Title: Polynomials corresponding to maximal rings and the Bertini theorem for P^1(Z)

Abstract: Let n>2 be a fixed integer. Lenstra conjectured that when monic integer polynomials of degree n are ordered by the size of their largest coefficient, the proportion of polynomials which correspond to maximal rings is 1/\zeta(2), independent of n. In this talk, we will discuss the analogous question for the space of all (not necessarily monic) integer polynomials of degree n, and prove that a proportion of 1/(\zeta(2)\zeta(3) of them correspond to maximal rings, obtaining also the Bertini (regularity) theorem for P^1(Z). This is joint work with Manjul Bhargava and Xiaoheng Wang.