

## THE BETTI NUMBERS OF REGULAR HESSENBERG VARIETIES AND THE DOT ACTION

**Speaker:** Martha Precup (Northwestern), October 26, 2016

**Abstract:** Regular semisimple Hessenberg varieties are smooth subvarieties of the flag variety that carry an action of the Weyl group on their cohomology. Although the action is defined Lie theoretically, this representation has arisen in the work of Shareshian and Wachs on chromatic quasisymmetric functions. Brosnan and Chow have proven that this representation is determined by the Betti numbers of other regular Hessenberg varieties in Lie type A. In this talk, we discuss their results and give another formula which proves that the Betti numbers of regular Hessenberg varieties are palindromic in all Lie types.