

Séminaire Groupes Réductifs et Formes Automorphes

Le 26 mars 2018 à 10h30 (Jussieu)

Stability and existence of moduli spaces for algebraic stacks. Attention : salle 15-25-502.

**Exposé de Jochen Heinloth
(Essen)**

Résumé :

Recently Alper, Hall and Rydh gave general criteria when a moduli problem can locally be described as a quotient and thereby clarified the local structure of algebraic stacks. We report on a joint project with Jarod Alper and Daniel Halpern-Leistner in which we use these results to show general existence results for good coarse moduli spaces. In the talk we will focus on two aspects that illustrate how the geometry of algebraic stacks gives a new point of view on classical methods. Namely we explain a version of Hilbert-Mumford stability and then show how Langton's proof of semistable reduction for coherent sheaves on projective varieties can be reformulated in terms of geometry. This allows to prove semistable reduction for an interesting class of moduli problems.