Abstract:  
I will discuss several recent results on abstract homomorphisms between the groups of rational points of algebraic groups. The main focus will be on a conjecture of Borel and Tits formulated in their landmark 1973 paper. Our result settle this conjecture in several cases; the proofs make use of the notion of an algebraic ring. I will conclude by discussing several applications to character varieties of finitely generated groups and group actions.

For the pre-talk: I will recall some basic concepts from the theory of algebraic groups and outline a general philosophy for the study of rigidity phenomena between the groups of rational points of algebraic groups.

Special Note:  
There is a pre-talk for students and postdocs from 2:15 - 2:45.