1145-51-138 **Facundo Memoli** and **Osman Berat Okutan*** (okutan.1@osu.edu). *Approximating length spaces with metric graphs of bounded first Betti number.*

A metric graph is a length space which is homeomorphic to a topological graph. It is known that every length space can be Gromov-Hausdorff approximated with metric graphs. In this talk, we investigate how good an approximation can be guaranteed given an upper bound on the first Betti number of approximating graphs. (Received August 08, 2018)