



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

**SEMINAR**

**Date: February 12, 2025**

**Time: 03:30 PM**

**VENUE:**

**L - 1**

**(3<sup>rd</sup> Floor, A.N. Kolmogorov Bhavan), ISI Kolkata**

**TITLE:**

**On the Classification of Legendrian Knots**

**SPEAKER:**

**Monika**

**Stat-Math Unit, ISI Kolkata**

**ABSTRACT:**

A 3-dimensional contact manifold is a pair  $(M, \xi)$ , where  $M$  is a 3-manifold and  $\xi$  is a non-integrable plane field on  $M$ . A Legendrian knot in such a manifold is a smooth knot that is everywhere tangent to the contact planes.

In this talk, we will begin with an introduction to Legendrian knot theory and its significance in the study of contact manifolds. Given a smooth knot, one can construct infinitely many Legendrian representatives. A fundamental problem in Legendrian knot theory is to classify all possible Legendrian representatives of a given smooth knot type. We will discuss some key invariants used in this classification and their role in distinguishing different Legendrian knots.

**ALL ARE CORDIALLY INVITED**