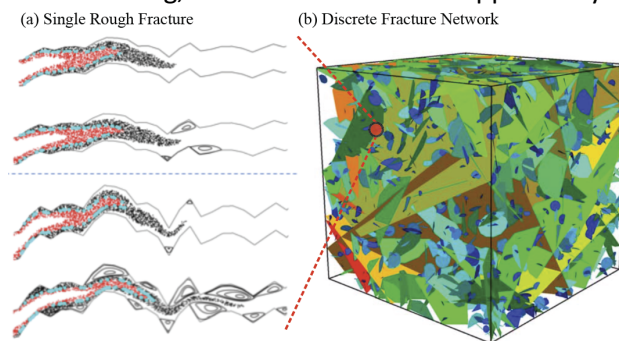


Prof. Peter Kang's lab (<http://pkkang.com>) in the Department of Earth and Environmental Sciences at the University of Minnesota (UMN) is looking for two Ph.D. students in the area of **flow and transport in fractured media** for Fall 2022. Flow and transport in fractured media is critical for many earth, civil and industrial engineering applications such as groundwater management, environmental restoration of contaminated fractured aquifers, enhanced geothermal systems, CO<sub>2</sub> sequestration, and the long-term storage of spent nuclear fuel.

Two available projects are:

1. Combining discrete fracture network modeling and field tracer experiments to improve our fundamental understanding of network scale flow and transport processes and to improve our predictive capability of reactive transport at fracture network scales.
2. Combining flow and transport modeling of karst aquifers and field investigations to improve our predictive capability of nitrate transport in karst systems.

This position will cover full tuition, approximately \$25,000 for the 12-month salary, and full benefits. The candidate will have access to enormous computational resources at Minnesota Supercomputing Institute and have an opportunity to visit and collaborate with research scientists at Los Alamos National Laboratory and other institutions. Both projects have well-established field sites that have accumulated field data. The focus will be on modeling, but students will have opportunity to do some fieldwork.



Ideal candidates should have backgrounds in groundwater, fluid mechanics, linear algebra, numerical methods, and computer programming. Background in geology and biogeochemistry will be helpful. Interested bachelor or master students in earth sciences, (civil, environmental, mechanical, chemical, petroleum) engineering, physics, applied mathematics, or other closely-related disciplines are encouraged to contact Dr. Kang. Successful applicants should have a strong academic background and be highly motivated. Kang research group thrives to build an inclusive research environment. **If interested, please email Dr. Kang ([pkkang@umn.edu](mailto:pkkang@umn.edu))** with your CV and transcripts. The application procedures can be found here: <https://www.esci.umn.edu/programs/gradprospective>

### About UMN

UMN is located in Minneapolis/St. Paul (i.e., Twin Cities), and the Twin Cities' economy is the 13th largest in the U.S. and ranks second in the Midwest with very convenient transportation, life, and job opportunities. A lot of Fortune 500 companies and 17 headquarters of them reside in the Twin Cities. UMN is ranked 8th in research among all public universities according to the National Science Foundation (NSF) Survey of Research and Development. UMN faculty and alumni have won 25 Nobel Prizes (30 if including researchers), which is ranked 2nd among all public universities in the United States. Minnesota Supercomputing Institute (MSI) is one of the top 5 university-owned supercomputer centers in the nation.