

The SUMO Speaker Series for Undergraduates

(Pizza Provided)

Wednesday, April 6th

4:15-5:05, room 380C

Fast and Slow Ways of Finding Primes

Professor Kannan Soundararajan



ABSTRACT:

Gauss says: “The problem of distinguishing prime numbers from composite numbers, and of resolving the latter into their prime factors is known to be one of the most important and useful in arithmetic. ... Further, the dignity of the science itself seems to require that every possible means be explored for the solution of a problem so elegant and so celebrated.”

We will explore two such “possible means.” First, a very slow but beautiful method of Conway which produces all the primes. Second, the fast (i.e. polynomial time) deterministic algorithm of Agrawal, Kayal and Saxena to determine whether a given number is prime.

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