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Ann Sizemore, Elisabeth Karuza, Chad Giusti* (cgiusti@seas.upenn.edu) and **Danielle Bassett**. *Node filtrations in biological complexes*.

Using persistent homology for data analysis relies on the existence of a natural filtration on a complex derived from the data of interest. In many common TDA complexes, like the Vietoris-Rips complex of a point cloud, the nodes are present throughout the filtration and the data is encoded in a weighting on the faces. Here, we study biological systems where the filtration naturally occurs on the level of nodes, with all other data prescribed by this filtration. Examples will include semantic learning and fungal growth. (Received July 26, 2017)