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Talk 5: Fabio Apruzzi

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Title: 2D theories from F-theory and 6D SCFTs

Compactifications of the physical superstring to two dimensions provide a general template for realizing 2D conformal field theories coupled to worldsheet gravity, i.e. non-critical string theories. Motivated by this, I will describe how to determine the 2D (0,2) theory upon compactification of Heterotic and Type I on a Calabi-Yau fourfold and F-theory on an elliptically fibered Calabi-Yau fivefold. From another point of view, I will also illustrate the 2D theories obtained by 6D SCFTs compactified on a four-manifold, which can be seen as coming from F-theory on a particular class of Calabi-Yau fivefolds. Doing so, one generates a large class of novel 2D quantum field theories. This new prospective will allow us to describe the interacting Largangian and non-Lagrangian sectors of the theory (DGLSM).