



AMERICAN UNIVERSITY
WASHINGTON, D C

The Department of Mathematics and Statistics Colloquium

Prediction Intervals Based on Exact Unconditional Tests for Binomial Samples

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Ward 303

Abstract: Some problems in statistics involve using the results of one sample to predict the outcome of a future sample. An interval based on an observed sample that will contain the value of some statistic from a future (unobserved) second sample with specified level of confidence is called a prediction interval.

The specific prediction problem that I will discuss concerns two independent binomial samples with the same “success” probability. Specifically, given that x_1 successes are observed in n_1 Bernoulli trials, what can be said about the number of successes in another n_2 Bernoulli trials?

Currently, the only proposed exact prediction interval for the number of successes in a future binomial sample is based on inverting Fisher’s Exact Test, which is an exact conditional test. I will illustrate via some examples that inverting certain exact unconditional tests lead to “better” prediction intervals.

Presented by

The AU Math/Stat Department and The AU Chapter of Sigma Xi

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Next Colloquium:

Tuesday, January 28, 2003 Ward 303

Michael Messner, United States Environmental Protection Agency
Cryptosporidium and Drinking Water, Assessing Risk Reduction
Under the Long-Term 2 Enhanced Surface Water Treatment Rule (LT2)
