

SPEAKER: Ken Ribet (UC Berkeley)

TITLE: Eisenstein primes at non-prime levels

ABSTRACT: The aim of this talk is to explain some wrinkles that appear when one begins to generalize Barry Mazur's "Eisenstein ideal" results for $J_0(N)$ to the case where N is not necessarily a prime number. A surprising phenomenon, first uncovered by Calegari–Stein and then explored by H. Yoo, is that kernels of Eisenstein primes are not necessarily two-dimensional over the residue fields of the primes. It remains an interesting question to explore the different levels and "signatures" of newforms that give rise to a fixed mod l Galois representation.