# Abstract

Consider the Haar unitary matrix with the first row and column deleted, Życzkowski and Sommers derived the joint distribution of the eigenvalues, and showed that they form a determinantal point process. Killip and Kozhan extended this result to circular beta ensembles (with beta=2 corresponding to the unitary case), constructing a family of random (sub-unitary) CMV matrices and describing the eigenvalues of the truncated ensembles. In this talk, I will discuss the bulk and edge point process limits of the truncated circular beta ensembles, along with the scaling limits of the normalized characteristic polynomials. The limiting objects are closely connected to the iid Gaussian power series in the bulk regime and the stochastic zeta function in the edge regime. I will also explain how the random Dirac-type operator framework can be used to derive scaling limits for both the full and truncated circular ensembles.

Based on joint works with Mingchang Liu, Joseph Najnudel, and Benedek Valkó.