1044-05-211 **Michael Ferrara**, **Colton Magnant** and **Jeffrey Powell*** (JSPOWEL1@samford.edu), Dept. of Mathematics & Computer Science, 800 Lakeshore Drive, Birminhgam, AL 35229. *Minimum Degree Conditions for Subdivision Extensions and Pan-H-linked Graphs.*

For a multigraph H, an H-subdivision is any graph obtained by replacing the edges of H with paths of arbitrary length. Many well-known minimum degree results in graph theory give the minimum degree needed to either increase the order of an embedded subdivision by one vertex (e.g. panconnected, pancyclic) or to find a spanning H-subdivision (e.g. Dirac's Theorem where H is a loop). For the spanning subdivision case, a recent result by Gould and Whalen states that if $\delta(G) \geq \frac{n+m-k+n_1(H)+2n_0(H)}{2}$, then there exists a spanning subdivision of H in G. Their result has Dirac's Theorem as a corollary.

In this talk, we focus on increasing the order of subdivisions by one vertex. In particular, we present a result that shows that for most graphs H, the exact same minimum degree condition above implies that any H-subdivision on a particular ground set of vertices can be extended to an H-subdivision on the same ground set containing one more vertex. This result is in the spirit of Bondy's result that Dirac's condition ($\delta(G) \geq \frac{n}{2}$) also implies that G is either pancyclic or a complete bipartite graph. The concept of a pan-H-linked graph, which is a generalization of panclyclic and panconnected graphs, is introduced as well. (Received September 02, 2008)