



Department of  
Theoretical Physics

# Tata-Infosys Lecture Series

## Black holes in AdS/CFT

**Seok Kim**

(Seoul National University, South Korea)

**Date / Time :**

**3<sup>rd</sup> Lecture : 1<sup>st</sup> February, 2019,  
11.30 am**

**Venue: A-304, TIFR**



We study the index of large  $N$  SCFTs with gravity duals, and account for the thermodynamics of certain supersymmetric AdS black holes. More concretely, we shall: explore a generalized Cardy formula for higher dimensional SCFT and use it to count large supersymmetric AdS black holes; explore deconfinement phase transitions; study novel large  $N$  and large charge saddle points which exhibit certain features reminiscent of hairy black holes, among others.