1137-57-91 **Alexandra Kjuchukova*** (kjuchukova@wisc.edu), 480 Lincoln Dr, Madison, WI 53706, and **Sebastian Baader**. *Symmetric quotients of knot groups and the Gordian graph.*

The classical Fox p-colorings of knot diagrams capture the existence of homomorphisms from knot groups to the dihedral group D_p. I will discuss colorings of knot diagrams which capture homomorphisms to the symmetric group S_n. Specifically, I will focus on $\binom{n}{2}$-colorings, which encode homomorphims mapping meridians of the knot to transpositions in the symmetric group. I will use these colorings to prove the existence of a 1-dense metric filtration of the Gordian graph. $\binom{n}{2}$-coloring are also a powerful tool for obtaining strong lower bounds on the meridional rank (and bridge number) of knots.

This is joint work with Sebastian Baader.

(Reference: https://arxiv.org/abs/1711.08144) (Received January 28, 2018)