Statistical inference is the act of drawing conclusions about populations from random samples. Using probability models, statisticians can analyze the behavior of different inferential procedures and make precise statements about how well they perform. Dr. Trosset will describe several types of inference, emphasizing the proper interpretation of each. Basic concepts will be illustrated with simple examples, assuming only an elementary knowledge of statistical methodology. The presentation will first consider what attributes of a population may be of interest. The second part will sketch several approaches to inference and discuss the proper interpretation of fundamental concepts like significance level and confidence coefficient. The third part will describe the logic of hypothesis testing in more detail.

Michael W. Trosset received his Ph.D. in statistics from the University of California, Berkeley. He is currently Professor of Statistics at Indiana University and Director of the Indiana Statistical Consulting Center. His textbook, An Introduction to Statistical Inference and Its Applications with R, was published by CRC Press in June 2009.