

# Topological Data Analysis and the Mapper Algorithm

What: **Bi-State Colloquium**

When: **Friday, April 20, 4:00pm**

Where: **Loras College, Hennessy 350**

Who: **Wako Bungula**

The Mapper algorithm was first introduced by Gurjeet Singh, Facundo Memoli, and Gunnar Carlsson in 2007. It is a method developed to analyze high-dimensional data, and often these high-dimensional data come in high volume. Mapper constructs a simplicial complex directly as an output. In doing so, it achieves simplification of the original dataset, and retains certain topological features. So, Mapper attempts to answer the following question: Given a dataset, is it possible to obtain geometric and/or topological features of the underlying space of the dataset? In this talk, I will introduce the Mapper algorithm, its theoretical framework/background, and show lots of examples!

Wako Bungula is a graduate student in mathematics at the University of Iowa.