School of Mathematics
Tata Institute of Fundamental Research

05 August, 2022

Mathematics Colloquium

Speaker	:	***J. Sengupta***
Affiliation	:	***IACS, Kolkata***
Title	:	***The quantitative distribution of Hecke eigenvalues of cusp forms : Sato-Tate, Lang-Trotter and all that.***
Date & Time	:	***Thursday, 11 August, 2022 at 4.00 p.m.***
Venue	:	**Lecture Room (AG-69)**

Abstract

For holomorphic cusp forms of weight k (even), level q one knows that the Hecke eigenvalues (unnormalised) are all algebraic integers belonging to a fixed number field K say. This immediately implies that the number of primes p, $(p,q)=1$ such the normalised Hecke eigenvalues $\lambda(p)=a(p)/p^{(k-1)/2}$ where k is the weight $=\alpha,\alpha\in[-2,2],\alpha$ algebraic is finite. However the number of the unnormalised $a(p)$'s with this property i.e $a(p)=\beta,\beta\in O_K$ fixed could a priori be infinite and is the subject matter of the Lang-Trotter conjecture. We will try to pose these questions in the case of non-holomorphic Maass cusp forms.

Milind Pilankar