Theoretical Statistics and Mathematics Unit, Kolkata
INDIAN STATISTICAL INSTITUTE

SEMINAR

Date: June 04, 2025
Time: 12:00 Noon

VENUE:

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

TITLE:

The basic lemma

SPEAKER:

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ABSTRACT:

For a finite dimensional CW complex X we have a cellular decomposition into skeletons $X^0 \subseteq X^1 \subseteq \dots X^n = X$. Such that $H^q(X^i.X^{i-1};\mathbb{Z})$ is free abelian group for q = i and vanishes otherwise. The basic lemma gives an analogue for cellular decomposition of complex affine varieties.

Theorem 1. (basic lemma 1) *Let X be an n-dim affine k-variety with $k \hookrightarrow \mathbb{C}$. Let $Z \subset X$ closed and dim $Z \leq$n-1. Then there exist $Y \subset X$ closed with dim $Y \leq$ n-1 and $Z \subset Y$, such that $H^q(X,Y;\mathbb{Z})$ is free abelian group for q=n and 0 otherwise.*

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