1107-35-116 **James Nolen*** (nolen@math.duke.edu). *A simple PDE argument for the logarithmic term in the asymptotics of branching Brownian motion.*

I'll describe the asymptotic behavior of solutions to a KPP equation with variable coefficients. One can interpret the solution to the PDE in terms of a branching Brownian motion with variable branching rate. It is well-known that solutions to the Cauchy problem may behave asymptotically like a traveling wave. On the other hand, for certain initial data, M. Bramson proved that the solution to the Cauchy problem may lag behind the traveling wave by an amount that grows logarithmically in time. Using PDE arguments, we have extended this statement about the logarithmic delay to the case of periodic, spatially varying reaction rate; this corresponds to a branching Brownian motion with spatially-varying branch rate. The PDE approach involves the study of the linearized equation with Dirichlet condition on a moving boundary. The method also gives refined asymptotics for the solution to the equation with time-varying coefficients. This is joint work with Francois Hamel, Jean-Michel Roquejoffre, and Lenya Ryzhik. (Received January 08, 2015)