

Title: Conway's tangles through weaving

Abstract: A tangle is a representation of a (small) portion of a knot—two “tangled” strands with loose ends. Conway taught us to classify certain kinds of tangles, called rational tangles, by associating to each a continued fraction for a rational number.

The theory of rational tangles is difficult for new learners because of the large number of (layered) symmetries involved and the challenge of putting the tangle into a canonical form. In joint work with Mark Ronnenberg, we show how to use a highly symmetric form of such tangles, called weaves, to simplify and streamline the theory.