

Speaker: Preston Wake

Title: Quantifying Eisenstein congruence

Abstract: In his landmark paper Modular curves and the Eisenstein ideal, Mazur studied congruences between cusp forms and the Eisenstein series of weight two and prime level N . We'll discuss a new method, using deformation theory of pseudorepresentations, for studying finer information about these and more general congruences. In particular, in Mazur's case, we'll discuss the dimension of the space of such cusp forms, and, in the squarefree level case, we'll discuss the number of generators of the Eisenstein ideal, and explain the arithmetic significance of these numbers. This is joint work with Carl Wang-Erickson.