1035-Z1-917 **Marian Deaconescu**, Department of MCS, Box 5969, Kuwait University, 13060 Safat, Kuwait, and **Gary L Walls*** (gwalls@mail.wtamu.edu), Dept of MCP Box 60787, West Texas A&M University, Canyon, TX 79015. *On Orbits of Automorphism Groups.*

Let G be a finite group, $A \subseteq Aut(G)$, and let $C_G(A)$ denote the fixed-point subgroup of A in G. The main idea in this talk is to investigate the fact that if $F \subseteq C_G(A)$, then F acts (possibly trivially) on the set of orbits of A in G. The set of stabilizers in F of the orbits of A in G can be effectively computed and used to derive intersting consequences if more is known about either A or F.

One such result is that if $|F|$ and the number of orbits of A in G are coprime, then $F \subseteq [G, A]$ and $core_G(F) \subseteq Z(G, A)$. (Received September 17, 2007)