



UT San Antonio™

The University of Texas at San Antonio

Earth and Planetary Sciences

NEWSLETTER

2025 - 2026



EPS students and faculty gathered for the annual Fall Social and potluck, 2025.

Message from the Department Chair

As Chair of the Department of Earth and Planetary Sciences, I am pleased to present our 2025–2026 annual newsletter at the completion of my three-year term. This past year has been especially rewarding, as I witnessed the continued success of our students and faculty across many fronts. Our students excelled in securing scholarships and research opportunities, completing their degrees, and proudly stepping forward as GeoRunners. At the same time, our faculty distinguished themselves through promotions, awards, mentorship, and impactful research contributions, while undergraduate enrollment experienced substantial growth. This year also marked an important milestone as we hosted the Geological Society of America Connects 2025 meeting, where our faculty and students contributed through presentations, leadership roles, and volunteer efforts, achieving one of the department's strongest records of participation in recent years. Together, these accomplishments reflect the strength of our academic community and reinforce the department's standing as one of the most research-intensive units within the College of Sciences.

Among the many achievements highlighted in this newsletter, I am especially proud of the outstanding scholarly accomplishments of our faculty and students. Elizabeth Bailey led a collaborative research team and the effort resulting in a publication in *PALAIOS* documenting successful chitin detection in trilobites, an important contribution to palaeobiological research. I am also proud of Kaushik Mitra's research accomplishments including a Proceedings of the National Academy of Sciences article on siderite weathering by chlorate that challenges prevailing interpretations of siderite alteration on Gale Crater, Mars. In addition, his solo-authored review article in *Reviews of Geophysics* provides a comprehensive synthesis of oxychlorine species on Mars.

Alberto Mestas-Nuñez advanced NASA-supported air quality and remote sensing initiatives through the expansion of the Pandora and COCCON observing networks across South Texas, generating strong student interest and research engagement. Our paleontology group led by Janet Vote, continued research on Permian ammonoids that contribute to the regional biostratigraphy framework of West Texas and Mexico, which led to the discovery of two new species of ammonoids that serve as important index fossils for regional and global correlation of geologic time. Finally, I am delighted to welcome Ahmed El Belasy as our newest faculty member joining the department in Fall 2026.



Dr. Saugata Datta

Professor and Chair,
Department of Earth and
Planetary Sciences

Message from the Department Chair

UT San Antonio Earth and Planetary Sciences remembers devoted professor, Newfel Mazari

It is with profound sorrow that I state the passing of Newfel Mazari, assistant professor of practice in the Department of Earth and Planetary Sciences at The University of Texas at San Antonio. Newfel was a highly respected educator, researcher, colleague, and friend whose dedication to students and commitment to environmental science left a lasting impact on the university and the broader San Antonio community. Faculty members remembered him as an exceptionally hardworking and compassionate individual who devoted countless hours to research, mentoring students, and supporting colleagues. He was widely admired for his patience, professionalism, generosity, and willingness to help others, whether through teaching, research collaborations, or guidance on academic and campus life.



Over the past decade, Newfel also worked closely with the Edwards Aquifer Authority, contributing significantly to efforts aimed at protecting regional water resources. His research focused on water conservation and water-quality challenges, including emerging contaminants such as microplastics. His scientific work reflected both technical excellence and a deep commitment to environmental stewardship and public well-being.

Above all, Newfel will be remembered as a devoted family man, an inspiring mentor, and a passionate advocate for education and sustainability. His influence on students, colleagues, and the community will continue through the many lives he touched with his kindness, service, and dedication. Newfel earned both his master's degree in environmental science and his PhD in environmental science and engineering from UT San Antonio. We extend our sincere condolences to his family, friends, colleagues, students, and all who had the privilege of knowing him.

Welcome New Faculty: Dr. Ahmed El Belasy



Ahmed El Belasy, Ph.D., is a sedimentary geoscientist and educator whose work connects sequence stratigraphy, basin analysis, subsurface interpretation, reservoir characterization, and energy transition applications. He received his M.Sc. degree in Geology from Mansoura University, where his research focused on the sedimentology and diagenesis of Middle Miocene carbonates in the Mediterranean Basin of northwestern Egypt. He received his Ph.D. in Sedimentology and Sequence Stratigraphy in 2018 through a joint supervision program between Mansoura University and Oklahoma State University. His doctoral research examined Upper Cretaceous mixed carbonate-siliciclastic reservoirs in Sinai Peninsula, integrating outcrop fieldwork with petrography, scanning electron microscopy, cathodoluminescence, and stable isotope analysis. He is currently completing a second Ph.D. in Geologic Carbon Sequestration at Oklahoma State University, where his research evaluates the geologic carbon storage potential of the Cherokee Basin in northeastern Oklahoma using integrated subsurface datasets.

He also participated with a team of OSU graduate students in the SEG EVOLVE internship program, where they evaluated petroleum prospects in the Gulf of Mexico. His broader interests include sedimentology, sequence stratigraphy, basin analysis, reservoir characterization, and geologic carbon storage.

Before joining UTSA as an Assistant Professor of Instruction, Ahmed served as a Faculty Lecturer at Mansoura University and as a research and teaching associate at Oklahoma State University. He has taught introductory, upper-division, and graduate-level courses, including physical and historical geology, sedimentary rocks, sequence stratigraphy, basin analysis, advanced stratigraphy, and field geology. His teaching emphasizes experiential, inclusive, and evidence-based active learning that helps students connect geologic concepts with real-world applications in energy, water resources, environmental geology, and sustainability. He recently completed a Scholarship of Teaching and Learning (SoTL) program at Oklahoma State University as part of his continued commitment to instructional excellence.

Faculty Highlights

News Sources and University Media

Saugata Datta

Floodwaters' hidden threats: Expert warns of long-term health impacts, KENS5
<https://www.kens5.com/article/news/state/texas-news/texas-flood/kerr-county-texas-guadalupe-river-authority-july-4-hill-country-flood-impact-debris-water-quality-experts/273-c5c670d3-6fbc-446a-bf00-0a2dc4694562>.



Elizabeth Bailey

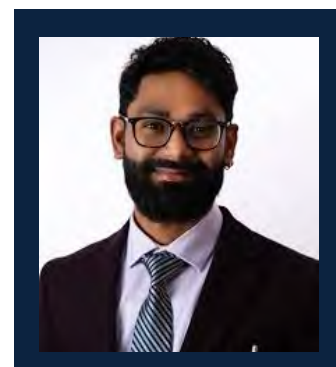
- The paper led by Dr. Elizabeth Bailey on chitin detection in trilobite fossils was picked up by several news sources, including IFLScience: <https://www.iflscience.com/discovery-of-chitin-from-500-million-year-old-trilobite-has-implications-for-earths-carbon-cycle-82687>
- Interview appearance on KSAT12 discussing recent meteorite falls in the United States: <https://www.youtube.com/watch?v=2ThogszYnA0>



Faculty Highlights - Nominations and University Media

Kaushik Mitra

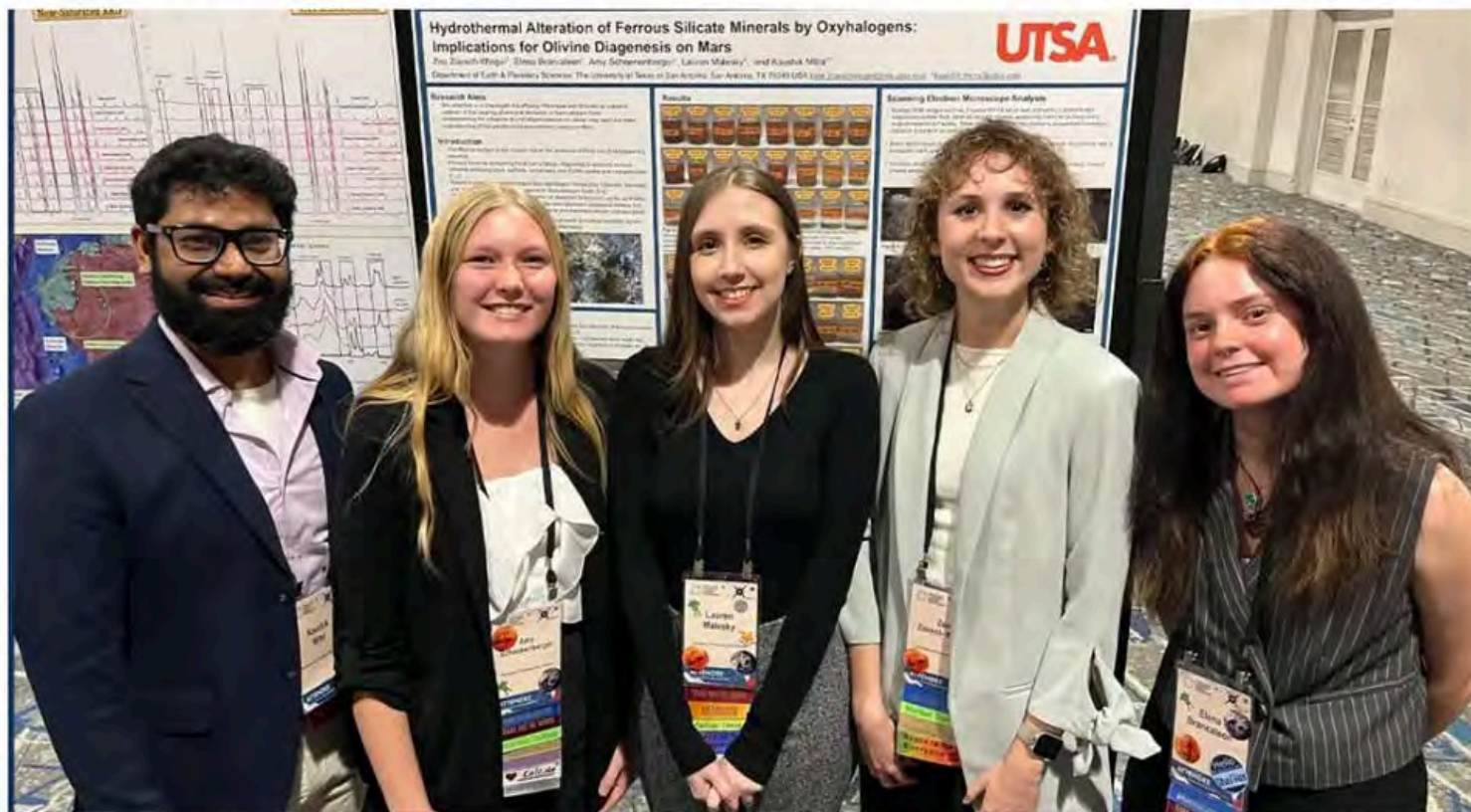
- Dr. Kaushik Mitra's recently published research paper "Siderite and ferric oxyhydroxides imply interlinked carbon, iron, and halogen cycles on Mars" is nominated for the Academy of Distinguished Researchers 2026 Best Research Paper Award.
- <https://news.utsa.edu/2025/10/ut-san-antonio-scientist-contributes-landmark-review-of-mars-geochemistry/>



SCIENCES

Planetary scientist Kaushik Mitra contributes landmark review of Mars' geochemistry

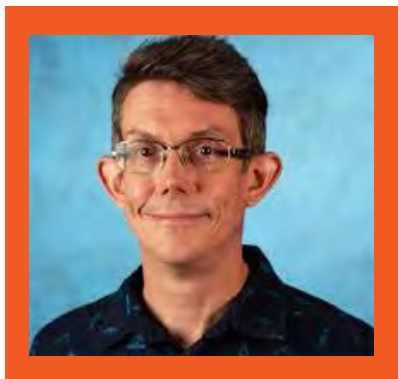
October 21, 2025 | 2 Minutes | Ryan Schoensee



Professor Kaushik Mitra with students Amy Schoenenberger, Lauren Malesky, Zoe Zoesch-Weigel and Elena Brancaleon at a poster presentation during the 56th Lunar and Planetary Science Conference in The Woodlands, Texas, in March.

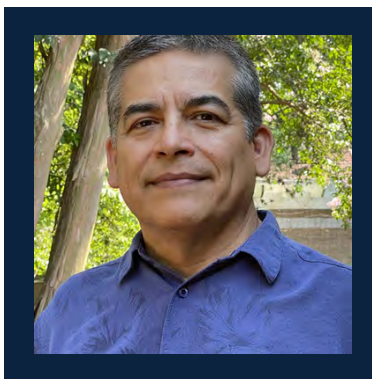
Faculty Highlights - Congratulations on your Promotion

John (Matt) Cannon



Associate Professor of
Instruction (2025)

Alberto Mestas-Nunez



Professor of Instruction
(2026)

Mahsa Afra



Assistant Professor of
Practice (2026)

Research Grants, Awards and Sponsored Projects

- C2H2 Collaborative Research: Application to Transboundary Aquifer-The dynamic iron curtain surrounding fluctuating rivers and its impacts on arsenic fate and transport. Sponsor: National Science Foundation (2025-2027). **PI: Saugata Datta.**
- Addressing the soil-microbial gap: assessment of microbial-based soil health indicators and its efficacy for broad deployment across grasslands. Sponsor: United States Department of Agriculture (2023-2027). **Co-PI: Saugata Datta.**
- Targeted Studies in Lunar Volcanism and Petrology. NASA JPL, \$25,000 (UTSA). Active from 01/2026-08/2026. **PI: Alan Whittington.**
- NASA Air Quality Initiative (2025–2028): UT San Antonio's Department of Earth & Planetary Sciences (EPS) is a partner in the NASA-funded ISRAP-AIR-MAPS project, led by Dr. K. Bhaganagar (Engineering), with **Alberto Mestas-Nuñez** as **Co-PI**, supporting air quality research and student training.
- NASA COCCON Network Project (2025–2030): UT San Antonio is participating in a NASA-supported COCCON station project led by UT Rio Grande Valley; **Alberto Mestas-Nuñez** leads the UT San Antonio subaward to advance greenhouse gas monitoring and satellite validation.
- Learning Urban Mobility and Resilience through an AI Framework; UTSA-TEC seed grant, \$20,000, 10/2025-9/2026, **Co-PI: Hongjie Xie.**

Teaching Faculty and Staff

- Our teaching faculties Janet Vote, Matthew Cannon, Jeffrey Neathery, Blake Weissling and Mahsa Afra, have been relentlessly working towards bringing up our undergraduate enrollments through their teaching, mentoring and advising.
- Special thanks to our Departmental Staff Laurie Gay and Kimberly Gay, always are there for help towards our students and faculties.



Janet Vote



Jeffrey Neathery



Blake Weissling



John (Matt) Cannon



Mahsa Afra

Invited Talks and Outreach

Saugata Datta

- Invited Lecture at Indian Institute of Technology-Jodhpur, Chemical Engineering Department, January, 2026. Organized by the IITJ–JJM Center for Sustainable Drinking Water. Title: Sediment and Organic Geochemistry, Seasonal and Tidal Sediment-Water Interactions: Arsenic Contamination in Bengal Basin.
- Invited Lecture at University of Calcutta, Department of Geology, January 2026. [Insightful Seminar Series]. Title: River Geomorphology, Tidal and Seasonal Groundwater-Surface Water Interactions and Arsenic Contamination in the Bengal Basin
- Water Quality-Quantity Colloquium – November 3-4, 2025, @ Tec de Monterrey, Monterrey, Mexico. How Water Quantity Can Affect Water Quality—A Reason to Study Riverine and Deltaic Systems.
- IITJ-JJM Centre for Sustainable Drinking Water Capacity-Building Program – September 23, 2025. Virtual. Ensuring the Sustainability of Water Sources for Improving Water, Sanitation, and Hygiene (WASH) in Rural Areas.
- Society for Environmental Geochemistry and Health (SEGH) 40th International Conference on Environmental Geochemistry and Health - July 15, 2025. Belfast, United Kingdom, Title: As & Fe Association in Sediment Comprising the Hyporheic Zone of the Meghna River In Bangladesh — An As in Drinking Water Impact Story

Alan Whittington

- “How slow can you flow? Experimental studies of heat and mass transfer in Earth's crust and silicic lava flows”; Trinity University, San Antonio TX. October 27, 2025.
- “Space lava! Adventures beyond the terrestrial T-X limits of igneous petrology”; North Carolina State University, Raleigh NC. September 26, 2025.
- “Molasses and magma: Experimental studies of food and volcanoes”; West Texas Geological Society Annual Conference, Midland TX. September 18, 2025.
- Halloween outreach at the Scobee planetarium, San Antonio TX. October 31, 2025.
- International Observe the Moon night, Scobee planetarium, San Antonio TX. October 3, 2025.
- “Lava tubes: volcanic caves” talk for Bexar Grotto caving club, San Antonio TX. April 28, 2025.

Kaushik Mitra

- Smithsonian National Museum of Natural History, Washington, DC, 2025.
- Department of Earth & Environmental Sciences, Trinity University, San Antonio, TX, 2025.
- Department of Biomedical Eng. & Chemical Engineering, UT San Antonio, San Antonio, TX, 2025.
- Department of Physics, Adamas University, West Bengal, India, 2025.

Elizabeth Bailey

- Invited talk at A Dynamical Synthesis of Planetary Systems (DSPS), a small conference focused on exoplanet dynamics and held at Yale University, CT.
- Served as a mentor for a student applying to grad school in the Geoscience Education and Mentorship Support program (GEMS) a free, virtual mentorship initiative sponsored by NAGT, designed to help undergraduate and early-stage graduate students navigate applications to graduate school in the geosciences.

Sessions Convener

Saugata Datta

- Advancing the Understanding and Management of Groundwater Pollution with Arsenic and Other Geogenic Contaminants Using Geospatial Tools, Machine Learning, and Data Science, Part II, GSA Connect (GSA Annual Meeting), 2025, San Antonio, TX., Bhattacharya, P., Mukherjee, A., Datta, S., Alam, M. A., Ijumulana, J., Nath, B. [October 22, 2025].
- GSA Noontime Lecture: Elizabeth Rampe, GSA Connect (GSA Annual Meeting), 2025, San Antonio, TX., Chair Datta, S. [October 22, 2025]
- Redox-Driven Nutrient and Contaminant Dynamics in Terrestrial Systems. GSA Connect (GSA Annual Meeting), 2025, San Antonio, TX. Datta, S., Graves, A., Kulkarni, H., Yelderian, J., Bhattacharya, P. [October 21, 2025]
- GSA Noontime Lecture: Ron Nirenberg, GSA Connect (GSA Annual Meeting), 2025, San Antonio, TX., Chair Datta, S. [October 20, 2025].

Alan Whittington

- Geological Society of America GSA Connects: convenor and chair of session T135 “Using Volcanic Deposits to Help Us Understand Volcanic and Magmatic Processes” (co-convenors: Justin Filiberto, Ian Flynn, Claire McLeod, Gary Michelfelder, Sean Peters, Allan Treiman, Elisabeth Widom).
- Geological Society of America GSA Connects: convenor and chair of session T163 “Petrology, Volcanology, and Mantle Plumes across the Solar System” (co-convenors: Alison Graettinger, Kurt Knesel).

Kaushik Mitra

- Geological Society of America (GSA) Connects 2025 in San Antonio, TX.
- 3rd Texas Area Planetary Science (TAPS) Meeting 2025 at UT San Antonio.

Alex Godet

- **Godet, A.**, Suarez, M.B., and Suarez, C. Environmental instability during greenhouse periods: Impacts on terrestrial and marine ecosystems. Annual Connects meeting of the Geological Society of America, San Antonio, October 19-22, 2025.
- Pope, M., Donovan, A.D. and **Godet, A.** Sequence stratigraphic, geochemical, and geochronologic correlation of the Cenomanian-Turonian Ocean Anoxic Event 2 (OAE2) in the Cretaceous Western Interior Seaway (KWIS) and the Gulf Coast. Annual Connects meeting of the Geological Society of America, San Antonio, October 19-22, 2025.



Dr. Godet co-convening
with Marina and Celina Suarez

Postdoctoral Fellows

Indrayudh Mondal

- Indrayudh Mondal from Arizona State: He is happy to announce that he procured professional license with Texas and Arizona technical engineering board, Engineer in Training (E.I.T) and passed certification examination for Envision Sustainability Professional (EnvSP) and Was elected as full member of Scientific Research Honor Society, Sigma Xi.



Krishnakumari Pamula

- Krishnakumari Pamula from Stony Brook University is currently a Postdoctoral Associate and has been working on organic matter degradation and biosignature preservation under simulated Martian atmospheric conditions.



New Labs/Instruments

Elizabeth Bailey

- Establishment of the Early Earth Laboratory at UTSA, a new facility dedicated to experimental and analytical studies of meteoritics and ancient geochemical cycles.
PI: Dr. Elizabeth Bailey

Kaushik Mitra

- (Bottom right) Rotavapor® R-80 - This instrument slowly evaporates organic solvent and makes organic solutes concentrated in a solution.

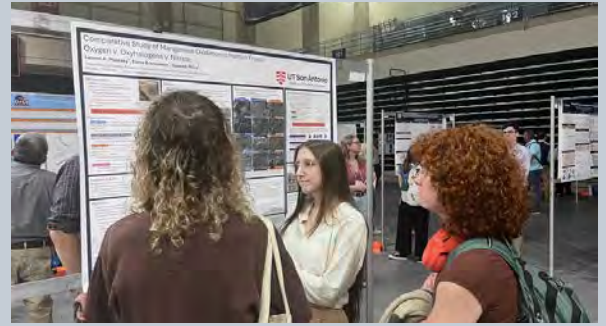


- (Top left) A Full Pine Research Electrochemical Workstation – The main component is a potentiostat and it is used to apply controlled potential to generate current from redox processes in electrolytes. This instrument can perform electrochemical techniques such as Voltammetry, Linear Sweep Voltammetry, Chronoamperometry, and more.

Student Highlights - Fellowships and Presentation Awards

Lauren Malesky

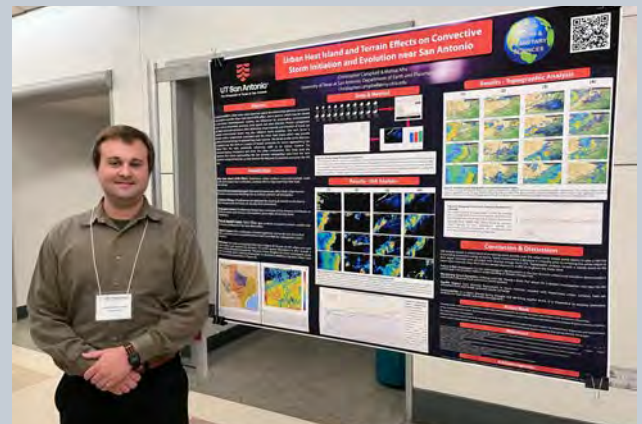
- The Best Graduate Poster Award, COS Research Symposium, April 10.
- Honorable Mention, NSF GRFP 2026 Cycle.



Lauren: The Best Graduate Poster Award

Christopher Campbell

- 3rd place, 3-Minute Research Presentation Winner, COS Research Symposium, April 10.
- Honorable Mention, Poster Session Winners, 2026 Undergraduate Research Week.
- Honorable Mention, 3 Minute Research Competition Winners, 2026 Undergraduate Research Week.



Christopher: Honorable Mention, Poster Session Winner



Testing the '1604 Weather Wall': Will our urban environment affect the fate of this approaching storm?
(Christopher: 3rd place, 3-Minute Research Presentation)



Cesar Ernesto Segovia Gonzalez (left), mentored by Dr. Indra Mondal (right), tied for best poster award, 2025 Undergraduate Research Summer Showcase.

Student Highlights - Scholarships and University Awards

Amber Miller

- AAPG Foundation Field Camp Scholarship, 2026
- STGS Geoscience Field Camp Scholarship, 2026.



Amy Schoenenberger

- AAPG Foundation Field Camp Scholarship, 2026
- STGS Geoscience Field Camp Scholarship, 2026.



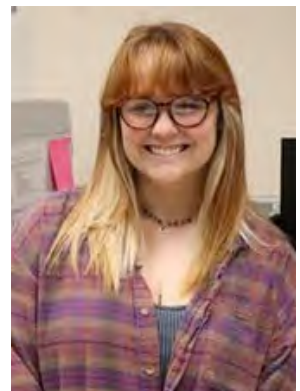
Zoe Zoesch-Weigel

- STGS Geoscience Field Camp Scholarship, 2026.



Cassidy Lane

- UTSA Outstanding Graduate Student University Life Award, 2025.



Degrees/Certificates Awarded

Fall 2025 MS in Geosciences:

- Ross Glore
- Jacob Hinojosa
- Colton Klatt
- Erica Martinez
- John Dye



Spring 2026 MS in Geosciences:

- Corrinne Kotara

Fall 2025 Professional Certificate in Geographical Information Science:

- Colton Klatt



From left: Dr. Mestas-Nuñez, Ph.D. graduates Christian Sustayta and Mansi Joshi, and Department Chair Dr. Datta at the UT San Antonio Hooding Ceremony, December 11, 2025.



Celebrating the hooding of Ph.D. graduate Mansi Joshi (center) co-supervised by Prof. Ackley and Dr. Mestas-Nuñez, at the UT San Antonio Hooding Ceremony, December 11, 2025.

Degrees/Certificates Awarded



Conference Presentations - GSA Connects 2025, San Antonio, TX



EPS students and faculties gathered at the UT San Antonio booth at GSA Connects 2025, San Antonio, TX.

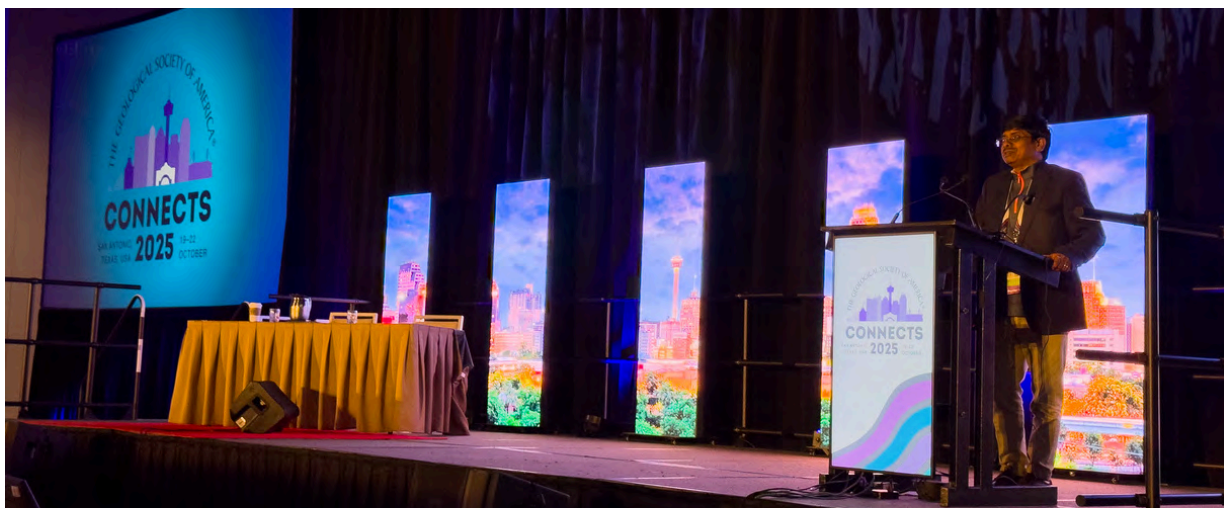


UT San Antonio Alumni Dinner During GSA, San Antonio, TX.

Oral Presentations - GSA Connects 2025, San Antonio, TX

Datta et al.

- **Datta, S.**, Groundwater and Sustainability: Integrating Science, Technology, and Policy, noon-time lecture.



Dr. Datta giving his presentations at GSA 2025

- **Datta, S., Mondal, I., Graves, A., (2025).** Predicting Trace Element Concentrations in Major Texas Aquifer systems and associated Groundwater Sustainability using a Multimodal Machine Learning approach. GSA Connects 2025., San Antonio, TX



Dr. Datta (left) and Indrayudh Mondal (right) give their presentations at GSA 2025, collaborating with Alec (pictured in blue, left)

- **Saunders, R., Green, R., Kulkarni, H., V., Xie, H., Mondal, I., Datta, S. (2025).** Geochemical Analysis and Rare Earth Element Characterization of Karstic Groundwaters Impacted by Anthropogenic Activities: Implications for the Edwards Aquifer. GSA Connects 2025., San Antonio, TX.

Oral Presentations - GSA Connects 2025, San Antonio, TX

Datta et al.

- **Cardenas, M. B., Varner, T., Kulkarni, H. V., Kwak, K., Nguyen, W. D., Hossain, A., Shuai, P., Wang, L., Ahmed, K. M., Datta, S., Knappett, P. S. K. (2025).** Tidaland Seasonal Groundwater-Surface Water Mixing Zones: Hot or Cold Spots for Arsenic Contamination? GSA Connects 2025., San Antonio, TX.
- **Aguilar, A., Kulkarni, H. V., Rampe, E., Li, Y., Hernandez, H., González, L. M. R., Piña, V., Godet, A., Datta, S. (2025).** Impacts of Arsenic and Fluoride Mobilization from experimental Soil Leaching and Water-Rock Interactions as seen in Independence Basin Aquifer, MX. GSA Connects 2025., San Antonio, TX.



Ashley Aguilar presenting her talk at GSA 2025

- **Lane, C., Vote, J., Mondal, I., Datta, S. (2025).** Mapping Spatial and Temporal Variations of Key Water Parameters Affecting Environmental and Human Health in the Lower Brazos River, Texas. GSA Connects 2025., San Antonio, TX.



Cassidy Lane presenting her talk at GSA 2025

Oral Presentations - GSA Connects 2025, San Antonio, TX

Whittington et al.

- **Cly C.P., Speck A., Whittington A., Ponce A., Sargent B., Nuth J., Brancaloni E., Pacheco F., 2025.** The Recipe for Stardust: Cooking Up Alumina 'Smokes' in the Lab. GSA Connects, San Antonio TX, Abstract #9045.
- **Patridge A., Whittington A., 2025.** Thermodynamic Properties of Lunar Simulants: Benchmarking Against Apollo Soils. GSA Connects, San Antonio TX, Abstract #6528.
- **Schwartz L., Bartlett A., Whittington A., 2025.** Effect of Wind Speed and Physical Properties on the Convective Cooling of Volcanic Rocks. GSA Connects, San Antonio TX, Abstract #9657.
- **Whittington A., Schwartz L., Michelfelder G.S., 2025.** Post-emplacement vesiculation in monogenetic basaltic lava flows may cause emplacement timescales to be overestimated. GSA Connects, San Antonio TX, Abstract #9655.
- **Whittington A., Gaspard R., Recla T., Patridge A.M., 2025.** Thermal and physical properties of solid and molten Martian regolith simulants. GSA Connects, San Antonio TX, Abstract #9662.



Austin Patridge



Lauren Schwartz



Dr. Whittington

Godet et al.

- **Godet, A., Sharpe, J., Glore, R.A., Suarez, M.B., Adatte, T., Frija, G., and Morsilli, M. (2025).** Evaluation of ecological changes in carbonate platforms during the early Aptian. Abstracts with Programs



Dr. Godet and Marina Suarez

Oral Presentations - GSA Connects 2025, San Antonio, TX

Bailey et al.

- **E. Bailey, M. Telus, P. Lam, S. Webb.** Deciphering redox histories of aqueously altered carbonaceous asteroids with X-ray spectroscopy. GSA Connects, San Antonio, Texas, USA, October 2025

Mitra et al.

- **Mitra, K., Malesky, L.A., Thorpe, M.T., and Stevanovic, A., 2025.** Oxidative Alteration of Siderite to Goethite and Akaganeite by Chlorate & Bromate: Implications for Recent Siderite Discovery at Gale Crater on Mars. GSA Connects 2025, San Antonio, Texas



Kaushik Mitra presenting his talk at GSA 2025

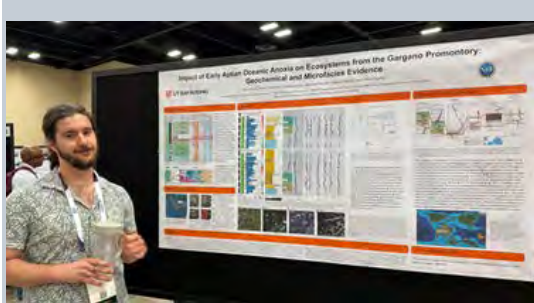
- **Malesky, L.A., Brancalion, E., and Mitra, K., 2025.** Comparative Study of Manganese Oxidation in Martian Fluids: Oxygen v. Oxyhalogens v. Nitrate. GSA Connects 2025, San Antonio, Texas.



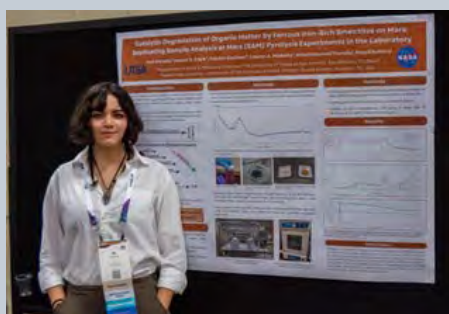
Lauren Malesky presenting her Lightning talk at GSA 2025

Poster Presentations - GSA Connects 2025, San Antonio, TX

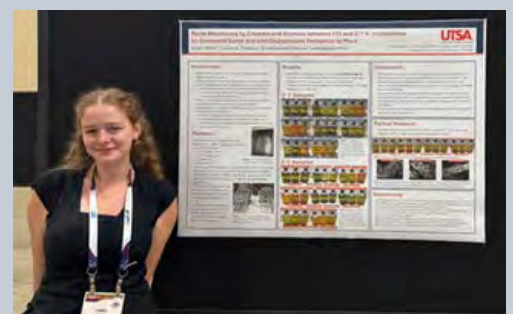
- **Umbreit E.R., Burmeister K.C., Whittington A., 2025.** Thermal Properties of Proterozoic Basement Gneisses from the Sveconorwegian Orogen, Southeastern Norway: Effects of Texture and Temperature. GSA Connects, San Antonio TX, Abstract #10888
- **Glore, R.A., Carmona, E., Frijia, G., Morsilli, M., Suarez, M.C., and Godet, A. (2025).** Impact of early Aptian oceanic anoxia on ecosystems from, the Gargano Promontory: geochemical and microfacies evidence. Geological Society of America Abstracts with Programs.
- **Estrada, J., Clark, J.V., Malesky, L.A., Pamula, K., and Mitra, K., 2025.** Catalytic Degradation of Organic Matter by Ferrous Iron-Rich Smectites on Mars: Replicating Sample Analysis at Mars (SAM) Pyrolysis Experiments in the Laboratory. GSA Connects 2025, San Antonio, Texas.
- **Miller, A., Pamula, K., and Mitra, K., 2025.** Pyrite Weathering by Chlorate and Bromate between 273 and 277 K: Implications for Elemental Sulfur and Iron Oxyhydroxide Formation on Mars. GSA Connects 2025, San Antonio, Texas.
- **Schoenenberger, A.L., Zoesch-Wiegel, Z., and Mitra, K., 2025.** A Scanning and Transmission Electron Microscopic Study of Oxidation Weathering of Ferrous Minerals: Chlorate and Bromate as Effective Oxidants on Mars. GSA Connects 2025, San Antonio, Texas.
- **Zoesch-Weigel, Z., Brancalion, E., Schoenenberger, A.L., Malesky, L.A., and Mitra, K., 2025.** Oxidative Weathering of Olivine by Chlorate and Bromate: Implications for Phyllosilicate Formation on Mars. GSA Connects 2025, San Antonio, Texas.
- **Schmitz B., Whittington A., Ostrowski D., 2025.** From 25 to 1650°C and Back Again: Thermal and Rheological Properties of Ordinary Chondrites to Improve Thermophysical Modeling. GSA Connects, San Antonio TX, Abstract #8359.



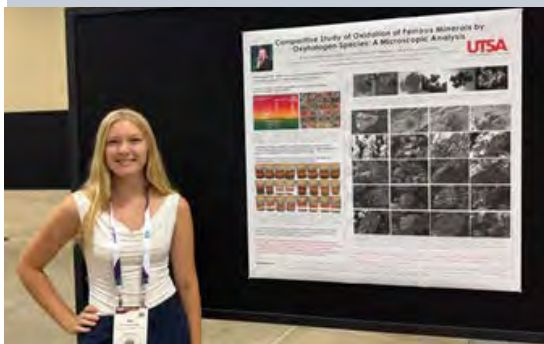
Ross Glore



Javi Estrada



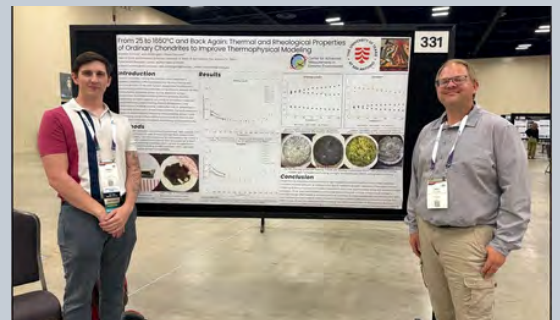
Amber Miller



Amy Schoenenberger



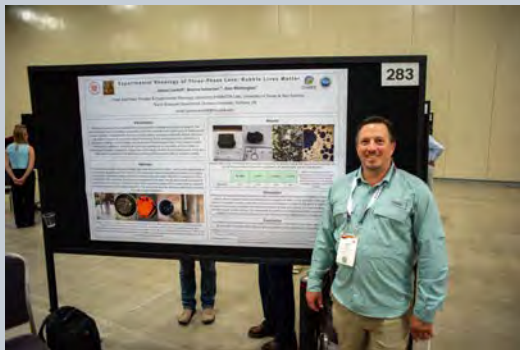
Zoe Zoesch-Weigel



Brandon Schmitz (Left) with co-author Dan Ostrowski (NASA Ames, Right)

Poster Presentations - GSA Connects 2025, San Antonio, TX

- **Franke H.K., Whittington A., 2025.** From Vent to Horizon: Investigating the Long-Range Basaltic Carrizozo Lava Flow. GSA Connects, San Antonio TX, Abstract #11198.
- **Landolfi J., Whittington A., Halverson B., 2025.** Experimental Rheology of Three-Phase Lava: Bubble Lives Matter. GSA Connects, San Antonio TX, Abstract #7437.
- **Patridge A., Whittington A., Edmundson J., 2025.** Melting the Moon: First High-Temperature Calorimetry of Apollo Soils. GSA Connects, San Antonio TX, Abstract #8468
- **Schwartz L., Whittington A., 2025.** Integrated Lab Analog and Numerical Modeling Study of Chilean Torta Domes. GSA Connects, San Antonio TX, Abstract #8449.
- **Westover G.R., Whittington A., 2025.** Temperature-Dependent Thermal Properties of Troctolite. GSA Connects, San Antonio TX, Abstract #11279.
- **Brancaleon, E., Malesky, L.A., Schoenenberger, A., and Mitra, K., 2025.** Stability of Magnetite in Oxyhalogen-Rich Martian Fluids: Implications for Redox History on Mars. GSA Connects 2025, San Antonio, Texas.



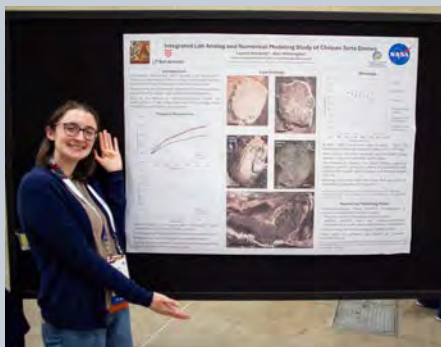
James Landolfi



Hannah Franke



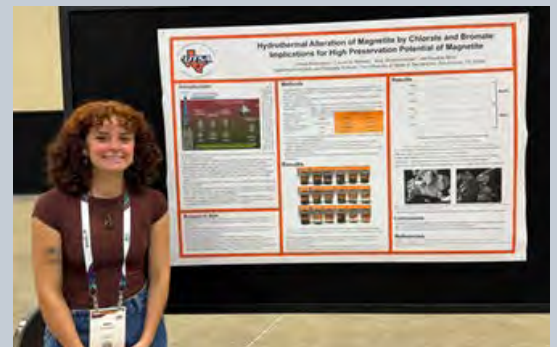
Austin Patridge



Lauren Schwartz



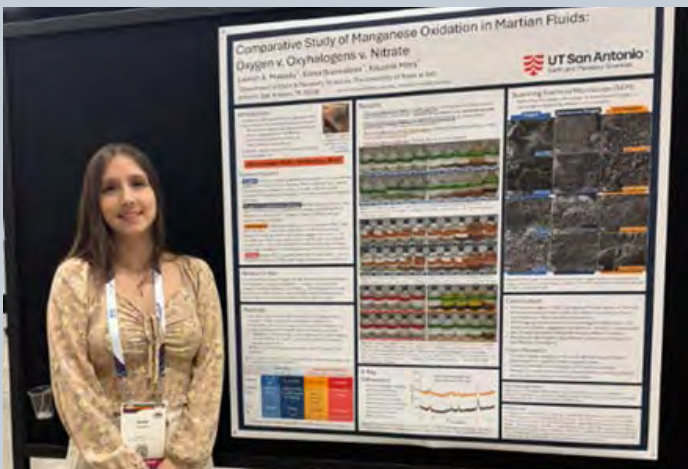
Gavin Westover



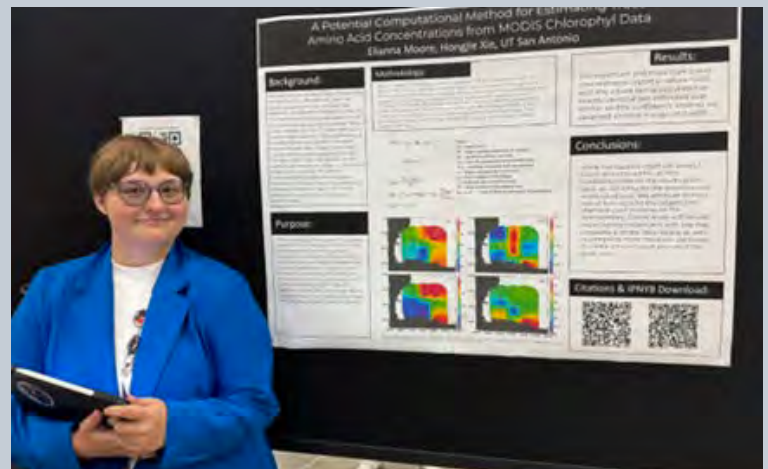
Elena Brancaleon

Poster Presentations - GSA Connects 2025, San Antonio, TX

- **Dana, K., Johnson, Y., De Leon, S.R., Godet, A., Hinojosa, J.R., Sharpe, J., and Suarez, M.C. (2025).** Paleoenvironmental reconstruction of Cretaceous carbonate series from Oman and its relation to the Oceanic Anoxic Event 1a. Geological Society of America Abstracts with Programs.
- **De Leon, S.R., Godet, A., Suarez, M.C., Dana, K., Johnson, Y., Hinojosa, J.R., and Sharpe, J. (2025).** Lower Cretaceous Paleoenvironmental change at Wadi Muaydin, Oman: a multidisciplinary approach. Geological Society of America Abstracts with Programs.
- **Godet, A., Haschenburger, J.K., Vote, J.J., Smyth, D., and Lima, C.E. (2025).** Building geoscience resources for parks through collaborative service-learning projects. Geological Society of America Abstracts with Programs.
- **Haynes, M., Lima, C.E., Haschenburger, J.K., Godet, A., and Garbrecht, L. (2025).** Fostering Geoscience Identity and Belonging: the Effects of Team-Based Service-Learning Projects at a Hispanic-Serving Institution. Geological Society of America Abstracts with Programs.
- **Hinojosa, J.R., Godet, A., Sharpe, J., Johnson, Y., De Leon, S.R., and Suarez, M.B. (2025).** Carbonate stability under stress: environmental controls on the southeastern Arabian Platform during OAE1a. Geological Society of America Abstracts with Programs.
- **Johnson, Y., Kaylie, D., De Leon, S.R., Godet, A., Hinojosa, J.R., Sharpe, J., and Suarez, M.C. (2025).** Impact of Early Cretaceous Paleoenvironmental Change on Reservoir Quality in Lower Cretaceous series from Wadi Muaydin, Oman. Geological Society of America Abstracts with Programs.
- **Kenny, W.O., Loewenstine, C., Price, D., Tesauro, J., Adams, T.L., Godet, A., Locker, M., Locker, B., Surpless, B.E., and Lehrmann, D.J. (2025).** Digital outcrop ichnological and sedimentological analysis of R.T Bird's historic herding sauropod site, Lower Cretaceous, Glen Rose Formation at the Davenport Ranch, Medina County Central Texas. Geological Society of America Abstracts with Programs.
- **Malesky, L.A., Brancalion, E., and Mitra, K., 2025.** Comparative Study of Manganese Oxidation in Martian Fluids: Oxygen v. Oxyhalogens v. Nitrate. GSA Connects 2025, San Antonio, Texas.
- **Moore, E., Xie, H.,** A potential computational method for estimating Trace Amino Acid concentrations from MODIS Chlorophyll Data. GSA Connects 2025, San Antonio, Texas.



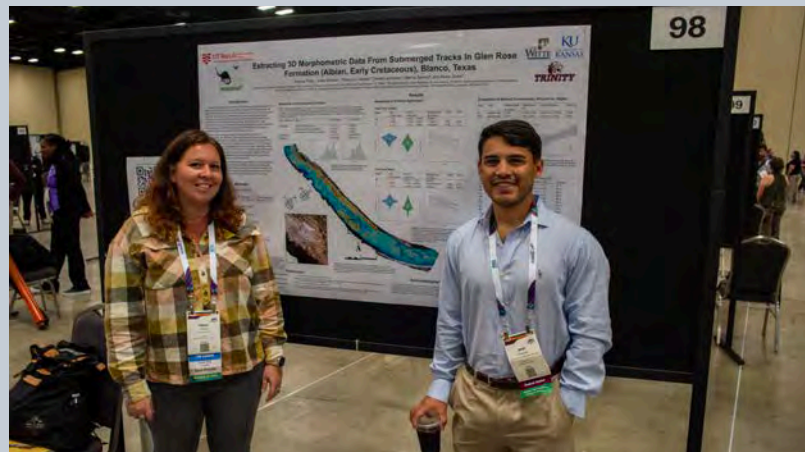
Lauren Maleskey



Elianna Moore

Poster Presentations - GSA Connects 2025, San Antonio, TX

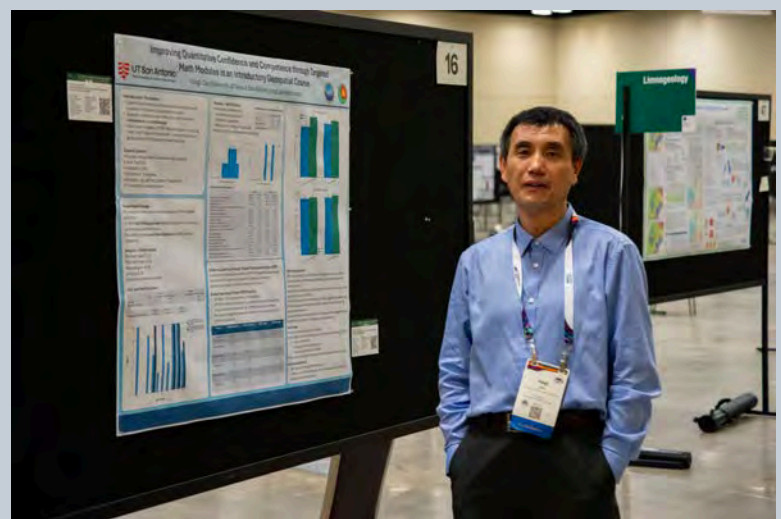
- **Price, D., Adams, T.L., Sharpe, J., Lehrmann, D.J., Suarez, M.B., and Godet, A. (2025).** Extracting 3D Morphometric Data from Submerged Tracks in Glen Rose Formation (Albian, Early Cretaceous), Blanco, Texas. Geological Society of America Abstracts with Programs.
- **Casbeer, P., Clark, J.V., Morris, R., Lanza, N., Mitra, K., Sutter, B., and Rampe, E., 2025.** Manganese Phase and Oxidation State for Martian Analog Samples from Evolved Gas Analysis. GSA Connects 2025, San Antonio, Texas.
- **Afra, M.,** From a traditional teaching style to an engagement-focused approach, benefits and drawbacks: The Student Experience Project in Geosciences Classrooms. GSA Connects 2025, San Antonio, Texas.



Diana Price with Jacob Hinojosa



Mahsa Afra



Dr. Gao

Conference Presentations - TAPS 2025, San Antonio, TX

- **Whittington A.**, 2025. The UT San Antonio HAMsTER lab: Heat and Mass Transfer & Experimental Rheology. Texas Area Planetary Sciences 3, San Antonio TX, abstract #97.
- **E. Bailey**, Developing the Use of Trace Metals in Carbonates as a Novel Paleoredox Proxy. Texas Area Planetary Science Conference (TAPS), San Antonio, Texas, USA, October 2025.
- **Pamula & Mitra**, Organic Matter Oxidation on Mars: The Role of Oxyhalogen Species in Biosignature Destruction, TAPS2025-87.
- **Estrada et al.**, Iron-Rich Smectites as Catalysts for Organic Matter Decomposition on Mars: Laboratory Analogs of Sample Analysis at Mars (SAM) Pyrolysis Experiments, TAPS2025-72.
- **Miller et al.**, Low Temperature Weathering of Ferrous Sulfide by Oxyhalogen Brines as an Alternative Process of Elemental Sulfur Formation on Mars, TAPS2025-52.
- **Patridge, A.**, 2025. Thermal & Mechanical Performance of Lunar Regolith Bricks: Glass vs. Crystalline. Texas Area Planetary Sciences 3, San Antonio TX, abstract #93.



Dr. Whittington



Dr. Bailey



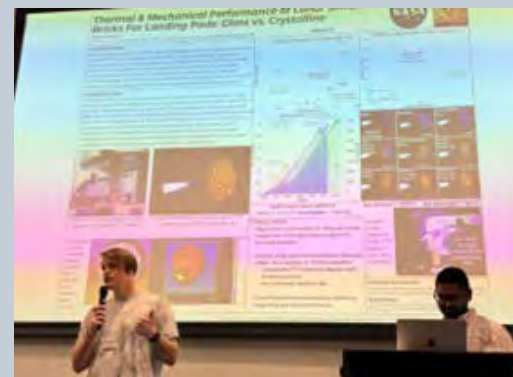
Krishnakumari Pamula



Javi Estrada



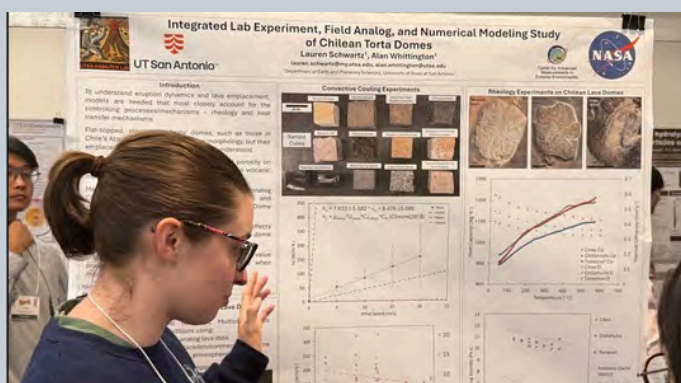
Amber Miller



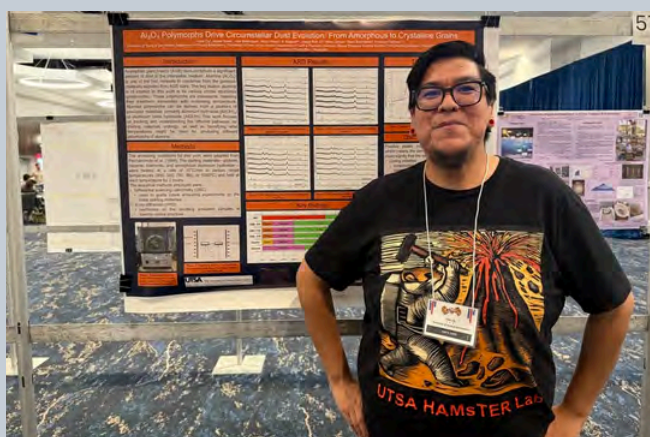
Austin Patridge

Conference Presentations - TAPS 2025, San Antonio, TX

- **Ghosh et al.**, Unveiling Mars's Interior: The Role of a Molten Silicate Layer, TAPS2025-57.
- **Schoenenberger et al.**, A Microscopic Study of Oxidative Alteration of ferrous Minerals: Chlorate and Bromate as Potential Oxidants on Mars, TAPS2025-67.
- **Zoesch-Weigel et al.**, Oxidative Alteration of Olivine by Oxyhalogen Salts: Insights into Clay Mineral Formation on Mars, TAPS2025-70.
- **Malesky et al.**, Pathways of Manganese Oxidation in Mars-Relevant Fluids: Comparing Oxygen, Oxyhalogens, and Nitrate, TAPS2025-51.
- **Schmitz B., Whittington A., Ostrowski D.**, 2025. From 25 to 1650°C and Back Again: Thermal and Rheological Properties of Ordinary Chondrites to Improve Thermophysical Modeling. Texas Area Planetary Sciences 3, San Antonio TX, abstract #96.
- **Brancalone et al.**, Hydrothermal Alteration of Magnetite in by Chlorate and Bromate in Mars-Relevant Fluids: Implications for High Preservation Potential of Magnetite, TAPS2025-50.
- **Schwartz L., Whittington A.**, 2025. Integrated Lab Experiment, Field Analog, and Numerical Modeling Study of Chilean Torta Domes. Texas Area Planetary Sciences 3, San Antonio TX, abstract #91.
- **Cly C.P., Speck A., Whittington A., Ponce A., Sargent B., Nuth J., Jensen T., Pacheco F.**, 2025. Al₂O₃ Polymorphs Drive Circumstellar Dust Evolution: From Amorphous Condensates to Crystalline Grains. Texas Area Planetary Sciences 3, San Antonio TX, abstract #68.
- **Landolfi J., Whittington A., Halverson B.**, 2025. Experimental Rheology of Three-Phase Lava: Bubble Lives Matter. Texas Area Planetary Sciences 3, San Antonio TX, abstract #80



Lauren Schwartz



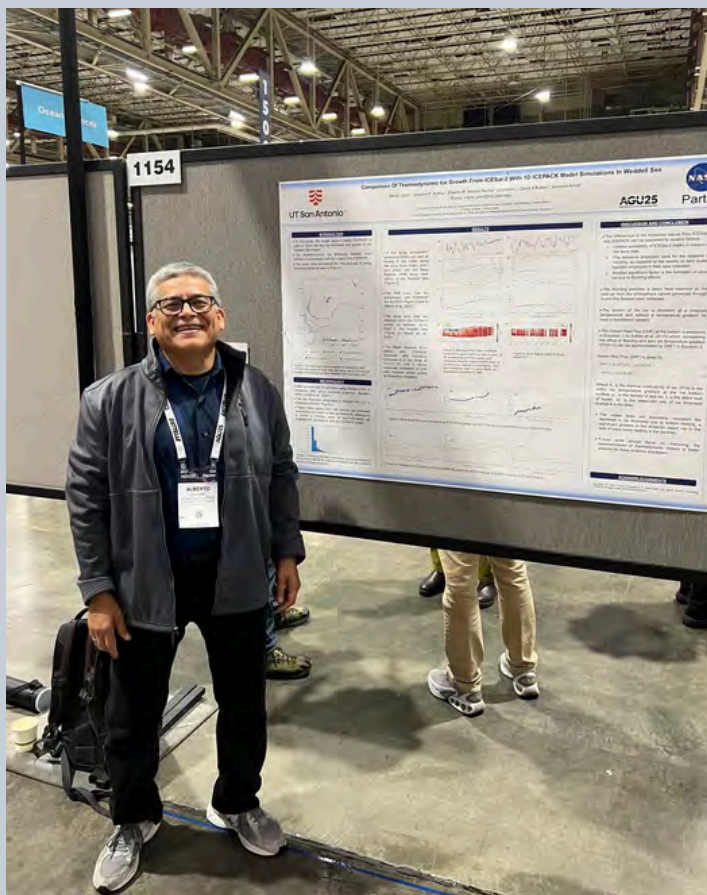
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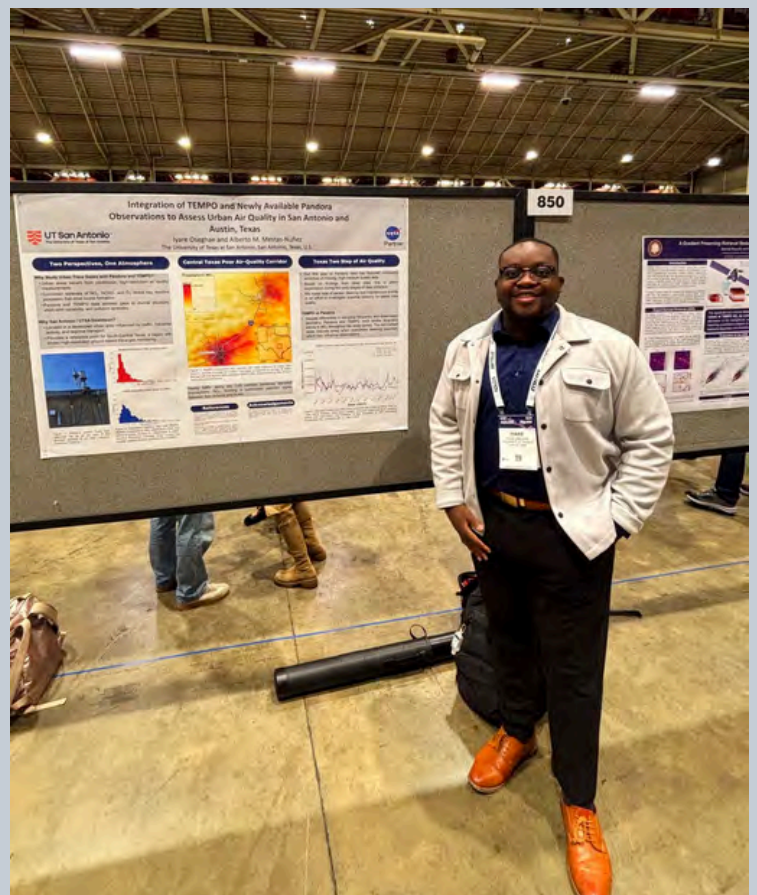
James Landolfi

Conference Presentations - AGU 2025, New Orleans, LA

- **Whittington A., Hofmeister A., 2025.** Temperature-Dependent Thermal Properties of Planetary Materials. American Geophysical Union, New Orleans LA.
- **Whittington A., Halverson B., Landolfi J., 2025.** Three-Phase Lava Rheology Measurements Reveal the Importance of Bubbles in Facilitating Fast Flow Emplacement. American Geophysical Union, New Orleans LA.
- **I. Oseghae, A.M. Mestas-Nuñez,** Integration of TEMPO and Newly Available Pandora Observations to Assess Urban Air Quality in San Antonio and Austin, Texas, 2025 AGU Fall Meeting New Orleans, LA, December, 11-19.
- **M. Joshi , S.F. Ackley, A.M. Mestas-Nuñez,** Comparison Of Thermodynamic Ice Growth From Icesat-2 With 1D Icepack Model Simulations In Weddell Sea, 2025 AGU Fall Meeting New Orleans, LA, December, 11-19.



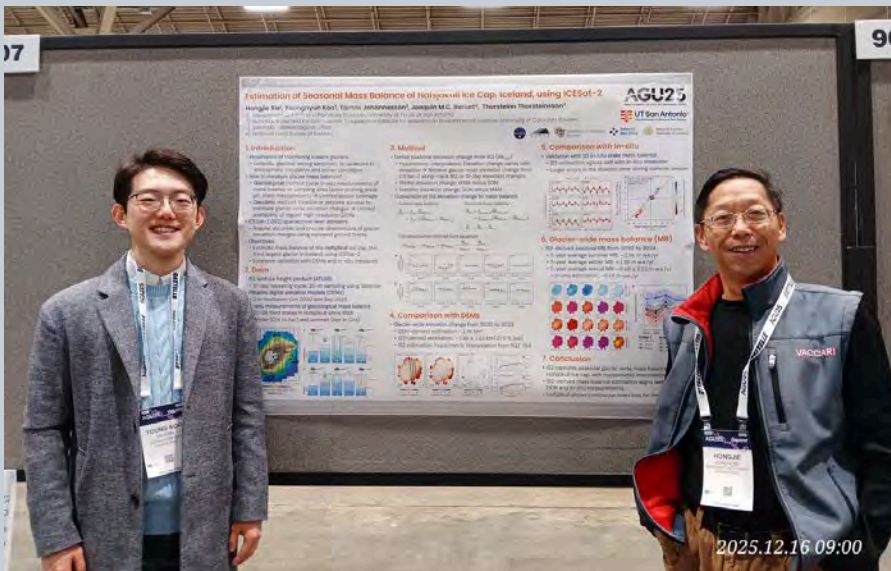
Dr. Mestas-Nunez



Iyare Oseghae

Conference Presentations - AGU 2025, New Orleans, LA

- **Graves, A., Martinez, H., Veach, A., Datta, S., 2025.** “B43H-2036 Measuring Dynamic Soil Properties with Neural Networks and Optical Microscopy.” AGU 2025. New Orleans, LA. December 15-19.
- **Rajat Dhi, Deeksha Kumari, Thomas Varner, Anand Giri, Saugata Datta, Peter Knappett, Vinay Chembolu, Harshad Vijay Kulkarni.** Occurrence and Transport of Sedimentary Arsenic and Iron from the Himalayas to the Plains in the Beas River Basin.
- **C. Sustayta, A.M. Mestas-Nuñez,** Glider-Based Detection of an Intrathermocline Eddy in the Northwestern Gulf of Mexico, 2025 AGU Fall Meeting New Orleans, LA, December, 11-19.
- **Xie, H., YH Koo, T Johannesson, JMC Berlart, T Thorsteinsson, 2025.** Estimation of Seasonal Mass Balance of Hofsjökull Ice Cap, Iceland, using ICESat-2. AGU Fall conference, New Orleans, LA.
- **Afra, M.,** Shifting from Lecture-Style to Student Engaging Format: The Student Experience Project and Integrating Microcredentials with a Geoscience Course, 2025, New Orleans LA.



Younhyun with Hongjie Xie



Mahsa Afra

The COS Research Symposium, UT San Antonio, April 10, 2026

- **Perez E., Mondal I., Datta S. (2026).** A Coupled Surface-Groundwater Interaction and 1-D Longitudinal Bacterial Transport Model for a Karst Aquifer under Active Recharge Conditions. The College of Sciences Research Symposium, U.T. San Antonio, April 10th, 2026.
- **Assih D., Mondal I., Datta S. (2026).** Temporal Changes in Trace Element Concentrations Across Major Texas Aquifers and Their Public Health Implications. The College of Sciences Research Symposium, U.T. San Antonio, April 10th, 2026.
- **Alan Whittington,** "Using calorimetry to quantify disorder in materials from the Earth to the Moon to the stars". The College of Sciences Research Symposium, U.T. San Antonio, April 10th, 2026.



Kaushik Mitra

"Redox sensitive elements on Mars: Implications for surface geochemistry and astrobiology"



Krishna Kumari

"Understanding the role of Martian oxyhalogens in organic matter degradation: Preservation of potential biosignatures"



Elizabeth Bailey

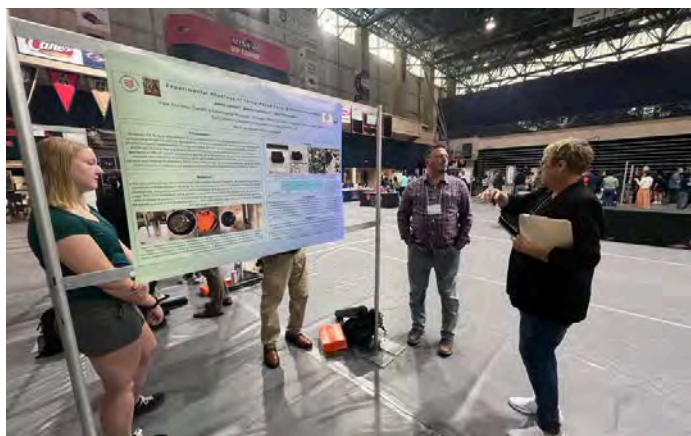
"New perspectives on the geochemical fate of organic carbon in Earth's history"



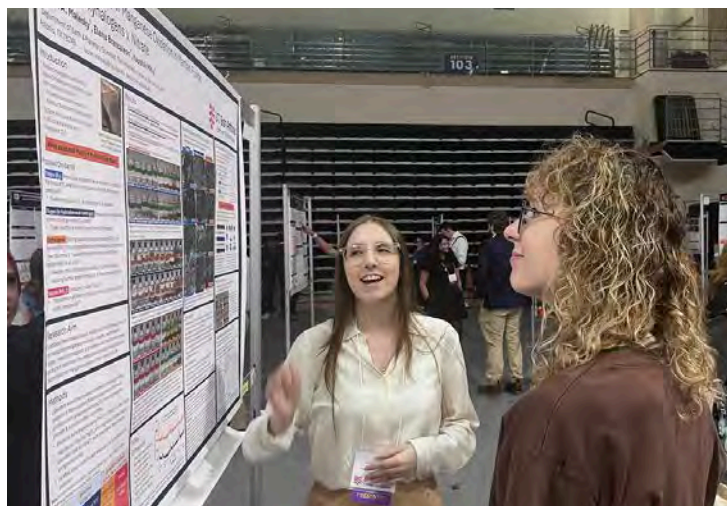
Yongli Gao

"Hydrocarbon formation and transformation from the archean to modern environments: Insights from isotope geochemistry and quantum chemistry"

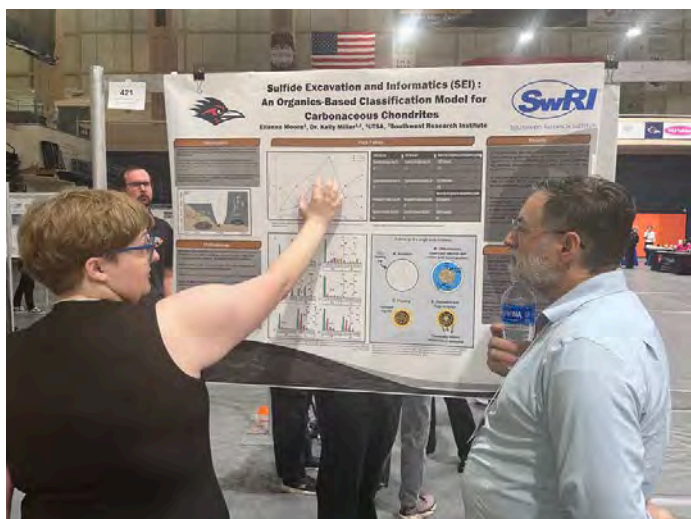
The COS Research Symposium, UT San Antonio, April 10, 2026



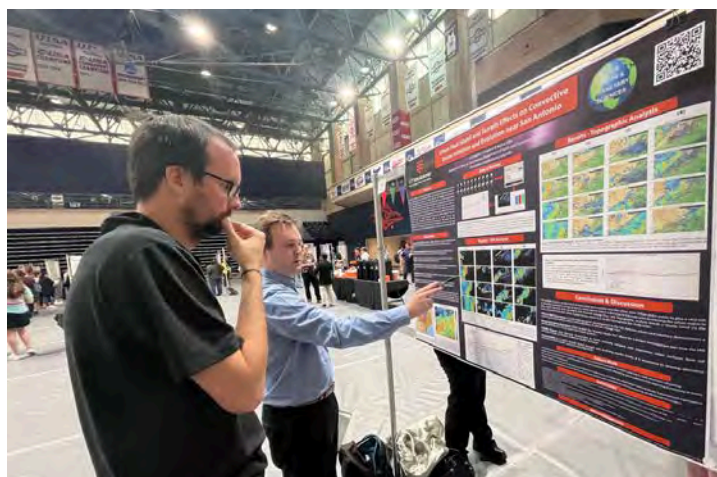
James Landolfi presenting his poster to Janet Vote



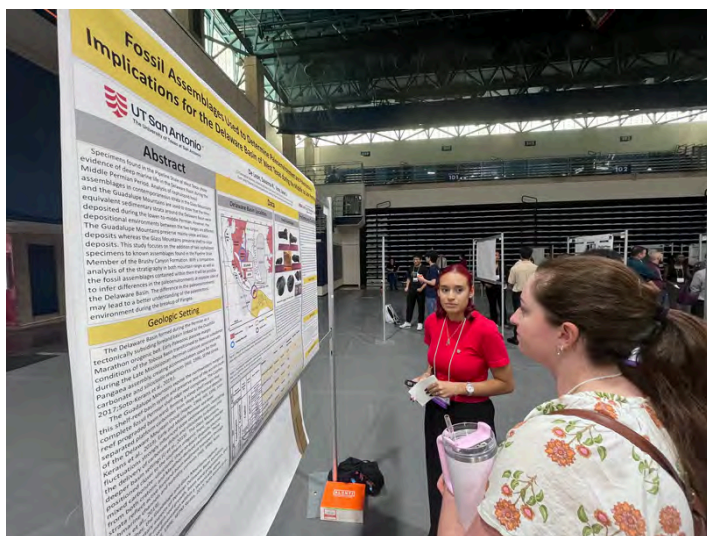
Lauren Maleski presenting her poster to Zoe



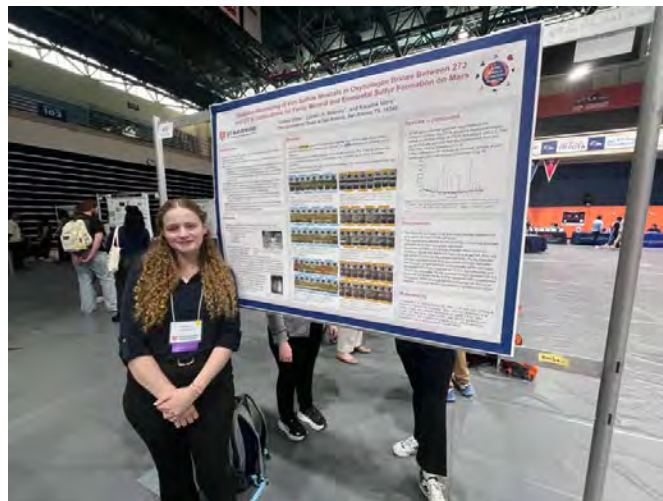
Elianna Moore presenting her research



Christopher Campbell presenting his research



Savanna De Leon presenting her research

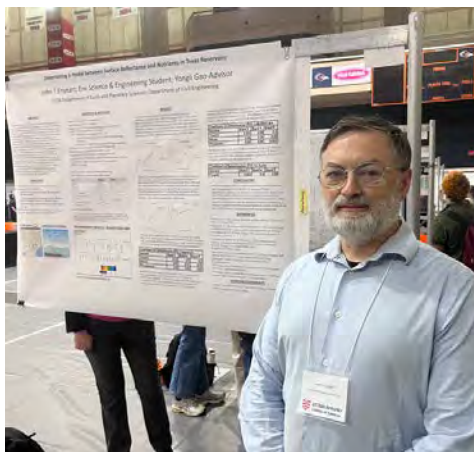


Amber Miller presenting her research

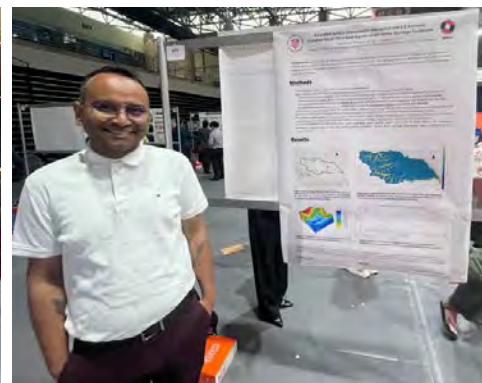
The COS Research Symposium, UT San Antonio, April 10, 2026



Lauren Schwartz



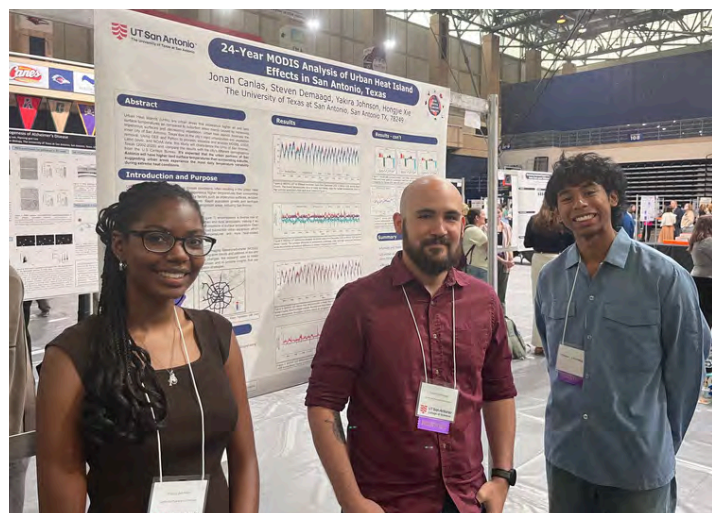
John Enyeart



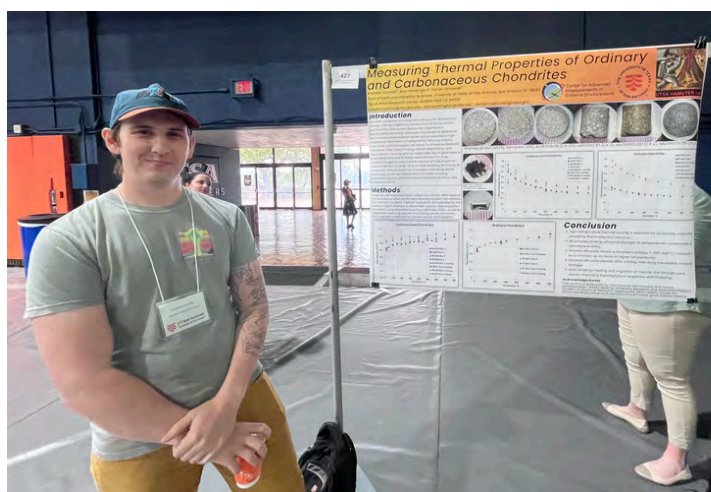
Indrayudh Mondal



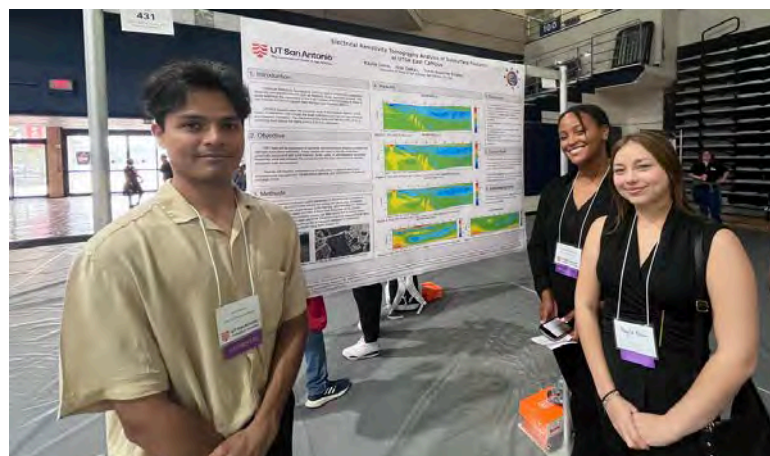
Sierra Young, Edward Davila, and Jack Beer presenting their research to Dr. Elizabeth Bailey



Yakira Johnson, Steven Demagd, and Jonah Canals



Brandon Schmitz



Jose Gamez, Kaylie Dana, Trinita Auzenne-Emebo

Publications

- Xu Liao, Raúl Miranda Aviles, Alma Serafin. Horacio Hernandez, Puy Alquiza, **Saugata Datta**, Merced Martinez Rosales, Ignacio Rene Galindo Esquivel, Cristina Daniela, Luisa Ternanda Rueda Garzon, Xiaoxiao Zha, Elcia Margareth Souza Brito, Pérez-Rodríguez Rebeca Yasmín, Yanmei Li. Assessing long-term stability of arsenic immobilization by iron-impregnated biochar under simulated irrigation and accelerated aging. (2026) *Environ Geochem Health*, 48:260. [doi:10.1007/s10653-026-03149-0](https://doi.org/10.1007/s10653-026-03149-0).
- Sachin Tripathi, Durga Prasad Panday, Juan Antonio Torres Martinez, **Saugata Datta**, Manish Kumar. Hydrochemical redistribution in a stressed aquifer system: Decadal attenuation of salinity extremes and expansion of diffuse agricultural contamination. *Journal of Contaminant Hydrology*. Volume 279, (2026), 104924, ISSN 0169-7722. [doi:10.1016/j.jconhyd.2026.104924](https://doi.org/10.1016/j.jconhyd.2026.104924).
- Will Nguyen, **Saugata Datta**, Peter Knapette, Bayanai Cardenas. (2025) The effects of tidal and seasonal scale flooding and soil texture on surface water-groundwater interactions along a fluvio-deltaic floodplain: the Meghna River, Bangladesh. *Water Resources Research*. doi.org/10.1029/2025WR039919.
- **Protik Banerjee**, **Harshad Vijay Vijay Kulkarni**, Allison M Veach, Thiba Nagaraja, **Pousali Pathak**, Suprem R Das, and **Saugata Datta**. (2025) Geochemical factors influencing the phosphorus mobility in Konza prairie grassland and agriculture-dominated soils in north-eastern Kansas. *Frontiers in Environmental Sciences*, Sec. Soil Processes, Volume 13-2025. [doi:10.3389/fenvs.2025.1500314](https://doi.org/10.3389/fenvs.2025.1500314).
- Han Gao, Emon Roy, Mason S. Underwood, Hunter Adams, **Harshad V. Kulkarni**, **Saugata Datta**, Shinya Sato, Keisuke Ikehata. (2025) Diatom-Based Photobiological Treatment of Reverse Osmosis Concentrate: Optimization of Light and Temperature and Biomass Analysis. *Phycology*. [doi:10.3390/phycology5010003](https://doi.org/10.3390/phycology5010003).
- **Bailey, E.**, Tsurkan, M., Nowacki, K., Jesionowski, T., Ehrlich, H. (2025) Evidence for Surviving Chitin in Cambrian Trilobites from the Carrara Formation, Western North America. *PALAIOS*, 40(12):379-387. <https://doi.org/10.2110/palo.2024.025>
- **Bailey, E.**, Telus, M., Lam, P., Webb, S. (2025) Iron XANES measurements of carbonates and phyllosilicates in CM chondrites: A record of redox conditions during aqueous alteration. *Meteoritics and Planetary Science (MAPS)*, 60: 1953-1969. <https://doi.org/10.1111/maps.70001>.
- Zhang, G., **H. Xie**, A. Fernandez, C. Kinnard, S. Lhermitte, 2026. Remote sensing of the global cryosphere: Status, processes, and trends. *Remote Sensing of Environmental*, 115220. (This is the editorial paper for the special issue in RSE led by H. Xie, 2023-2025).
- **Mitra, K.** Oxychlorine Species on Mars: A Review. (2025) *Reviews of Geophysics*. 63(4). Invited. <https://doi.org/10.1029/2024RG000861> <https://eos.org/editors-vox/a-double-edged-sword-the-global-oxychlorine-cycle-on-mars>.

Publications

- **Mitra, K., Malesky, L.A.,** Thorpe, M.T., and Stevanovic, A. (2025). Siderite and Ferric Oxyhydroxide Imply Interlinked Carbon, Iron & Halogen Cycles on Mars. Proceedings of the National Academy of Sciences. 122(25), p.e2504674122. Featured in UT San Antonio Today
- Adams T., **Price, D., Godet, A.,** Newman, J., **Davis, C., Lehrmann, A.** and Lehrmann, D.J. (2026). Revisiting Bird's swimming sauropod: new insights on manus-dominated dinosaur tracks from the Mayan Dude Ranch in Bandera, Texas. *Historical Biology*, 38(1), 112-126.
- **Godet, A.,** Adatte, T., Arnaud-Vanneau, A., Bonvallet, L., De Kaenel, E., Mojon, P.-O. (2025). Rise and demise of the Urgonian platform in Switzerland. Geological Society, London, Special Publications 545, SP545-2023-2103.
- Baur, J., Birnbaum, J., **Halverson, B.,** Dietterich, H., Hammer, J., **Whittington, A.,** and Lev, E., 2026. Dynamics and evolution of the Kīlauea Lower East Rift Zone 2018 Fissure 8 lava flow and implications for multiphase magma properties. *Journal of Volcanology and Geothermal Research*, 473: 108552. <https://doi.org/10.1016/j.jvolgeores.2026.108552>.
- Hofmeister, A.M., Sharp, M., and **Whittington, A.,** 2026. Dependence of viscosity, thermal diffusivity, and thermal conductivity of East Pacific Rise pillow basalts, glasses, and melts on temperature and hydration. *Journal of Volcanology and Geothermal Research*, 473: 108563. <https://doi.org/10.1016/j.jvolgeores.2026.108563>
- **Schwartz, L.,** and **Whittington, A.,** 2026. Relating thermal inertia of basaltic lavas to morphology and texture. *Icarus*, 445: 116866. <https://doi.org/10.1016/j.icarus.2025.116866>
- Amlashi, A.T., Allahdadi, H., **Whittington, A.,** and Dessouky, S., 2025. Bio-based light-transmitting concrete for solar-sidewalk applications: Evaluation of mechanical, optical and thermal characteristics. *Journal of Cleaner Production*, 530: 146832. <https://doi.org/10.1016/j.jclepro.2025.146832>.
- **Halverson, B.A.,** Loewen, M., Dietterich, H., and **Whittington, A.,** 2025. A case study of image analysis deep segmentation for the purposes of 2D petrographic segmentation in volcanic rocks. *Volcanica*, 8: 427-440. <https://doi.org/10.30909/vol/gsf1696>.
- Rickman, D.L., Hutcheon, R.M., Shulman, H., Mouris, J., Santiago, R., Patridge, A., Whittington, A., and Teijeira, A., 2025. Dielectric Properties of Lunar Simulant Materials. NASA Technical Publication TP-20250009115, 473 pp. <https://ntrs.nasa.gov/citations/20250009115>
- Stojic, A.N., Sehlke, A., **Whittington, A.G.,** Morlok, A., and Hiesinger, H., 2025. A detailed μ -FTIR study of Hermean glasses: Spectral mainband shape and flank, what do they tell us? *Journal of Non-Crystalline Solids*, 660: 123523. <https://doi.org/10.1016/j.jnoncrysol.2025.123523>

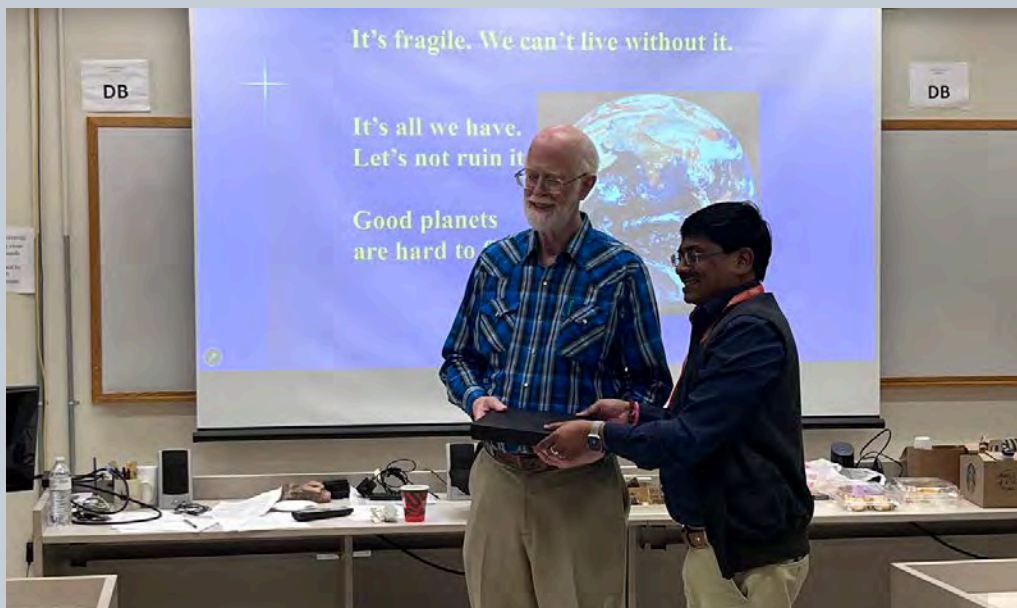
Conference Presentations

- **Graves, A., Martinez, H., Veach, A., Datta, S., 2025.** Machine Learning Microscopy Analysis for Rapid Sample Biogeochemical Assessment: Applications from Agricultural Soils to Exobiology. Goldschmidt Conference. Prague, Czech Republic. July 6-11, 2025.
- **Graves, A., Martinez, H., Veach, A., Datta, S., 2025.** Using a Smartphone Microscope to Measure Fungal Biomass Across Urban and Natural-Area Soils. NCSS National Conference. Virtual. June 23-25.
- **Mondal, I., Datta, S.,** E3Trace: An Integrated Approach to PFAS Source Tracking and Exposure Assessment Using Hydrologic Modeling and Wastewater Surveillance. Postdoctoral Appreciation Week Symposium, 2025
- **Bailey, E.,** *Ring, ring!* A rogue planet is calling to discuss microlensing under detection. Invited lecture - A Dynamical Synthesis of Planetary Systems (DSPTS), Yale University, New Haven, Connecticut, USA, January 2026.
- **Bailey, E., Telus, M., Lam, P., Webb, S.,** Fe Oxidation States in CM Chondrites Characterized with X-Ray Spectroscopy. 87th Annual Meeting of the International Meteoritical Society, Perth, Australia, July 2025.
- **Bailey, E., Telus, M., Lam, P., Webb, S.,** Anticorrelation of Iron Redox Number and Aqueous Alteration Degree in CM Chondrites Revealed with Synchrotron X-Ray Spectroscopy. 57th Lunar and Planetary Science Conference, The Woodlands, Texas, USA, March 2026
- **Xie, H., Koo, Y., Meier, W., Ackley, S. F., & Kurtz, N.,** 2025 International Symposium on Antarctic Earth Science, "Detection of multi-year ex-fast ice in the Weddell Sea, Antarctica, using ICESat-2 satellite altimeter data", SCAR, Punta Arenas, Chile.
- **Koo, Y., Xie, H., Meier, W., Ackley, S. F., & Kurtz, N.,** 2025 AMS Denver Summit, "Inferring the impacts of ex-fast ice on sea ice-wind interaction using remote sensing", Denver, Colorado.
- **Oseghae, I., A.M. Mestas-Nuñez,** Advancing Urban Air Quality Monitoring in South Central Texas with TEMPO and Pandora Observations, 106th AMS Annual Meeting, Houston, TX, January, 25-29.
- **Patridge, A.M., Whittington, A.,** 2026. A New Quantitative Proxy for Space Weathering: High-T DSC Constraints on Amorphous Material Content in Lunar Soil. LPSC 57, The Woodlands TX, abstract 1928.
- **Schwartz, L., Whittington A.,** 2026. Integrated Lab Analog and Numerical Modeling Study of Chilean Torta Domes: Analogs for Venusian Pancake Domes. LPSC 57, The Woodlands TX, abstract 1959.
- **Whittington, A.G., Gaspard, R., Patridge, A.M., Recla T.,** 2026. Properties of Martian Regolith Simulants, Their Melts and Quenched Glasses: How Easily Will High-Temperature Lunar ISRU Technology Transfer to Mars? LPSC 57, The Woodlands TX, abstract 2003.
- **Halverson, B.A., Whittington, A.,** 2025. From flow to furnace: Low viscosity of three-phase lavas measured at Kīlauea 2018 eruption conditions. IAVCEI, Geneva, Switzerland.
- **Whittington, A., Cly, C., Montez, R., Nuth, J., Ponce, A., Sargent, B., Shohan, R., Speck, A., Bartels, D., Brancaloni, E., Crespo, R., Jensen, T., Pacheco, F., Rivera, I.,** 2025. Experimental crystallization of amorphous alumina circumstellar dust analogs. Why galaxies care about AGB stars V, Santiago, Chile.

Highlighted Faculty Activities

Saugata Datta

- In Spring 2026, Saugata Datta invited Kirk Nordstrom to conduct a workshop focusing on water chemistry and groundwater geochemistry.



Kirk Nordstrom from USGS visiting the Department delivering short course in Redox Chemistry of Waters



Saugata Datta introducing former San Antonio mayor Ron Nirenberg
GSA Connects 2025.

Highlighted Faculty Activities

Alan Whittington

- In Fall 2025, Alan was on Faculty Development Leave. He attended the West Texas Geological Society meeting in Midland TX, the Geological Society of America Connects meeting in San Antonio TX, and an astronomy conference in Santiago de Chile. In Fall 2025, Alan welcomed several new group members including Dan Nguyen, pursuing an MS on in situ resource utilization of lunar regolith, and Gavin Westover, pursuing an MS on thermal properties of plutonic rocks.
- In Spring 2026, Alan taught the undergraduate Petrology class, which included a field trip to the igneous and metamorphic rocks of the Llano uplift, with special guest Dean Stephanie Santorico. He also taught the graduate Silicate Melts class to a mix of students in Earth & Planetary Sciences and Physics & Astronomy. In Spring 2026, Hannah Goeke joined the HAMsTER lab to do an MS degree focusing on meteorite airburst-generated glasses in the Atacama desert.



March 2026 Petrology field trip pictured on migmatitic gneisses in the Llano uplift. Dean Santorico is at the left hand end of the standing line.

Photo: James Landolfi

Students on the March 2026 Petrology field trip estimating the modal mineralogy of granites near Kingsland.

Photo: Stephanie Santorico.



Highlighted Faculty Activities

Elizabeth Bailey

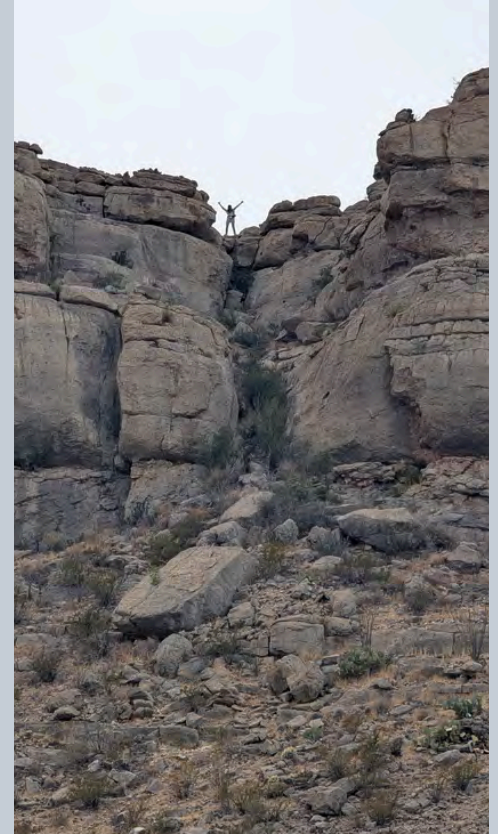
- In July 2025, she gave a talk at the Meteoritical Society Conference in Perth, Western Australia, and attended a field trip to a few of the famous impact structures across Western Australia.
- In August 2025, she attended the Heising-Simons Foundation 51 Pegasi b Summit in Half Moon Bay, California.
- In Spring 2026, Elizabeth taught undergraduate Sedimentology and Stratigraphy, including a field trip to Big Bend, jointly with Dr. Cannon's Structural Geology class, where students learned how to identify and distinguish between the different sedimentary units found in West Texas in order to map them. She also led two day excursions for this class to classic outcrops found locally in San Antonio: a classic roadcut located behind the Bandera Target, and one in Cibolo Creek.
- Prior to the March 2026 trip, Elizabeth accompanied a team including Dr. Cannon, Dr. Whittington, Alumna Briar, and Graduate Students Jaida, Elizabeth, and Cassidy.



Dr. Bailey attempts an accurate imitation of Quetzalcoatlus
(Photo by Cassidy)



Dr. Bailey staying warm at Big Bend



Dr. Bailey Big Bend 2026

Highlighted Faculty Activities

John (Matt) Cannon



Dr. Cannon and James
Gypsum Creek WY
Field Camp 2025



Dr. Cannon with students, wading the Rio Grande
Spring 2026

Alex Godet

Conference Fieldtrips

- **Adams, T., Price, D., Lehrmann, A., Lehrmann, D., and Godet, A. (2025).** Walking in the footprints of giants: dinosaur tracks and trackways in Albian series of the San Antonio region. Annual Connects meeting of the Geological Society of America, San Antonio, October 19-22, 2025, 48 pp.
- **Pope, M., Donovan, A.D., Cooper, J.C., Griffith, C., and Godet, A. (2025).** Regional Perspective of the Eagle Ford and Austin Chalk Groups in and around San Antonio. Annual Connects meeting of the Geological Society of America, San Antonio, October 19-22, 2025.

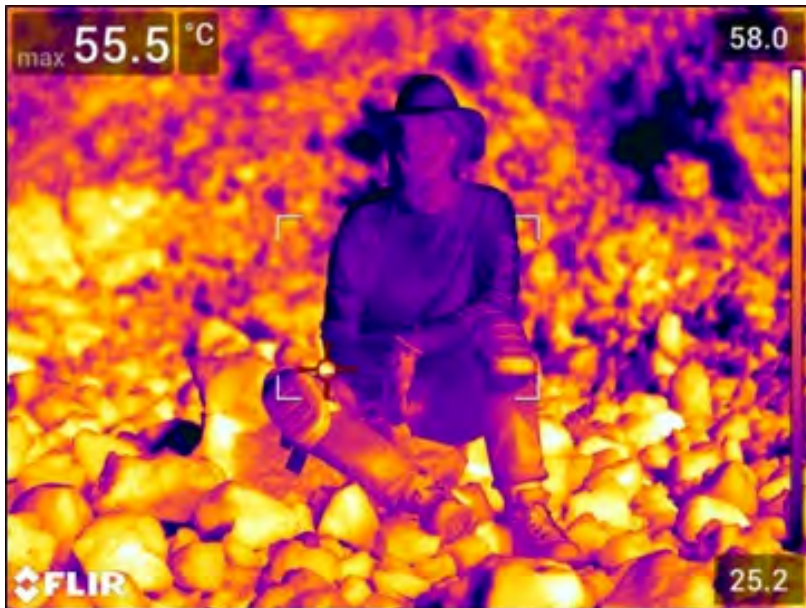


Dr. Godet hiking up Guadalupe Peak
in west Texas, September 2025.

Department Activities - Roadrunner Preview - 2025 - 2026



Geo Moments



Forward-looking infrared (FLIR) thermographic image of M.S. student Hannah Franke doing fieldwork on the Cima lava flows, Mojave desert, CA (May 2025). Photo: Alan Whittington



Early morning eruption of the Tatio Geysers field, Atacama desert, Chile. Elevation ~ 4,320m (14,170 feet) above sea level. Photo: Alan Whittington



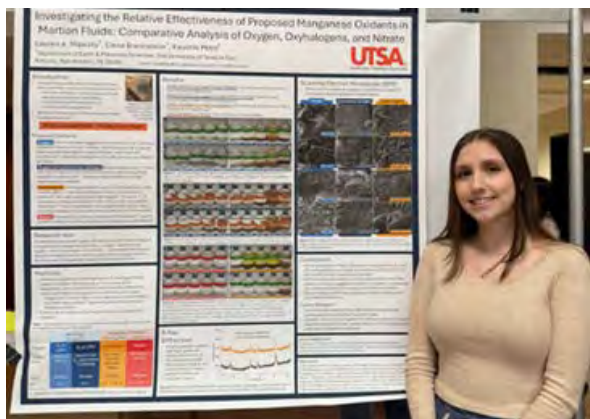
Alan Whittington at ~13,250 ft, near the summit of Mauna Loa, Hawai'i, July 2025; Moku'āweoweo caldera in the background.

Roger Gaspard and Tzieleah Recla, of St Philip's College, researching the properties of Martian regolith simulants in the Heat And Mass Transfer & Experimental Rheology (HAMsTER) lab during their summer 2025 internships supported by the UTSA Center for Advanced Measurements in Extreme Environments (CAMEE).
Photo: Alan Whittington



James Landolfi testing the strength of a lava tube roof, Kīlauea Volcano, Hawai'i, July 2025.

Geo Moments



Lauren Malesky with her poster on Manganese Oxidants on Mars at the 1st Space Technology Student Poster Day at UT San Antonio



Gavin, Ronny, Indro, and Alec at the UT San Antonio EPS booth at GSA 2025



EPS hosted Dr. Pranjit Hazarika, who was visiting from Caltech as a 2025-26 Fulbright Fellow.



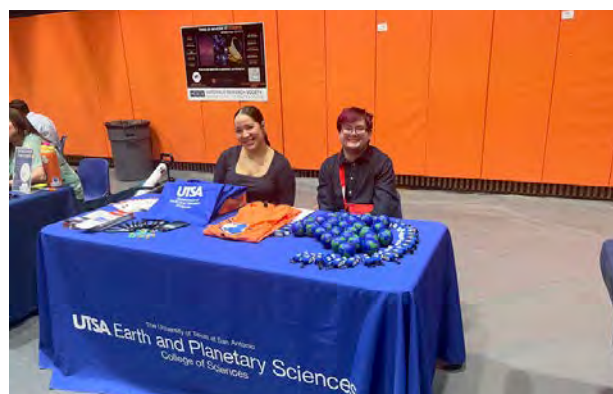
Elena, Lauren, Zoe, and Amy, GSA 2025



A group photo of Amy, Elena, Zoe, Lauren, Cassidy, Briar, Ronny, and Gavin (left to right) in front of the GSA Connects 2025 Banner



UT San Antonio Group: Daniel, Ramin, Amin and Mahsa, Grant Writing Institute, Washington, D.C., 2025



Jeanette and Max, The COS Research Symposium, U.T. San Antonio, 2026

Geo Moments



Dr. Matt Cannon and graduate student Jaida Veiga discuss a piece of calcite in the Dagger Flat area of Big Bend.



Dr. Matt Cannon describes the structural geology of the Persimmon Gap area to students.



Mahsa, GPR Survey Work
Mission San Jose, San Antonio



Graduate student Elizabeth Beauchamp shows off an ammonite fossil in Big Bend National Park.



Undergraduate students on the Big Bend trip traversed challenging terrain, dry air, and prickly plants across many miles of the Chihuahuan desert in order to gain experience making detailed geologic maps of the Dagger Flat study area.



Jack Beer collects the strike and dip of carbonate bedding in Big Bend.

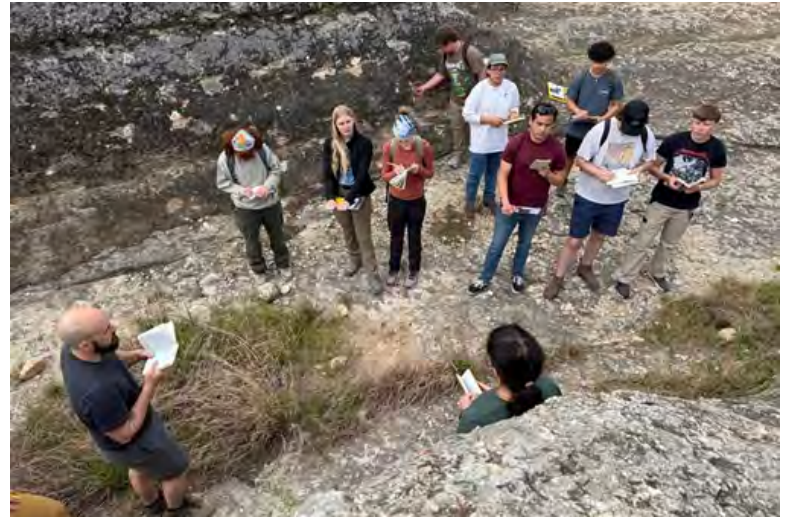


Amy Schoenenberger works on her map after a long day at Dagger Flat.

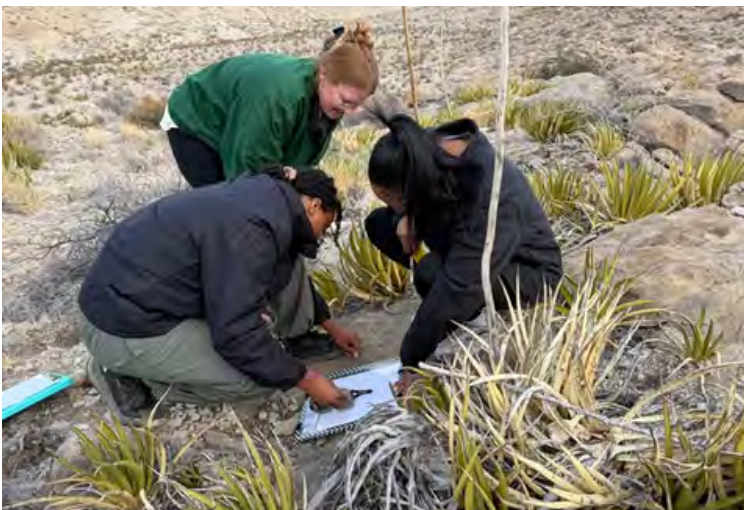
Geo Moments



Owen Kalapaca shows off a rock with interesting bedding from the Del Rio Formation in Big Bend. The upper half contains plentiful fossils of *Turritella* snail shells, which have been aligned by a strong paleocurrent.



Jaida Veiga leads an exercise at the Cibolo Creek study area.



Triniti, Dakota, and Jocelyn work together to obtain a strike and dip in Dagger Flat.



Jaida Veiga points to a gastropod fossil at Big Bend



Undergraduate Rogelio Rodriguez found a sizeable ammonoid impression that everyone else overlooked, during an exercise for Sedimentology and Stratigraphy at the Cibolo Creek Study Area



Dakota Ortega labels rock samples she collected at the Cibolo Creek study area for Sedimentology and Stratigraphy.

Geo Moments



Looking Tough at Tuff Canyon, Big Bend 2026



James, Field Camp 2025



Elizabeth, Elk Basin, WY, Field Camp 2025



Briar, James, Courtney, and Sierra,
Elk Basin WY Field Camp 2025



Briar, James, Courtney, and Sierra,
Elk Basin, WY, Field Camp 2025



Briar and Sierra Beartooth Pass Field Camp 2025

Geo Moments



Field Camp 2025 Beartooth Pass MT



Field Camp 2025 Block Mountain



Courtney and Briar
Field Camp 2025 Block Mountain MT



James, Alyssa and Alan
Block Mountain 2025 Field Camp



Courtney, Sierra and Briar
Block Mountain 2025



Rick Big Bend 2026 Spring trip

Geo Moments



Students at Big Bend Spring Trip 2026



Santa Elena Canyon Spring 2026



Brayden, Rick, and Andrew
Roadcut HWY 90 Spring 2026



Dakota, Big Bend 2026



Big Bend Trip 2026



Structure/Sedimentology Trip Spring 2026

Social Links

I'd like to thank Mahsa Afra and our Graduate student, Mikaela Garcia, for making this newsletter possible. I hope you enjoy reading about our student and faculties' achievements and their fun times.

–Saugata Datta



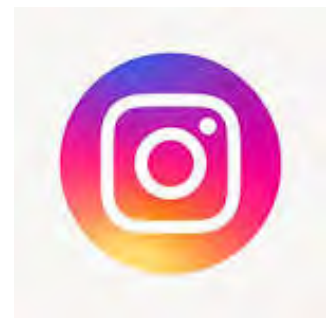
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