Kempner Colloquium

DISTRIBUTIONS OF RANKS OF ELLIPTIC CURVES

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The rank of an elliptic curve E, defined over Q, is the rank of the finitely generated abelian group $E(Q)$ of rational points on E. This quantity is still rather mysterious in many ways. In the last five years, there has been significant progress on understanding the average rank of elliptic curves, led by work of Bhargava-Shankar. We will survey these results and the ideas behind them, as well as mention generalizations in various directions and some corollaries of these types of theorems. We will also describe recently collected data on ranks of elliptic curves (joint work with J. Balakrishnan, N. Kaplan, S. Spicer, W. Stein, and J. Weigandt). This talk will be suitable for a general mathematical audience.

Tuesday March 3, 2015
3 PM- 4 PM
MATH 350