Fabrizio Caola – HEP Seminar March 30, 2021
Oxford University

**Title: Mixed QCD-Electroweak corrections to Drell-Yan production at the LHC**

Abstract: The Drell-Yan process is a key reaction at hadron colliders: its relative simplicity makes it a great candidate both for high-precision scrutinies of the Standard Model and for new physics investigations. In this talk, I will discuss a recent calculation of mixed QCD-Electroweak corrections to Drell-Yan production, which are an important theoretical ingredient both for Standard Model studies (most notably the W-mass measurement) and for new physics searches (like high-mass resonances or dark-matter investigations). I will highlight the theoretical subtleties that are involved in this kind of calculations and how to overcome them, and present phenomenological results relevant for high-precision W-mass extractions at hadron colliders.