Probabilistic Operator Algebra Seminar

Organizer: Dan-Virgil Voiculescu

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Title: *A fixed point approach to non-commutative central limit theorems*

Following Kargin's proof of a quantitative free central limit theorem and its subsequent generalizations by Chistyakov and Goetze, Berry-Esseen-type results have been obtained in various non-commutative settings. In this talk, we show how such results can be proved using a fixed-point approach, namely by constructing a metric on a space of probability measures, along with a contraction which has the appropriate analogue of the Gaussian distribution as a fixed point. In particular, this yields a rate of convergence of the order of $n^{-1/2}$ for the bi-free and bi-Boolean central limit theorems.