

CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Monday, April 2
9:45 – 10:35 AM
Room LD 207

TOPOLOGICAL DATA ANALYSIS

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Abstract: Topological data analysis is a new and important way of thinking about how to model and analyze data, especially when the data is very high dimensional. Instead of trying to fit the data to a predetermined shape or rely on rather rigid distance measurements, flexible methods from topology are used to determine the shape and large-scale organization of the data. We will discuss a data clustering and modeling method called Mapper and its application to the analysis of genes in the bacterium *Shewanella Oneidensis*. This bacterium is of interest for its ability to break down heavy metals, and this research is an important first step in understanding how this happens at the genetic level.

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