

Yi Hu

Title: Moduli Spaces, Geometry Invariant Theory and Birational Geometry

We will give an introduction to moduli spaces in (algebraic) geometry and Geometry Invariant Theory. Many important examples, such as moduli of curves and vector bundles, will be covered. As a tool to understand the tangent spaces of moduli, we will also discuss the first-order infinitesimal deformation problem. Along the way, the birational geometry of algebraic varieties/moduli spaces will be explained.

Prerequisites: One semester course on Algebraic Geometry.

No textbook is required.

References: Geometric Invariant Theory, Mumford et al
Moduli of Curves, Harris et al
Deformation Theory, Hartshorne.