

Probabilistic Operator Algebra Seminar

Organizer: Dan-Virgil Voiculescu

June 7 **March Boedihardjo**, UCLA

Title: *Strong freeness of Gaussian matrices with correlated entries*

For $d \in \mathbb{N}$, let X be a $d \times d$ self-adjoint Gaussian matrix with correlated entries such that X has “degrees of freedom” $\gg d(\log d)^3$ and $\mathbb{E}(X^2) = I$. We show that i.i.d. copies of X are strongly asymptotically free. This includes periodic Gaussian band matrices with band width $\gg (\log d)^3$, or more generally, sparse Gaussian matrices corresponding to regular graphs on d vertices with degrees $\gg (\log d)^3$. Joint work with Afonso Bandeira and Ramon van Handel.