

The University of Chicago
ALGEBRAIC GEOMETRY SEMINAR

Wednesday, February 11th, 2015
4:30 – 6:00 pm, Eckhart 312

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Reductive moduli problems, stratifications, and applications

Many moduli problems in algebraic geometry are “too big” to possibly be parameterized by a quasi-projective scheme. Nevertheless, one can find a stratification of the moduli problem for which the large open stratum has a good moduli space, and the remaining strata have nice modular interpretations as well. I will introduce a framework for generalizing and analyzing stratifications of this kind arising in geometric invariant theory and in moduli problems for objects in derived categories of coherent sheaves, and I will discuss some applications of these stratifications to understanding the geometry of these moduli problems. This framework leads to the notion of a “reductive moduli problem” (which generalizes the notion of a reductive group) – these are the moduli problems for which the results of geometric invariant theory generalize in a nice way.