



INDIAN STATISTICAL INSTITUTE

Theoretical Statistics and Mathematics Unit, Kolkata

SEMINAR

Date: August 02, 2024

Time: 12:00 PM

VENUE:

L- infinity

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

TITLE:

Discrete Quantum Group of Outer Automorphisms of von Neumann algebras

SPEAKER:

Suchetna Samadder

Stat-Math Unit, ISI Kolkata

ABSTRACT:

Given a von Neumann algebra \mathcal{A} , following the ideas of S. Vaes, we construct a von Neumann algebraic discrete quantum group (DQG) $Q(\mathcal{A})$ called the discrete quantum group of automorphisms of \mathcal{A} which is universal in the category of von Neumann algebraic discrete quantum groups coacting on \mathcal{A} . If we have a finite, faithful, normal trace τ on \mathcal{A} , one can consider a subgroup $Q^{\tau, kac}(\mathcal{A})$ which is universal for τ -preserving coactions by Kac type DQG. We consider a suitable quantum normal subgroup $Q_{inn}(\mathcal{A})$ corresponding to what we call 'inner' objects and define the corresponding quotient DQG $Q_{out}^{\tau, kac}(\mathcal{A})$ which is the quantum analogue of the group of outer automorphisms of \mathcal{A} . We will try to compute this $Q_{out}^{\tau, kac}$ for some concrete cases (finite dimensional algebras in particular) by connecting it to the bimodule category of \mathcal{A} . This is a joint work in progress with my supervisor Prof. Debashish Goswami.

ALL ARE CORDIALLY INVITED