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TWISTS OF THE RABBIT POLYNOMIAL

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[Mentor: Justin Lanier]

**Abstract of Poster Presentation:** Every polynomial gives a branched cover of the complex plane over itself. The rabbit, corabbit, and airplane are three special quadratic polynomials that each fix three points setwise. Post-composing the rabbit polynomial with a pure mapping class produces a branched cover equivalent to one of the three polynomials. Determining which mapping classes yield which polynomials is the "twisted rabbit problem." This was solved in a breakthrough by Bartholdi and Nekrashevych in 2006. We set out to find and characterize subgroups of the mapping class group where every element produces a rabbit. Few examples were previously known. We have discovered infinitely many more.

[Joint work with Santana Afton, Justin Lanier, Xian Li]

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