1127-60-235   **Wai T Fan*** (`louisfan@math.wisc.edu`), 926 Eagle Heights, C, Madison, WI 53705. *Coupled stochastic reaction-diffusion equations on metric graphs.*

I will present some novel limiting objects including stochastic partial differential equations (SPDE) on metric graphs and coupled SPDE. These SPDE not only interpolate between interacting particle systems and PDE, but also quantify the source and the order of magnitude of stochasticity. Scaling limit theorems and novel duality formulas are obtained for these SPDE, which connect phenomena across scales and offer insights about the genealogies and the time-asymptotic properties of certain population dynamics. Based on recent collaborations with the Systems Biology group at UW-Madison and WID. (Received February 04, 2017)