1145-00-2091 **Sarah Elizabeth Lubow*** (selubow@my.loyno.edu), 7214 St. Charles Ave., Box 521, New Orleans, LA 70118, and **Carlie J. Triplitt**, ctri8247@usao.edu. *Vertex-Minimal Planar Graphs with Prescribed Automorphism Groups.* Preliminary report.

In 1939, Frucht proved that for any finite group G, there exists a graph Γ such that the automorphism group of Γ is isomorphic to G. Naturally, this result gave rise to numerous extremal problems in graph theory. For instance, vertex-minimal graphs with a prescribed automorphism group are the subject of prior research by numerous authors. In this talk, we will discuss our proof of a conjecture made in 1980 by Marušič on the order of vertex-minimal planar graphs with cyclic symmetry of even order. Our proof completes a theorem giving the order of all vertex-minimal planar graphs with cyclic automorphism groups. We will also discuss further our proof regarding the order of vertex-minimal planar graphs with dihedral symmetry. (Received September 24, 2018)