1163-54-381   **Jun Zhang*** (`jun.zhang.3@umontreal.ca`), Department of Mathematics and Statistics, University of Montreal, Montreal, Quebec H3C 3J7, Canada. *Persistent homology and its applications in symplectic topology.*

Recent years have seen a significant development of persistent homology theory, especially its applications in various subjects in mathematics. In this talk, I will present several updated applications in symplectic topology, in particular, based on the Floer theory that is often viewed as an infinite-dimensional analogue of Morse theory. Remarkably, some fundamental questions can be solved by a skillful play of barcodes. Inspired by these applications, I will mention a high-tech viewpoint called triangulated persistence category (TPC), based on an in-progress work with P. Biran and O. Cornea, aiming to apply persistent homology theory to the study of homological mirror symmetry. (Received September 04, 2020)