

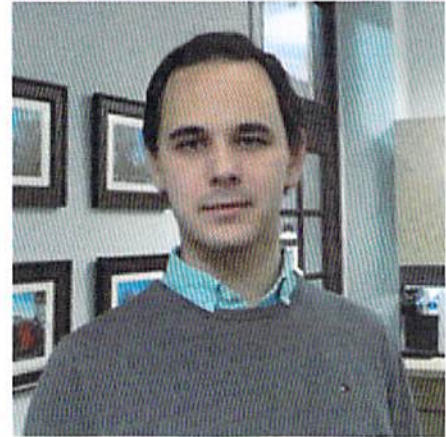
## ***GEOMETRIC ANALYSIS SEMINAR***

**Speaker: Ilya Marchenka**  
**University of Notre Dame**

**Date:** Thursday, February 27, 2020

**Time:** 11:00 AM

**Location:** 258 Hurley Hall



***Lecture Title:***  
**Nodal Sets of Laplace Eigenfunctions II**

***Abstract***

We conclude our discussion of doubling index and use the properties of doubling index we have shown to establish an upper bound for the volume of zero sets of Laplace eigenfunctions. Namely, we show Logunov's result that for a Laplace eigenfunction  $\varphi$  on a smooth compact Riemannian manifold  $(M^n, g)$  without boundary, there are constants  $\alpha = \alpha(n)$  and  $C = C(M, g)$  such that  $H^{n-1}(\varphi^{-1}(0)) \leq C\lambda^\alpha$  where  $\lambda$  is the eigenvalue of  $\varphi$ .