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## **ICTS-Infosys String Theory Lectures**

Title : Black Hole Thermodynamics and the Information Paradox in 2d CFT

Speaker : Jared Kaplan, Johns Hopkins University, USA

Date : 5, 6 & 7 December, 2017

Time : 2:30 PM

Venue : Madhava Lecture Hall, ICTS Campus, Bangalore

Abstract : I will discuss how black hole thermodynamics in 2+1 dimensional gravity arises universally from 1+1 dimensional conformal field theory at large central charge. The black hole information paradox in AdS/CFT can then be cast as a series of more or less tractable sub-problems. I will explain how many of these can also be addressed in the case of 2d CFT by computing non-perturbative effects in  $G_N$  expansion. Finally, I will discuss how it's possible to reconstruct exact candidate bulk field operators in AdS<sub>3</sub>. By examining the correlators of these bulk fields we will see how computable non-perturbative effects in quantum gravity lead to the breakdown of bulk locality.