



INDIAN STATISTICAL INSTITUTE

Theoretical Statistics and Mathematics Unit, Kolkata

Lecture Series on Algebraic K-theory

Date: August 14, 2024 (4:15 to 5:30 PM)

Date: August 16, 2024 (2:30 to 4:00 PM)

VENUE:

L- infinity

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

SPEAKER:

Saheb Mohapatra

M.Math (2nd Year), ISI Kolkata

Algebraic K -theory is the study of yet another set of invariants, namely the K groups associated to a ring. Given a ring R , we associate a sequence of Abelian groups $K_n(R)$, invariant under ring isomorphism. It will be evident why the knowledge of K groups of the simplest of rings is key to solving many long-standing conjectures.

We will start with the classical K groups; K_0, K_1 and K_2 , and spend more time on Quillen's definition of higher K groups. towards the end of this series, we will breakdown (as much as possible) Quillen's famous 1973 paper computing the higher K groups for finite fields.

Talk 1: We will start by defining $K_0(R)$ for a ring R and discuss theorems and examples computing it.

ALL ARE CORDIALLY INVITED