ZiJie Xu

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Heavy Engineering Building, Stony Brook University, Stony Brook, NY 11794

Education

- ➤ PhD in Civil Engineering, Stonybrook University, USA   09/2023 - Present

- ➤ MEng in Mining Engineering, Chongqing University, China   09/2019 - 07/2022

- ➤ BEng in Mining Engineering, Fuzhou University, China   09/2015 - 07/2019

Research Experience

Research Assistant (09/2023 - Present**)**
Department of Civil Engineering, Stony Brook University, Stony Brook, NY, USA
Supervisor: Wei Li
Project: A cross-scale characterization of porous rocks altered by flow and dissolution.

Graduated Student & Research Assistant (09/2019 - 07/2023)
Department of Resources and Safety Engineering, Chongqing University, Chongqing, China
Supervisor: Yiyu Lu
Dissertation: "The mode I fracture toughness alternation and crack propagation behavior evolution due to long-term Sc-CO_2 saturation"

Publication

- ➤ Lu, Y., **Xu, Z.**, Li, H., Tang, J., Chen, X. *The influences of super-critical CO_2 saturation on tensile characteristics and failure modes of shales*. Energy 2021; 221: 119824.

- ➤ **Xu, Z.**, Lu, Y., Tang, J., Li, H., Jia, Y. *The mode I fracture toughness alternation and crack propagation behavior evolution due to long-term Sc-CO_2 saturation*. Eng Fract Mech 2022:108259.

- ➤ Li, H., Jiang, X., **Xu, Z.**, Bowden, S. *The effect of supercritical CO_2 on failure mechanisms of hot dry rock.* Advances in Geo-Energy Research 2022, 6(4):324-333.

- ➤ Lu, Y., Cheng, Q., Tang, J., **Xu, Z**. *Comparative study of the micromechanical properties of marine and continental reservoir shale using nanoindentation.* J Nat Gas Sci Eng. 2022, 107: 104727.

- ➤ Lu, Y., Liu, Y., Tang, J., Jia, Y., **Xu, Z**. *Water wettability alternation of CO_2-water-shale system due to nanoparticles: Implications for CO_2 geo-storage.* Int J Greenh Gas Con. 2023, 124: 103836.

- ➤ **Xu, Z.**, Li, W., Kolanti, A., and Sprouster, D. *A cross-scale characterization of porous rocks altered by flow and dissolution.* ARMA US Rock Mechanics/Geomechanics Symposium. 2024, Under Review.

Professional Skills

➢ Normal laboratory technique: Proficient in Electronic precision material testing instrument and MTS operation, experienced in AE monitoring, High-speed camera, Italian Cronos high-precision 3D scanner and Scanning Electron Microscopy etc.

➢ Software: Matlab, Python, Image J & pro (Cracks analysis and graphing), ParaView (Analysis of crack surface) etc.

Awards

➢ National Scholarship (2020-2021)

➢ The winners (best presenters) of XVIII International Forum-Contest of Students and Young Researchers on Topical Issues of Rational Use of Natural Resources

➢ Outstanding Graduate Student of Chongqing University (2019 - 2020)

➢ Chongqing University scholarship (2019-2020, 2020-2021, A)