

LIGO's recent observations of binary black hole mergers are providing new insight into the dynamics of black holes and the formation of binary black hole systems. Future observing runs, at increased sensitivity and with additional detectors, promise to expand the scope of events revealed via this new window onto the Universe. I will discuss LIGO observations, the status and challenges of improving detector sensitivity, and prospects for new detections with expanded networks that will include the Virgo project, the KAGRA project, and eventually LIGO India.