

## **abstract**

JOINT IAS/PU NUMBER THEORY SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

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In this talk, we first describe a systematic way to construct 'automorphic Green functions' for Kudla's special divisors on a Shimura variety of orthogonal type  $(n, 2)$ . We then give an explicit formula for their values at a CM cycle. This formula suggests a direct relation between the Faltings' height of these CM cycles with the central derivative of some Rankin-Selberg  $L$ -function. As an application, we also give an 'analytic proof' of the Gross-Zagier formula without computing the local intersection numbers at finite primes. This is a joint work with Jan Bruinier.