1106-37-810   **Aijun Zhang*** (`zhangai@tigermail.auburn.edu`), 5110 Spruce Street 3R, Philadelphia, PA 19139, and **Erik S Van Vleck**. *Transition fronts of Fisher-KPP equations in locally spatially inhomogeneous patchy environments.*

The current talk is devoted to the study of spatial propagation dynamics of species in locally spatially inhomogeneous patchy environments or media. For a lattice differential equation with monostable non-linearity in a discrete periodic media, it is well-known that there exists a minimal wave speed such that a traveling wave exists if and only if the wave speed is above this minimal wave speed. We show that strongly localized spatial inhomogeneous patchy environments may prevent the existence of transition fronts. Transition fronts may exist in weaker localized spatial inhomogeneous patchy environments but only in a finite range of speeds, which implies that it is plausible to obtain a maximal wave speed such that a transition front exists. (Received September 07, 2014)