

RUTGERS UNIVERSITY
DEPARTMENT OF STATISTICS AND BIOSTATISTICS
HILL CENTER #501, BUSCH CAMPUS, PISCATAWAY

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Seminar

Speaker: David Banks, Department of Statistical Science, Duke University

Title: Adversarial Risk Analysis: Games and Auctions

Date: Wednesday November 18, 2009

Time: 3:20 PM

Place: 552 Hill Center

Abstract

Classical game theory has been an unreasonable description for human behavior, and traditional analyses make strong assumptions about common knowledge and fixed payoffs. Classical risk analysis has assumed that the opponent is non-adversarial (i.e., "Nature") and thus is inapplicable to many situations. This work explores Bayesian approaches to adversarial risk analysis, in which each opponent must model the decision process of the other, but there is the opportunity to use human judgment and subjective distributions. The approach is illustrated in the analysis of two important applications: sealed bid auctions and simple poker; some related work on counterbioterrorism is also covered. The results in these three applications are interestingly different from those found in previous work.