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Title: Fluctuations of the Brownian motion on the unitary group.

Abstract: The free unitary Brownian motion is the operator-valued process which appears as the limit of the Brownian motion on the unitary group in large dimension.

In this talk, we will outline this convergence due to Biane, and then discuss the Gaussian fluctuations around the limit, which can be described in terms of three freely independent free unitary Brownian motions (this is a result of Lvy and Mada). The new method used allows to consider more general Brownian motions on the general linear group (joint work with Kemp).