

# NJIT professor offers math-based projections for MLB postseason

October 7 2013

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Now that Major League Baseball's regular season has ended with the exciting one-game tiebreaker that got the Rays to the next round, and with the Rays and the Pirates winning the one game playoff for the wild card team, NJIT math professor Bruce Bukiet has once again begun analyzing the probability of each team advancing through each round of baseball's postseason. "The Los Angeles Dodgers, who many thought were out of contention early in the season after a poor start, have the best chance to win their series (63%) against the Braves while the Detroit Tigers have a 59% chance to eliminate the Oakland A's. The Red Sox have a 55% chance of sending the Rays home and the Pirates have a 53% chance of defeating the St. Louis Cardinals in the best of 5 game Division Series round.

At the season's start, Bukiet used his mathematical model to project the number of wins each team should earn (see: <http://m.njit.edu/~bukiet/baseball/SeasonProjections2013.html>). Bukiet's model picked 2/3 of the ten post-season teams back in March (there were some ties in the original projections leading to the fraction), a result that beat nearly 90% of the experts (at Yahoo Sports, Sports Illustrated, ESPN and the Examiner) and that for the third year in four placed him first at [Baseballphd.net](http://Baseballphd.net)'s annual contest to pick the teams who would make it to the playoffs. Bukiet updates the probabilities of each team taking their series throughout the Major League Baseball post-season at <http://m.njit.edu/~bukiet/baseball/playoffs13.htm>.

On Bukiet's website, he provides the likelihood of each team taking the

series in a given number of games. Going into the series, the most likely outcome (25%) is for the Dodgers to defeat the Braves win in four games. The Tigers' best chance (23%) is to win in 4, while the Red Sox' best chance (22%) is to win in 5 games. The Pirates' best chance (24%) is to win in four.

This is Bukiet's 13th year using his model to determine whether it is worthwhile to wager on games each day during the baseball season. His picks (posted on <http://www.egrandslam.com>) have led to positive results for 9 of the 13 years (counting 2013's thus far positive performance).

The method uses a Markov process approach which he originally published in the journal *Operations Research*. The method enables one to assess prospective trades and evaluate who should win the Most Valuable Player and Cy Young Awards among various other applications. Bukiet's MVP and Cy Young results and the updated method to produce them have appeared in the *International Journal of Performance Analysis in Sports*. The model computes the probability of a team with given hitters, bench, starting pitcher, lineup and relievers scoring any number of runs along with home field advantage to compute the chance each team has to win a game.

Provided by New Jersey Institute of Technology

Citation: NJIT professor offers math-based projections for MLB postseason (2013, October 7) retrieved 27 April 2024 from

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