Colloquium Series

The Reconfigurations of Metric Bases

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Abstract: Suppose you have a graph G. Consider a marked vertex in G as a landmark. Our aim is to identify each vertex in G based on its distance from the landmark. Sometimes this is not possible with a single landmark. The metric dimension of a graph is the minimum number of landmarks to achieve this goal. Such a set of landmarks is said to resolve G, and note that there are sometimes many ways to form a resolving set as defined. We will study how related the resolving sets are to each other via reconfiguration graphs which use a reconfiguration step as a means of geometrically illustrating relationships between resolving sets. We will start with graph theory and slowly integrate an algebraic framework into our results.

Keywords: Graph Theory, Abstract Algebra, Combinatorics, Metric Dimension, Reconfiguration, and Cayley Graphs.

Wednesday, February 23, 1:05 – 1:50 pm

For more info visit the department website for the colloquium