

 **Topology Seminar at Texas State**

When: Friday, January 20, 2023, 11:00 a.m.

Where: DERR 333 *and* ZOOM (Zoom info at bottom of page)

Presenter: Kate Poirer (New York City College of Technology)

Title/Topic: Combinatorics in string topology

Abstract: String topology studies algebraic structures arising from intersecting loops. Here, a “loop” could mean a topological object or it could mean an algebraic one. Over the years, isomorphisms between the topological and algebraic sides have been shown to preserve at least some of these “intersection” structures, so one might ask: what is the richest such structure that is preserved? As a first step toward an answer, we investigate the spaces of operations—spaces of graphs—on either side. In this talk, we’ll use lots of pictures to present a surprising yet elementary combinatorial result: that two relevant spaces of trees—one from the topological side and one from the algebraic side—are equivalent. Along the way we’ll meet polyhedra called “associpahedra” and see a relationship with the moduli space of Riemann surfaces. This is joint work in progress with Thomas Tradler.

Zoom Information

Meeting URL (click this)

Meeting ID: 977 0390 3382

Password: manifolds