



Organises lecture series on

TOPOLOGICAL DATA ANALYSIS

TOPOLOGY | GEOMETRY | DATA | MACHINE LEARNING



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- 10 SEP 2026, THURSDAY
3:30-4:30 PM
- 11 SEP 2026, FRIDAY
2:15-3:15 PM
3:30-4:30 PM



C102 INTERDISCIPLINARY
BLOCK (D1)

TOPICS COVERED

Lecture 1: From Point Clouds to Shape

How can a collection of points reveal shape?

We introduce simplicial complexes as tools for representing relationships among points and explore how connected components, loops, and holes emerge at different scales.

Lecture 2: Measuring Topological Features

How can we measure shape?

Homology and Betti numbers help us count connected components, loops, and higher-dimensional holes in data.

Lecture 3: Seeing Topology Across Scales

What if we could study shape across many scales?

Persistent homology tracks topological features as they appear and disappear, using barcodes to identify meaningful structure in data, with applications in machine learning and data analysis.

Coordinator

Dr. S. Sumitra