

GRADUATE STUDENT SEMINAR

Guest Speaker: Ethan Addison
University of Notre Dame

Date: Monday, October 26, 2020

Time: 5:00 PM

Location: Zoom

Zoom URL: notredame.zoom.us/j/95815357423



Lecture Title:
Uniqueness of \mathbb{CP}^n

Abstract

A common theme in complex geometry is to construct and study moduli spaces of complex manifolds since there are typically more non-biholomorphic complex structures on a manifold than smooth structures. The prototypical compact complex manifold is \mathbb{CP}^n , so if one was able to construct exotic "complex" structures on projective space, it would be analogous to Milnor's discovery of exotic spheres in real differential topology. Following an exposition by Tosatti, we will discuss the basic ideas involved and survey the proof that at least there are no Kähler manifolds diffeomorphic but not biholomorphic to \mathbb{CP}^n as well as what is surmised without the Kähler assumption.