

Probabilistic Operator Algebra Seminar

Organizer: Dan-Virgil Voiculescu

Monday, 9:00–10:30 am, to attend via Zoom email David Jekel (djekel@uottawa.ca) remot

Oct 19 **Chun Guang Li**, Northeast Normal University

The single-generator problem for C^* -algebras

The single-generator problem asks whether every simple separable C^* -algebra can be generated by a single element. It is closely related to the classical generator problem for von Neumann algebras. In this talk, I will first review the background and some of the main developments concerning this problem. I will then present recent joint work on several classes of C^* -algebras. we prove that each Villadsen algebra of the first type is singly generated. In contrast, we construct a Villadsen algebra of the second kind that is not singly generated. For crossed products, we prove that if σ is a minimal homeomorphism of a compact metrizable space X , then $C(X) \rtimes Z$ is singly generated. Finally, we establish that the reduced group C^* -algebra $C_r^*(F_2)$ of the free group on two generators is singly generated. The results presented in this talk arise from joint work, in different collaborations with George A. Elliott, Zhuang Niu and M. Ruzicka.