

Stacks and Equivariant Geometry

Within the past few decades, stacks have become a vital tool in the study of moduli problems in Algebraic Geometry. As geometric objects (e.g. genus g curves) frequently have automorphisms, their moduli spaces are not schemes, but rather stacks. This course will introduce algebraic spaces, Deligne-Mumford stacks, and Artin stacks, connecting them to geometric problems along the way, such as the construction of the moduli stack of genus g curves. We will also discuss equivariant geometry of schemes and the relationship between cohomology on stacks and group cohomology.