

Colloquium

University of Notre Dame
Department of Mathematics

Brandon Levin - University of Chicago

Speaker: Brandon Levin

University of Chicago



Will give a lecture entitled

Serre's conjecture on modular forms

Date: Friday, December 2, 2016

Time: 4:00 PM

Location: 117 Hayes-Healy Hall

Departmental Tea: Tea in Room 257 (lounge in Hurley Hall) at 3:30 p.

Abstract:

The Langlands program is a far-reaching set of conjectural connections between analytic objects (e.g., modular forms) and arithmetic objects (e.g., elliptic curves). In 1987, Serre made a bold conjecture about modular forms in the spirit of a characteristic p Langlands program. Serre's conjecture (now a Theorem due to Khare-Wintenberger and Kisin) has a number of interesting consequences including Fermat's Last Theorem. This talk will begin with overview of Serre's original conjecture (the two dimensional case). There are now a number of generalizations of this conjecture to higher dimensions. After introducing these higher dimensional analogues, I will describe recent progress towards the weight part of these conjectures. This is joint work with Daniel Le and Bao V. Le Hung.