



## Mathematics and CS Seminar

# **Perverse sheaves on affine flag varieties and coherent sheaves on the dual Steinberg variety**

**Simon Riche (Université Clermont Auvergne)**

**Host: Tamas Hausel**

We will report on an ongoing project with R. Bezrukavnikov and L. Rider which aims at constructing an equivalence of categories lifting to the categorical level the comparison between the two natural geometric realizations of the affine Hecke algebra of a reductive group: one in terms of constructible sheaves on the associated affine flag variety, and one in terms of coherent sheaves on the Steinberg variety of the Langlands dual group. Such a construction has been obtained by Bezrukavnikov for coefficients in characteristic 0, and the case we now want to consider is that of positive-characteristic coefficients. As of now we have obtained a description of perverse sheaves on the affine flag variety in terms of some "Soergel bimodules", which we will use to related these objects to the dual side. As a first application, we are able to compute stalks of tilting perverse sheaves on the affine flag variety in terms of  $p$ -Kazhdan-Lusztig polynomials.

**Thursday, November 10, 2022 01:00pm - 03:00pm**

ISTA Campus Heinzl Seminar Room (I21.EG.101), Office Building West



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