

TOPOLOGY SEMINAR

Guest Speaker: Lukas Lewark
Universität Regensburg

Date: Tuesday, February 8, 2022

Time: 2:30 PM

Location: Zoom

Zoom Link: notredame.zoom.us/j/97262637721

Lecture Title:

Khovanov homology and rational unknotting

Abstract

In this talk, we will see a new geometric application of Khovanov homology. More specifically, we'll work with universal Khovanov homology, which associates to a knot a $Z[x]$ -complex C (up to homotopy), such that $C/(x=1)$ has homology Z . We'll define a metric on such $Z[x]$ -complexes. This metric turns out to provide a lower bound for the proper rational unknotting number, i.e. the minimal number of connectivity preserving rational tangle replacements needed to make a knot trivial. The talk requires no previous knowledge of Khovanov homology or rational tangles. It is based on joint work with Damian Iltgen and Laura Marino (see <https://arxiv.org/abs/2110.15107>)

