Contribution ID: **6** Type: **Speaker**

A Short Tour of 6d Field Theories

Friday 10 October 2025 16:15 (5 minutes)

In the absence of gravity, field theories in six dimensions can be UV-completed to either Superconformal Field Theories (SCFTs) or Little String Theories (LSTs) and can be geometrically engineered from string theory. Large classes of these theories can furthermore be understood as deformations of a few “parents” through a network of Renormalisation Group flows. After reviewing some of their properties, I will show that certain protected quantities can be obtained solely in terms of group theory, without ever needing to refer to the geometric construction. For LSTs, this greatly simplifies the search for classes of theories that are related by T-duality.

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Session Classification: Quantum Science & Technologies

Track Classification: MIN Quantum Science and Technologies