

Michelle Tebolt

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The University of Texas at Austin, Jackson School of Geosciences. 2275 Speedway, Stop C9000
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Education

University of Texas at Austin, Austin, TX 2019 – 2024
PhD, Geosciences
Advisor: Tim Goudge

Colgate University, Hamilton, NY 2015 - 2019
BA, Astrogeophysics (high honors)
Research Advisor: Joe Levy

Research Experience

UT Austin Planetary Surface Processes Group 2019 - Present
PhD Candidate
Research Topic: Stratigraphic architecture of sedimentary fan outcrop on Mars

NASA Jet Propulsion Laboratory 2022
Summer Intern, Mars 2020 Perseverance Rover Collaborator
Research Topic: Facies and stratigraphy of Enchanted Lake outcrop, Jezero crater, Mars

NASA Jet Propulsion Laboratory 2021
Summer Intern, Mars Science Laboratory Collaborator
Research Topic: Stratigraphy of the Bradbury Rise Traverse

Department of Geology, Colgate University 2018-2019
Research Assistant
Research Topics: 1) The origins of recurring slope lineae on Mars. 2) Mass balance trends of martian debris covered glaciers

NASA Goddard Space Flight Center 2017
Summer Intern, Heliophysics Science Division
Research Topics: 1) High latitude pulsating and flickering auroral morphology. 2) Distinguishing vegetation through hyperspectral imaging data.

Department of Physics and Astronomy, Colgate University 2016
Research Assistant
Research Topic: Development of an in situ mass spectrometer

Publications

Tebolt, Michelle, and Timothy A. Goudge. "Global Investigation of Martian Sedimentary Fan Features: Using Stratigraphic Analysis to Study Depositional Environment". *Icarus*, Sept. 2021, <https://doi.org/10.1016/j.icarus.2021.114718>.

Levy, Joseph S., Caleb I. Fassett, John W. Holt, Reid Parsons, Will Cipolli, Timothy A. Goudge, **Michelle Tebolt**, Lily Kuentz, Jessica Johnson, Fairuz Ishraque, Bronson Cvijanovich, and Ian Armstrong

“Surface Boulder Banding Indicates Martian Debris-Covered Glaciers Formed over Multiple Glaciations.” *Proceedings of the National Academy of Sciences*, vol. 118, no. 4, Jan. 2021. www.pnas.org, doi:10.1073/pnas.2015971118.

Tebolt, Michelle., 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*, DOI: 10.1016/j.icarus.2019.113536.

Abstracts & Presentations

Michelle Tebolt et al. (2022), AGU Fall Meeting, Abstract 1074078
Poster Presentation - Sedimentary Facies and Stratigraphy of the Enchanted Lake Outcrop Explored by the Perseverance Rover, Jezero Crater, Mars

Michelle Tebolt and Timothy Goudge (2021), 52nd Lunar and Planetary Science Conference, #1525
Poster Presentation - Investigation of the depositional environment of martian sedimentary fan features

Michelle Tebolt and Timothy Goudge (2020), AGU Fall Meeting, Abstract 738863
Poster Presentation - Investigating the depositional environment of sedimentary fan features on Mars using orbital stratigraphy

Michelle Tebolt, et al. (2019), 50th Lunar and Planetary Science Conference, Abstract 1561
Oral Presentation - Slope, elevation, and thermal inertia trends of recurring slope lineae

Michelle Tebolt, et al. (2018), AGU Fall Meeting, Abstract 465606
Poster Presentation - Morphometric characteristics of recurring slope lineae initiation and termination points on Mars: Elevation, slope and thermal inertia distinguish RSL-forming sites

Michelle Tebolt (2018), Conference for Undergraduate Women in Physics (CUWiP)
Poster Presentation - High latitude pulsating and flickering auroral morphology

Michelle Tebolt (2017), NASA Goddard Summer Intern Poster Session
Poster Presentation - High latitude pulsating and flickering auroral morphology

Michelle Tebolt (2016), New York Six Upstate Undergraduate Research Conference
Poster Presentation - Using radiometric dating to determine the age of space rocks

Invited Talks

Brown University, Planetary Sciences Lunch Seminar	2023
College of Coastal Georgia, Department of Natural Sciences Seminar	2022
University of Texas at Austin, Undergraduate Geological Society Lecture Seminar	2022
University of Texas Institute for Geophysics, Delta Meeting	2021

Teaching/Mentorship

Undergraduate Research Traineeship Experience Mentor Summer 2021
Undergraduate Student: Korbin Lawson
Research topic: Investigating the fluvio-lacustrine history of Hargraves crater, Mars

Teaching Assistant, GEO 471T/491, Intro to Remote Sensing Spring 2021

Teaching Assistant, GEO 416M, Sedimentary Rocks Fall 2020

Undergraduate Research Traineeship Experience Mentor Summer 2020
Undergraduate Student: Timothy Maraj
Research topic: Channel width trends of martian valley networks, outflow channels, and terrestrial channels

Undergraduate Research Mentor Fall 2019 - Spring 2020
Undergraduate Student: Nirvana Kaur
Research topic: Topographic characteristics of recurring slope lineae on Mars

Physics & Astro Department Tutor, Colgate Center for Teaching & Learning Fall 2018 - Spring 2019

Teaching Assistant, GEOL 101, Environmental Geology Fall 2018

Course Tutor, PHYS 334, Intro to Quantum Mech & Special Relativity Spring 2018

Course Tutor, PHYS 232, Intro to Mechanics Spring 2017

Awards and Honors

UT Austin Graduate School Continuing Fellowship 2022-2023

Early-Career Graduate Best Poster Presentation Award 2021
Jackson School of Geoscience Research Symposium

Early-Career Graduate Best Poster Presentation Award 2020
Jackson School of Geoscience Research Symposium

Daniel H. Saracino Prize for Scholarship of Exceptional Merit 2019
Colgate University Phi Beta Kappa research excellence award

The Joseph C. Amato & Anthony F. Aveni Award for Student Research 2019
Colgate University Dept. of Physics & Astronomy research award

Colgate University Dean's Award for Academic Excellence 2015 – 2019

Service

Jackson School of Geosciences SoftRock Weekly Seminar Coordinator 2022 – Present

Graduate Student Executive Committee Civic Engagement Officer 2020 – Present

Fieldwork

Colgate University Cold Dirt Lab: drone-based soil moisture measurements 2019
Alvord Desert, OR
Research Assistant

Colgate University, Dept. of Geology: 6-week summer field camp 2018
Golden Gate, CO. Moab, UT. Craters of the Moon, ID. Yellowstone, WY. Seminoe, WY.
Student