

ICTS Astrophysics & Relativity Seminar

- Title** : Measuring Deviations From The Kerr Geometry With Black Hole Ringdown
- Speaker** : Soumen Basak (Indian Institute of Science Education and Research Thiruvananthapuram)
- Date** : Thursday, 13 June 2024
- Time** : 03:30 PM (IST)
- Abstract** : In the realm of general relativity, black holes are typically characterized by three fundamental attributes: mass, spin, and charge. However, the consideration of charge becomes negligible when dealing with astrophysical macroscopic objects. Nevertheless, theoretical extensions of this framework propose the existence of additional black hole charges, which have the potential to modify the multipole structure of the Kerr solution. This seminar aims to shed light on the prospect of utilizing post-merger ringdown gravitational wave observations from black hole binaries to discern these deviations. Through the analysis of spacetime geometries that deviate in the quadrupole moment and the application of Bayesian analysis leveraging both current and future gravitational wave data, we aspire to constrain the quadrupole deviation from Kerr at the percent level. Such constraints hold the promise of providing novel insights into the intricate properties of black holes.
- Venue** : Emmy Noether Seminar Room
- Zoom Link: <https://icts-res-in.zoom.us/j/91682185550?pwd=eDI4bEphQ0FaSFdYQVdDVGNaQmdiQT09>
Meeting ID: 916 8218 5550
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