# TATA-INFOSYS LECTURE SERIES:

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Lecture 1 (Wed, 12 Nov, 11:00am - 1:00pm, AG 80)

Lecture 2 (Thu, 13 Nov, 11:00am - 1:00pm, AG 66)

Lecture 3 (Fri, 14 Nov, 11:00am - 1:00pm, AG 80)

## A Hands-on Introduction to String Field Theory via D-instantons

String theory amplitudes, written as integrals over appropriate moduli spaces, are often divergent (even though this point is not often emphasized in textbooks). These divergences are physical and related to infrared effects in target space. The systematic procedure of doing perturbation theory in a way that allows us to deal with these infrared divergences properly is called string field theory. In this series of lectures we will focus on ZZ-instanton-induced amplitudes in the bosonic minimal string and discuss the infrared divergences that arise in that context. We will focus on the computation of three specific string graphs --- the empty annulus, the disk with two closed string insertions, and the annulus with one closed string insertion --- and show how the systematic string field theory procedure produces finite answers that agree with predictions from dual matrix integrals and KPZ scaling.

(Click here for the zoom link)