THE UNIVERSITY of
MISSISSIPPI

Combinatorics Seminar

Tuesday, May 1, 2018

1:00PM in Hume 321

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Multicolor Gallai-Ramsey Numbers of Cycles and Paths

ABSTRACT

Ramsey theory dates back to the 1930's and computing Ramsey numbers is a notoriously difficult problem in combinatorics. We study Ramsey numbers of graphs in Gallai colorings, where a Gallai coloring is a coloring of the edges of a complete graph such that no triangle has all its edges colored differently. Given an integer $k \geq 1$ and "forbidden" graphs $H_1, \ldots, H_k$, the Gallai-Ramsey number $GR(H_1, \ldots, H_k)$ is the least integer n such that every Gallai coloring of the complete graph K_n using k colors contains a monochromatic copy of H_i in color i for some $i \in \{1, \ldots, k\}$. Gallai-Ramsey numbers are more well-behaved, though computing them is far from trivial. In this talk, I will present our recent results on Gallai-Ramsey numbers of cycles and paths.

This is joint work with Christian Bosse and Jingmei Zhang.