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About:

Ph.D. in Hydrogeology (The University of Hong Kong and Southern University of Science and Technology Joint Ph.D. Program)
B.S. in Hydrogeology (China University of Geosciences in Beijing)

Research Interest:

Hydrogeology
Hydro-geochemistry
Groundwater numerical modelling
Surface water-groundwater interactions

Teaching:

Hydrogeology
Hydro-geochemistry
Freshwater Issues in Coastal Areas

Peer-reviewed Publications

21) Wang, Z., Wang, Q., Guo, Y., Yu, S., Xiao, K., Zhang, Y., Li, H., Zheng, C., Geng, X., **Zhang, X.**, Li, H., Wang, X. (2023). Seawater–groundwater interaction governs trace metal zonation in a coastal sandy aquifer. ***Water Resources Research***, 59, e2022WR032828. https://doi.org/10.1029/2022WR032828

20) **Zhang, X.**, Sawyer, A.H., & Singha, K. (2023) A numerical exploration of hyporheic zone solute transport behavior estimated from electrical resistivity inversions. Journal of Hydrology, 129577, doi.org/10.1016/j.jhydrol.2023.129577.

19) Yu, S., Jiao, J., Luo, X., Li, H., Wang, X., **Zhang, X.,** Yao, M., Zuo, J., Liang, W., Lu, M. (2023). Evolutionary history of the groundwater system in the Pearl River Delta (China) during the Holocene. ***Geology***; doi: https://doi.org/10.1130/G50888.1

18) Marshall, A., **Zhang, X.,** Sawyer, A.H., Wohl, E., & Singha, K. (2023). Logjam Characteristics as Drivers of Transient Storage in Headwater Streams. ***Water Resources Research***, 59, e2022WR033139. doi.org/10.1029/2022WR033139.

17) Yu, S., Wang, C., Li, H., **Zhang, X.**, Wang, X., & Qu, W. (2022). Field and numerical investigations of wave effects on groundwater flow and salt transport in a sandy beach. ***Water Resources Research***, 58, e2022WR032077. https://doi.org/10.1029/2022WR032077

16) **Zhang, X.**, Jiao, J. J., & Guo, W. (2022). How does topography control topography-driven groundwater flow? ***Geophysical Research Letters***, 49, e2022GL101005.

15 **Zhang, X.**, Jiao, J. J., Li, H., Zheng, Y., Yang, S., and Lian, E. (2022) Salinization process in a topographically closed saline lake estimated by radium, barium, and chloride mass balances. ***Journal of Hydrology*** 128722, doi.org/10.1016/j.jhydrol.2022.128722.

14) Yu, S., **Zhang, X.,** Li, H., Wang, X., Wang, C. and Kuang, X. (2022) Analytical study for wave-induced submarine groundwater discharge in subtidal zone. ***Journal of Hydrology***, 128219. (Co-first author)

13) **Zhang, X.,** Li, H., Jiao, J.J., Luo, X., Kuang, X., Mao, R. and Hu, W. (2022) Fractal Behaviors of Hydraulic Head and Surface Runoff of the Nested Groundwater Flow Systems in Response to Rainfall Fluctuations. ***Geophysical Research Letters*** 49(2), e2021GL093784.

12) Wang, Q., **Zhang, X.,** Wang, X., Xiao, K., Zhang, Y., Wang, L., Kuang, X. and Li, H. (2021) Quantification of the water age and submarine groundwater discharge in a typical semi-enclosed bay using stable oxygen (18O) and radioactive radium (228Ra) isotopes. ***Journal of Hydrology*** 603, 127088. (Co-first author)

11) **Zhang, X.,** Li, H., Jiao, J.J., Luo, X., Zuo, J., Lu, M., Liu, Y., Liang, W. and Kuang, X. (2021) Control Factors on Nutrient Cycling in the Lake Water and Groundwater of the Badain Jaran Desert, China. ***Journal of Hydrology***, 126408.

10) **Zhang, X.,** Luo, X., Jiao, J.J. Li, H., Lian, E., Yang, S., Kong, F., Kuang, X. and Zuo, J. (2021) Hydrogeochemistry and fractionation of boron isotopes in the inter-dune aquifer system of Badain Jaran Desert, China. ***Journal of Hydrology***, 125984.

9) **Zhang, X.,** Jiao, J.J., Li, H., Luo, X. and Kuang, X. (2020) Effects of downward intrusion of saline water on nested groundwater flow systems. ***Water Resources Research*** 56, 1-17.

8) Wang, X., Fu, R., Li, H., Zhang, Y., Lu, M., Xiao, K., **Zhang, X.,** Zheng, C., and Xiong, Y. (2020), Heavy metal contamination in surface sediments: A comprehensive, large-scale evaluation for the Bohai Sea, China, ***Environmental Pollution***, 260, 113986, doi:10.1016/j.envpol.2020.113986.

7) Wang, Q., Li, H., Zhang, Y., Wang, X., Xiao, K., **Zhang, X.,** Huang, Y., and Dan, S. F. (2020), Submarine groundwater discharge and its implication for nutrient budgets in the western Bohai Bay, China, ***Journal of environmental radioactivity***, 212, 106132, doi:10.1016/j.jenvrad.2019.106132.

6) Lu, M., Luo, X., Jiao, J. Li, H., Wang, X., Gao, J., **Zhang, X.** and Xiao, K. (2019), Nutrients and heavy metals mediate the distribution of microbial community in the marine sediments of the Bohai Sea, China, ***Environmental Pollution***, 255(Pt 1), 113069, doi:10.1016/j.envpol.2019.113069.

5) Kuang, X., Luo, X., Jiao, J. Liang, S., **Zhang, X.,** Li, H., and Liu, J. (2019), Using stable isotopes of surface water and groundwater to quantify moisture sources across the Yellow River source region, ***Hydrological Processes***, doi:10.1002/hyp.13441.

4) Xiao, K., Li, H., Shananan, M., **Zhang, X.,** Wang, X., Zhang, Y., Zhang, X., and Liu, H. (2019), Coastal water quality assessment and groundwater transport in a subtropical mangrove swamp in Daya Bay, China, ***Science of the total environment***, 646, 1419-1432, doi:10.1016/j.scitotenv.2018.07.394.

3) Luo, X., Jiao, J., Liu, Y., **Zhang, X.,** Liang, W., and Tang, D. (2018), Evaluation of Water Residence Time, Submarine Groundwater Discharge, and Maximum New Production Supported by

Groundwater Borne Nutrients in a Coastal Upwelling Shelf System, ***Journal of Geophysical Research: Oceans***, 123(1), 631-655, doi:10.1002/2017jc013398.

2) Wang, X., Li, H., Zheng, C., Yang, J., Zhang, Y., Zhang, M., Qi, Z., Xiao, K., and **Zhang, X.** (2018), Submarine groundwater discharge as an important nutrient source influencing nutrient structure in coastal water of Daya Bay, China, ***Geochimica et Cosmochimica Acta***, 225, 52-65, doi:10.1016/j.gca.2018.01.029.

1) Luo, X., X. Kuang, J. J. Jiao, S. Liang, R. Mao, **X. Zhang,** and H. Li (2018), Evaluation of lacustrine groundwater discharge, hydrologic partitioning, and nutrient budgets in a proglacial lake in the Qinghai–Tibet Plateau: using 222Rn and stable isotopes, ***Hydrology and Earth System Sciences***, 22(10), 5579-5598, doi:10.5194/hess-22-5579-2018.