Colloquium

University of Notre Dame
Department of Mathematics

Speaker: John Bergdall

Bryn Mawr College

Will give a lecture entitled

Explicit problems in the p-adic theory of modular forms

Date: Wednesday, April 24, 2019
Time: 4:00 PM
Location: 129 Hayes-Healy Hall
Departmental Tea: Tea in Room 257 (lounge in Hurley Hall) at 3:30 p.m.

Abstract:

Modular functions are complex functions that transform remarkably with respect to Möbius transformations. They are central objects in mathematics, encoding in their Fourier coefficients quantities as varied as the number of representations of integers as sums of squares, the dimensions of irreducible representations of the monster group, and point counts of solutions to cubic equations modulo primes. Our talk will focus on arithmetic questions, with the chief aim being the behavior of Fourier coefficients with respect to the non-Archimedean norm associated with a fixed prime number. The open questions, and sparse results, are in analogy will well-understood, deep, results for the usual complex norm. We will include both historical and more recent results and questions in the talk.