Gallai-Ramsey numbers for finding a rainbow triangle or some small monochromatic subgraphs

Colton Magnant*, Georgia Southern University

Given graphs $G$ and $H$, the $k$-color Gallai-Ramsey number $gr_k(G : H)$ is defined to be the minimum integer $N$ such that for all $n \geq N$, every $k$-coloring of the edges of $K_n$ contains either a rainbow colored copy of $G$ as a subgraph or a monochromatic copy of $H$ as a subgraph. Most commonly, we consider the case where $G = K_3$ because of a structural result of Gallai. The possibilities for $H$ are endless. In this talk, we will discuss some known results and some new results for several choices of $H$.

Keywords: Gallai-Ramsey, edge-coloring, colored subgraphs