

MICHIGAN STATE UNIVERSITY
Department of Statistics and Probability

JAMES FRANCIS HANNAN LECTURE SERIES

James Berger
Duke University

Reproducibility of science: p-values, multiple
testing and optional stopping

Tuesday, April 23, 2019

3:00 PM - 4:00 AM

1420 Biomedical and Physical Sciences (BPS)

Abstract

Three of the statistical causes for the lack of reproducibility of science will be discussed, along with a suggested cure. The first cause is the common misinterpretation of p-values; the second is the frequent lack of sufficient adjustment for multiple testing; the third is the common ignoring of optional stopping when testing. The suggested cure for all three is to use odds of hypotheses as the basic inference tool. Surprisingly, this can be done in a way that simultaneously accommodates both frequentist and Bayesian reasoning.

*To request an interpreter or other accommodations for people with disabilities, please call the
Department of Statistics and Probability at 517-355-9589.*