

## Jaewon Song (KAIST)

*Thursday, 20 October 2022 11:40 (50 minutes)*

[chair: Yuji Tachikawa (Kavli IPMU)]

“a vs c in the 4d SCFT landscape”

The central charges of conformal field theories capture many interesting aspects of the dynamics. In this talk, I will discuss aspects of central charges in the landscape of 4d superconformal theories. We find that the scaling behavior of a and c for the large N limit of superconformal gauge theories (with simple gauge group) falls into two categories:  $O(N^2)$  and  $O(N)$ . The  $O(N)$  theories exhibit a dense spectrum even in the BPS sector. We also find a large set of a=c SCFTs for a finite N, which poses an interesting question in view of holography. Some of these theories have a tantalizing connection to N=4 SYM theory and are also realizable in class S.