Convexity on Graphs

Abstract: An alignment (or convexity) on a finite set $V$ is a collection of subsets of $V$ containing the empty set, and the whole set $V$, and is closed under intersection; this forms a natural combinatorial generalization of convexity in euclidean space. Now let $G$ be a graph of order $n$. A subset $C$ of vertices of $G$ is $g$-convex if for every pair of vertices $u, v \in C$ the vertices on every $u - v$ geodesic (i.e. shortest $u - v$ path) belong to $C$. The set of $g$-convex subsets of a graph are an interesting subfamily of alignments. In this talk we will discuss various aspects of $g$-convexity as well as connections to subtrees of a tree and node reliability. (The research is joint with O. Oellermann and L. Mol.)

All Faculty, staff, students and guests are welcome to attend