1120-60-264   **Wai-Tong Fan*** (`ariesfanhk@gmail.com`), 926 Eagle Heights C, Madison, WI 53705.
Genealogies for the biased voter model.

I will present rigorous results for the behavior of genealogies in a one-dimensional long range biased voter model introduced by Hallatschek and Nelson. The first step, which is easily accomplished using results of Mueller and Tribe, is to show that when space and time are rescaled correctly, our biased voter model converges to a Wright-Fisher SPDE. A simple extension of a result of Durrett and Restrepo then shows that the dual branching coalescing random walk converges to a branching Brownian motion in which particles coalesce after an exponentially distributed amount of intersection local time. Our main result concerns "tracer dynamics" in which some of the initial particles in the biased voter model are labeled. We show that the joint distribution of the labeled and unlabeled particles converges to the solution of a system of SPDEs. A new duality equation is the key to the proof of that result. Joint work with Rick Durrett. (Received February 23, 2016)