ABSTRACT:

In this discussion, I will highlight several of the roles mathematical methods play in the behavioral sciences. The earliest attempts to apply mathematics in psychology arose in psychophysics with the quantification of sensation and in psychometrics with the study of statistical distributions of intellectual traits. More recent applications have involved the modeling and analysis of large amounts of numerical data in neuroimaging and in the applications of nonlinear dynamical systems theory and graph theory to model cognitive and neural processes. I will discuss the ways in which various mathematical and computational techniques have shaped our understanding of the mind as an object of scientific study.