

**1:30 - 2:30pm - Mathematical Physics Seminar, Andrew Hardt, UIUC,
BRNG 1255**

Title: Solvable lattice models and the boson-fermion correspondence

Abstract: Consider the (infinite-dimensional) vector space whose basis vectors are indexed by integer partitions. We will discuss two sources of linear operators on this vector space. The first source, solvable lattice models, are ice-like rectangular grids that originated in statistical physics, and which satisfy the famous Yang-Baxter equation. The second source, the boson-fermion correspondence, has connections to soliton solutions of the KP hierarchy. We will discuss the intersection of these two approaches, along with applications to symmetric functions.