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Title: Topological rigidity in Dehn twist homotopic classes

Abstract: Every orientation-preserving homeomorphism of the 2-torus without periodic orbits is either homotopic to the identity or (conjugate to a homeomorphism homotopic) to a Dehn twist. It is well known that the identity homotopy class is highly flexible and encompasses a rich variety of dynamics among periodic-point-free homeomorphisms.

In this talk, however, we will explore how Dehn twist homotopy classes exhibit much greater topological rigidity. We will demonstrate that every non-wandering, periodic-point-free homeomorphism within such a homotopy class is semi-conjugate to an irrational circle rotation.

This is joint work with Ulisses Lakatos.