November 9: Shotaro Makisumi (Stanford), "A new approach to modular Koszul duality."

I will discuss a new approach to the modular Koszul duality of Pramod Achar and Simon Riche, a derived equivalence relating Langlands dual flag varieties, analogous to the Koszul duality of Beilinson-Ginzburg-Soergel. The key ingredient is a new construction of a left monodromy action in the modular setting. This approach can be made sense for arbitrary Coxeter groups using the Braden-MacPherson and Fiebig theory of moment graph sheaves, and leads to a Koszul duality for Soergel bimodules. I will also briefly report on joint work in progress with Pramod Achar, Simon Riche, and Geordie Williamson, in which we plan to extend the result to Kac-Moody flag varieties. The latter result would imply the Riche-Williamson conjecture on characters of tilting modules of reductive groups.