INDIAN STATISTICAL INSTITUTE

Theoretical Statistics and Mathematics Unit, Kolkata

LECTURE

Date: January 11, 2024
Time: 03:30 PM

VENUE:

L-2

(4th Floor, A.N. Kolmogorov Bhavan), ISI Kolkata

TITLE:

Augmentation Varieties and Disk Potential

SPEAKER:

Soham Chanda

Rutgers University

ABSTRACT:

Dimitroglou-Rizell-Golovko constructs a family of Legendrians in prequantization bundles by taking lifts of monotone Lagrangians. These lifted Legendrians have a Morse-Bott family of Reeb chords. We construct a version of Legendrian Contact Homology(LCH) for Rizell-Golovko's lifted Legendrians by counting treed disks. Our formalism of LCH allows us to obtain augmentations from certain non-exact fillings. We prove a conjecture of Rizell-Golovko relating the augmentation variety assoiciated to the LCH of a lifted Legendrian and the disk potential of the base Lagrangian. As an application, we show that lifts of monotone Lagrangian tori in projective spaces with different disk-potentials, e.g. as constructed by Vianna, produce non-isotopic Legendrian tori in contact spheres. The above work is a joint project with Blakey, Sun and Woodward.

ALL ARE CORDIALLY INVITED