

November 8: Zhiwei Yun (MIT), “From (certain) conjugacy classes in the Weyl group to (certain) unipotent classes, a detour via Langlands.”

We will define a map which sends a regular, elliptic class in the Weyl group to a unipotent class in the complex group \widehat{G} (the Langlands dual of a split G). The construction uses global Langlands correspondence: we will construct an automorphic form for the group G over the function field $F = k(t)$ and the corresponding Galois representation. The two conjugacy classes in the title will show up as local monodromy of the Galois representation. The construction is uniform for G , including all exceptional groups. We will describe examples in the unitary groups in details.

The results presented here are inspired by discussions with Gross and Lusztig, and earlier joint work with J. Heinloth and B.-C. Ngo.