

Ph.D./M.Sc. position opening

Research area: multiphase flow in granular media

Why does air form narrow, preferential paths (fingers) when penetrating water-saturated soil? Why and how much water must be added to sand to build a sandcastle? Why soil fractures when dried? These kind of phenomena are of crucial importance in a variety of applications, including soil wetting and drying, transport of nutrients/contaminants, landslides, energy recovery and carbon sequestration.

To answer such questions, we will seek fundamental understanding of the dominant processes and governing parameters that control multiphase flow in a particulate medium and its mechanical behavior, through theoretical/numerical modeling combined with experiments. Possible topics include the effect of fracturing on soil wetting/drying, modes of gas migration in sediments, hydrate formation and dissociation in gas-rich environments, and any other problem of interest to you which I can support.

For details contact Ran Holtzman (rholtzman@mit.edu), Dept. of Soil and Water Sciences, Faculty of Agriculture, Food and Environment, Hebrew University.

