Dice Games: Winning Fair and Square

There exist red, blue, and green dice such that red is expected to roll higher than blue, blue higher than green, and green higher than red. Such dice are called non-transitive dice. There exist several interesting sets of dice, such as Oscar’s dice or Grime’s dice, that have the property that a three-player game can be played with such dice in which one player expected to beat the other two. In this talk, we explore dice with similar properties, look at a related problem of Erdős, and change up the rules of these dice games a bit.