Physics Seminar: Edward Mazenc
Wednesday, April 17 · 2:00 – 3:00pm

Location: 313

Title: Strings From Feynman Diagrams

Abstract: How are bulk strings related to boundary Feynman diagrams? I will give an overview of my work with Rajesh Gopakumar on deriving the closed string dual to the simplest possible gauge theory, a Hermitian matrix integral. Working in the conventional ‘t Hooft limit, we extract topological string theories which replace the minimal string away from the double-scaling limit. We show how to exactly reconstruct both the closed string worldsheet and its embedding into the emergent target space, purely from the matrix Feynman diagrams. Along the way, we will encounter the notion of open-closed-open triality which allows us to establish this dictionary, and predicts multiple open string descriptions of the same bulk physics. I’ll close by embedding our results in the broader context of AdS/CFT.