February 22: Pramod Achar (LSU), *Koszul duality and characters of tilting modules.*

Let G be a complex reductive group or a Kac–Moody group, and let B be a Borel subgroup. The main topic of this talk is the (derived) category D of Bruhat-constructible sheaves on the flag variety G/B, with coefficients in a field k (usually of positive characteristic). There is a well-known and easy-to-define right action of the Hecke category on D. There is a also a second, "hidden" action of the Hecke category on the left. I will explain both these actions in my talk. As an application, one can deduce the existence of a "hidden" action of the Hecke category on the principal block of an algebraic group in positive characteristic, previously predicted by Riche–Williamson. This leads to a character formula for tilting modules in terms of p-Kazhdan–Lusztig polynomials. This is joint work with S. Makisumi, S. Riche, and G. Williamson.