



# 清华大学高等研究院

Institute for Advanced Study, Tsinghua University

## 学术报告

**Title:** Modular Berry Connection and How Holographic Spacetimes Acquire Curvature

**Speaker:** Dr. Bartek Czech (IAS, Tsinghua)

**Time:** 3:30pm, Wednesday, March 27, 2019

**Venue:** Conference Hall 322, Science Building, Tsinghua University

### Abstract

In the AdS/CFT correspondence, it is believed that the bulk AdS spacetime is built out of quantum entanglement in the dual conformal field theory (CFT). If so, what feature of the CFT entanglement is responsible for the curvature of the bulk spacetime? In this talk, I will explain that the answer is the modular Berry connection. This is a Berry connection constructed out of modular Hamiltonians--operators that encode how complementary subregions of the CFT are entangled with one another. The modular Berry connection is a novel concept, with potential applications outside the AdS/CFT correspondence.