PROBABILISTIC GALOIS THEORY.

LIOR BARY SOROKER
TEL AVIV UNIVERSITY- ISRAELL

Abstract:

The talk concerns the following question: Given a random polynomial of degree n with integer coefficients, how small is the probability that its Galois group is the alternating group? This question goes back at least to the work of van der Waerden in 1936, and has been studied along the years since then. Recently, Bhargava made a breakthrough and showed that this probability is not asymptotically bigger than the probability of being reducible. However, one expects the probability to be much smaller; We will present a conjectured order of magnitude for the probability and two recent pieces of evidence for the conjecture. Based on joint works with Ben-Porath and Matei, and with Woo.