

YITP Colloquium: Jorge Kurchan
”Time-reparametrization invariance: from glasses to toy black holes”

Tuesday, July 30, 2024 3:30 PM (1h 30m)

Glassy dynamics have time-reparametrization “softness”: glasses fluctuate, and respond to external perturbations, primarily by changing the pace of their evolution. Remarkably, the same situation also appears in toy models of quantum field theory such as the Sachdev-Ye-Kitaev (SYK) model, where the excitations associated to reparametrizations play the role of an emerging “gravity”. I will describe how these two seemingly unrelated systems share common features, arising from a technically very similar origin.