

The project is about knot theory, that is a theory dealing with tangled circles in a three-dimensional space. Given two tangled circles we may ask if we can pass from one to another without breaking the circle. Mathematical approach to this problem is to define some knot invariants (like numbers, but sometimes also more complicated objects); if for two circles some knot invariants differ, it means we cannot pass from one to another without tearing off the circle.

We are going to study some specific knot invariants, called knot homologies, and research two specific classes of knots, namely periodic knots and quasipositive knots.