1128-16-97   **Robert Won*** (`wonrj@wfu.edu`), **Jason Gaddis**, **Ellen Kirkman** and **W. Frank Moore**.
Auslander's Theorem for permutation actions on noncommutative algebras.

Let k be an algebraically closed field of characteristic zero. Let G be a small finite subgroup of $GL_n(k)$ acting linearly on $A = k[x_1, \ldots, x_n]$. Auslander's Theorem states that the skew group ring $A\#G$ is naturally isomorphic as a graded algebra to the endomorphism ring $\mathrm{End}_{A^G}(A)$. In recent work, Bao, He, and Zhang introduced a new invariant, called pertinency, associated to a Hopf algebra action on a k-algebra. They then use pertinency to prove Auslander's Theorem for several classes of noncommutative rings. In this talk, I will discuss ongoing work with Gaddis, Kirkman, and Moore in which we use pertinency to prove Auslander's Theorem for permutation actions on certain noncommutative rings. (Received February 16, 2017)