

# Generalized Turán problems and a new localized approach

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## Abstract

The interplay between local and global properties of graphs is central to extremal graph theory. In generalized Turán problems we aim to determine which graphs  $G$  maximize the number of copies of a subgraph  $H$ , subject to a global constraint on how large  $G$  can be and a local constraint forbidding a graph  $F$  from being a subgraph of  $G$ . In this talk I will present a series of related theorems on generalized Turán problems where we maximize the number of  $t$ -cliques ( $H = K_t$ ), including some joint work with Jamie Radcliffe. Then I'll share my recent research on a localized approach to generalized Turán problems, which is joint work with JD Nir.

**Keywords:** Turán graph, forbidden subgraph,  $t$ -clique.