

**SPEAKER:** David Harbater

**TITLE:** Patching and a local-global principle  
(joint with Julia Hartmann and Daniel Krashen)

**ABSTRACT:** Using patching, we establish a local-global principle for actions of algebraic groups that are defined over the function field of a curve over a complete discretely valued field, such as the  $p$ -adics. This result has applications to quadratic forms, including the Witt group and the  $u$ -invariant, and also to Brauer groups.

**RTG TALK-** *Introduction to patching:* Patching is a method that has been used to prove global results in certain situations in which the local situation is better understood. In algebra, the main application until recently has been to Galois theory and the étale fundamental group. More recently there have been other algebraic applications, as the main talk will discuss. The RTG talk will discuss the set-up of patching and give a basic example of how it has been used in the past.