

# **Applications of Statistics to Baseball: Offensive Productivity and Play Call Challenges**



**What: Bi-State Math Colloquium**

**When: Friday, March 17, 4:00PM**

**Where: Loras College, Hennessy 250**

**Who: Anne Marx Scheuerell**

“Statistics are the lifeblood of baseball. In no other sport are so many available and studied so assiduously by participants and fans.” (Leonard Koppett, “A Thinking Man’s Guide to Baseball”) Baseball coaches, players, and fans study statistics in search of ways to better understand the game. The purpose of this presentation is to summarize two research studies that analyzed baseball data. The first study introduces a new offensive productivity metric. Offensive productivity has been widely studied. “Runs Created” and “Win Shares” are two of the most widely used metrics to evaluate offensive productivity. These metrics are easy to calculate, yet fail to capture information about specific plays. A new method, The Smith Scoring Index (SSI), provides the ability to quantify each play as well as evaluate the offensive productivity of players. The second study examined 2015 MLB play call challenge data in relation to a variety of variables. Instant replay review systems assist league officials in determining the accuracy of initial calls by umpires on the field. The goal of the MLB instant replay system was to reduce the impact of umpire error, while minimizing the time needed to review plays. Results of this study may assist MLB managers, league officials, and MLB administrators in improving the instant replay review system.

Anne C. Marx Scheuerell is an Associate Professor of Sport Management at Loras College in Dubuque, Iowa. She earned her doctorate degree from the University of Arkansas and her master’s degree from Arizona State University. She works in areas of sport finance, sales, facility management as well as sport statistics. She is sport enthusiast and can be seen in the evenings playing sports with her husband and son in the backyard.