Philadelphia Area Number Theory Seminar

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Mean Values and Value Distribution of $(L'/L)(1+it,\pi)$

Abstract: For π, a cuspidal automorphic representation of $GL_m(\mathbb{A}_{\mathbb{Q}})$, there is an associated L-function, $L(s,\pi)$. We study the value distribution of its logarithmic derivative on the 1-line, $(L'/L)(1+it,\pi)$. We are able to prove that for $t \in [T, 2T]$, in some sense, $(L'/L)(1+it,\pi)$ has an "almost" normal distribution with mean 0 and variance $\sqrt{\log(y(T))/y(T)}$. An essential ingredient of the proof is the fact that our function of interest can be approximated by a Dirichlet polynomial with coefficients supported on prime powers.

Wednesday, February 7, 2018
2:20 – 4:00 PM

Bryn Mawr College
Department of Mathematics
Park Science Center **328**

Tea and refreshments at 2:20PM in Park 339