

Algebra/Topology Seminar

PETER BUBENIK
University of Florida

PERSISTENT HOMOLOGY USING CLOSURE SPACES

Thursday, February 20, 2025
3:00 p.m. in SS-256

ABSTRACT. In topological data analysis (TDA), one considers both discrete and continuous structures (e.g., finite metric spaces and topological spaces). I will introduce Čech's closure spaces and show how they can be used to give a common framework for many of the structures and constructions of TDA. Our main result is a geometric stability theorem, in which homotopy-invariant functors turn correspondences into interleavings.

This is joint work with Nikola Milićević (Penn State).