Abstract:

Have you ever seen how taffy is made? A machine repeatedly stretches a large wad of taffy over several rotating metal rods. By closely watching the rods turn, you can see the outline of a knotted-up curve in the air. This observation leads to a rich and delicious connection between the mechanics of taffy pullers and the geometry of knots. I'll describe one facet of this connection, related to fixed points and mixing problems, which has been helpful recently in understanding some complicated gadgets used to study knots.