

Title: The Mahler measure of modular units.

Abstract:

I will discuss work in progress whose aim is to make explicit Beilinson's method to compute the regulator of two modular units on a modular curve. In particular, this would give an explicit evaluation of the Mahler measure of the two variable polynomial relating the two units (if it does not vanish on the torus) in terms of L-functions. Ultimately, the method should extend to yield a proof of, for example, the relation between $m(x_1 + \cdots + x_6)$ and $L(f, 5)$, with f a certain weight 4 modular form of level 6, which holds numerically to high precision.