

NUMBER THEORY SEMINAR

“Deep” and “Smooth” in Analytic Number Theory

Djordje Milićević
Bryn Mawr College

ABSTRACT: Divisor problem, distribution of primes in arithmetic progressions, or, say, equidistribution of rational points on varieties - all cornerstone problems in analytic number theory - can see their complexity rise in several directions. “Level aspect”, in which the modulus is increasing, is central to arithmetic applications. The so-called “depth” and “smooth” aspects, where the modulus is highly powerful (such as a prime power) or well-factorable, respectively, have recently been understood to play a distinctive role, with tools often paralleling those available in the archimedean direction.

In this talk, we will discuss many manifestations of this phenomenon, including the entirely new analogues of the Farey dissection, the method of stationary phase, van der Corput’s theory of exponential sums, and Jutila’s circle method. We will also talk about two recent applications of this machinery, joint with Valentin Blomer, to subconvexity and moments of twisted L-functions.

WEDNESDAY, DECEMBER 4, 2013
2:40 - 4:00 PM
ROOM 527 WACHMAN HALL
DEPARTMENT OF MATHEMATICS