1119-60-220 **Michael C Cranston***, 28 Frost. *Path-wise localization in the Anderson polymer model.*
We consider large time behavior of typical paths under the Anderson polymer measure. If P_κ^x is the measure induced by rate κ, simple, symmetric random walk on $\mathbf{Z^d}$ started at x, this measure is defined as

$$d\mu^x_{\kappa,\beta,T}(X) = Z_{\kappa,\beta,T}(x)^{-1} \exp\left\{\beta \int_0^T dW_{X(s)}(s)\right\} dP^x_\kappa(X)$$

where $\{W_x : x \in \mathbf{Z^d}\}$ is a field of *iid* standard, one-dimensional Brownian motions, $\beta > 0, \kappa > 0$ and $Z_{\kappa,\beta,T}$ a normalizing constant. We establish that the polymer measure gives a macroscopic mass to a typical path as $T \to \infty$. The mass grows to 1 as $\frac{\beta^2}{\kappa} \to \infty$, giving a rigorous approach to the polymer localization. This is done by considering the overlap between two independent samples drawn under the Gibbs measure $\mu^x_{\kappa,\beta,T}$, which can be estimated by the integration by parts formula for the Gaussian environment. The talk is based on joint work with Francis Comets. (Received February 16, 2016)