

Mandala Pham

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Education

University of Texas at Austin

Jackson School of Geosciences

08/2021 - 05/2025

- Bachelor of Science in Geophysics and Bachelor of Arts in History
- GPA: 3.6026
- Barton Springs/Edwards Aquifer Conservation District 2021 Kent S. Butler Memorial Groundwater Stewardship Scholarship, Groundwater Essay Contest Winner
- John C. and Marian B. Maxwell Endowed Undergraduate Scholarship in Geological Sciences (2022-2023)
- Mr. and Mrs. L. F. McCollum Scholarship in Geology (2023-2024)
- Houston Geological Society Undergraduate Scholarship Nomination (2023)
- Clubs and Activities:
 - Collaboration for Undoing Racism in Environmental Sciences (CURES) - Founder
 - AustinYAD (2022-Present)
 - PR Officer (2023-Present) – Outreach, social media, meeting organization, club promotions
 - Undergraduate Geological Society (2022-Present)
 - UT Young Historians (2021-2022)
 - Texas Digital Humanities (2021-2022)
 - Social Media Officer (2022)

Liberal Arts and Science Academy High School

08/2017 - 05/2021

- Graduated top 10%
- AISD Trustee Award (2018)
- National Merit Scholar Finalist (2020-2021)
- Honors Orchestra officer (2019-2021)

Work Experience

Undergraduate Research Assistant

Dr. Ginny Catania

08/2022 - Present

- UTIG Undergraduate Research Fellowship (2022, 2023)
- MMASter modeling, glacier shape file creating, and data extraction from NASA satellite databases involving the Antarctic Ice Sheet and Greenland Ice Sheet

- Work on a project proposal studying ice mélange seasonality in East Greenland glaciers and relationship to terminus stability to further improve glacier modeling done by others in Ice Research Group (Kevin Shionalyn, Enze Zhang, Mikayla Pascual, Alexandra Stephens)
- GHRSSST Level 2P MODIS SST data extraction from NASA EarthData granule library to model SST seasonal variability in West Greenland proglacial mélange using Harmony API
- Machine learning analysis of glacier termini
- Created shape files for AI to learn glacier terminuses in Antarctica
- Participated in bi-weekly meetings around discussing research papers on ice
- Identified and updated glaciers on Antarctic Ice Sheet ID file
- Used satellite imagery from Landsat8 to trace glacier terminuses in Antarctica over different time periods and weather conditions
- Compared satellite imagery to find most accurate representations of glacier terminus and fjord

Undergraduate Research Assistant

Dr. Derek Haas

06/2023 - Present

- Supporting grad student Madi Brooks in the chemistry lab and nuclear radiation lab on the Neutron Activation Analysis project, part of the larger MSRR Material Activation Experiment
- Irradiating select shielding materials to observe radionuclides produced
- Quantifying activity to determine environmental impact
- Determine whether the activity is within regulatory standards set by the Nuclear Regulatory Commission (NRC) found in Title 10 in the Code of Federal Regulations Part 20 – Standards for Protection Against Radiation (10 CFR Part 20)

Undergraduate Research Assistant

Dr. Jay Banner

06/2022 – 05/2023

- Inventoried all past records and field sampling trips dating back to 1994, some of which included working with physical samples, field notebooks, and an Access database
- Compiled notes on research papers and proposals relating to geochemistry
- Performed experiments and routine cleanings in the lab with Dr. Staci Loewy
- Acid and non-acid cleaning of glass, Teflon containers, syringes, pipettes, filters
- Created Excel graphs based on previous data for project proposals and presentations
- Strontium isotope chemistry in clean lab
- Prepared and dried soil samples to do analysis on
- Weighed delicate calcite plates
- Photographed and indexed speleothems from local Austin-area caves
- Field work on sampling trips to Westcave, Inner Space Cavern, Cave Without a Name, and Natural Bridge Caverns to sample dripwater, monitor karst, and calcite plates
- Titration and aliquoting of collected dripwater samples prior to running through ICP-MS to analyze cations, anions, hydrogen isotopes, oxygen isotopes, and alkalinity
- Sampling of major streams around Austin area including Bull Creek, Onion Creek, and Waller Creek (parameters analyzed same as those mentioned in previous bullet point with the addition of microbial source tracking)
- Study correlations between dripwater and calcite PCP in Cave Without a Name samples
- Scraping calcite off collected calcite plates set out over the course of 4-6 week intervals to run strontium analysis to create an isotopic map of a plate based on the dripwater's initial landing contact and its radial evolution of calcite from that center

Creative Development Intern

The Hideaway Entertainment

09/2022 – 12/2022 [unpaid]

- Detailed script coverages and analyses of submitted features and novels ~4 per week
- Weekly intern meetings discussing mechanisms of the industry and career developments
- Weekly research on current industry trade articles
- Average coverage time: 2.5 hrs per feature script

Shift Supervisor

Starbucks

08/2020 - 08/2022

- Proven experience of customer satisfaction and employee satisfaction
- Planned, coordinated, and supervised daily shifts for the rest of the team
- Trained 3 new hires
- Strong communication to support fellow supervisors in preceding or succeeding shifts
- Experience in money management and inventory accountability
- Store averaging \$10,000 on most Fridays and Saturdays while maintaining customer connection score in the high 50's despite shorted staff
- Filed incident report while remaining calm under high stress situations
- Store making a daily revenue of \$10,000, top in the entire district

Volunteer

Teacher Aide Volunteer/Lion Dance

Summitt Elementary

Since 08/2015

- Cumulative of 100+ hours
- Assisted in spreading Vietnamese culture to community through showcases, participation in lion dancing, and organizing fundraising events
- Experience with classroom management and encouraging analytical growth
- ASIA Foundation Scholarship Award (2021, 2022, 2023)
- Lion Dancer since 12/2019 with Summitt Elementary Youth Group

Volunteer

Horse Empowered Learning Program (H.E.L.P.) of Austin

Since 02/2021

- Installed fencing around farm
- Cleared plots of land for horse herd to arrive by removing debris and metal
- Horse grooming and tacking for lessons and shows
- Records-keeping for volunteer events such as Gold Stirrup and Pistons at the Park
- General farm maintenance cleaning barn, feeding horses, organizing tack rooms, and shoveling fields
- Running information tables for H.E.L.P. at fundraising events

Field Work

The POLARIS Project

3/1/2023-7/31/2023

The Woodwell Climate Research Center

- Remote intensive fieldwork in YK Delta, Alaska from 7/1/2023-7/31/2023
- Prior work (from 3/1/2023) included in-person and online trainings on bear safety, field survival, preparation, and reading literature on Arctic tundra environment, communities, and prevalent issues
- Conducted field research on mushroom ecology, diversity, and abundance in tundra ecosystems over the course of two weeks
- Analysis and processing of collected data in research laboratory at Woodwell Climate Research Institute
- Abstracts and poster created and presented at 2023 AGU
- John Schade Memorial Scholarship (2023)

Marine Geology and Geophysics Field Camp

5/2/2023 – 5/31/2023

The University of Texas at Austin [GEO 348K]

- Deployed and recorded seismic data via CHIRP and Sparker instruments on the R/V Katy
- Deployed and recorded multibeam and side scan data on the R/V Scott Petty
- Collected grab samples and vibra-core samples aboard the R/V Curt Johnson
- Processed data from CHIRP and Sparker seismic surveys; cleaned up and visualized multibeam and backscatter data; did grain size analysis on sediment samples, foram analysis, and LOI to determine total organic carbon; point cloud, image, geologic, topographic database analyses
- Developed, wrote an abstract, and formally presented final project on gas pocket formation in Aransas Bay using all five aforementioned datatypes

Conferences

West Antarctic Ice Sheet Workshop (WAIS)

9/25/2023-9/28/2023 [In-Person]

GAGE/SAGE Community Science Workshop

3/26/2023-3/29/2023 [In-Person]

IICWG-DA-11 Workshop

3/21/2023-3/23/2023 [Virtual]

FOGGS Workshop

3/22/2023-3/24/2023 [Virtual]

Workshop on Remote Sensing of Cryosphere

3/23/2023-3/25/2023 [Virtual]

Relevant Courses

Geology

- GEO 401: Physical Geology
- GEO 338J: Marine Geology
- GEO 416K/E: Earth Materials/Solid Earth Processes
- GEO 416M: Sedimentary Rocks
- GEO 420K: Intro to Field and Stratigraphic Methods
- GEO 365P: Potential Fields and Their Applications in Geophysics
- GEO 352P: Python for Geoscience Research

- GEO 348K: Marine Geology and Geophysics Field Course
- GEO 465K: Seismic Exploration

Nuclear Science

- ME 377C: Intro to Nuclear Systems

Physics

- PHY 315: Wave Motion and Optics

Environmental Science

- EVS 311: Introduction to Field Seminar in Science & Sustainability
- GEO 371T: Science of Environmental Justice

History

- HIS 320W: Thinking Like a Historian
- HIS 343G: Italian Renaissance 1350-1550

Law

- Governor Pataki-Roberts Pre-Law Fellowship Program (2022)
 - Topics covered:
 - Civil Procedure, Torts, Property, Constitutional Law, Criminal Law, Contracts, Case Briefing, Mock Exam

Skills

Coding Languages

- MatLab
- Python
- RStudio
- Java - A in AP Computer Science class, 3 on AP exam
- HTML - Self taught
- Python Pandas - Self taught

Program Proficiency

- Microsoft Office 365 (Excel, Access, Word)
- Google Suite (Docs, Spreadsheets, Colab, Slides, Forms)
- Website Design (Wixsites, Weebly)
- QGIS
- ArcGIS Pro
- MatLab
- Jupyter Notebook
- Anaconda
- Google Earth Pro
- AutoCAD
- SolidWorks
- EIVA
- InterSpec

Writing

- Lead literary editor of school's award-winning literary magazine, *The Composer* (2021)
 - Published all four years in literary magazine
- Wrote, edited, and published short environmental magazine for high school (2017)

- Volunteer for Smithsonian Digital Volunteers: Transcription Center (2020-2022)

Environmental Science

- Water quality sample collection and analysis
- Graphing qualitative data for cation, anion, bacteria, conductivity, TDS, and pH
- Experience with field notebook entries detailing land surveys, natural observations, native plant and animal species, hydrology, elevation profiling, and map sketching
- Austin Watershed Research
 - Walter E. Long Lake woody plant survey for City of Austin (2019)
 - Bull Creek Watershed Quality Project with Dr. Jay Banner at UT Austin (2022)
 - Waller Creek Plot Project with UT Austin (2022)
- Science of Environmental Justice class at UT Austin
 - Portfolio project on socioeconomic trends and gas station locations
 - In field experience with local marginalized communities facing environmental injustices such as East Austin's Holly Street
- Work on archiving PODER Austin past campaigns and uploading to website

Piano

- ABRSM Grade 8 Piano w/ Distinction 2017
- Piano State UIL Winner 2018, 2019
- Piano Festival (Superior 2017, 2018, 2019)

Languages

- English - Native Speaker Fluency
- Vietnamese - Native Speaker Fluency
- Japanese - Professional Working Proficiency
 - National Japan Bowl – Top 10 (2019, 2020, 2021)
 - Austin Regional Japanese Speech Contest (1st Place 2020, 2nd Place 2021)
 - Grand Prize Winner Nengajo Contest 2020
- Spanish - Limited Working Proficiency
- ASL – Beginner Proficiency
- French – Beginner Proficiency