Imagine taking a thin rectangular strip of paper and tying a knot in it. Now press the knot flat so that the ribbon is folded, origami style. We can generalize this construction to model knots as folded ribbons lying in the plane. The ribbonlength of a knot is the length of the knot diagram divided by the width of the ribbon around it.

In this introductory talk, we’ll explain what a knot is, discuss the construction of folded ribbon knots, and give examples of folded ribbon knots and their ribbonlength. We’ll also discuss the topology of folded ribbon knots, and the problem of minimizing ribbonlength for a given knot type – it turns out there are several good candidates for this notion. This is joint work with undergraduate students from Smith College and Washington & Lee University. The talk will be accessible to all undergraduates.

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