

ONLINE SEMINAR

ARITHMETIC ALGEBRAIC GEOMETRY

(organizers: Grzegorz Banaszak, Piotr Krasoń)

December 13, 2023, 06:00 PM Warsaw

Tobias Berger, University of Sheffield, UK

$R=T$ theorems for weight one modular forms

Abstract: Since Wiles et al. proved the Taniyama-Shimura Conjecture, many p -adic representations of the absolute Galois group of the rationals have been shown to be modular, i.e., to arise from automorphic forms.

I will present joint work with Kris Klosin (CUNY) on the modularity of residually reducible 2-dimensional representations with determinant a finite order odd character. When this finite order character is quadratic we prove modularity by classical CM weight one forms, otherwise by non-classical weight 1 specialisations of Hida families.