

## ICTS Seminar

**Title** : Enumerative geometry of singular curves with tangencies

**Speaker** : Anantadulal Paul (NISER, Bhubaneswar)

**Date** : Thursday, August 05, 2021

**Time** : 11:00 am (IST)

**Abstract** : The study of moduli spaces of stable maps and quantum cohomology theory plays a prominent role in modern enumerative geometry. A landmark result in this area is Kontsevich's recursion formula to enumerate rational curves in projective space.

In the first part of this talk, we shall study a fibre bundle version of the above problem. We will consider the problem of enumerating rational curves in  $CP^3$  whose image lies inside a  $CP^2$  (which is also called a planar curve). We will show how Kontsevich's idea can be extended to the setting of fibre bundles.

In the second part of this talk, we will turn to classical enumerative geometry. We will study singular curves in a linear system that are tangent to a given divisor. When the singularities are nodes, the question has been extensively studied by Caporaso and Harris. In this talk, we will give an approach to solve this question when the curve has more degenerate singularities. The method we will discuss comprises an explicit computation of the Euler class of an appropriate bundle. We then use excess intersection theory to compute the degenerate contribution to the Euler class.

If time permits, we shall discuss some future problems.

**Venue** : Please click on the below link to join the meeting

<https://us06web.zoom.us/j/84398533745?pwd=YWVLDjJWMkcxYUVJTnVOZWl3eS9lQT09>

Meeting ID: 843 9853 3745

Passcode: 382238