1131-20-388 **Jacob P. Matherne*** (matherne@math.umass.edu). *Derived geometric Satake equivalence, Springer correspondence, and small representations.*

A recurring theme in geometric representation theory is the ability to describe representations in terms of the geometry or topology of certain spaces. Two major theorems in this area are the geometric Satake equivalence and the Springer correspondence, which state:

1. For G a semisimple algebraic group, we can realize $\mathrm{Rep}(G)$ using intersection cohomology of the affine Grassmannian for the Langlands dual group.

2. For W a Weyl group, we can realize $\mathrm{Rep}(W)$ using intersection cohomology of the nilpotent cone.

In the late 90s, M. Reeder computed the Weyl group action on the zero weight space of the irreducible representations of G, thereby relating $\mathrm{Rep}(G)$ to $\mathrm{Rep}(W)$. More recently, P. Achar, A. Henderson, and S. Riche established a functorial relationship between the two phenomena above. In my talk, I will review this story and discuss a result which extends their functorial relationship to the setting of mixed, derived categories. (Received July 18, 2017)