



LABORATORY FOR ELEMENTARY-PARTICLE
PHYSICS (LEPP)

Theory Seminar



Irene Valenzuela

Cornell

***The String Swampland and
Emergence of Global
Symmetries***

Consistency with quantum gravity can have significant consequences on low energy physics. Interestingly, it seems that not every effective field theory can be consistently coupled to quantum gravity unless it satisfies some additional consistency constraints dubbed Swampland constraints. In this talk, I will revisit such constraints and discuss the relation between the different Swampland conjectures and the notion of emergence of global symmetries. I will then focus on the Swampland Distance Conjecture for which infinite distances in field space imply an infinite tower of states becoming exponentially light. I will discuss new string evidence for this conjecture in moduli spaces of Type II and M/F-theory Calabi-Yau compactifications, by studying the monodromy discrete symmetries associated to the infinite field distance singularities.

Wednesday, Jan.23, 2019

2pm

401 Physical Sciences Building