

Probabilistic Operator Algebra Seminar

Organizer: Dan-Virgil Voiculescu

November 22 **Shinji Koshida**, Aalto University, Finland

Title: *Normalized characters of symmetric groups and Boolean cumulants via Khovanov's Heisenberg category*

In this talk, I will examine a relationship between the normalized characters of symmetric groups and the Boolean cumulants of Young diagrams. Specifically, I will show that each normalized character is a polynomial of twisted Boolean cumulants with non-negative integer coefficients as conjectured by Rattan and Sniady. The main tool is Khovanov's Heisenberg category and the recently established connection of the center to the ring of shifted symmetric functions, which allows for graphical calculus of observables on Young diagrams. This talk is based on arXiv:2110.15743.