Yuzhuo Wu

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Education

China University of Geosciences, Beijing **Beijing, China**
M.S. in Geology (GPA: 89/100) 2022 - Present
B.S. in Groundwater Science and Engineering (GPA: 89/100) 2018 - 2022

Research Experiences

Simulation and Uncertainty Analysis of Nuclide Transport Breakthrough in DFN **2024**

- Developed a DFN model to simulate the spatial and temporal evolution (especially breakthrough time) of nuclides after leakage in Äspö HRL prototype repository.
- Used the Sobol variance decomposition method to quantify the effect of fracture parameters and identified their interactions for outputs' uncertainty.

Time−Dependent Gas Permeability of Fractures in Shales **2023**

- Monitored the evolution of permeability over time in two artificially fractured shale cores under multiple levels of mixed stresses.
- Established a model to predict the change pattern of fracture permeability taking into account the coupled effects of creep and gas slip.

CO_2 Seepage in a Microfracture Network **2023**

- Monitored the breakthrough pressures of helium, nitrogen, methane, and carbon dioxide in coal rock at different humidities and the evolution of permeability with time.

Existence of REV in Different Fractured Rocks Based on Permeability Analysis **2022**

- Analysised the implication of the persistence and density of fractured rock to existence and size of REV by fitting permeability ellipsoids.

Technical Experiences

Geotechnical Numerical Simulation **Fall 2023**

- Tought theory of solute transport in fractured rocks and application of numerical simulation.

Hydrogeology Field Work **Summer 2021**

- Designed 10 routes to investigate 30 wells and three rivers, and collected water samples to characterize the distribution patterns and types of groundwater in the Liujiang Basin area.
- Used water balance method to evaluate the groundwater resources, and the annual average is negative equilibrium.

Geological Field Work **Summer 2020**

- Designed sixteen routes for geologic investigations, and drew regional geological maps, stratigraphic bar charts, indicating that Zhoukoudian area is composed of the Fangshan intrusion rock body and the multi-phase faults.

Publications and Presentations

[1] **YuzhuoWu**, A stochastic simulation model for nuclide transport breakthrough in DFN, 2023, *Eighth Symposium on Underground Disposal of Waste*.China.(Talk)
[2] **YuzhuoWu**, Uncertainty analysis of fracture parameters for nuclide transport simulations in DFN, 2024. (working paper)