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Ruth E. Davidson* (redavid2@illinois.edu), Department of Mathematics, 1409 W. Green Street, Urbana, IL 61801, and **Joseph Rusinko, Zoe Vernon and Jing Xi.** *Mining Abundant Public Genome Data to Recover Statistical Trends using Geometry.*

Websites such as TreeBASE.org and datadryad.org provide public access to a wealth of genomic data. Phylogenomics-the recovery of tree-like trends in the common evolutionary history of a group of species-is a basic area of research that is consumed by myriad fields such as ecology and medicine. We present a project that provides a baseline framework for studying statistical trends in public genomic data that relies on geometric combinatorics. Further, we will outline future research directions that will (1) build on this baseline framework to inform the development of new theory and methods for model-testing, and (2) improve the understanding of trends in phylogenomic data in the systematic biology, computer science, statistics, and mathematics communities. (Received March 16, 2017)