Title:

Pretentiousness in analytic number theory

Abstract:

Inspired by the "rough classification" ideas from additive combinatorics, Soundararajan and I have recently introduced the notion of "pretentiousness" into analytic number theory. Besides giving a more accessible description of the ideas behind the proofs of several well-known difficult results of analytic number theory, it has allowed us to strengthen and develop several central themes in the subject, for instance:

The Polya-Vinogradov inequality.

Generalizing uniform versions of prime number theory, and the role of Siegel zeros (pretentiousness). (joint work with Antal Balog)

Using the circle method for ternary additive problems involving multiplicative functions.

We will discuss these developments in this talk, and pose some directions for the future.