



LUDWIG-
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MÜNCHEN

ARNOLD SOMMERFELD
CENTER FOR THEORETICAL PHYSICS



Arnold Sommerfeld Lecture Series

Professor Robbert Dijkgraaf
IAS Princeton, USA

Theory Colloquium:

Topological Gravity and Matrix Models

Random matrix models are ubiquitous in physics and have been studied from many perspectives. One important application is producing exactly solvable toy models of quantum gravity and string theory. These models relate to deep mathematical structures of the moduli space of Riemann surfaces. Recent work has extended these models to open strings and surfaces with boundaries. This generalization is less straightforward than one imagines and involves the introduction of additional degrees of freedom. These models have become relevant in recent studies of the gravitational dual of the SYK model, two-dimensional black holes, and gravity with constant curvature. Based on work done in collaboration with Edward Witten.

Wednesday, January 16, 2019, 16:15 h, Room A348, Theresienstr. 37, LMU