

# Algebra/Topology Seminar

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## GEOMETRIC COMBINATORICS OF COMPLEX POLYNOMIALS

Thursday, April 6, 2023

3:00 p.m. in BB-B008

ABSTRACT. There are two commonly-used presentations for the braid group. In Artin's original presentation, we linearly order the  $n$  strands and use  $n - 1$  half-twists between adjacent strands to generate the group. The dual presentation, defined by Birman, Ko, and Lee in 1998, introduces additional symmetry by using the larger generating set of all half-twists between any pair of strands. Each presentation has an associated cell complex which is a classifying space for the braid group: the Salvetti complex for the standard presentation and the dual braid complex for the dual presentation. In this talk, I will present a combinatorial perspective for complex polynomials which comes from the dual presentation and describe how this leads to a cell structure for the space of complex polynomials which arises from the dual braid complex. This is joint work with Jon McCammond.