

Department of Mathematics and Statistics Colloquium

How Fair Is That Ranking? A Mathematician Looks at the AP College Basketball Poll

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Abstract: For many Americans, March means college basketball and arguing about seeds and rankings. One of the most longstanding rankings that comes out before the NCAA tournament committee releases the bracket is the weekly Associated Press (AP) poll of sportswriters from across the country. The AP uses a point system to combine the votes into its Top 25 ranking of college basketball teams, and they also release the ballots of the individual sportswriters. In this talk, we will see how we can use these ballots to construct a more nuanced mathematical model that focuses solely on consensus between the voters. For example, in week 15, all the voters ranked Gonzaga above Kansas, but some voters ranked Gonzaga above Villanova and others ranked Gonzaga below Villanova, so there was no consensus on the relationship between those two teams. This model gives rise to what we call a partially ordered set (or poset for short). A property of posets known as linear discrepancy provides a way of quantifying how fair a ranking is in relation to the consensus. This will give us one way of discussing if the ranking the AP points system arrives at is as fair as possible. We can (and will!) also identify individual voters whose ballots are unfair under this measure.

Monday, February 27 at 3:45 in Roop 103

refreshments at 3:30