## **Instanton Corrections and Emergent Strings**

Wednesday 15 January 2020 17:45 (15 minutes)

We study limits of infinite distance in the moduli space of 4d N = 2 string compact- ifications, in which instanton effects dominate. We first consider trajectories in the hypermultiplet moduli space of type IIB Calabi-Yau compactifications. We observe a correspondence between towers of D-brane instantons and D-brane 4d strings, such that the lighter the string the more relevant the instanton effects are. The dominant instantons modify the classical trajectory such that the lightest D-brane string is boosted to a tensionless regime, while the other strings are prevented to go below the fundamental string tension. This tensionless string is dual to a weakly-coupled fundamental type IIB string, and realises the Emergent String Conjecture in this setup. We also consider the vector multiplet moduli space of type I string theory on K3×T2. We find that quantum corrections may turn a decompactification limit to an emergent string limit, consistently with existing results in dual setups.

**Presenter:** WIESNER, Max (IFT UAM-CSIC) **Session Classification:** short talk