JASON PARKER, University of Ottawa
Isotropy Groups of Algebraic Theories

Every first-order geometric theory $\mathbb{T}$ has a classifying Grothendieck topos $\mathbb{C}$, which contains a canonical group object called its 'isotropy group', which we may call the isotropy group of the theory $\mathbb{T}$. In this talk I will present several new results about the isotropy groups of equational algebraic theories. First, I will explain how we can use the initial purely categorical definition of the isotropy group to obtain a more concrete syntactical description of the isotropy group of an equational algebraic theory. I will then illustrate how to compute the isotropy groups of several popular algebraic theories, including the theories of (commutative) monoids, (abelian) groups, and (commutative) unital rings. Finally, I will explain how the isotropy group is an invariant of algebraic theories that captures a notion of 'inner automorphism', which generalizes the familiar notion from the theories of monoids, groups, and rings.