Speaker: Silviu Pufu, Wednesday 11/18

Title: Modular invariants in strongly-coupled N=4 super-Yang-Mills

Abstract: In this talk, I will first review some of the recent progress on computing holographic correlators using analytic bootstrap techniques combined with supersymmetric localization, focusing on the case of the N = 4 super-Yang-Mills theory. From taking a certain flat space limit of the holographic correlators, one can obtain scattering amplitudes of gravitons in string theory, and one can then reproduce some of the known results for these scattering amplitudes. In particular, from instanton effects in the N=4 SYM theory, I will explain how to reproduce the non-holomorphic Eisenstein series known to appear in type IIB string theory scattering amplitudes, and I will explain how to derive many other modular invariants appearing in correlation functions of the N=4 SYM theory.