1154-VU-1624 **Ryan J. Jensen***, jensenrj@sfasu.edu. *The Datasaurus and Persistent Homology.* Preliminary report.

The datasaurus dozen is a generalization of Anscombe's quartet. It is a collection of 12 data-sets in R^2, all of which have essentially the same summary statistics (X-mean, Y-mean, X-standard deviation and Y-standard deviation), but which are visually very different. For example the Datasaurus data-set is in the shape of a Tyrannosaurus rex, another data-set is in the shape of an oval and another in the shape of an "X." The datasaurs dozen was designed to urge people to "never trust summary statistics alone; always visualize your data" (from https://www.autodeskresearch.com/publications/samestats). In this talk, we will give a brief introduction to persistent homology, a tool from algebraic topology which is used to describe the shape of topological spaces. We will then show how persistent homology can differentiate between the some of the data-sets in the datasaurus dozen. (Received September 16, 2019)