Mathematics Monday

Math Factor/Math Department Seminar

Oct 21 - 1:30 pm - TY 365

Title: Do We Vote the Right Way?

Speaker: Alan Parry, Associate Professor and immediate past Chair,
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Abstract: The traditional voting method in the United States uses a single-choice ballot and selects as winner the candidate that receives the largest number of votes. Since this number of votes might not be a majority, but only a plurality, this type of voting is called plurality voting. But is this a good way to vote? Another method that has recently been piloted in Utah is a method that uses a ranked-choice ballot, and a round-by-round method called instant-runoff. In each round, if no candidate has a majority of top votes, then the candidate with the fewest is eliminated and those ballots that listed the eliminated candidate as the top choice are reallocated to the next highest choice. This continues until a candidate has a majority in a round. But is this a good way to vote? Are there other methods besides these two? And what exactly makes a voting method good anyway?

In this talk, we apply mathematical game theory to this question, discussing the mathematics of voting and what makes an election method effective. To do this, we use the purpose of voting as a guiding lens to evaluate election methods. We will also present several different kinds of election methods as well as known results about elections including ones that suggest where two-party systems arise and whether there is one perfect election method.

Refreshments will be served.