Ting Xiao, Ph.D, P.E.

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EDUCATION

Ph.D. in Civil & Environmental Engineering, The University of Utah, USA	2012-2017
M.S. in Civil & Environmental Engineering, The University of Utah, USA	2010-2012
M.E. in Environmental Engineering**,** Harbin Institute of Technology, China	2008-2010
B.E. in Environmental Engineering, Harbin Institute of Technology, China	2004-2008

RESEARCH INTERESTS

Hydrogeology; Subsurface Reactive Transport; Underground Sources of Drinking Water; Risk/Uncertainty Assessment; Subsurface Coupled Processes; Carbon Capture, Transportation, Utilization, and Storage; Machine Learning; Stakeholder Engagement.

RESEARCH EXPERIENCE

Professional Experience

Research Assistant Professor, The University of Utah, USA	2022-Present
Post-Doctoral Research Associate, The University of Utah, USA	2017-2022
Visitor Scholar, Los Alamos National Laboratory, USA	2016-2016
Graduate Research Assistant, The University of Utah, USA	2010-2017

Grants & Project Contributions

- **Co-Principal Investigator (Co-PI)**: Multi-modal Carbon Transport Hub in the Four Corners Region (DE-FOA-0002614, submitted to DOE-NETL on 10/14/2024, U of U budget $63,787)
  Collaborators: New Mexico Institute of Mining and Technology, Los Alamos National Laboratory, University of North Dakota.
- **Co-PI**: Advanced Retrofit Technologies for Methane (ART-CH4) Emission Mitigation from Compressor Stations: Multiple Field Deployments and Demonstrations (DE-FOA-0003256, Selected by DOE-NETL, U of U budget $187,500).
  Collaborators: New Mexico Institute of Mining and Technology, Los Alamos National Laboratory, Missouri University of Science and Technology, Innovative Environmental Solutions.
- **Co-PI**: Improving Access to Methane Monitoring Data in Utah (DE-FOA-0003256), August 2024, not awarded.
  Collaborators: Utah State University, Brigham Young University.
- **PI**: The Uinta-Piceance Basin Carbon Management and Community Engagement Partnership (DE-FOA-0003014, Selected by DOE-NETL, Total Project Funding $5,989,166)
  Collaborators: Utah Geological Survey, Utah State University, Uintah Basin Technical College, Colorado Mesa University, Colorado Geological Survey, New Mexico Institute of Mining and Technology, Carbon Solutions LLC, D-Cubed LLC.

- **PI**: Uinta Basin CarbonSAFE II: Storage Complex Feasibility (DE-FE0032266, Awarded by DOE-NETL, Total Project Funding $ 10,033,232), 2023-2025
  Collaborators: Utah Geological Survey, New Mexico Institute of Mining and Technology, Los Alamos National Laboratory, University of Wyoming, Carbon Solutions LLC, Deseret Power.
- **Co-PI**: Thermal-Hydrological-Mechanical-Chemical Coupled Fracture Growth and Permeability Evolution for Performance Enhancement of Utah FORGE (DE-EE0007080), May 2020, not awarded.
  Collaborators: Rowan University, Penn State University, New Jersey Institute of Technology.
- **Key Personnel, Project Management**: The Southwest Regional Partnership on Carbon Sequestration (SWP) Phase III (DE-FC26-05NT42591, Awarded by DOE-NETL, U of U budget $72,995,427), 2012-2024
  Collaborators: New Mexico Institute of Mining and Technology, University of Missouri, Pacific Northwest National Laboratory, Los Alamos National Laboratory, Sandia National Laboratory
- **Key Personnel**: The CarbonSAFE Rock Mountain Phase I: Ensuring Safe Subsurface Storage of CO_2 in the Intermountain West (DE-FE0029280, Awarded by DOE-NETL, Total Project Funding $1,365,416), 2017-2018
  Collaborators: Utah Geological Survey, Utah Division of Natural Resources, Schlumberger, New Mexico Institute of Mining and Technology, Sandia National Laboratory, Los Alamos National Laboratory, PacifiCorp Energy

PUBLICATIONS

Google Scholar Page: https://scholar.google.com/citations?user=gxI_pI4AAAAJ&hl=en

Asterisk (*) indicates the corresponding author, and underline (_) indicates advised student author.

Books and Book Chapters

1. Dai, Z., Viswanathan, H., **Xiao, T.**, Hakala, A., Lopano, C., Guthrie, G., McPherson, B., **2019**. Reactive transport modeling of geological carbon storage associated with CO_2 and brine leakage. Science of Carbon Storage in Deep Saline Formations. Elsevier, ISBN: 9780128127520.

Articles in Preparation and Submitted Journal Articles in Review

1. Vega-Ortiz, C., Moodie, N., Vanden Berg, M. D., **Xiao, T.** *, McPherson, B., Geological feasibility and volumetric estimation for CCS project in the Uinta Basin, USA. *Int. J. Greenh. Gas Control*. Submitted on 9/6/2024.
2. Pierce, A., Hopkins, E., Barlow, M., Clark III, H., Kim, W., **Xiao, T.**, Moodie, N., Edelman, E., McPherson, B., Urban sewer methane and carbon dioxide emissions by surface measurements. Under preparation.

Peer-Reviewed Journal Articles

1. Wang, H., Ni, H., Bai, T., **Xiao, T.**, Guo, R., Teng, Y., Hosseini, S., Hovarka, S., **2025**. Failure analysis-informed risk assessment framework for geological carbon storage using numerical simulation and machine learning. *SPE Journal* SPE-231438-PA.
2. **Xiao, T.** *, Middleton, E., Bakelli, O., Cheng, S., Zhu, D., Xu, L., McPherson, B., **2025**. Public perceptions and engagement for carbon capture, utilization, and storage: Literature review with a case study of Utah, USA. *Greenhouse Gases: Science and Technology* e2381.
3. Zhang, X., **Xiao, T.**, Moodie, N., Yu, Z., McPherson, B., **2025**. A dynamic and constrained machine learning Framework for CO2 saturation prediction in geological carbon storage reservoirs. *JGR: Machine Learning and Computation* 2, e2025JH000772.
4. **Xiao, T.** *, Moodie, N., Smith, P., Jia, W., McPherson, B., **2025**. Uncertainty reduction of potential leakage from geologic CO_2 sequestration reservoirs. *Energy* 334, 137734.

5. Zhang, Y., Liu, L., Luo L., Ma, J., Li, Y., **Xiao, T.**, Wu, N., **2025**. Permeability prediction in hydrate-bearing sediments via pore network modeling. *Adv. Geo-Energy Res.* 16 (2), 158-170.
6. **Xiao, T.** *, M., Fitzgibbon, J., Vanden Berg, **2025**. Early-stage risk assessment for the Uinta Basin CarbonSAFE project. *Int. J. Greenh. Gas Control* 143, 104359.
7. Gan, M., Zhang, L., Wang, Y., Qin, Q., **Xiao, T.**, Yin, Y., Wang, H., **2024**. Experimental study on the corrosion behavior of wellbore cement with a leaking channel under different acidic environments. *Int. J. Greenh. Gas Control* 139, 104267.
8. Mei, K., Zhang, L., Cai, Y., **Xiao, T.**, Xue, Q., Wang, Y., Sun, Q., McPherson, B., **2024**. Investigation of chemical processes in cement exposed to wet ScCO2 and CO2-saturated brine in geological CO2 storage conditions. *Int. J. Greenh. Gas Control* 135, 104143.
9. Thanh, H. V., Dai, Z., Du, Z., Yin, H., Yan, B., Soltanian, M. R., **Xiao, T.**, McPherson, B., Abualigah, L., **2024**. Artificial intelligence-based prediction of hydrogen adsorption in various kerogen types: Implications for underground hydrogen storage and cleaner production. *Int. J. Hydrog. Energy* 57, 1000-1009.
10. **Xiao, T.**, Chen, T., Ma, Z., Tian, H., Meguerdijian, S., Chen, B., Pawer, R., Huang, L., Xu, T., McPherson, B., **2024**. A review of risk and uncertainty assessment for geologic carbon storage. *Renewable Sustainable Energy Rev.* 189, 113945.
11. **Xiao, T.**, Tu, J., Wang, B., Esser, R., Bailey, T., Cather, M., Tian, H., McPherson, B., **2023**. Chemical impacts of subsurface CO_2 and brine on shallow groundwater quality. *Chemosphere* 321, 138048.
12. **Xiao, T.**, Wang, B., Xu, L., Esser, R., Dai, Z., Cather, M., McPherson, B., **2022**. Underground sources of drinking water chemistry changes in response to potential CO_2 leakage. *Sci. Total Environ.* 847, 157254.
13. Tian, H., Yu, Z., Xu, T., **Xiao, T.**, Shang, S., **2022**. Evaluating the recovery potential of CH_4 by injecting CO_2 mixture into marine hydrate-bearing reservoirs with a new multi-gas hydrate simulator. *J. Clean. Prod.* 361, 132270.
14. Xu, L., Cai, M., Dong, S., Yin, S., **Xiao, T.**, Dai, Z., Wang, Y., Soltanian, M.R., **2022**. An upscaling approach to predict mine water inflow from roof sandstone aquifers. *J. Hydrol.* 612, 128314.
15. Moodie, N., Jia, W., Middleton, R., Yaw, S., Lee, S. Y., **Xiao, T**., Wheatly, D., Steele, P., Esser, R., McPherson, B., **2022**. Geologic Carbon Storage of Anthropogenic CO_2 Under the Colorado Plateau in Emery County, Utah. *Minerals*. 12(4), 398.
16. Cao, Y., Dai, Z., Dong, S., Zhu, L., **Xiao, T.**, Zhang, X., Yin, S., Soltanian, M., **2021**. Adsorption model identification for chromium (VI) transport in unconsolidated sediments. *J. Hydrol.* 598, 126228.
17. Lee, S., Hnottavange-Telleen, K., Jia., W., **Xiao, T.**, Viswanathan, H., Chu, S., Dai, Z., Pan, F., McPherson, B., Balch, R., **2021**. Risk assessment and management workflow—An example of the Southwest Regional Partnership. *Energies* 14 (7), 1908.
18. Jia, W., **Xiao, T.**, Wu, Z., Dai, Z., McPherson, B., **2021**. Impact of mineral reactive surface area on forecasting geological carbon sequestration in a CO_2-EOR field. *Energies* 14 (6), 1608.
19. **Xiao, T.**, Jia, W., Esser, R., Dai, Z., McPherson, B., **2021**. Potential chemical impacts of subsurface CO_2: An integrated experimental and numerical assessment for a case study of the Ogallala Aquifer. *Water Resour. Res.*, e2020WR029274.
20. Mahdaviara, M., Amar, M. N., Hemmati-Sarapardeh, A., Dai, Z., Zhang, C., **Xiao, T.**, Zhang, X., **2021**. Toward smart schemes for modeling CO_2 solubility in crude oil: Application to carbon dioxide enhanced oil recovery. *Fuel* 285, 119147.
21. **Xiao, T.**, McPherson, B., Esser, R., Dai, Z., Chu, S., Pan, F., Jia, W., Viswanathan, H., **2020**. Chemical impacts of potential CO_2 and brine leakage on groundwater quality with quantitative risk assessment: A case study on the

Farnsworth Unit. *Energies* 13 (24), 6574.

22. **Xiao, T.**, Xu, H., Moodie, N., Esser, R., Jia, W., Zheng, L., Rutqvist, J., McPherson, B., **2020**. Chemical-mechanical impacts of CO_2 intrusion into heterogeneous caprock. *Water Resour. Res.*, e2020WR027193.
23. Dai, Z., Xu, L., **Xiao, T.** *, McPherson, B., Zhang, X., Zheng, L., Dong, S., Yang, Z., Soltanian, M. R., Yang, C., Ampomah, W., Jia, W., Yin, S., Xu, T., Bacon, D., Viswanathan, H., **2020**. Reactive chemical transport simulations of geologic carbon sequestration: Methods and applications. *Earth-Science Reviews*, 103265.
24. Bai, S, Wang, L., Ma, F., Zhu, S., **Xiao, T.**, Yu, T., Wang, Y., **2020**. Self-assembly biochar colloids mycelial pellet for heavy metal removal from wastewater. *Chemosphere* 242, 125182.
25. **Xiao, T.**, McPherson, B., Esser, R., Jia, W., Moodie, N., Chu, S., Lee, S. Y., **2019**. Forecasting commercial-scale CO_2 storage capacity in deep saline reservoirs: Case study of Buzzard's Bench, Central Utah. *Comput. Geosci.* 126, 41-51.
26. Dai, Z., Zhang, Y., Bielicki, J., Amooie, M. A., Zhang, M., Yang, C., Zou, Y., Ampomah, W., **Xiao, T.**, Jia, W., Middleton, R., Zhang, W., Sun, Y., Moortgat, J., Soltanian, M. R., Staufer, P., **2018**. Heterogeneity-assisted carbon dioxide storage in marine sediments. *Appl. Energy* 225, 876-883.
27. Jia, W., McPherson, B., Pan, F., Dai, Z., **Xiao, T.**, **2018**. Uncertainty quantification of CO_2 storage using Bayesian model averaging and polynomial chaos expansion. *Int. J. Greenh. Gas Control* 71, 104-115.
28. Jia, W., McPherson, B., Pan, F., Dai, Z., Moodie, N., **Xiao, T.**, **2018**. Impact of three-phase relative permeability and hysteresis models on forecasts of storage associated with CO_2-EOR. *Water Resour. Res.* 54 (2), 1109-1126.
29. Zhang, Y., Zeng, J., Dai, Z., Viswanathan, H., **Xiao, T.**, Ma, Y., Feng, X., **2018**. Experimental investigation on oil migration and accumulation in tight sandstones. *J. Petrol. Sci. Eng.* 160, 267-275.
30. **Xiao, T.**, McPherson, B., Bordelon, A., Viswanathan, H., Dai, Z., Tian, H., Esser, R., Jia, W., Carey, W., **2017**. Quantification of CO_2-cement-rock interactions at the well-caprock-reservoir interface and implications for geological CO_2 storage. *Int. J. Greenh. Gas Control* 63, 126-140.
31. **Xiao, T.**, Dai, Z., Viswanathan, H., Hakala, A., Cather, M., Jia, W., Zhang, Y., McPherson, B., **2017**. Arsenic mobilization in shallow aquifers due to CO_2 and brine intrusion from storage reservoirs. *Sci. Rep.* DOI: 10.1038/s41598-017-02849-z.
32. **Xiao, T.**, Dai, Z., McPherson, B., Viswanathan, H., Jia, W., **2017**. Reactive transport modeling of arsenic mobilization in shallow groundwater: Impacts of CO_2 and brine leakage. *Geomech. Geophys. Geo-energ. Geo-resour.* 3(3), 339-350.
33. **Xiao, T.**, Kweon, H., McPherson, B., Deo, M., **2017**. Wormhole generations in Indiana limestone with CO_2 intrusion – Numerical simulations based on core flooding experiments. *Energy Fuels* 31 (11), 12487-12499.
34. Wolfsberg, A., Dai, Z., Zhu, L., Reimus, P., **Xiao, T.**, Ware, D., **2017**. Colloid-facilitated plutonium transport in fractured tuffaceous rock. *Environ. Sci. Technol.* 51(10), 5582-5590.
35. Jia, W., McPherson, B., Dai, Z., Irons, T., **Xiao, T.**, **2017**. Evaluation of pressure management strategies and impact of simplifications for a post-EOR CO_2 storage project. *Geomech. Geophys. Geo-energ. Geo-resour.* 3(3), 281-292.
36. Jia, W., Pan, F., Dai, Z., **Xiao, T.**, McPherson, B., **2017**. Probabilistic risk assessment of CO_2 trapping mechanisms in a sandstone CO_2-EOR field in Northern Texas, USA. *Energy Procedia* 114, 4321-4329.
37. Dai, Z., Zhang, Y., Stauffer, P., **Xiao, T.**, Zhang, M., Ampomah, W., Yang, C., Zhou, Y., Ding, M., Middleton, R., Soltanian, M. R., Bielicki, J. M., **2017**. Injectivity evaluation for offshore CO_2 sequestration in marine sediments. *Energy Procedia* 114, 2921-2932.
38. Dai, Z., Viswanathan, H., **Xiao, T.**, Middleton, R., Pan, F., Ampomah, W., Yang, C., Zhou, Y., Jia, W., Lee, S., Cather, M., Balch, R., McPherson, B., **2017**. CO_2 Sequestration and Enhanced Oil Recovery at Depleted Oil/Gas Reservoirs.

Energy Procedia 114, 6957-6967.

39. **Xiao, T.** *, McPherson, B., Pan, F., Esser, R., Jia, W., Bordelon, A., Bacon, D., **2016**. Potential chemical impacts of CO_2 leakage on underground source of drinking water assessed by quantitative risk analysis. *Int. J. Greenh. Gas Control* 50, 305-316.
40. Jia, W., McPherson, B., Pan, F., **Xiao, T.**, Bromhal, G., **2016**. Probabilistic analysis of CO_2 storage mechanisms in a CO_2-EOR field using polynomial chaos expansion. *Int. J. Greenh. Gas Control* 51, 218-229.
41. Pan, F., McPherson, B.J., Esser, R., **Xiao, T.**, Appold, M.S., Jia, W., Moodie, N., **2016**. Forecasting evolution of formation water chemistry and long-term mineral alternation for GCS in a typical clastic reservoir of the Southwestern States. *Int. J. Greenh. Gas Control* 54, 524-537.
42. Dai, Z., Viswanathan, H., Middleton, R., Pan, F., Ampomah, W., Yang, C., Jia, W., **Xiao, T.**, Lee, S., McPherson, B., Balch, R., Grigg, R., White, M., **2016**. CO_2 accounting and risk analysis for CO_2 sequestration at enhanced oil recovery sites. *Environ. Sci. Technol.* 50 (14), 7546-7554.
43. Hong, A., **Xiao, T.**, **2013**. Treatment of oil spill water by ozonation and sand filtration. *Chemosphere* 91, 641-647.

Conference Proceedings

1. Bakelli, O., Vega-Ortiz, C., **Xiao, T.**, Moodie, N., McPherson, B., **2025**. Machine learning-enhanced geomechanical characterization for geological carbon storage in the Uinta Basin. Rock Mechanics/Geomechanics Symposium, Santa Fe, New Mexico, USA, ARMA-2025-0358. Doi: 10.56952/ARMA-2025-0358
2. Bakelli, O., **Xiao, T.**, McPherson, B., Vega-Ortiz, C., Moodie, N., Chellal, H. A. K., Mellal, I., **2024**. A feasibility study on the pressure monitoring above the injection zone for CO2 geological storage in the Uinta Basin, USA. Rock Mechanics/Geomechanics Symposium, Golden, CO, USA, ARMA-2024-0650. Doi: 10.56952/ARMA-2024-0650.
3. Bakelli, O., **Xiao, T.**, McPherson, B., Doghmane, M. Z., **2023**. Geomechanical Characterization of the Broom Creek Reservoir for Geologic Carbon Storage in the Williston Basin, North Dakota, U.S. International Geomechanics Symposium, Al Khobar, Saudi Arabia, ARMA-IGS-2023-0042. Doi: 10.56952/IGS-2023-0042.

Technical Reports

1. Balch, R., McPherson, B., Cather, M., Meyer, A., **Xiao, T.**, Ampomah, W., Esser, R., Appold, M., White, M., Moodie, N., Heath, J., Luhman, A., El-Kaseeh, G., McCormack, K., Lee, S., Hnottavange-Telleen, K., Huang, L., Wu, Z., Grigg, R., Will, R., **2025**. Southwest Regional Partnership on Carbon Sequestration Phase III Final Scientific/Technical Report. Doi: 10.2172/2529468.
2. **Xiao, T.**, Yu, J., Fan, T., **2024**. Southwest regional partnership on carbon sequestration (Phase III) underground source of drinking water monitoring at the Farnsworth Unit. Doi: 10.2172/2311834.
3. **Xiao, T.**, Lee, S. Y., Chu, S., Hnottavange-Telleen, K., **2023**. Quantitative risk assessment (Topical report for the Southwest regional partnership on carbon sequestration project). Doi: 10.2172/2228499.

SEMINARS & PRESENTATIONS

Invited Talks

1. Carbon dioxide capture, utilization, and storage (CCUS) in Utah. Department of Chemistry and Biochemistry, Utah State University, November 13, 2024.
2. Geologic carbon dioxide (CO_2) sequestration and assessment of potential risks of leakage. InterPore Young Academy Porous Media Tea Time Talks Session 24, September 21, 2021. Session 24 - Oliver Vincent (CNRS) & Ting Xiao

(University of Utah) - YouTube

Conference Presentations

3. Storage-based carbon management in the Uinta Basin: opportunities and challenges. AGU Fall Meeting, Oral Session, New Orleans, LA, December 15-19, 2025
4. Research overview of the Uinta Basin CarbonSAFE Phase II Project. GSA Connects 2024 Meeting, Oral Session, Anaheim, CA, September 22-25, 2024
5. Uncertainty quantification and reduction of potential CO_2 leakage from a geologic carbon storage site. GSA Connects 2024 Meeting, Oral Session, Anaheim, CA, September 22-25, 2024
6. Early-stage risk assessment for a potential commercial-scale geological carbon storage site in Utah, USA. The 37th International Geological Congress, Poster Session, Busan, Korea, Aug 25-31, 2024
7. Uinta Basin CarbonSAFE Phase II: An overview. AGU Fall Meeting, Oral Session, San Fransisco, CA, December 11-15, 2023.
8. Quantitative risk assessment of the Southwest Regional Partnership on carbon sequestration. AGU Fall Meeting, Oral Session, Chicago, IL, December 12-17, 2022.
9. Chemical impacts of potential leakage into overlying groundwater aquifers from a geologic CO_2 sequestration reservoir. AGU Fall Meeting, Poster Session, Online, December 1-17, 2020.
10. Chemo-mechanical processes of CO_2 intrusion into heterogeneous caprock: A case study of the Farnsworth Unit, Northern Texas. CouFrac 2020, Oral Session, Seoul, Korea and Online, November 11-13, 2020.
11. Potential chemical impacts of subsurface CO_2: Column experiments and analysis of samples from the largest aquifer in the USA. ACS Fall National Meeting, Oral Session, San Diego, CA, August 25-29, 2019.
12. Chemical impacts of CO_2 intrusion into heterogeneous caprock. AIChE Annual Meeting, Oral Session, Pittsburgh, PA, October 28-November 2, 2018.
13. Forecasting commercial-scale CO_2 storage capacity in deep saline reservoirs. Proceedings, TOUGH Symposium, Poster Session, Poster Session, Berkeley, CA, October 8-10, 2018.
14. Arsenic mobilization in shallow aquifers due to CO_2 and brine intrusion from carbon storage reservoirs. AAPG Annual Convention & Exhibition, Poster Session, Salt Lake City, UT, May 20-23, 2018.
15. Reactive transport modeling of CO_2-cement-rock interactions at the well-caprock-reservoir interface: A case study of the Farnsworth Unit CO_2-EOR Demonstration. Carbon Capture, Utilization & Storage Conference, Oral Session, Tysons, VA, June 14-16, 2016.
16. Potential chemical impacts of CO_2 leakage on underground sources of drinking water (USDWs) assessed by quantitative risk analysis. Proceedings, TOUGH Symposium, Poster Session, Berkeley, CA, September 28-30, 2015.

TEACHING

Carbon Capture & Stor. **Spring 2024**

CVEEN 5920, The University of Utah

- Invited lecturer for geochemistry in the subsurface and geologic CO_2 storage systems.

Sci. & Engin. Geothermal Energy **Spring 2022**

CVEEN 5920-002, The University of Utah

- Invited lecturer for geochemistry in the subsurface and geothermal systems.

STUDENT ADVISING & MENTORING

Graduate Students

Johanna Villagomez, *summer intern (Ph.D. student at the University of Houston)*	05/2025-08/2025
Omar Bakelli, *Ph.D. student*	08/2023-current

Undergraduate Students and High School Interns

Sullivan Reilly, *high-school summer intern*	06/2025-08/2025
Lachlan Barrett, *high-school summer intern*	06/2025- 07/2025
Luca DalCanto, *high-school summer intern*	06/2024-08/2024
Sophia Cheng, *high-school intern*	06/2023-08/2024
Rose Kirk-Landry, *high-school summer intern*	06/2023-08/2023
Taylor Holmes, *high-school summer intern*	06/2022-07/2022
Marie Franzen, *high-school summer intern*	06/2022-07/2022
Jennifer Gutierrez-Camacho, *high-school summer intern*	06/2022-06/2022
Tessa Bailey, *high-school summer intern*	07/2021-08/2021

AWARDS AND HONORS

Cohort NSF Fellowship, University of Utah, 2024.

GSA International Geological Congress (IGC) Travel Grant Award, 2024.

CAST-UT Outstanding Research Award, 2019.

TOUGH Student Fellow Award, 2015.

MARGARET S. BORG Graduate Scholarship, University of Utah, 2011.

PROFESSIONAL ACTIVITIES AND SERVICES

- **Professional Societies Membership**:
  - Geological Society of America (GSA)
  - American Geophysical Union (AGU)
  - American Institute of Chemical Engineers (AIChE)
- **Session Convener**: “Technological Advances in Energy Resource Production and Storage”, AGU Fall Meeting, Washington DC, 2024.
- **Session Chair**: “Advances in CO_2 Capture, Transport, Utilization, and Storage Technologies”, AGU Fall Meeting, San Francisco, CA, 2023.
- **Session Convener**: “Decarbonization Solutions for Production of Subsurface Energy Resources”, AGU Fall Meeting, San Francisco, CA, 2023.
- **Session Convener**: “Achieving Net Zero Emission with Geologic Carbon Storage and Geothermal Energy”, AGU Fall Meeting, San Francisco, CA, 2023.
- **Guest Editor**: Special Issue "Geologic CO_2 Sequestration (GCS) and Its Potential Impacts on the Environment", Minerals, 2021.

- **Mini-Symposium Convener**: “Advances in Imaging Porous Media: Techniques, Software and Case Studies”, InterPore 2021, Online, 2021.
- **Session Convener**: “Risk Assessment for Subsurface activities in Porous Media”, AGU Fall Meeting, Online, 2020.
- **Session Chair**: “Theme 8: Carbon Management (DEG/EMD)”, AAPG Annual Convention & Exhibition, Salt Lake City, UT, 2018.
- **Grant Reviewer**: DE-FOA-0002359, FY 2021 SBIR/STTR Phase I Release 1, The Office of Basic Energy Sciences within the Department of Energy, 2020.
- **Reviewer**: ACS Earth and Space Chemistry, ACS Omega, Applied Energy, Applied Geochemistry, Arabian Journal of Geosciences, Chemical Engineering Journal, Chemosphere, Computer & Geosciences, Earth-Science Reviews, Energies, Energy & Fuels, Energy Reviews, Environmental Engineering Science, Geomechanics and Geophysics for Geo-Energy and Geo-Resources, Geothermics, Greenhouse Gases: Science and Technology, International Journal of Greenhouse Gas Control, International Journal of Hydrogen Energy, International Journal of Rock Mechanics and Mining Sciences, Journal of Geophysical Research - Solid Earth, Journal of Hydrology, Journal of Natural Gas Science and Engineering, Journal of Rock Mechanics and Geotechnical Engineering, Journal of Structural Geology, Minerals, Science of the Total Environment, Scientific Reports, Water.
- **Competition Team Mentor**: DoubleWin Team (Zimeng Yu, Haoxin Huang, Yong Dai, Ziteng Wang, University of Utah) Switch Energy Alliance Competition, 2024.