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**Nestor Guillen\*** ([nestor@math.ucla.edu](mailto:nestor@math.ucla.edu)), Los Angeles, CA 9049, and **Inwon Kim**. *Stochastic homogenization of free boundary problems in perforated domains*.

The homogenization of free boundary problems in random domains is connected with a number of important geometric questions, such as the behavior of Brownian motion in infinite percolation clusters (better understood in the discrete setting) and the closely related problem of isoperimetric inequalities in random domains. In recent work with Inwon Kim, it is shown that the Hele-Shaw problem in a perforated domain homogenizes almost surely to an anisotropic free boundary problem in all of euclidean space, the free boundaries converging in the Hausdorff topology almost surely. This result is new even in the periodic setting. (Received August 11, 2013)