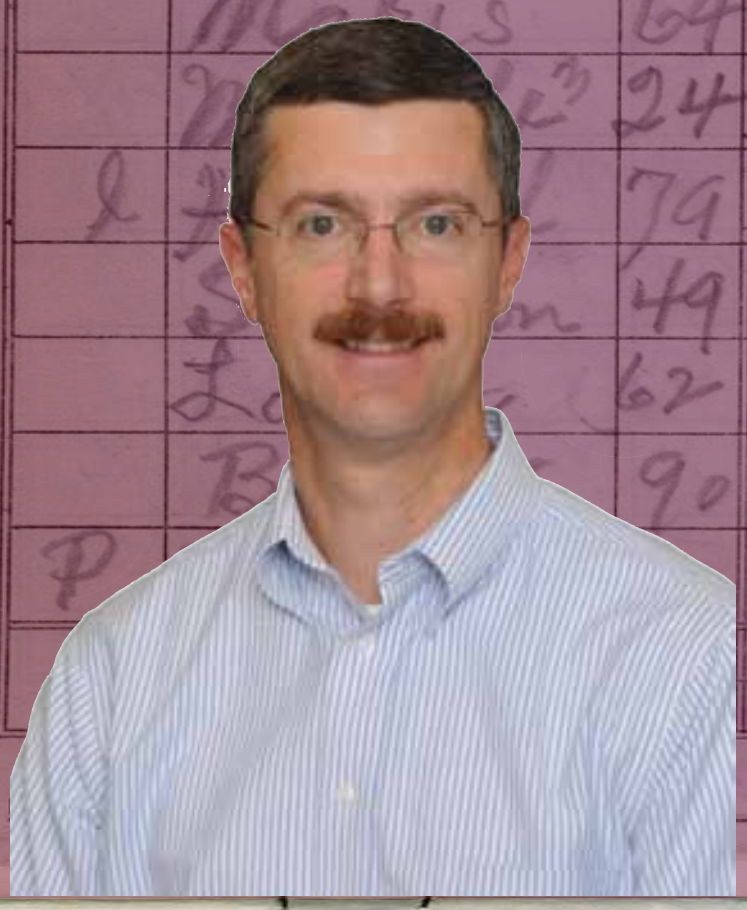
m[1]th for Everyone series

# Math for Everyone

talks and discussions especially for undergrads

# Modeling and Predicting Rare Events in Baseball




## Michael Huber

## Muhlenberg College


## February 10th 2011

**How often do rare events occur in a regular baseball season? When was the last triple play, cycle, or perfect game? How many times should we expect to see teams score 20 or more runs in a game? From a probability and statistics teaching standpoint, rare baseball events, such as pitching a no-hitter, hitting for the cycle, turning a triple play, and others, offer excellent examples of data sets that can be modeled by the exponential distribution. I have studied inter-arrival times of the games for several data sets (beginning in 1901 up to the present). This presentation will be an overview of that research, with statistical analyses, including histograms with different bin sizes, goodness-of-fit tests, Q-Q plots of outcomes, and predictions on the probability of occurrences.**

UNIVERSITY OF NOTRE DAME
College of Science
*Department of Mathematics*

***Everyone, from Fields medalists to math phobes, is welcome to attend***

Events begin at 5 PM in Hayes-Healy 117

End with **pizza and refreshments**

http://math4all.nd.edu/