

Speaker: Tonghai Yang

Title: A variant of the Gross-Zagier formula

Abstract:

In this talk, based on joint work with Jan Bruinier, we will outline a new proof of a variant of the original Gross-Zagier formula, directly relating the central derivative of the modular L-function with the height of a point in $J_0(N)$. We will make little use of finite intersection theory. Instead, we will use the modularity of Heegner cycles (Borcherds), and a systematic way to construct Green's function using regularized theta liftings. This work suggests a direct relation between the Faltings' height of a CM cycle on a Shimura variety (of orthogonal type) and the central derivative of some Rankin-Selberg L-series.