

1137-14-313

**Jarod Alper\***, jarod@uw.edu. *Quotients of algebraic varieties.*

In this talk, we will address the following question: given an algebraic group  $G$  acting on a variety  $X$ , when does the quotient  $X/G$  exist? We will provide an answer to this question in the case that  $G$  is reductive by giving necessary and sufficient conditions for the quotient to exist. We will discuss various applications to equivariant geometry, moduli problems and Bridgeland stability. (Received February 06, 2018)