LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN | ARNOLD SOMMERFELD CENTER FOR THEORETICAL PHYSICS

Sommerfeld Theory Colloquium

Prof. Steve Giddings

UC Santa Barbara

Black holes as harbingers of new gravitational physics

The apparent crisis of black holes inconsistency with foundational physical principles provides a sharp focus for the conflict between quantum mechanics and classical spacetime. Various resolutions have been proposed; a very plausible one is that small interactions can transfer sufficient information between the black hole and outgoing radiation, with a quantum enhancement from the enormous number of black hole states. Such interactions must however violate conventional notions of locality, perhaps as a symptom of the more basic subtlety of information localization in quantum gravity, and hinting at aspects of the fundamental structure of quantum gravity. An intriguing question is whether further clues can be found from new observational windows on black holes.

Wednesday, 10 October 2018, 14:00h, Room B052, Theresienstr. 39

Prof. D. Lüst