

# BI-CO MATHEMATICS COLLOQUIUM

**Carolyn Reinhart**

*Swarthmore College*

## ***“The Game of Cops and Robbers on Graphs”***

***Monday, March 18, 2023***

*Talk at 4:15 - Hilles 109*

*Tea at 4:00 – Foyer outside of Hilles 109*

### **Abstract:**

Cops and Robbers is a graph game where some number of cops and robbers take turns moving along the edges of a graph. In the traditional game, the cops wish to capture a single robber as quickly as possible and the robber wishes to evade capture for as long as possible. Many variants of the game exist and some of the questions we can ask include: How many cops are needed to guarantee capture of the robber on a certain graph? How long will it take the cops to capture the robber? Can we be more efficient by using more than the minimum number of cops and capturing the robber more quickly? What if rather than capturing the robber, the cops want to prevent them from damaging vertices? In this talk, we will explore these questions and more.

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