# Alyssa L. Abbey

California State University, Long Beach Department of Earth Science <u>Email:</u> alyssa.abbey@csulb.edu; <u>Personal Website:</u> www.alyssalabbey.com

# EDUCATION

University of Michigan | Ann Arbor, MI

Ph.D. Geology 2018 – Department of Earth and Environmental Sciences | Advisor: Dr. Nathan Niemi | Dissertation title: Assessing Rio Grande Rift Development and Exhumation in the Southern Rocky Mountains Using Techniques in Low-Temperature Thermochronology
University of Arizona | Tucson, AZ

**B.S. Geology 2012** – *Department of Geosciences* | Advisors: Dr. Paul Kapp & Dr. Adam Hudson Thesis: Changes in lake areas from 1972 to Present on the Tibetan Plateau

**B.A. French 2012** – *Department of French and Italian Studies* | Advisors: Dr. Alain-Philippe Durand & Mrs. Anne-Marie Engels-Brooks

Institute for American Universities | Aix-en-Provence, France

Study Abroad 2010

# **PROFESSIONAL APPOINTMENTS**

**Assistant Professor** | California State University, Long Beach Department of Geological Sciences (January 2021 – Present)

**Postdoctoral Scholar** | Berkeley Geochronology Center & University of California, Department of Earth and Planetary Sciences (September 2018 – December 2020)

Primary advisor: Dr. David Shuster (UC Berkeley), secondary advisor: Dr. Darryl Granger (Purdue University). Thermochronology, cosmogenic nuclides, and stable isotope geochemistry, applied to active tectonics and landscape development questions

**Graduate Student Intern: Shell Oil&Gas |** Geologist with Appalachian Team: Upstream (summer. 2017) **Graduate Student Mentor** | University of Michigan, Department of Earth and Environmental Sciences (September 2015 - May 2017): Organized and lead orientation for new graduate students, evaluated Graduate Student Instructors and provided feedback/suggestions for better teaching **Graduate Student Instructor** | University of Michigan, Department of Earth & Environmental Science

# TEACHING

Assistant Professor | California State University, Long Beach

California Geology | Spring 2024 Geology of Local and National Parks | Fall 2023 Intermediate field methods (Spring Field) | Spring 2023, 2024 Earth Science Careers | Spring 2022, 2023, 2024 Structural Geology | Spring 2021, 2022, 2023, 2024 Introduction to Field Geology | Fall 2022, 2023 Geowriting | Fall 2022, 2023 Summer Field | Summer 2021, 2023 Advanced Structure and Tectonics | Fall 2021

Graduate Student Instructor | University of Michigan Introduction to Geology | Summer 2018, Instructor: Kacey Lohmann Structural Geology | Spring 2017 & 2018, Instructor: Ben van der Pluijm Field Camp | Summer 2015 & 2016, Instructors: Becky Lang & Marin Clark Sedimentology | Fall 2014 & 2015, Instructor: Kacey Lohmann

### PUBLICATIONS

Peer-reviewed Journals \*denotes undergraduate student, \*\*denotes graduate student

- Abbey, A.L., Randolph-Flagg, N., de Villa, K.\*, Kim, S., Shuster, D., (2024), Tracing short-lived hydrothermal circulation systems and water-rock interactions around small-scale basalt intrusions. *Geochimica et Cosmochimica Acta*, 366, 113-127.
- Abbey, A.L., Wildman, M., Stevens Goddard, A. L., & Murray, K. E. (2023). Thermal history modeling techniques and interpretation strategies: Applications using QTQt. *Geosphere*, *19*(2), 493-530.

- Murray, K.E., Goddard-Stevens, A., **Abbey, A.L.**, Wildman, M., (2022). Thermal history modeling techniques and interpretation strategies: Applications using HeFTy. *Geosphere*, *18*(5), 1622-1642.
- Abbey, A.L., Choi, E., Neumann, F., Ortiz-Guerrero, C.\*\*, Tondi, R., (2022), Tectonophysics Perspectives on Integrated, Coordinated, Open, Networked (ICON) Science. Earth and Space Sciences. v. 9, n. 5, doi.org/10.1029/2021EA002144
- Abbey, A.L., & Niemi, N.A., 2020. Perspectives on continental rifting processes from spatiotemporal patterns of faulting and magmatism in the Rio Grande rift, USA. Tectonics, v. 39, n. 1, p. 1-31.
- Abbey, A.L., and Niemi, N.A., 2018, Low-temperature thermochronometric constraints on fault initiation and growth in the northern Rio Grande rift, upper Arkansas River valley, Colorado: Geology, v. 46, n. 7, p. 627-630.
- Abbey A. L., Niemi N. A., Geissman J. W., Winkelstern I. Z., Heizler M., 2018, Early Cenozoic Exhumation and Paleotopography in the Arkansas River valley: southern Rocky Mountains, Colorado: Lithosphere, v. 10, p. 239-266.

### Peer-reviewed Educational Activities

Abbey, A.L., Phillips, M., and Zeng, L., 2021, Identifying Plate Boundaries: An Inquiry Lab, in Guided Inquiry Introductory Geology Labs. https://serc.carleton.edu/inquiry\_intro\_geo/activities/244901.html?

### Conference presentations (last 5 years) \*undergraduate student, \*\*graduate student

- Abbey, A.L., Shuster, D.L., Granger, D.E., (2023) Fault initiation, exhumation, and propagation documented by low-temperature thermochronology in the Andean Precordillera, San Juan, Argentina. *Thermo2023*, Rates and Timing of Earth System Processes (poster presentation).
- Abbey, A.L., Tye, A.R., (2023) Deconvolving river evolution driven by rift development using stratigraphic analysis, detrital zircon U-Pb and Ar-Ar geochronology, and low-temperature thermochronology *GRC Geochronology*, Landscape Evolution (poster presentation).
- Ancayan, J.\*\*, **Abbey, A.L.**, (2023) Using Student Focused Design to Develop an Undergraduate Earth Science Course *EER Annual Meeting*, (poster presentation).
- Abbey, A.L., Dozier, S., Gutierrez, J., (2023) Unearthing Students' 21<sup>st</sup> Century Skills in a Geology Field course. *EER Annual Meeting*, (poster presentation).
- Abbey, A.L., Granger, D.E., Shuster, D.L., (2022) Combining Low-temperature Thermochronology and Cosmogenic Radionuclide Dating to Document Fault Initiation and Exhumation in the Andean Precordillera, San Juan, Argentina. *GSA Annual Meeting*, Abstract T36-174-3 (poster presentation).
- Senesac, C.\*, Abbey, A.L., Tye, A., (2022) Understanding Relationships between the Arkansas River and Rift Related Faulting in southern Colorado. GSA Annual Meeting, Abstract T21-208-7 (poster presentation).
- Westby, D.\*, **Abbey, A.L.**, Cooper, S.\*, (2022) Thermochronology Lab Techniques: Standardization Towards Equitable Outcomes. *GSA Annual Meeting*, Abstract T1-163-6 (poster presentation).
- Schulman, R.\*, Loughney, K., **Abbey, A.L.**, (2022) Provenance and Stratigraphic Analysis of the Stewart Valley, NV. **GSA** Annual Meeting, Abstract T86-102-16 (poster presentation).
- Cooper, S.\*, Abbey, A.L., (2022) Quaternary fault analysis in the Stewart Valley, NV. GSA Cordilleran/Rocky Mountain annual section meeting. Abstract 9-9 (poster presentation).
- Abbey, A.L., Niemi N., (2022) Development of the Rio Grande rift system from assessment of spatiotemporal patterns in faulting and magmatism. GSA Cordilleran/Rocky Mountain annual section meeting. Abstract 43-1 (invited talk).
- Che, Y.\*, Abbey, A.L., Shuster D., Balco, G., Stock, G., Cuffey, K., (2021) Understanding Glacier Thinning and Retreat During the Last Glacial Maximum in Yosemite to Predict Contemporary Deglaciation. *AGU Annual Meeting*, Abstract PP25E-0983 (poster presentation).
- Che, Y.\*, **Abbey, A.L.,** Shuster D., Balco, G., Stock, G., Cuffey, K., (2021) Understanding Glacier Thinning and Retreat During the Last Glacial Maximum in Yosemite to Predict Contemporary Deglaciation. **GSA Annual Meeting**, Abstract T131-79-5 (oral presentation).
- Abbey A. L., Murray, K.E., Stevens-Goddard A., Wildman M., (2021) Navigating the modelling puzzle: Using forward and inverse models to make clear decisions when exploring and interpreting cooling ages in both HeFTy and QTQt. *Thermo2021*, Frontiers in data handling, Statistics, Interpretation Methods, and Modeling (lightning and poster presentation),

- Murray, K. E., Stevens-Goddard, A. L., **Abbey, A. L.**, Wildman, M., (2020) Six Forward and Inverse Models in HeFTy Everyone Should Perform Before Interpreting Real Cooling Ages. *American Geophysical Union, Fall Meeting*, Abstract V042 (**elightning presentation**).
- Abbey, A. L., Wildman, M., Stevens-Goddard, A. L., Murray, K. E., (2020) Escaping the infinite modelling maze: useful decision pathways to follow when exploring and interpreting thermal history models using QTQt *American Geophysical Union, Fall Meeting*, Abstract V042 (elightning presentation).
- Abbey, A.L., Randolph-Flagg, N.\*\*, Shuster, D., (2019) Isotopic constraints on fluid-rock interactions associated with the Little Devils Postpile magmatic intrusion, Yosemite National Park, CA *American Geophysical Union, Fall Meeting*, Abstract V34A-05 (oral presentation).
- Abbey, A.L., Cheng, H.\*\*, Ul-Hasan, S., Zarate, D.\*\*, Mena, J.M.\*\*, Miles, M.\*\*, (2019) The Biota Project: A Grassroots Approach to Scientific Communication using Multimedia for Engaging Diverse Audiences American Geophysical Union, Fall Meeting, Abstract ED13F-0939 (poster presentation).
- Abbey A., Niemi N., (2019) Continental rift processes determined by spatiotemporal development of faulting and magmatism in the Rio Grande rift, USA, *European Geophysical Union Annual Meeting*, vol. 21, EGU2019-6068, 2019 (solicited talk).
- Abbey A., Niemi N., (2018) Inherited structure from the Ancestral Rocky Mountains and Laramide Orogenies influence Rio Grande rift development, *GSA Annual Meeting*, Abstract T176-322228 (oral presentation).

### White Papers

Ketcham, R.A., Tremblay, M., **Abbey, A.L.,** Baughman, J., Cooperdock, E., Jepson, G., Murray, K.E., Odlum, M., Stanley, J., Thurston, O., (2022). Report from the 17<sup>th</sup> International Conference on Thermochronology. Earth and Space Science Open Archive. Doi: 10.1002/essoar.10511082.1.

### Science Communication Books

Unearthing Mountains: A children's graphic novel about how mountains are made and how they change over time, Written by **Alyssa Abbey**, Illustrated by Pimentel (2022)

### Science Communications Articles (not-peer-reviewed)

- Abbey, A.L. (on behalf of The Biota Project) Jan. 2020, Earth's Changing Surface: It Takes Time! Science Connected Magazine.
- Dove, N., **Abbey, A.L.** (on behalf of The Biota Project) July 2019, *Learning Where Water Comes From, with Isotopes*. Science Connected Magazine.

# **RESEARCH FELLOWSHIPS, SCHOLARSHIPS & GRANTS**

# AGeS-DiG (Advancing Geochronology Science, Spaces, and Systems – Diversity in Geochronology) | \$17,998. 03/01/2024 – 06/30/25

Building belonging in geochronology through a multi-institution, cohort research experience testing the fluvial response to Rio Grande Rift evolution

Keck KURE Incubator | \$26,520. 08/01/2023 - 12/31/23

Increasing recruitment and retention of underrepresented students in STEM: Applying student context factors to course design and course-based research experiences

**RADS Fund for Field Research in Structural Geology** | \$6,900. 04/15/2023 | \$12,100. 02/1/2022 **CNSM Small Faculty Grant** | \$5,000. 07/1/2023 – 06/30/2024 | \$10,000. 07/1/2022 – 06/30/2023 *Involving Undergraduate Students in Research Through Comprehensive Interdisciplinary Projects in the western US* PI, A. Abbey

Keck KURE Incubator | \$22,300. 02/01/2023 – 08/31/23

Increasing recruitment and retention of underrepresented students in STEM: Applying student context factors to course design and course-based research experiences

NSF Collaborative Grant 1842123 & 1842496 | \$471,746. 7/1/2019 - 6/30/2024

*Collaborative Research: Quantifying temporal relationships between tectonic forcing and landscape responses in the central Andean Precordillera, Argentina,* Pls. D. Shuster University of California, Berkeley and D. Granger Purdue University. *A.L. Abbey* wrote the proposal, designed and executed the research, and lead the reporting of results.

CNSM probationary faculty student research funding | \$6,750. 06/1/2021 - 1/20/2022

Funds provided to help junior faculty with research recovery from COVID.

France-Berkeley Fund Award | \$8,890. 10/1/2019 - 12/30/2021

*Improving interpretations of thermochronometric data through updates to modeling programs and user education,* D. Shuster and K. Gallagher, Pls. *A.L. Abbey* wrote the proposal, designed and executed the project.

Scott Turner Award in Earth Science U. of Michigan | \$1,600-2,500. (2017, 2016, 2015, & 2014) EarthScope AGeS (Awards for Geochronology Student research) Program | \$7,600. (2016) Arkansas River development & late Cenozoic exhumation in the southern Rocky Mountains, CO GSA Research Grant | \$1,875. (2016) Cenozoic topographic evolution of the southern Rocky Mountains: constraints from hydrated volcanic glass paleoaltimetry

Rackham Graduate Research Grant U. of Michigan | \$1,500-\$3,000. (2016 & 2014)

## **HONORS & AWARDS**

**Outstanding Graduate Student Instructor Award** (2018) Dept. of Earth and Env. Sci., U. of Michigan **Galileo Circle Scholar Award** (2012), University of Arizona.

**Best Undergraduate Presentation Award** (2012), University of Arizona, 40th Annual Geoscience Symposium: Geodaze

# **INVITED TALKS**

5th Edition of World Congress on Geology and Earth Science (GeoEarth-2024), Portugal	2024
Occidental College Department Seminar	2023
California State Northridge Department Seminar	2023
University of California, Riverside, Department Seminar	2023
Colorado Scientific Society Guest Lecturer, Denver, CO	2023
University of California, Los Angeles (UCLA), department Geochemistry Seminar	2023
South Coast Geological Society March Meeting, Long Beach, CA	2022
GSA Cordilleran/Rocky Mountain Joint Section Meeting, Las Vegas, NV	2022
Earth Science Club of Northern Illinois (ESCONI), General Meeting Program	2022
California State University, Fullerton, Department Seminar	2021
Indiana University-Bloomington, Department Seminar	2020
University of Puerto Rico Mayagüez, John D. Weaver Seminar	2020
Festival of Science & Science Moab, Panelist, representing The Biota Project	2020
Sacramento State University, Department Seminar	2020
California State University, Long Beach, Department Seminar	2020
San Diego State University, Department Seminar	2020
Géosciences-Rennes, Université de Rennes, France, Department Seminar	2019
EGU Annual Meeting, Vienna, Austria, Oral Session Solicited Talk	2019
University of California, Berkeley, EPS department Isotope Geochemistry Seminar	2019

#### **PROFESSIONAL DEVELOPMENT**

Member of the Community of Practice for Belonging in Field Education (*Participant: Sept. 2023-present*) Geologize: Practical Geo-communication (*Participant*: October 2023 – ongoing)

QTQt: Beyond the User Manual (Workshop Leader: Thermo23 September 2023)

- Mentorship Component: professional Development for Early-Career Geoscientists (*Invited Discussion Leader*: Gordon Research Seminar (GRS) Geochronology August 2023)
- Ungrading for Equity: Developing assessment strategies that support learning for all students (*Participant*: EER July 2023)

Connecting with the Environment through Nature Journaling (Participant: EER July 2023)

- Building Inclusive, Collegial, and Productive Interdisciplinary Projects and Research teams (*Participant*: EER July 2023)
- Beyond the Classroom: Building Effective Geoscience Activities for Improved Student Learning with a Teacher Audience in Mind (*Participant*: EER July 2023)

Earth Educators Rendezvous (EER), Pasadena, CA (Participant: July 2023)

- ASCEND Plus: a professional learning program that helps college faculty systematically gather student feedback about their learning experiences to equitably improve social-emotional and academic outcomes (*Participant:* January 2023 May 2023)
- Teaching SfM and GNSS Methods to Undergraduates in the Field: 2-day GSA workshop (*Participant*: October2022)
- CSULB Faculty Center Book Club: *Minority Serving Institutions: America's Underutilized Resource for Strengthening the STEM Workforce*, National Academies of Sciences, Engineering, & Medicine

NAGT Early Career Workshop (Participant: June 2022)

CSULB Faculty Center Book Club: *Micro-Intervention Strategies: What You Can Do to Disarm and Dismantle Individual and Systemic Racism and Bias* by Derald Wing Sue, Cassandra Z. Calle, Narolyn Mendez, Sarah Alsaidi, Elizabeth Glaeser

Ally Skills Workshop: (*Participant*: UFERN Meeting January 2022)

CSNM Faculty Learning Program @CSULB: 11-week teaching pedagogy workshop (*Participant*: September 2021-April 2022)

CSNM Beach Mentor Community @CSULB: 6-week workshop on advanced inclusive mentoring (*Participant*: October-November 2021)

QTQt: Beyond the User Manual (Workshop Leader: Thermo21 September 2021)

CSULB Faculty Center Book Club: Culturally Responsive Teaching & The Brain: Promoting Authentic Engagement & Rigor by Zaretta Hammond

SCEC Workshop: Research Mentor Training: 2-day mentoring workshop (*Participant*: July 2021) Geoscience Education Research: Statistics in Geosciences (*Participant*: EER July 2021)

Curiosity to Question: A New Model for Disciplinarily Diverse and Inclusive Course-Based Research Experiences (*Participant*: EER July 2021)

Integrating Affective Domain Mini-Lessons Into Introductory Geology Classes (*Participant*: EER July 2021)

Vision and Change in the Geosciences: Preparing for the future of Geoscience Education (*Participant*: EER July 2021)

Earth Educators Rendezvous (EER), Online, (Participant: July 2021)

Member of the Professional Learning Community for the UFERN Framework Initiative (*Participant Jan-Oct 2021*)

Undergraduate Field Experiences Research Network (U-FERN) Meeting (*Participant: March 2021*) Applying the QM Rubric (APPQMR): (Statewide Systems) workshop (*Participant: Jan.-April 2021*) CSULB Online Learning Studio: Online Teaching & Pedagogy (*Participant: August 2020*) Earth Educators Rendezvous (EER), Online, (*Participant: July 2020*)

Creating Inquiry-Based Labs for Introductory Geology Courses (*Participant*: EER July 2020) Pathways to Scientific Teaching, run by Diane Ebert-May hosted through the Postdoc Teaching

Opportunities Program (PTOP) at UC Berkeley (*Participant*: February 2020)

Earth Educators Rendezvous (EER), Nashville, TN (Participant: July 2019)

Preparing for an Academic Career (Participant: EER July 2019)

Adapting Active Learning Strategies in your courses (*Participant*: EER July 2019)

Preparing Future Faculty, U. of Michigan Center for Teaching and Learning (Participant: May 2018)

# **PROFESSIONAL & DEPARTMENTAL SERVICE**

- 2023 CSULB CNSM Faculty Mini-grants committee (College level)
- 2022 Present Committee on Student Success (Department level)
- 2022 Present Grade Appeals Committee (College level)
- 2022 Present GSA Structural Geology and Tectonics Division Webmaster/communications rep.
- 2022 Present Faculty rep. for the CSULB Geoscience Student Association
- 2022 Present GSA campus rep. for CSULB
- 2021 Present Alumni and Fundraising Committee (Department level)
- 2020 Present Tectonics Studies Group (TSG): International & Early Career Representative
- 2019 Present Manuscript Reviewer for journals including: Journal of Geophysical Research: Earth Surface;Tectonics; Lithosphere; Geochemistry, Geophysics, Geosystems; Chemical Geology, African Journal of Geological Sciences
- 2019 Present Ad-hoc Proposal Reviewer for the U.S. National Science Foundation (Geomorphology and Land-use Dynamics & Tectonics Programs) & American Chemical Society (Petroleum Research Fund: Undergraduate Research Program)
- 2023 Search Committee for Geology Technician (Department level)
- 2022 Co-convener, GSA Fall meeting: Techniques and applications of thermal history modeling of low-temperature chronometers
- 2021 2022 Assessment Committee (Department level)
- 2021 2022 Undergraduate Curriculum Committee (Department level)
- 2021 2022 Hiring Committee (Department level)
- 2021 Workshop Lead, Thermo21: QTQt Beyond the User Manual
- 2021 Member of the Professional Learning Community for the UFERN Framework Initiative

2021 2020	Co-convener, Tectonics Studies Group Annual meeting & 50 <sup>th</sup> Anniversary: Rift Basins Primary Convener, AGU Fall meeting: Combining Multiproxy Data to Resolve
	Relationships between Tectonics, Climate, and Surficial Processes
2020	Co-convener, AGU Fall meeting: Techniques and applications of thermal history
	modeling of low-temperature chronometers
2018 – 2020	GSA International Committee: Member-at-large (Student Representative)
2019	Outstanding Student Poster & PICO Award Judge: EGU & AGU
2016 – 2018	Graduate Student-Faculty Representative (University of Michigan)
2016	Co-Organizer of the Michigan Geophysical Union mini-Conference

# STUDENTS SUPERVISED

### Graduate Students (Geology)

Vincent Ruiz – California State University, Long Beach (2023-present) *Graduate Students (Science Education)* 

Janel Ancayan – California State University, Long Beach (2023-present) Undergraduate Students (Geology)

Daniel Rice - California State University, Long Beach (2024-present) Jennifer Sanchez – California State University, Long Beach (2023-present) Sabrina Blankinship - California State University, Long Beach (2023-present) Miya Magee - California State University, Long Beach (2023-present) Aaron Kantrowitz - California State University, Long Beach (2022-2023), now MS student: CSULB Roxy Schulman - California State University, Long Beach (2022-23), now at Murex Environ. Inc. Cheynne Senesac – California State University, Long Beach (2022-23), now at Rubik Environ. Inc. Amanda Carranco - California State University, Long Beach (2022-23), now MS student: CSULB Darren Westby - California State University, Long Beach (2022-23) Alec Billmeier - Cal. State, Long Beach (2021-2022), now at NGM Cortez Exploration Spencer Cooper - California State University, Long Beach (2021-22), now MS student: CSULB Kaylin Luciani – California State University, Long Beach (2021) Kyla de Villa – U. of California, Berkeley (2020-22), now PhD student: UC Berkeley, CA Yeuyi Che – University of California, Berkeley (2019-22), now PhD student: Stanford, CA Holli Swarner - University of California, Berkeley (2019-20), now at Glorieta Geoscience Inc. Megan Hendrick – University of Michigan (2015-17), now Solutions Engineer at Esri Forrest Gilfoy – University of Michigan (2015), now Geologist at North Jackson Company, WI Jesse Fenno – University of Michigan (2014)

# Undergraduate Students (Science Education)

Eric Palma – California State University, Long Beach (2023)

# **VOLUNTEER & OUTREACH EXPERIENCE**

<u>Panel Member:</u> Perspectives, execution, and outcomes from the Thermo21 white paper (September 7<sup>th</sup>, 2023): Round table session at Thermo23

**Panel Member:** Work/life Balance in STEM (February 23<sup>rd</sup>, 2023): StudySoup & Western Ultimate League team up for a Twitch live-stream discussion about work-life balance for students and professionals in STEM

<u>Panel Member</u>: Overcoming Pandemic-Related Impacts in the Geosciences: Perspectives from Academic Faculty (October 27<sup>th</sup>, 2022): 1-hour discussion webinar by the American Geosciences Institute (AGI)

<u>Langford Abbey Ventures Inc.</u> Board Member—Secretary of the Board (Sept. 2014-April 2023): Doing business as Leader Discovery in Tucson and Cave Creek, AZ. Consulting for small to mediumsized organizations to develop leadership, communication, and management skills in their supervisory staff, and specializes in human resources consultation, strategic planning facilitation, and coaching for women-owned small businesses.

<u>The Biota Project lead and writer (2019-2022)</u>: Science communication non-profit organization using the intersection between art and science to address environmental justice issues and connect with local communities (www.thebiotaproject.org)

*Festival of Science & Science Moab Panelist (September 18<sup>th</sup>, 2020):* Rethinking Science in the Southwest: Creating an inclusive science to address human health & environmental change

<u>Be a Scientist Program</u>: scientist mentor (2018-2019): Martin Luther King Jr. Middle School and Longfellow Middle School in collaboration with UC Berkeley

Ultimate Frisbee Coach (2014-2016): University of Michigan Women's Ultimate Frisbee team Coordinator for Junior Education at the Tucson Gem and Mineral Show (2011 & 2012): Society of Earth Science Students, University of Arizona

### **PROFESSIONAL MEMBERSHIPS**

South Coast Geological Society (2023—present); American Association of Petroleum Geologists (2015–2016; 2023-present); Player for the Professional Women's Ultimate Frisbee team of LA in the Western Ultimate League (2022—present); Earth Science Women's Network (2018–Present); Association for Women Geoscientists (2018–present); National Association for Geoscience Teachers (2018–present); Mineralogical Society of America (2016–present); Geological Society of America (2013–present); American Geophysical Union (2012– present); European Geophysical Union (2019–2020)