SPEAKER: Apruzzi Fabio

TITLE: **Symmetries of Higher Dimensional Field Theories**

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PLACE:

ABSTRACT

I will review how 6d superconformal field theories (SCFTs) are related to 5d SCFTs and Gauge theories via circle compactifications. In particular, I will explore their relations via M/F-theory duality on Calabi-Yau threefolds. I will then show how the enhanced flavor symmetry, which is a peculiar feature of the 5d non-perturbative strongly coupled dynamics, are detected from M-theory geometry. In the second part of the talk, I will focus on discrete 1-form symmetries of 6d theories in the tensor branch. In particular, I will describe a 6d low-energy mechanism that signals their breaking via Dirac quantisation condition. The results of this analysis are also corroborated by the presence of states, which are excitations of the 6d BPS strings and explicitly break the 1-form symmetry by screening. This purely field theoretical analysis matches the geometric prediction for the 1-form symmetry via M/F-theory duality. Finally, I will show how this low-energy method could be potentially useful to detect the global part of the (0-form) flavor symmetries.

Organized by

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