1077-37-2716 **Rafe Jones*** (rjones@holycross.edu). *Fixed-point-free elements of iterated monodromy groups.* Preliminary report.

I will define the iterated monodromy group of a post-critically finite complex polynomial, and explain how it acts naturally on the tree T of preimages of a generic point. I'll then give a theorem showing that for nearly all non-Chebyshev polynomials, the set of group elements fixing at least one point on the boundary of T has Haar measure zero. Finally, I'll give a brief sketch of how these ideas relate to a natural question about the density of periodic orbits in dynamics over the algebraic closure of a finite field. (Received September 22, 2011)