TITLE: FROBENIUS TRACE DISTRIBUTIONS FOR GAUSSIAN HYPERGEOMETRIC FUNCTIONS

In the 1980's, Greene defined *hypergeometric functions over finite fields* using Jacobi sums. The framework of his theory establishes that these functions possess many properties that are analogous to those of the classical hypergeometric series studied by Gauss, Kummer and others. These functions have played important roles in the study of Apéry-style supercongruences, the Eichler-Selberg trace formula, Galois representations, and zeta-functions of arithmetic varieties. In this talk we discuss the distributions (over large finite fields) of natural families of these functions. For the ${}_2F_1$ functions, the limiting distribution is semicircular, whereas the distribution for the ${}_3F_2$ functions is *Batman* distribution.