**SPEAKER:**

Kyle Hammer, University of Kentucky

**TITLE:**

Local Eigenvalue Statistics in the Lattice Anderson Model

**ABSTRACT:**

In his 1958 paper, P. W. Anderson created a model, which has been named after him, to explain the quantum mechanics of disorder in materials such as alloys. Of the results of this model, the most famous is that of Anderson Localization: the suppression of electron transport due to disordered materials such as alloys. This model consists of studying the properties of the eigenvalues of the Random Schrodinger Operator (RSO) $H_\omega = H_0 + V_\omega$ defined on $\ell^2(\mathbb{Z}^d)$ where $H_0$ is the discrete nearest neighbor finite difference operator and $V_\omega$ consists of independent, identically distributed random variables that have bounded density associated to each node in $\mathbb{Z}^d$. In this presentation we will use the results of Localization, the Wegner Estimate, and the Minami Estimate to prove the asymptotic independence of the eigenvalues near energies where Localization holds, and that the eigenvalues follow a Poisson Formula.