



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

**SEMINAR**

**Date: October 13, 2025  
Time: 04:00 PM**

**VENUE:**

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

**TITLE:**

**Chromatic homotopy theory in  $H\mathbb{F}_p$ -based  
Synthetic spectra**

**SPEAKER:**

**Abhra Abir Kundu  
University of Illinois Urbana-Champaign, USA**

**ABSTRACT:**

*Synthetic spectra are flavored categories of spectra containing a mix of information about the appropriate Adams spectral sequence and that of classical spectra. Their importance in stable homotopy theory has been well documented ever since its inception, hence a robust understanding of these categories is desirable. In this talk, I will explain how one can employ chromatic techniques to achieve this for the category of  $H\mathbb{F}_p$  based synthetic spectra. I will do so by taking an approach similar to the one taken in the land of spectra by Devinatz, Hopkins and Smith while also being assisted by Palmieri's understanding of its algebraic side. I will show a glimpse of the sort of things from the classical picture that generalizes, like the periodicity theorem, and the sort of things that don't.*

**ALL ARE CORDIALLY INVITED**