

# Discrete Mathematics Seminar

Illinois State University

2:00–2:50 pm, October 3@ STV 121

Speaker: Dan Roberts, Illinois Wesleyan University

## Multidesigns for directed graphs and hypergraphs

Given two graphs  $G$  and  $H$ , a  $(G, H)$ -multidesign of order  $n$  is a partition of the edges of  $K_n$  into subgraphs that are isomorphic to either  $G$  or  $H$ , and at least one copy of each is present. The construction of  $(G, H)$ -multidesigns has been studied for different choices of  $G$  and  $H$ , including when  $G$  and  $H$  form a graph pair. A graph pair is a pair of non-isomorphic graphs with no isolated vertices whose union is a complete graph. In this talk we will examine the same problem for directed graphs and hypergraphs.

