

# SUSY 2015, 23rd International Conference on Supersymmetry and Unification of Fundamental Interactions

Contribution ID: 200

Type: **not specified**

## Little Conformal Symmetry

*Tuesday, 25 August 2015 16:30 (20 minutes)*

Given the lack of conventional SUSY signals in the LHC data, a more complicated story may be required to explain weak scale physics. We introduce a new scheme for canceling the quadratic divergence of the Higgs mass by addition of a new gauge boson. We can impose this cancellation between the gauge boson contribution and the top contribution to the Higgs mass at one scale while simultaneously setting the top Yukawa coupling at its fixed point. Embedding this in an approximately conformal theory allows the cancellation to hold over a large range of energy scales. While we remain technically agnostic as to the UV theory above the conformal breaking scale, explaining heavier SUSY partners without fine tuning motivated the model building.

**Primary authors:** Prof. TERNING, John (UC Davis); COLWELL, Kit (UC Davis); HOUTZ, Rachel (UC Davis)

**Presenter:** HOUTZ, Rachel (UC Davis)

**Session Classification:** Alternative Theories

**Track Classification:** Alternative Theories