

Probabilistic Operator Algebra Seminar

Organizer: Dan-Virgil Voiculescu

November 9 **Jorge Garza-Vargas**, UC Berkeley

Title: *Point Spectrum of Operators on Universal Covering Trees.*

Periodic operators on universal covering trees generalize periodic Schrodinger operators in one dimension, while retaining many of their fascinating properties. Furthermore, periodic operators on universal covering trees govern the spectral behavior of large random lifts of finite graphs and are of interest in the study of relative expanders. In fact, these operators are a random matrix limit and can be viewed as an operator valued matrix with free Haar unitaries in its entries. In this talk, after elaborating on the above connections, I will present recent joint work with Jess Banks and Satyaki Mukherjee where we fully characterize the point spectrum of the aforementioned operators and explain how it relates to any quotient of the corresponding infinite tree.