

A decorative border with floral and leaf motifs surrounds the text. The top and bottom corners feature larger, more intricate floral designs, while the sides are defined by a simple line with small leaf-like details.

STONY BROOK MATH CLUB

Graduate student talk

with Peter Francis

“Leading All The Way”

Xavier and Yushi run a “random race” as follows. A continuous probability distribution μ on the real line is chosen. The runners begin at zero. At time i Xavier draws X_i from μ and advances that distance, while Yushi advances by an independent drawing Y_i . After n such moves, Xavier wins a valuable prize provided he not only wins the race but leads after every step; that is, $\sum_{i=1}^k X_i > \sum_{i=1}^k Y_i$ for all $k = 1, 2, \dots, n$. What distribution is best for Xavier, and what then is his probability of getting the prize?

THURSDAY, OCTOBER 26, 2023
7:00–8:00 PM IN P-131, MATH TOWER