Probabilistic Operator Algebra Seminar

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Title: *Free probability of type B prime*

Free probability of type B was invented by Biane–Goodman–Nica and then was generalized by Belinschi–Shlyakhtenko and Fevrier–Nica to infinitesimal free probability. The latter found its applications to eigenvalues of perturbed random matrices in the work of Shlyakhtenko and Cébron–Dahlquist–Gabriel. This talk offers a new framework, called "free probability of type B′", which appears in the large size limit of independent unitarily invariant random matrices with perturbations. Our framework is related to boolean, free, (anti)-monotone, cyclic-(anti)monotone and conditionally free independences. We then apply the new framework to the principal minor of unitarily invariant random matrices, which leads to the definition of a multivariate inverse Markov-Krein transform