

## Tata Institute of Fundamental Research

Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad - 500 046

## Seminar

## Gravitational Wave Astronomy Giles Hammond University of Glasgow, UK

The gravitational wave window was opened in September 2015 with the direct detection of a pair of black holes. This was enabled by the remarkable sensitivity of the advanced LIGO detectors, a pair of laser interferometers located in the US (Hanford, Washington and Livingston, Louisiana). Since the first detection, the advanced Virgo detector and KAGRA detector have joined the network. The LIGO detectors are detecting signals every few days providing a rich astrophysical data set.

In this talk, I will briefly describe the operation of the aLIGO detectors and highlight some of the astrophysical results which have come from the first 4 observing runs. I will further look at future opportunities for 3rd generation detectors and LIGO India.

Wednesday, Jul 2<sup>nd</sup> 2025 16:00 Hrs (Tea / Coffee 15:45 Hrs) Auditorium, TIFRH