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From Higgs Precision to BSM Signatures and Electroweak Baryogenesis

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My research explores the limitations of the Standard Model on three fronts. First, improving the theoretical precision for Higgsstrahlung at future electron-positron colliders to enable sensitive probes for new physics. Second, collaborating with ATLAS to search for BSM signatures in multi-lepton and b-jet events at the LHC, employing the GAMBIT framework for global statistical analysis and flavor physics. Third, connecting electroweak baryogenesis to flavor physics and explaining the baryon asymmetry of the universe, constraining CP-violation from electric dipole moments. Together, my work connects collider precision, direct searches, and cosmological theory to explore fundamental physics.

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