

Department of Mathematics, BGU

Colloquium

On Tuesday, May 10, 2016

At 14:30 – 15:30

In Math -101

HENRI DARMON (MCGILL)

will talk about

Elliptic curves and explicit class field theory

ABSTRACT: The arithmetic of elliptic curves is related in multiple ways to explicit class field theory, notably through the theory of $\{ \text{em complex multiplication} \}$, one of the crown jewels of number theory. This connection plays a key role in recent progress in the recent theorem that there are positive proportions of elliptic curves of rank zero, and of rank one, for which the Birch and Swinnerton-Dyer conjecture is true, growing out of the work of Gross-Zagier, Kolyvagin, Bhargava-Shankar, Skinner-Urban-Wan, and Wei Zhang. I will discuss various relations that exist between elliptic curves and explicit class field theory, such as those above.