1145-55-897 **Ellen Gasparovic*** (gasparoe@union.edu). *Homotopy types and persistence of metric gluings.*

This talk will focus on topological summary information that one can capture from metric wedge sums and gluings, with an emphasis on metric graphs. We will give a complete characterization of the persistence diagrams in dimension 1 for metric graphs under a particular intrinsic setting. We will show that the Vietoris-Rips (resp., Cech) complex of a wedge sum, equipped with a natural metric, is homotopy equivalent to the wedge sum of the Vietoris-Rips (resp., Cech) complexes. We also provide generalizations for when two metric spaces are glued together along a common isometric subset. As a result, we can describe the persistent homology, in all homological dimensions, of the Vietoris-Rips complexes of a wide class of metric graphs. This talk covers joint work with Michal Adamazsek, Henry Adams, Maria Gommel, Emilie Purvine, Radmila Sazdanovic, Bei Wang, Yusu Wang, and Lori Ziegelmeier. (Received September 17, 2018)