ABSTRACT

A *quiver Grassmannian* is a projective variety that parametrizes all subrepresentations of a given finite-dimensional quiver representation with a fixed dimension vector.

Quiver representation theory provides a useful way to study algebraic varieties using representation-theoretic methods. In particular, quiver Grassmannians connect algebraic geometry with quiver representations. A remarkable theorem of Reineke illustrates the extent of this connection:

Theorem 0.1 (Reineke)**.** *Every projective variety is a quiver Grassmannian.*

In this talk, we will introduce the basic notions of algebraic geometry and quiver representation theory needed to understand this result. We will then discuss the proof of the above theorem.