



**Speaker:** Russ Lyons  
Indiana University, Bloomington

Friday, April 27, 2018

4:00 PM

129 Hayes-Healy Hall

**Title:** On the spectrum of homogeneous spaces

**Abstract:**

The Laplacian is a self-adjoint operator of importance in many areas of mathematics, science, and engineering, including mathematical physics, harmonic analysis, geometry, automorphic forms, and probability. The eigenvalues and eigenfunctions are of particular interest, and much effort has been devoted to estimating them. In this talk, we describe some new estimates of eigenvalues of the Laplacian associated to homogeneous spaces, that is, spaces whose group of self-isometries acts transitively. Our main proof is geometric, rather than analytic. This is joint work with Chris Judge. Only undergraduate mathematics will be needed to follow the talk.