KAITLIN ELIZABETH SCHAIBLE

PhD Candidate • University of Texas Institute for Geophysics • Jackson School of Geosciences
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RESEARCH INTERESTS

Investigate the rheology, stress evolution, and frictional failure of subduction zone faults and landslides using geophysical logs, numerical modeling, and laboratory experiments on natural samples. Conduct laboratory studies on materials recovered from international ocean drilling expeditions and active landslides to investigate the material properties and mechanics governing failure.

EDUCATION

University of Texas at Austin 2026 (anticipated)
PhD Candidate, Geophysics
Advisor: Demian Saffer
PhD Topic: Stress, Friction, and the Spectrum of Slip: Insights into the mechanics of failure from subduction zone faults to slow-moving landslides through wellbore breakout analysis, numerical modeling of stress, and laboratory testing of natural materials.
Cumulative GPA: 4.0/4.0

Carleton College, *Northfield, MN* June 2019
Bachelor of Arts, Geology
Magna Cum Laude, Phi Beta Kappa
Cumulative GPA: 3.83/4.0

APPOINTMENTS & WORK EXPERIENCE

Utah State University Jan 2027
Postdoctoral Fellow

Geophysics Intern Summer 2026
SM Energy, *Denver, CO*

- Asset Technical Development
- Analyzed micro seismicity data to evaluate fracture geometry and resulting impacts on well production.

Field Engineer 2019-2020
AET, *St.Paul, MN*

- Conducted geotechnical site investigations including subsurface characterization, soil and rock sampling, and in-situ testing to support slope stability and foundation engineering assessments for construction projects.
- Performed construction materials and soil laboratory testing.

PUBLICATIONS

Published

Schaible, K.E., & Saffer, D.M., (2025) State of stress across major faults in the Nankai Subduction zone estimated from wellbore breakouts. *Journal of Geophysical Research: Solid Earth*, 130, e2024jB030242. https://doi.org/10.1029/2024JB030242

Schaible, K.E., Saffer, D.M., Finnegan, N.J., (2025) Rheological controls on creeping landslides within the Franciscan mélange: Insights from laboratory experiments. *Geophysical Research Letters,* 52, e2025GL118770. https://doi.org/10.1029/2025GL118770

Kirkpatrick, J. D., et al. [IODP Expedition 405 Scientists, including **Schaible, K.E**.] (2025). Extreme plate boundary localization promotes shallow earthquake slip at the Japan Trench. *Science*, eady0234. https://doi.org/10.1126/science.ady0234

In Review

Schaible, K., Saffer, D., Finnegan, N., Depth-Dependent Strength as a Control on Landslide Size. *(Geology)*

Conin, M., **Schaible, K**., Fulton, P., Kodaira, S., Shreedharan, S., Doan, M-L., Sone, H., Kirkpatrick, J., Regalla, C., Ujiie, K., Lin, W., and IODP Expedition 405 Scientists. Fault slip and no stress change in the maximum slip area of the Mw 9.1 Tohoku-oki earthquake. (*Science Advances)*

Machida, Y., Araki, E., Yokobiki, T., Saruhashi, T., Kyo, M., Tsuji, S., Sakurai, N., Yokoyama, T., **Schaible, K**., Matsumoto, H., Nishida, S., Furuichi, M., Daniel S., Morikawa. Development and installation of a long-term borehole monitoring system at C9038B borehole observatory, Nankai Trough. (*Applied Ocean Research)*.

In Prep

Schaible, K., Saffer, D., Flemings, P., Heidari, M., Evidence for High Stress in Shallow Subduction Zones. *(In prep, Science Advances)*

Technical Reports

Kodaira, S., Conin, M., Fulton, P., Kirkpatrick, J., Regalla, C., Ujiie, K., Okutsu, N., Maeda, L., Toczko, S., Eguchi, N., **and the Expedition 405 Scientists (including Schaible, K.)**, (2025). Tracking Tsunamigenic Slip Across the Japan Trench (JTRACK). *Proceedings of the International Ocean Discovery Program, 405: College Station, TX (International Ocean Discovery Program).* https://doi.org/10.14379/iodp.proc.405.2025

HONORS & AWARDS

2025	Outstanding Graduate Student Award - UTIG
2025	Schlanger Ocean Drilling Fellowship
2024	UT Institute for Geophysics Graduate Fellowship
2022	AGU Outstanding Student Presentation Award
2018	Littell Internship Award

FUNDING HISTORY

3. USSP Post Expedition Award, IODP Expedition 405, **$20,000**, *'Mechanical Strength of the Frontal Thrust and Input Sediments at the Japan Trench'*, PI: Saffer (proxy); Co-PI: **Schaible**
2. USSP Shipboard Scientist, IODP Expedition 405, **$27,400**
1. Schlanger Ocean Drilling Fellowship, IODP, **$30,000**, *'In situ stress at subduction zones from borehole breakouts: The role of sediment rheology'*, PI: **Schaible**

CONFERENCE ABSTRACTS & PRESENTATIONS

Schaible, K., Saffer, D.M., Flemings, P., Heidari, M., (2026) Stress in Subduction Zones from Borehole Breakouts, *SZ4D Science Community Meeting, Long Beach, CA* (Poster)

Schaible, K., & Saffer, D.M., (2026) Quantifying Tectonic Stress at Boreholes using IODP data from Tohoku and Nankai, *International Earthquake Symposium, Kiel, Germany* (Talk)

Schaible, K., Saffer, D.M., & Finnegan, N. J. (2026) Experimental constraints on the slip response of a slow-moving landslide to rainfall driven pore pressure changes, *EGU* (Talk)

Ford, J., Nakamura, Y., Jurado, M., **Schaible, K.,** Nicholson, U., Doan, M. L., et al., (2026) Geostatistical characterization of internal deformation of the Japan Trench frontal prism using seismic and logging-while-drilling data, *EGU* (Poster)

Schaible, K., Saffer, D.M., Finnegan, N.J., (2025) Frictional strengthening as a control on landslide creep within the Franciscan mélange, *International Earthquake Symposium, Yokohama, Japan* (Talk)

Schaible, K., Miller, P., Saffer, D.M., (2024) The Role of Carbonate Friction in Subduction Zone Slip Behavior: Insights from Costa Rica and Hikurangi, *AGU Fall Meeting Abstracts* (Poster)

Burton, S., **Schaible, K**., Saffer, D.M., Finnegan, N.J., (2024) Experimental constraints on the frictional rheology of a slow-moving landslide in California's Franciscan mélange, *AGU Fall Meeting Abstracts* (Talk)

Schaible, K., Heidari, M., Saffer, D., Flemings, P., (2024) Revisiting stress determinations from borehole breakouts at subduction zones: the role of plastic failure, *Gordon Research Conference and Seminar on Rock Deformation, Bates College, Maine* (Poster)

Schaible, K., & Saffer, D.M., (2023) In situ stress within the Nankai accretionary prism determined from borehole breakouts, *IODP NanTroSEIZE Synthesis Workshop* (Invited Talk)

Schaible, K., Heidari, M., Saffer, D.M., Flemings, P.B., (2023) Revisiting stress determinations from borehole breakouts at subduction zones: the role of plastic failure, *AGU Fall Meeting Abstracts* (Talk)

Bolton, D.C., Shreedharan, S., **Schaible, K**., Saffer, D.M., Trugman, D.T., (2023) Insights into the physics of earthquake rupture from a 1-meter earthquake machine, *AGU Fall Meeting Abstracts* (Poster)

Schaible, K., & Saffer, D.M., (2022) In situ stress within the Nankai accretionary prism determined from borehole breakouts, *AGU Fall Meeting Abstracts*, T32E-0211 (Poster)

FIELD EXPERIENCE

2024	IODP Exp 405 JTRACK, D/V Chikyu Participation as a logging scientist and structural geologist.	60 days
2023	CK23-03, D/V Chikyu Participation as part of the science party for a borehole observatory installation in the Nankai Trough, November 2023.	25 days
2023	TN415 CORKs, R/V Thompson, ROV Jason Chief Scientist: E. Solomon. Performed watch duties during instrument deployment and recovery at CORK observatories with ROV Jason.	14 days
2020	Electrical Resistivity field survey, THG Geophysics Conducted site surveys for a prospective wind turbine installation.	9 days
2018	Lake Powell Coring Chief Scientist: S. A. Hynek. Assisted with sediment core processing and characterization during drilling operations. Collected water samples and conducted grain size analysis.	14 days
2018	Geology of New Zealand Field Course and Mapping	70 days

SKILLS

Python, MATLAB, Java, R, ArcGIS, Adobe, Microsoft Office, Geolog, Kingdom Suite, Techlog, Abaqus

TEACHING & MENTORSHIP

Teaching Assistant

2026 Lab to Planet TA, *UT Austin*
2022 Geofluids Field TA, *UT Austin*
2019 Petrology TA, *Carleton College*

Undergraduate Student Mentorship

Lucero Tunjar Cruz (2024 – 2025), Co-mentor, *UT Austin,* stress and poromechanical properties
Sam Burton (2024), Co-mentor, *REU RORD Summer Intern*, landslide rheology

SERVICE

2023 – Present UT Womens and Non-Binary Ultimate Frisbee Coach
2023 - 2025 UT Geoscience Student Executive Committee, Website and Social Media Coordinator
2023 JSG Critical Minerals Faculty Search SP2023, Graduate Student Representative
2023 MTMOD Summer Reading Group Coordinator and Discussion Facilitator
2022 Jackson School AGU 2022 Booth Setup and Student Representative
2022 Jackson School Graduate Orientation Trip, Graduate Student Volunteer
2022 RTX Student Mentor

WORKSHOPS AND SHORT COURSES

2026	ExxonMobil Geophysics Short Course, Houston, TX
2026	UT Geofluids, Austin, TX
2025	IODP Expedition 405 Post Cruise Meeting, Sendai, Japan
2024	UT Geofluids, Austin, TX
2023	IODP NanTroSEIZE Synthesis Workshop, Tokyo, Japan
2023	MTMOD Megathrust Modeling Framework Summer School, Austin, TX
2022	SZ4D Community Meeting, Houston, TX
2022	MTMOD Megathrust Modeling Framework Summer School, Austin, TX