Number Theory Seminar

Wednesday, November 16, 2022

4:00 pm on Zoom

email argafni@olemiss.edu for the link

Soumendra Ganguly

Texas A&M University

Subconvexity for twisted L-functions on $GL(3) \times GL(2)$ and $GL(3)$

ABSTRACT

Let ϕ be the symmetric-square lift of an $SL_2(\mathbb{Z})$ Hecke-Maass form. Let q be an odd cube-free positive integer, and let χ be a primitive Dirichlet character modulo q such that χ is not quadratic. Let f be an even Hecke-normalized Hecke-Maass newform of level dividing q, central character $\overline{\chi}^2$ and spectral parameter t_f. We show the following subconvexity bounds for twisted L-functions on $GL(3) \times GL(2)$ and $GL(3)$: for any $\epsilon > 0$,

$$L\left(\frac{1}{2}, \phi \times f \times \chi\right) \ll_{\phi,\epsilon,t_f} q^{\frac{5}{4}+\epsilon}, \qquad \text{and} \qquad L\left(\frac{1}{2} + it, \phi \times \chi\right) \ll_{\phi,\epsilon,t} q^{\frac{5}{8}+\epsilon},$$

where the implied constants depend polynomially on t, t_f.