



# INDIAN STATISTICAL INSTITUTE

Theoretical Statistics and Mathematics Unit, Kolkata

## LECTURE

Date: January 24, 2024

Time: 04:45 PM

### VENUE:

**L-infinity**

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

Live-streaming link: <https://www.youtube.com/@csscisikolkata5034/streams>

### TITLE:

**The spectral approach to geometry: spectral triples**

### SPEAKER:

**Walter van Suijlekom**

Radboud University, Nijmegen

### ABSTRACT:

*We give a gentle introduction to the spectral approach to geometry, where we replace spaces by commutative  $C^*$ -algebras, and capture the (Riemannian) metric in terms of a Dirac operator, both acting on the same Hilbert space of spinors. This is our first example of a spectral triple, motivating the general (noncommutative) definition. We illustrate this concept with many examples and also show how to reconstruct geometry from this spectral data in the commutative case.*

**ALL ARE CORDIALLY INVITED**