

**Stony Brook University
The Graduate School**

Doctoral Defense Announcement

Abstract

Anomalies, Entanglement and Boundary Geometry in Conformal Field Theory

By

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Quantum field theories on manifolds with a boundary find important applications ranging from condensed matter physics to particle physics, from cosmology to string theory. I shall focus on some aspects of boundary conformal field theory in space-time dimensions higher than two. I will point out how boundary effect plays an important role in the study of quantum entanglement. I will also discuss relationships between boundary Weyl anomalies and stress-tensor correlation functions near the boundary. While free field theories have universal behaviors, certain interacting theories with the interaction restricted on the boundary provide interesting examples where boundary central charges can change in response to marginal deformation.

Date: May 7th, 2018

Program: Physics

Time: 3PM

Dissertation Advisor: Christopher Herzog

Place: C. N. Yang Institute for Theoretical Physics – Common Room