

## 7/31 [Rina Anno] Nil Hecke bimodule categories

Suppose we have a triangulated category with a DG-enhanceable braid group action, such as the derived category of coherent sheaves on the minimal resolution of a Kleinian singularity. Then we can use the generators of the braid group action to cook up a new triangulated category with the same objects using a construction that is similar to that of the nil Hecke algebra, a network of other triangulated categories corresponding to its “block subalgebras”, and functors between them corresponding to certain diagrams. In particular, this network includes the categories and functors (for each generator) that Ed Segal used in 2016 to prove that every derived autoequivalence is a spherical twist. This is joint work in progress with Timothy Logvinenko.