Speaker: Sam Mundy

Title: On the vanishing of Selmer groups for odd orthogonal Galois representations

Abstract: Let π be a cuspidal automorphic representation of Sp_{2n} over $\mathbb{Q}$ which is holomorphic discrete series at infinity. Then one can attach to π an orthogonal p-adic Galois representation ρ of dimension $2n+1$. Assume ρ is irreducible and that π is ordinary at p. I will describe work in progress which then proves that the geometric Selmer group $H^1_g(\mathbb{Q}, \rho)$ attached to ρ vanishes, under some mild ramification assumptions on π; this is what is predicted by the Bloch–Kato conjectures.

The proof goes by constructing p-adic families of cusp forms degenerating to Klingen Eisenstein series of nonclassical weight, and using these families to construct ramified Galois cohomology classes for $\rho^\vee(1)$.