

## *The structure of hypergraph Turán densities*

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**Time: Apr 14th, 11:00 - 12:00**

**Venue: Room 102, SCMS**

**Abstract:** Since suggested by Turán in 1941, determining the Turán density of hypergraphs has been a notoriously difficult problem at the center of extremal combinatorics. Roughly speaking, the Turán density  $\pi(F)$  of a hypergraph  $F$  is the threshold of the edge density above which large hypergraphs are guaranteed to contain a copy of  $F$ . Over the past decade, some progress was made in understanding the set of all Turán densities, i.e.,

$$\Pi^{(k)} = \{\pi(F) : F \text{ is a } k\text{-uniform hypergraph}\},$$

as well as its variants. In this talk, we discuss recent results and methods that are part of this development.

Based on several joint works with different subsets of Conlon, Lamaison, Li, Liu, Liu, King, Piga, Sales, Sun, Wang, Wu, Yang, and Zhang.