Astronomy Program Opening Workshop
August 22-26, 2016

Will Farr
University of Birmingham

"Multidimensional Clustering, Model Comparison, Measurement Uncertainty, Selection Effects etc., in GW"

Based on the inferred rate of binary black hole coalescences following the observation of the GW150914 event in the first month of Advanced LIGO operation we expect to observe tens of coalescing BBH systems in the next few years as upgrades to the Advanced LIGO detectors improve their sensitivity. With this population of observations we would like to learn about the population of coalescing BBH sources, look for sub-populations, and compare various theoretical formation models against our observations. To do this we will have to deal with selection effects and measurement uncertainty within each source. I will discuss existing methods for performing these sorts of analyses and try to spark a discussion about possible improvements to these methods.