

***GRADUATE STUDENT GEOMETRY
SEMINAR***

Guest Speaker: Jui-Yun Hung

University of Notre Dame

Date: Wednesday, September 28, 2022

Time: 2:00 PM

Location: 258 Hurley Hall

Zoom URL: notredame.zoom.us/j/7896522205

Lecture Title:

Regularity of the Distance Function

Abstract

In this talk, we will discuss the regularity of the distance function of C^k and $C^{k,\alpha}$ domains (not necessarily bounded) in \mathbb{R}^n , where $k \geq 2$, $\alpha \in (0, 1]$. I will prove the tubular neighborhood theorem for properly embedded hypersurfaces in \mathbb{R}^n first and deduce a simple property of distance function to calculate the gradient. In the end, I will give an example of a $C^{1,\alpha}$ -domain whose distance function is not differentiable in any neighborhoods of the boundary.