

# Math and Stat Colloquium

Friday, April 5

2 p.m. BUS 209

Refreshments will be served in the Animal Science Lounge at 1:30 p.m.

**Speaker:**

**Karen Kafadar, Indiana University**

**“The Critical Role of Statistics in Development  
And Validation of Forensic Methods”**

Abstract: Statistics has played a key role in the development and validation of forensic methods, as well as in the inferences (conclusions) obtained from forensic evidence. Further, statisticians have been important contributors to many areas of science, such as chemistry (chemometrics), biology (genomics), medicine (clinical trials), and agriculture (crop yield), leading to valuable advances that extend to multiple fields (spectral analysis, penalized regression, sequential analysis, experimental design). The involvement of statistics specifically in forensic science has demonstrated its value in the development of DNA "fingerprinting," assessment of bullet lead evidence, and the significance of findings in the U.S. anthrax investigations. I will discuss the statistical issues involved in these three situations and then suggest ways in which statisticians can use their expertise to strengthen forensic evidence (experimental design, estimating error rates, developing other approaches based on less subjective interpretations, etc.), thereby raising the level of confidence in the forensic system.

