



# Sommerfeld Theory Colloquium

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Quantum mechanics and geometry of spacetime

Quantum mechanics is important for determining the geometry of spacetime. We will review the role of quantum fluctuations that determine the large scale structure of the universe. In some model universes we can give an alternative description of the physics in terms of a theory of particles that lives on its boundary. This implies that the geometry is an emergent property. Furthermore, entanglement plays a crucial role in the emergence of geometry. Large amounts of entanglement are conjectured to give rise to geometric connections, or wormholes, between distant and non-interacting systems.

Wednesday, 18 November 2015, 16:15h, Room A348/349, Theresienstr. 37/III