

## ICTS String Seminar

**Title** : On type II string theory on  $AdS_3 \times S^3 \times T^4$  and its CFT dual

**Speaker** : Ofer Aharony (Weizmann Institute of Science, Israel)

**Date** : Wednesday, 25 September 2024

**Time** : 2:30 PM (IST)

**Abstract** : I will review and discuss in detail type II string theory on  $AdS_3 \times S^3 \times T^4$  and its 1 + 1 dimensional superconformal field theory dual, emphasizing the string theoretic aspects of this duality. For one unit of NS-NS 5-brane flux ( $Q_5 = 1$ ), this string theory has been suggested to be dual to a grand-canonical ensemble of  $T^{4N}/S_N$  free symmetric orbifold CFTs, and one goal will be to understand how this is consistent and how it fits with the description of other values of  $Q_5$ . I will discuss how the string genus expansion emerges in the grand-canonical partition function, and how the strong coupling limit of the NS-NS string theory arises (even at large  $N$ ) in the free orbifold description, and why this limit does not have a weakly coupled R-R description. The dual CFT includes (for all values of  $Q_5$ ) an extra  $T^4$  factor that is decoupled from perturbative string theory, and I will discuss how this appears and how it is coupled to the CFT.

**Venue** : Feynman Lecture Hall

Zoom Link: <https://icts-res-in.zoom.us/j/88092766911?pwd=R3ZrVk9yeW96ZmQ4ZG9KRzVhenRKZz09>

Meeting ID: 880 9276 6911

Passcode: 232322