1107-60-310 **hakima Bessaih*** (bessaih@uwyo.edu), Department of Mathematics, 1000 E. University Ave. Dept. 3036, Laramie, WY 82071, and **Florian Maris** and **Yalchin Efendiev**. *Homogenization of the stochastic Navier–Stokes equation in perforated domains.* Preliminary report.

Some stochastic models are considered including the two dimensional Navier-Stokes equation in a perforated domain with a dynamical slip boundary condition. The dynamics are driven by a noise on the interior and on the boundary of the domain. Different scalings are considered that give rise to different limit problems.

For a particular scaling used on the Navier-Stokes equations, we obtain a Darcy's law with memory. We mainly use the two scale convergence method to pass to the limit. Moreover, the passage to the limit is performed on the variational formulation. (Received January 18, 2015)