JAIME GARZA, University of Ottawa
Eigenvalues of Random Permutation Matrices

Random permutation matrices can be viewed as adjacency matrices of directed graphs consisting of disjoint cycles. Their eigenvalues are determined by the cycle structure of the underlying permutations, allowing spectral questions to be approached through the theory of random permutations. In this talk, we consider permutation matrices generated by the two-parameter Ewens–Pitman model. This model admits a sequential construction through the two-parameter Chinese restaurant process and includes uniform and Ewens permutations as special cases. We present joint work with Yizao Wang on the asymptotic behavior of cycle counts and linear eigenvalue statistics, highlighting the different fluctuation behavior that emerges beyond the classical Ewens setting.