



INDIAN STATISTICAL INSTITUTE
Theoretical Statistics and Mathematics Unit, Kolkata

Ph.D. Thesis Pre-Submission Seminar

Date: May 30, 2023, Tuesday
Time: 02:00 PM

VENUE:

L-infinity

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

TITLE:

**Results on equivariant homology decompositions of
projective spaces**

SPEAKER:

Aparajita Karmakar

Stat-Math Unit, ISI Kolkata

ABSTRACT:

In this talk I will discuss some basic notions in equivariant cohomology theory to finally present our work where we have calculated the equivariant additive homology decompositions of complex and quaternionic projective spaces. Some applications of these results include proving non-existence of some cohomology operations. Following Lewis's approach we have been able to calculate the equivariant cohomology ring structure of projective spaces with integer coefficients. There is another interesting construction of connected sums of equivariant projective planes by Humboldt and Tanasse. We have been able to give some specific conditions for constructing such connected sums and then calculated the homology decomposition structure.

ALL ARE CORDIALLY INVITED