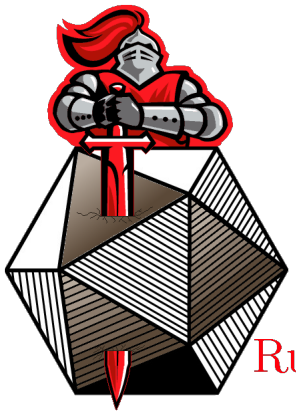

# RUMA

Rutgers Undergraduate Mathematics Association

presents...

# Weakening the Axiom of Choice

## A Lecture by Brian Pinsky

Dept. of Mathematics, Rutgers University

Abstract:

You and your countably many friends are being held captive by an evil set theorist. Tomorrow, they will give each of you a hat that is one of countably many colors (multiple people may have the same color). Then you will all simultaneously try to guess your hat's color. You can see everyone else's hat, but not your own. You lose if infinitely many of your friends guess wrong.

Assuming the axiom of choice, your friends have a winning strategy. However, assuming the axiom of choice lets the evil set theorist cheat and Banach-Tarski the finite set of friends who guess wrong into infinitely many friends, and you still lose.

Is there an axiom that is strong enough for your friends to win, but too weak for the set theorist to cheat? In this talk, we'll explore strictly weaker versions of the axiom of choice, and hopefully find an answer.

## Wednesday
## February 23, 2022
## Hill 705 at 7:00 pm

**Pizza and refreshments will be served*

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