

SPEAKER: Akshay Venkatesh (Stanford University)

TITLE: Torsion in the homology of arithmetic groups

ABSTRACT: Arithmetic groups can have "a lot" of torsion in their homology; it is anticipated that such torsion will have attached Galois representations, and thereby will play a role in the Langlands program.

In the RTG seminar (and also in the main talk) I'll review the conjectural picture, contrasting the case of torsion homology with the better-understood characteristic zero case.

I will then try to quantify what "a lot" means; joint work with Nicolas Bergeron. Finally, I'll discuss theoretical and numerical evidence pointing towards a Jacquet-Langlands correspondence for torsion homology classes. This is joint work with Frank Calegari.