
SEAN ENGLISH, Ryerson University
Catching Robbers Quickly and Efficiently

Cops and Robbers is a game played on a graph in which a team of cops try to catch a moving robber. In this talk we will discuss *cop throttling*, in which we are concerned with catching the robber quickly. The *capture time* with k cops, $\text{capt}_k(G)$, is the length of the longest game of Cops and Robbers possible, assuming optimal play. The *cop throttling number* is given by

$$\text{th}_c(G) := \min_k \{k + \text{capt}_k(G)\}.$$

We will give background on Cops and Robbers, and then show that the cop throttling number grows sublinearly with $|V(G)|$. This project was joint work with Anthony Bonato.