November 13: joint meeting with Combinatorics Seminar at 4:30 in 2-147. Greg Warrington (University of Massachusetts at Amherst), "Kazhdan-Lusztig polynomials and counterexamples to the $0-1$ conjecture." FOLLOWED BY DINNER.

The Kazhdan-Lusztig polynomials $P_{x,w}$ associated to permutations x and w arise in the representations of the symmetric group S_n, in the geometry of Schubert varieties and in the context of Verma modules. There are many questions about these areas whose answers require a better combinatorial understanding of these polynomials. We look at one such question.

We present several counterexamples to the $0-1$ conjecture: "The coefficient of highest possible degree in $P_{x,w}$ is either 0 or 1." These counterexamples imply, in particular, that the representations of S_n constructed by Kazhdan and Lusztig are encoded by weighted graphs rather than simply by graphs. We will also mention how the combinatorial techniques used in the discovery and proof of the counterexamples may shed light on the coefficients of lower order terms of these polynomials.

This is joint work with Tim McLarnan.