abstract

JOINT IAS/PU NUMBER THEORY SEMINAR
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

The subconvexity problem consists in providing non-trivial upper bounds for central values of L-function. In recent years, this has been recognized as a central point to many arithmetic problems which could be related to the analytic theory of automorphic forms (like the arithmetic quantum unique ergodicity conjecture or the study of representations of integers by ternary quadratic forms). In this talk we will describe the complete resolution (ie. uniformly wrt. all parameters) of this problem for GL_1 and GL_2 automorphic L-functions over a general number field. The main ingredients of the proof are

-- suitable representations of the central values in terms of adelic automorphic periods and the spectral decomposition of the later.

-- following works of Waldspurger and Ichino-Ikeda, the canonical expression of the corresponding local periods in terms of matrix coefficients to which the spectral gap may be applied

-- the amplification method

If time permits we will also describe an application -- explained to us by Andre Reznikov -- of this result to the study of the restriction of Maass forms of large Laplace eigenvalue along a fixed closed geodesic.

This is joint work with Akshay Venkatesh.