Theoretical Statistics and Mathematics Unit

Indian Statistical Institute

203 B.T. Road, Kolkata - 700108

Thesis Pre-Submission Seminar

Date: November 06, 2026

Time: 2:30 PM

VENUE:

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

SPEAKER:

Abhinandan Das

Stat-Math Unit, ISI Kolkata

TITLE:

Equivariant twisted R-algebras via Thom spectra

ABSTRACT:

For a C_2-commutative ring spectrum R, a twisted R-algebra is an R-module with a multiplication whose order is switched by the C_2-action. In this talk, we construct various quotients of R as twisted R-algebras, when R is a even C_2-commutative ring spectrum. These are constructed as Thom spectra of maps out of a suitable C_2-action on S^1 and $U(n)$. One such example is given by $\KR/2$ which is endowed with a twisted $\KR$-algebra structure.

In the context of twisted R-algebras, one may consider the real topological Hochschild homology. Real algebraic K-theory was defined by Hesselholt and Madsen, for categories with duality, and in this context, the trace map lands in real topological Hochschild homology, which is a genuine C_2-spectrum. For Thom spectra, we get real topological Hochschild homology again as a Thom spectrum, similar to Blumberg, Cohen, Schlichtkrull's work. We use this to obtain computations for the real topological Hochschild homology of $\KR/2$ as a twisted $\KR$-algebra. The computation also involves a splitting of the units spectrum $gl_1\KR$, which is a refinement of the classical splitting of the units of topological K-theory.

ALL ARE CORDIALLY INVITED

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