Department of Mathematics and Computer Science

Friday, September 16, 2016, 4:10 pm

COLLOQUIUM TALK

Speaker: Susan Brooks (WIU)

Old Main 2231

Knots Connected by Wide Ribbons

Abstract:

The geometry and topology of thin ribbons has been extensively studied. In the 1960s and 1970s, Calugareanu, White, and Fuller independently observed the relationship that is best known as "Link = Twist + Writhe." However, it appears as though little research has been done in the way of wide ribbons. When ribbons are very thin, the knot types of the outer ribbon edges are ambient isotopic. In this talk, we address the question of how the knot types of the ribbon edges are related as the width of the ribbon is allowed to increase indefinitely. We will show that, generically, the outer ribbon edge eventually stabilizes to an embedded knot. We will also analyze a potential obstruction of the uniqueness of limiting knot types.

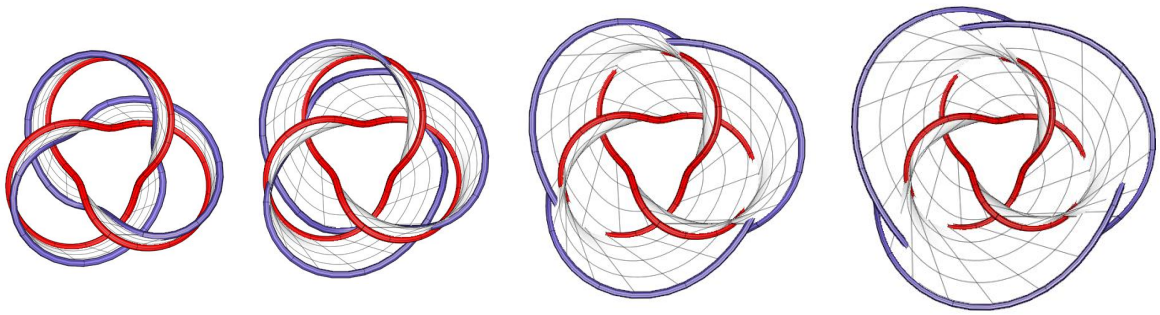

Figure 1: Right-hand trefoil flips to left-hand as ribbon gets wider

SNACKS IN FACULTY LOUNGE AT 3:30 PM.
EVERYONE WELCOME (EVEN IF YOU ARE UNABLE TO ATTEND THE TALK)