

1145-J1-2169 **Adam Giambrone*** (agiambrone@elmira.edu). *Using Tangle Toys to Explore Ideas in Knot Theory.*

If a knot is tied using a piece of rope and the ends are fused together, then a knotted loop is created. We would like to allow ourselves to manipulate our knotted loops so that we consider two knotted loops equivalent if one knotted loop can be deformed to create the other. A key question in knot theory is whether or not two given knotted loops are equivalent. By working with Tangle toys, students can create and deform their own knotted loops, forming their own conjectures and increasing their visualization skills along the way. Additionally, after enough exploration, the need for a common language and a way to depict knotted loops becomes clear. This talk will give audience members the chance to experience the fun of hands-on exploration, with the hope that both students and educators leave with new ideas. (Received September 24, 2018)