



**INDIAN STATISTICAL INSTITUTE**  
Theoretical Statistics and Mathematics Unit, Kolkata

**Thesis Defence Seminar**

Date: February 01, 2024  
Time: 04:00 PM

**VENUE:**

**L-infinity**

(5<sup>th</sup> Floor, A.N. Kolmogorov Bhavan), ISI Kolkata

**TITLE:**

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

**SPEAKER:**

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Stat-Math Unit, ISI Kolkata

**ABSTRACT:**

*Complex projective Stiefel manifold is quotient of complex Stiefel manifold under the free  $SS^1$ -action.*

*There is a generalized cohomology theory called the Brown-Peterson (BP) cohomology theory which arises as a wedge summand in the  $Sp$ -localization of complex cobordism. In this talk we discuss the importance of complex projective Stiefel manifolds and the computation of their BP- cohomology.*

*Next we discuss a decomposition result of complex projective Stiefel manifolds after  $Sp$ -localization. We basically establish a low bound for  $Sp$  for which decomposition would be possible. For large enough prime the result follows easily but to strengthen the bound for prime requires  $K$ -theory technique.*

*Finally we discuss some calculations of various topological invariants such as upper characteristic rank, skew embedding dimension for projective Stiefel manifolds and a related space which we call circle quotient Stiefel manifold.*

**ALL ARE CORDIALLY INVITED**