

## ICTS PhD Seminar

Title : Black holes and holography

Speaker : Pushkal Shrivastava (ICTS-TIFR, Bangalore)

Date : Friday, 28<sup>th</sup> May 2021

Time : 11:00 am (IST)

Abstract : In the absence of a complete understanding of quantum gravity, semiclassical gravity offers deep insights. Many features of quantum gravity can be revealed by a careful analysis of the low energy structure of gravity. Study of quantum properties of black holes play a crucial role.

In this talk, the key ideas of the information paradox will be discussed. A statistical mechanical analysis of the fuzzball proposal would be undertaken to highlight potential shortcomings. In the process, a universal bound on thermal correlators would be introduced. Then, after a detailed analysis of semiclassical gravity in 4-d asymptotically flat spacetimes, it will be argued that information is stored holographically. The implications for the information paradox would be studied.

Finally, the issue of determinism in quantum gravity would be analyzed in the context of the strong cosmic censorship conjecture in black holes with an inner horizon.

Online Seminar : Zoom link:  
<https://zoom.us/j/97030872100?pwd=WHIBN2liaUVXQUxHNlhoVnFSdzlLUT09>  
Meeting ID: 970 3087 2100  
Passcode: 163959