

Speaker: Jennifer Wilson
Stanford University

Wednesday, November 15, 2017

4:00 PM

129 Hayes-Healy Hall

Title: Stability in the homology of configuration spaces

Abstract:

This talk will illustrate some patterns in the homology of the space $F_k(M)$ of ordered k -tuples of distinct points in a manifold M . For a fixed manifold M , as k increases, we might expect the topology of the configuration spaces $F_k(M)$ to become increasingly complicated. Church and others showed, however, that when M is connected and open, there is a representation-theoretic sense in which the homology groups of these configuration spaces stabilize. In this talk I will explain these stability patterns, and describe higher-order stability phenomena -- relationships between unstable homology classes in different degrees -- established in recent work joint with Jeremy Miller. This project was inspired by work-in-progress of Galatius--Kupers--Randal-Williams.

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