Contribution ID: **129** Type: **Talk**

Electric dipole moments, new physics, and QCD

Monday, 29 June 2015 11:50 (40 minutes)

Electric Dipole Moments (EDMs) of leptons, nucleons, atoms, and molecules are great probes of new sources of CP violation originating from physics beyond the Standard Model (BSM). In this talk I will discuss the central role that QCD and chiral dynamics play in the interpretation of current experimental searches. After an overview of the physics reach of various EDM searches, I will briefly review the chiral effective theory framework needed for the interpretation of hadronic and nuclear EDM searches. I will then present recent work towards the computation of the BSM-induced neutron and proton EDM using lattice QCD.

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Session Classification: Plenary Session 2