

Speaker: Romyar Sharifi

Title: Eisenstein cocycles in motivic cohomology

Abstract: I will discuss describe joint work with Akshay Venkatesh on the construction of $GL_2(\mathbb{Z})$ -cocycles valued in second K -groups of the function fields of the squares of the multiplicative group over the rationals and of a universal elliptic curve over a modular curve. I'll explain how these cocycles respectively specialize to explicit homomorphisms taking modular symbols for congruence subgroups to special elements in second cohomology groups of cyclotomic fields and modular curves, and Ill discuss how our methods can be used to prove an Eisenstein property and Hecke-equivariance of the respective maps.