EGI Energy & Geoscience Institute
AT THE UNIVERSITY OF UTAH

Since 1972

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Research Interests

- Reactive transport simulations
- Geological carbon sequestration
- Underground sources of drinking water quality
- CO_2 leakage and risks
- Trace metal mobilization

Ting Xiao joined EGI in 2012, focusing on the numerical simulations of geochemical processes in geological carbon sequestration (GCS) reservoirs, wellbore cement, sealing formation, and overlying shallow groundwater aquifers. She received her PhD and MS degrees in Civil & Environmental Engineering from the University of Utah in 2017 and 2012. She earned her ME (2010) and BE (2008) from Harbin Institute of Technology, China.

Ting has been participating in the Southwest Regional Partnership on Carbon Sequestration (SWP) project (Phase III) and Carbon Storage Assurance Facility Enterprise (CarbonSAFE) Rock Mountain project (Phase I). Ting's publications include risk assessments for CO_2 sequestration, long-term CO_2 storage mechanisms, trace metal mobilization in shallow groundwater due to CO_2 intrusion, and oil spill treatment.

Selected Publications

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, 12487–12499. doi:10.1021/acs.energyfuels.7b01720

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. 7, 2763. doi:10.1038/s41598-017-02849-z

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. Journal Greenhouse Gas Control 63, 126–140. doi:10.1016/j.ijggc.2017.05.009

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-Energy Geo-Resources 3, 339–350. doi:10.1007/s40948-017-0058-2

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. doi:10.1016/j.ijggc.2016.04.009

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