Open position for a postdoctoral researcher (F/M):
Experimental pore-scale flow and transport in porous media

We seek a postdoctoral researcher (F/M) for a new research group at MIGAL – Galilee Research Institute, Israel, working on the nexus of soil science, environmental hydrology, and experimental fluid mechanics using porous media microfluidic flow experiments. We aim to investigate the impact of porous medium structure on unsaturated flow processes (such as drainage, infiltration, and drying), solute transport and mixing in heterogeneous porous media, and more. The primary motivation is understanding how these processes impact the fate of pollutants, microbial activity, and root activity in soils.

Duties:

- Designing and constructing microfluidic/three-dimensional experimental systems mimicking porous environmental media (soil, sediment, or rock)
- Performing flow experiments with fluorescent tracers, acquiring images, processing, and analyzing them.
- Summarizing results, writing and publishing articles and reports, and presenting at conferences.
- Instructing and supervising students.

Qualifications:

- Ph.D. in natural or engineering sciences or other relevant fields
- Experience in pore-scale laboratory flow experiments – required
- Experience in scientific programming – highly preferred
- Experience with microfluidic fabrication techniques and flow experiments – highly preferred
- Knowledge of image processing and analysis – preferred
- Knowledge of numerical simulations of flow and transport – advantageous
- Independent learning and working ability, proficiency in written and spoken English, diligence, reliability, high organization level, and good communication skills.

Interested applicants are required to send their CV, a short (1-page max) research interests and motivation statement, a list of publications (if relevant), and the names and emails of two referees, one of whom is the applicant’s Ph.D. supervisor, to Dr. Oshri Borgman at oshrib@migal.org.il.