

## **ICTS Special Seminar**

Title : Detection of a third binary black hole coalescence by Advanced LIGO

Speaker : Abhirup Ghosh, ICTS-TIFR, Bangalore

Date : Friday, June 2, 2017

Time : 4:00 PM

Venue : Madhava Lecture Hall, ICTS Campus, Bangalore

Abstract : On June 1, 2017 the LIGO Scientific Collaboration and Virgo Collaboration announced the detection of a gravitational wave signal from the coalescence of two stellar-mass black holes. The signal was measured on January 4, 2017 at around 3.40 PM IST, and follows the two detections made during the first observing run of the twin advanced detectors of the Laser Interferometer Gravitational-wave Observatory (LIGO) in 2015-16. With an estimated distance of 3 billion light years, this new event appears to be twice as far as the other LIGO events detected so far. This observation allows us to place tighter constraints on possible deviations from general relativity in the dynamic strong-field regime, as well as shed more light on the astrophysical origins and merger rates of binary black holes.