

1163-57-1614 **Andrew DuCharme** and **Emily Peters*** (epeters3@luc.edu). *Combinatorial Random Knots*.

We explore free knot diagrams, which are projections of knots into the plane which don't record over/under data at crossings. We consider the combinatorial question of which free knot diagrams give which knots and with what probability. Every free knot diagram is proven to produce trefoil knots, and certain simple families of free knots are completely worked out. We make some conjectures (supported by computer-generated data) about bounds on the probability of a knot arising from a fixed free diagram being the unknot, trefoil, or figure eight knot. (Received September 15, 2020)