BILL KINNERSLEY, University of Rhode Island
Bounds on the Capture Time of Graphs

The study of Cops and Robbers has historically focused on the *cop number*, the minimum number of cops needed to capture a robber on some graph. Less attention has been given to the *capture time*, the minimum number of turns needed for the cops to win. It is straightforward to show that every n-vertex graph with cop number k has capture time $O(n^{k+1})$, but constructing graphs with large capture time has proved difficult. In this talk we show that, perhaps surprisingly, the easy upper bound of $O(n^{k+1})$ is asymptotically tight.