Professor uses math model to predict Yanks and Twins to advance to league championship

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The New York Yankees have better than a 3 in 4 chance of defeating the Detroit Tigers in their best of 5 series beginning tonight, said Bruce Bukiet, PhD, associate professor in the department of mathematical sciences at New Jersey Institute of Technology (NJIT).

Bukiet's mathematical model, which was published in the journal *Operations Research*, computes the probability of a team winning a game against another team with given hitters, bench, starting pitcher, relievers and home field advantage.

In the other American League (AL) match-up, Bukiet said that the Minnesota Twins have a 71 percent chance of defeating the Oakland A's. "So, it looks as if the AL Championship series will have the Yankees facing the Twins," he added.

In the National League, the teams are more evenly matched. The Los Angeles Dodgers have a 58 percent chance of defeating the New York Mets, while the San Diego Padres have a 62 percent chance of defeating the St. Louis Cardinals.

Bukiet, an avid Mets fan, said that winning the first game can change a team's fortunes markedly. If the Mets win the first game, their chances of advancing increase from 42 percent to 62 percent. If the Cardinals win in the first game, their chances of winning, according to Bukiet,

improve 38 percent to 57 percent.

For the past six years, Bukiet has been using his model to determine whether it is worthwhile to wager on games during the baseball season. His picks (posted on m.njit.edu/~bukiet/playoffs.htm) will feature daily updates on the chances of each team winning the Division Series, the Championship Series and the World Series. Such postings have led to positive results for five of the past six years.

Bukiet's research concerns the mathematical modeling of physical phenomena. Current interests include biomedical applications of mathematics, including stresses in the heart and modeling the dynamics of flow in the human lung. He also works in the application of mathematical modeling for sports and gambling, in particular for understanding baseball. Bukiet recently received the NJIT Excellence in Teaching Award for Outstanding Work.

Source: New Jersey Institute of Technology