
SUSAN MOREY, Texas State University

Depths and Cohen-Macaulay Properties of Monomial Ideals

This talk will focus on classes of monomial ideals that have a graphical representation. Classes will include square-free monomial ideals, which have a variety of representations including edge ideals of clutters or generalizations of path ideals of graphs. The talk will also include classes of monomial ideals that while not square-free, still have a graphical representation, such as edge ideals of directed graphs, powers of edge ideals or polarizations of monomial ideals. The goal will be to use a combination of algebraic and combinatorial techniques to determine information about depth properties of these ideals, with a particular interest in when the ideals are Cohen-Macaulay.