



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

**Thesis Defence Seminar**

**Date: August 01, 2025**

**Time: 03:00 PM**

**VENUE:**

**L- Infinity**

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

**TITLE:**

**Ball separation and differentiability**

**SPEAKER:**

**Deepak Gothwal**

Stat-Math Unit, ISI Kolkata

**ABSTRACT:**

*In this talk, we are going to discuss various differentiability notions in a Banach space from the point of view of ball separation properties. As a consequence, we obtain some residuality results on several properties leading us to comment on the existence of norms with both smoothness and convexity type behaviour. We also discuss our attempts to solve the problem seeking relationship between uniform Mazur's intersection property (UMIP) and uniformly smooth renorming.*

**ALL ARE CORDIALLY INVITED**