"Koszul duality in field theory & holography"

Natalie Paquette (Caltech)

Abstract: In this talk we discuss the problem of coupling quantum field theories to topological line defects and explain that it is governed by a central mathematical notion called Koszul duality for associative algebras. We then propose an analogous physical definition of Koszul duality for chiral algebras. We will explain that in the context of (a twisted version of) AdS(3)/CFT(2), in which a chiral algebra naturally arises in the CFT(2), a deformation of this version of Koszul duality can be used to compute algebra OPEs. This talk is based on work in collaboration with K. Costello.