TAMON STEPHEN, Simon Fraser University
Hypergraph Transversal Pairs Near the Fredman-Khachiyan Bound

The Fredman-Khachiyan algorithm generates the transversal of a hypergraph in incremental quasi-polynomial time. It is a recursive algorithm which focuses on the most frequent vertex in terms of the number of edges in either the hypergraph or its transversal. Hypergraphs where this maximum fre- quency is low are therefore of interest. This gives a group of related optimization questions for hypergraph-transversal pairs. Here we present some preliminary extremal results.

Besides using classic combinatorial constructions, we adapt Wagner's deep reinforcement learning scheme from graphs to hypergraphs to help find some unexpected examples.

This is joint work with Parsa Salimi.