TEXAS STATE UNIVERSITY ®

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Discrete Mathematics Seminar

Time: Friday, November 30, 2018, 2:15-3:15 PM
Room: 330 Derrick Hall
Title: Edge Erasure and Chordal Graphs with Applications to Data Clustering
Speaker: Dr. Peter Stiller, Department of Mathematics, Texas A&M University

Abstract:

We prove several results about chordal graphs and weighted chordal graphs by focusing on exposed edges. These are edges that are properly contained in a single maximal complete subgraph. This leads to a characterization of chordal graphs via deletions of a sequence of exposed edges from a complete graph. Most interesting is that in this context the connected components of the edge-induced subgraph of exposed edges are 2-edge connected. We use this latter fact in the weighted case to give a modified version of Kruskal's second algorithm for finding a minimum spanning tree in a weighted chordal graph. This modified algorithm benefits from being local in an important sense.