



INDIAN STATISTICAL INSTITUTE
Theoretical Statistics and Mathematics Unit, Kolkata

Ph.D. Thesis Pre-Submission Seminar

Date: June 13, 2023, Tuesday
Time: 02:00 PM

VENUE:

L-infinity

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

TITLE:

**Homotopical computations for projective Stiefel
manifolds and related quotients.**

SPEAKER:

Debanil Dasgupta

Stat-Math Unit, ISI Kolkata

ABSTRACT:

A complex projective Stiefel manifold is quotient of Stiefel manifold under the free action of circle embedded as diagonal matrices inside unitary matrices.

Complex cobordism is a generalized cohomology theory which after localizing at a prime p splits into various suspensions of a somewhat simpler cohomology called the Brown-Peterson (BP) cohomology. In this talk we discuss about the computation of BP cohomology of complex projective Stiefel manifolds.

Stiefel manifolds after localizing at p admits a product decomposition of spheres of various dimensions, for sufficiently large p as shown by Yamaguchi. For complex projective Stiefel manifolds, the p local cohomology matches with the product of various dimensional spheres and a single complex projective space. This raises the question of whether these two spaces are homotopically equivalent after p -Localisation. In this talk we also discuss about the lower bound of p for which the question has an affirmative answer.

ALL ARE CORDIALLY INVITED