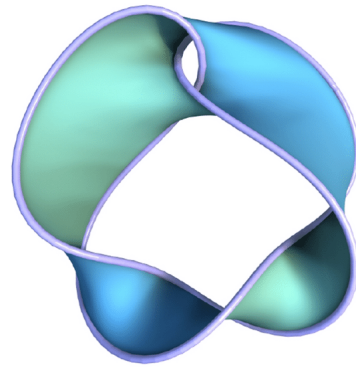


Oberseminar Geometrie
Department of Mathematics
University of Fribourg
Lecture room 2.52 Physics
Wednesday December 21, 2022, 10:20



LUKAS LEWARK (UNI REGENSBURG)

Unknotting, untwisting and surfaces in 4-space

The unknotting number of a knot, introduced 85 years ago, is the minimal number of times one strand has to pass through another to make the knot trivial. We will compare the unknotting number to other geometric measures of complexity of knots, and discuss why it is so hard to compute even for unpretentious knots. Then, we will shift our focus to the untwisting number, which is a generalization of the unknotting number. We will examine the relationships between unknotting number, untwisting number, and surfaces in 4-dimensional space, and we will compute the untwisting number of knots that arise as closures of certain braids.