. Fassett, G. Osinski, and G. Stucky de Quay (2023), Hydrology versus crater rims: How to form a lake on Mars, *2023 GSA Annual Meeting*, Abstract 84-4.
16. #Bamber, E., **T. Goudge**, G. Stucky de Quay (2023), Modeling martian lake formation by inlet valley breaching, *2023 GSA Annual Meeting*, Abstract 94-5.
17. #Nelson, M., **T. Goudge**, and D. Mohrig (2023), QGG Stanley A Schumm Award: Mapping alluvial river bank erosion over biweekly to yearly time scales, *2023 GSA Annual Meeting*, Abstract 130-4.
18. #Nelson, M., **T. Goudge**, and D. Mohrig (2023), Location and timing of alluvial river bank erosion using time-lapse lidar from the Trinity River in Texas, *13<sup>th</sup> River, Coastal and Estuarine Morphodynamics Symposium (RCEM 2023)*, Abstract MP16.
19. #Carrington, M. A., **T. A. Goudge**, and J. Johnson (2023), Constraining geomorphic processes for forming amphitheater-headed canyons on Earth and Mars, *First Texas Area Planetary Science Meeting*, Abstract TAPS2023-21.
20. Dong, T., L. Vulis, A. Tejedor, H. Ma, and **T. Goudge** (2023), The three scaling regimes of delta land building, *12<sup>th</sup> International Conference on Fluvial Sedimentology*, Abstract 10.S14.16.

21. Day, M., E. Kim, M. Sullivan, **T. Goudge**, and D. Paige (2023), High resolution DTMs for Mars: A repository of paired HiRISE and CTX DEMs, *6<sup>th</sup> Planetary Data Workshop*, Abstract 7062.
22. #Bamber, E. R., **T. A. Goudge**, C. I. Fassett, G. R. Osinski, and G. Stucky de Quay (2023), Overflow as a mechanism of crater lake-inlet valley formation, *GSA Penrose Conference: The Role of Outburst Floods in Earth and Planetary Evolution*.
23. Fassett, C. I., and **T. A. Goudge** (2023), Using ANUGA to explore hydrodynamics and sediment transport associated with outlet floods on Mars, *GSA Penrose Conference: The Role of Outburst Floods in Earth and Planetary Evolution*.
24. Barefoot, E., A. Wickert, **T. Goudge**, and C. Fassett (2023), Experimental constraints on the morphology of canyons formed by crater overtopping, *GSA Penrose Conference: The Role of Outburst Floods in Earth and Planetary Evolution*.
25. #Tebolt, M., K. M. Stack, **T. A. Goudge**, S. Gupta, R. Barnes, G. Caravaca, and A. J. Brown (2023), Characterizing the facies and stratigraphy of the Enchanted Lake outcrop in Jezero crater, Mars, *54<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 2647.
26. Svensson, M. J. O., G. R. Osinski, F. J. Longstaffe, and **T. A. Goudge** (2023), Crater-lake habitability and diversity: Re-interpreting early depositional environments at the Ries impact structure, Germany, *54<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 2271.
27. Klidas, A., R. Navarre, B. Horgan, W. Farrand, and **T. Goudge** (2023), Clay stratigraphies on ancient Mars: Building a global database, *54<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 2135.
28. †Moodie, A. J., and **T. A. Goudge** (2023), Fluvial reworking eliminates small craters, but does not meaningfully bias the Mars interbedded-crater record, *54<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 1622.
29. #Bamber, E. R., **T. A. Goudge**, C. I. Fassett, G. R. Osinski, and G. Stucky de Quay (2023), Factors controlling which craters developed inlet valleys on early Mars, *54<sup>th</sup> Lunar and Planetary Science Conference*, Abstract 1062.
30. Stucky de Quay, G., R. Ramalho, **T. A. Goudge**, and A. M. Morgan (2022), Primary controls in incipient erosion: A tale of two volcanic landscapes, *2022 AGU Fall Meeting*, Abstract EP22E-1382.
31. Hiatt, E., M. A. Shadab, M. A. Hesse, S. P. S. Gulick, and **T. A. Goudge** (2022), Limited recharge on early martian aquifers: Numeric & analytic recharge estimates as constrained by geomorphic and geochemical observations, *2022 AGU Fall Meeting*, Abstract P25C-03.
32. Barefoot, E. A., A. D. Wickert, **T. A. Goudge**, and C. Paola (2022), Experimental constraints on the morphology of canyons formed by crater overtopping, *2022 AGU Fall Meeting*, Abstract EP36C-08.
33. #Nelson, M. D., **T. A. Goudge**, and D. Mohrig (2022), Characterizing bank erosion style along two bends of a sand-bedded meandering river with monthly lidar surveys, *2022 AGU Fall Meeting*, Abstract EP55D-0853.
34. †Dong, T. Y., **T. A. Goudge**, and B. A. Chapa (2022), Using channel-belt planform patterns to reconstruct river channel patterns and drainage basin characteristics, *2022 AGU Fall Meeting*, Abstract EP16B-03.
35. Chapa, B. A., T. Y. Dong†, and **T. A. Goudge** (2022), Characterizing the relationships between channel-belt planform patterns and drainage basin characteristics, *2022 GSA Annual Meeting*, Abstract 236-9.

## **Professional Associations**

2012 – Present	Geological Society of America (GSA)
2011 – Present	American Geophysical Union (AGU)
2011 – Present	Geological Association of Canada (GAC)