

Title: Topics on Moduli Spaces, Deformation Theory and Stacks

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Description: The aim is to introduce some frontier research topics to graduate students interested in Moduli Spaces, Deformation Theory and Theory of Algebraic Stacks. We will give elementary introductions to the moduli spaces of vector bundles (coherent sheaves), the moduli spaces of algebraic curves, and the moduli spaces of stable maps, mostly using examples. Along the way, we will also introduce the related Deformation Theory and Theory of Algebraic Stacks (as foundational tools for the moduli problems).

Everyone with 536 (or the equivalent) is welcome to register.

Text: I will provide lecture notes.

References: Moduli of Curves, Harris and Morrison.

The Geometry of Moduli Spaces of Sheaves, Huybrechts and Lehn.

Deformations of Algebraic Schemes, Edoardo Sernesi