



Department of  
Theoretical Physics

# THE QUANTUM SPACETIME SEMINAR SERIES

## Scattering amplitudes and holography

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**Time:** 3 PM IST

Zoom link shall be shared separately



The S-Matrix in flat space is a naturally holographic observable. S-Matrix elements or scattering amplitudes thus contain valuable information about the putative dual CFT. In this talk, I will explain how they can be converted to CFT correlation functions and explain some of their salient features. I will then focus on the link between collinear singularities of amplitudes and operator product expansions (OPEs) in the dual CFT. I will show how collinear singularities arising from loop corrections place stringent constraints on the OPEs and consequently the dual CFT. I will conclude with some discussion about the implications of the singularity structure of amplitudes on the nature of the dual CFT.