

TOPOLOGY SEMINAR

Guest Speaker: Larry Taylor

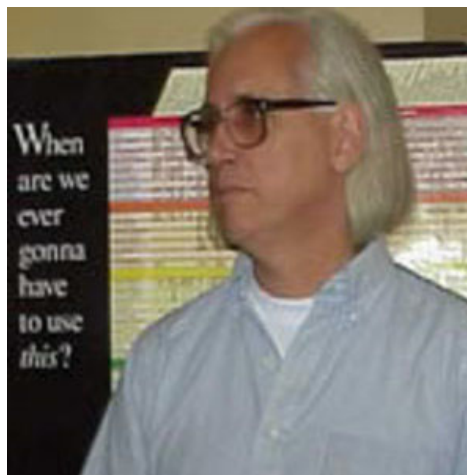
University of Notre Dame

Date: Tuesday, September 5, 2023

Time: 2:30 PM

Location: 258 Hurley Hall

Zoom Link: NA



Lecture Title:

Riemannian Borsuk-Ulam Theorem

Abstract

The usual Borsuk-Ulam Theorem says that given a map $f: S^n \rightarrow \mathbb{R}^n$, there exists a pair of antipodal points $x, -x$ such that $f(x) = f(-x)$. Less precisely, one could say there exist two points “far apart” with the same f -value. In Riemannian geometry there is a notion of “far apart”. In a Riemannian manifold M^n , two points are “far apart” if one is on the cut-locus of the other. A weak version of the Riemannian Borsuk-Ulam Theorem says that if $f: M^n \rightarrow \mathbb{R}^n$ is a map with M a closed, compact, smooth Riemannian n -dimensional manifold, then there are two points x, y in M with x in the cut-locus of y and with $f(x) = f(y)$.