Naian Liao* (naian.liao@vanderbilt.edu), 1326 stevenson center, Vanderbilt University, Math Department, Nashville, TN 37240, Emmanuele DiBenedetto (gianazza@imati.cnr.it), 27100 Pavia, Italy, and Ugo Gianazza. Recent Progress on Local Behaviors of a Logarithmic Diffusion Equation.

In this talk, I will explain some recent progress on the local behavior of the equation $u_t = \Delta \ln u$ including a Harnack-type inequality, $L^1$ form Harnack inequality and local special analyticity. I will also show you their connection with the porous medium equation $u_t = \Delta (u^m/m)$ and all estimates are stable as $m$ tends to 0. (Received January 27, 2014)