Algebraic Geometry and Commutative Algebra Seminar

UNIVERSITY OF NOTRE DAME
Department of Mathematics

Speaker: Andrei Jorza
University of Notre Dame

Wednesday, September 14, 2016
3:00 PM
258 Hurley Hall

Title: Derivatives of p-adic L-functions

Abstract:

L-functions are analytic objects attached to a number of arithmetic and analytic objects and are the core identifier of modular forms and Galois representations. For example L-functions uniquely determine the Langlands correspondences and their analytic properties are part of a sweeping series of conjectures that include the Birch and Swinnerton-Dyer conjecture. I will explain my recent work, in collaboration with Daniel Barrera and Mladen Dimitrov, on how to compute derivatives of L-functions in a p-adic analytic setting for (Hilbert) modular forms. The main idea is to express the value of an L-function as an integral over certain geometric cycles and then to prove, geometrically, a factorization formula.