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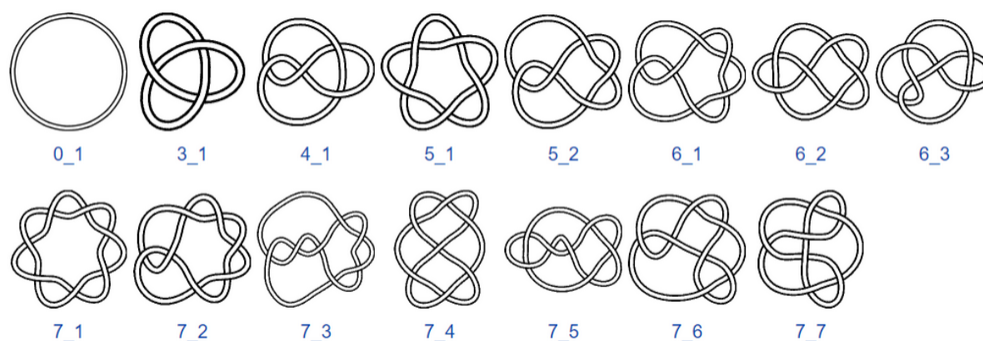
Department of Mathematics

AMS Graduate Student Seminar

Joe Lopez

An Introduction to Knot Theory

Friday, November 8, 2019,
2:30 p.m. Hume 331



Abstract: When looking at DNA within a cell, how do we study the structure? One answer is to unknot the DNA. In order for cellular replication to occur, quickly knotted DNA must unknot itself. We can study and answer this question in Knot theory. A Knot is a smooth embedding $f : S^1 \rightarrow \mathbb{R}^3$. Knot theory is the study of loops in 3-dimensional space. Knot theory is a modern branch of mathematics and a subbranch of Topology. The largest objective of Knot Theory is classifying all Knots. In this talk, we will go over the following:

- What is a Knot?
- Classical Knot Invariants.
- Computing Knot Invariants.
- Conjectures in Knot Theory.