Predicting anomalous diffusion rates of Stokes flow in porous media BRYAN QUAIFE, Florida State University, PIETRO DE ANNA, MIT, GEORGE BIROS, University of Texas, RUBEN JUANES, MIT — Stokes flow in porous media finds many applications in hydrology, filtration, and groundwater flow. I will first describe an experimental setup that simulates two-dimensional Stokes flow in a porous media, and compare experimental and numerical results. Then, I will describe a technique where statistics of the geometry are used to predict statistics of the flow, including anomalous diffusion rates. This technique will be tested on several geometries.

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