How "topology" can be used to find hidden structures in high dimensional data sets

Dr. Andy Wan [1]

Advances in science and engineering have increasingly rely on extracting information from large data sets. Often, such data sets are unstructured and belong in high dimensions, which makes discovering hidden structures challenging. Recently, techniques based on a branch of mathematics called "algebraic topology" have been applied to help find hidden structures in such data sets, giving rise to a new field of research called "Topological Data Analysis" (TDA).

I will give an introductory talk on TDA, emphasizing on the main ideas. No background on topology is required. So all faculties and students are welcomed!

[1]Department of Mathematics and Statistics, University of Northern British Columbia, Prince George, B.C., V2N 4Z9, Canada.