

A Gentle Introduction to Bayesian Statistics for Archaeologists

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Workshop Abstract

Statistical approaches toward interpreting archaeological data have traditionally relied on null hypothesis significance testing (NHST). However, recent papers have raised several critiques of NHST, arguing that it is both unintuitive to interpret and promotes dichotomous thinking (i.e., significant or not significant). A Bayesian framework offers techniques that, while computationally intensive, allow for more intuitive and detailed interpretations of data. As adjacent scientific fields move away from NHST and toward Bayesian statistical frameworks, it is crucial that we as archaeologists develop the basic tools required to (1) interpret Bayesian analyses and (2) develop those of our own. This session will provide SAA members with a gentle introduction to the philosophical underpinnings of Bayesian statistics, an interactive demonstration of how Bayesian modelling works with archaeological data, and a primer on R and its free software packages that offer Bayesian alternatives to common frequentist tests (e.g., t-test, chi-square test, ANOVA, linear regression).