INDIAN STATISTICAL INSTITUTE

Theoretical Statistics and Mathematics Unit, Kolkata

NUMBER THEORY LECTURE

Date: February 01, 2023, Wednesday

Time: 04:15 PM

VENUE:

L-infinity

(5th Floor, A.N. Kolmogorov Bhavan), ISI Kolkata

TITLE:

Quantum modular forms of non-zero weight

SPEAKER:

Sary Drappeau

Aix Marseille Universite, France

ABSTRACT:

In a recent work with Sandro Bettin (Genoa), we study maps f : Q → C which satisfy certain functional equations of the following kind : for all γ ∈ SL(2, Z), the difference h_γ(x) := f(γ x) - |cx + d|^{-k} f(x) is regular in a certain sense. Here k is a complex number. This definition is due to Zagier (2010), and such a map f is called a "quantum" modular form. Natural examples notable include Eichler integrals of modular forms or Maass form, or cotangent sums. In this talk we'll be interested in the case when Re(k)≠0, and in the existence of limit functions which allows us to predict the value distribution of f on rationals whose denominators tend to infinity.

ALL ARE CORDIALLY INVITED