Preparing for Discovery: Supersymmetry Searches at the LHC

The Large Hadron Collider at CERN will produce proton-proton collisions at a center-of-mass energy near 14 TeV for the first time next year, thus opening a dramatic new energy regime for collider physics. In the wake of the discovery of the Higgs boson, the search for physics beyond the standard model is more pressing than ever with open questions such as the nature of dark matter and a potential natural solution to the hierarchy problem hanging in the balance. In this talk, Dr. Ulmer will review the status of searches for new physics at the LHC using two examples from the CMS experiment motivated by supersymmetry that demonstrate evolving search strategies applied to LHC data with a focus on robust analysis techniques that are ready for discovery. Preparations and prospects for the next LHC run will also be presented.