Combinatorics Seminar

Friday, Oct. 9, 2009

2:00 pm in Hume 331

Dr. Bill Staton

Department of Mathematics
University of Mississippi

On the shell of some graphs

ABSTRACT

Let G be a graph such that each vertex of G is contained in a $(k+1)$-clique for a positive integer k. We define the **shell of** G, denoted by $Sh(G)$ as follows: The vertex set of $Sh(G)$ consists of all distinct $(k+1)$-cliques of G and two vertices in $Sh(G)$ are adjacent if and only if the corresponding $(k+1)$-cliques have k vertices in common. If $k=1$, $Sh(G)$ will be the line graph of G. If G is a k-tree with at least $k+1$ vertices, each vertex of G is contained in a $(k+1)$-clique. In this talk, we will focus our attention on the shell of k-trees. Some properties and results on independence polynomials of the shells of k-trees will be presented and some related research problems will be proposed.