



Discrete Mathematics Seminar

Time: Friday, September 21, 2018, 2:15 - 3:15 PM
Location: 330 Derrick Hall
Title: Comma Categories, Part II: Simple Graphs, Digraphs, & Incidence Structures
Speaker: Dr. William Grilliette, Department of Mathematics, Texas State University

Abstract:

A comma category is a construction, which merges two categories by means of functors into a third. Under certain conditions, an object of a comma category can be reduced to a “simple” object, creating a reflective subcategory of simple objects. This construction generalizes the passage of a multigraph to a simple graph in several contexts: set-system hypergraphs, quivers, and incidence hypergraphs. Moreover, these categories of simple objects are equivalent to sets equipped with a set-system or a binary relation, unifying some disparate definitions of “graph”.