September 23: Carl Mautner (UT Austin), "A Geometric Proof of a Modular Schur-Weyl Theorem." Followed by dinner.

Modular representation theory is the study of representation theory over fields of positive characteristic. Generally, modular representation theory is more complicated than its characteristic zero counterpart. Recently, a number of theorems have appeared giving geometric descriptions of categories of modular representations. A version of the geometric Satake theorem due to Mirkovic-Vilonen implies that the modular representation theory of the general linear group is encoded in a category of geometric objects called perverse sheaves on an affine Grassmannian. On the other hand, a version of Springer theory due to Juteau relates the modular representation theory of the symmetric group with the geometry of the nilpotent cone in $\mathfrak{gl}_n$. This talk will explain how these two pieces fit together to give a geometric explanation for connections between the modular representation theory of the general linear group and that of the symmetric group.