

# THE CONDITIONAL DPP APPROACH TO RANDOM MATRIX DISTRIBUTIONS

**Alan Edelman**

MIT, United States

edelman@mit.edu

We present the conditional determinantal point process (DPP) approach to obtain new (mostly Fredholm determinantal) expressions for various eigenvalue statistics in random matrix theory. Our formulae are highly amenable to numerical computations. Several numerical values that required hours of computing time can now be computed in seconds with our expressions. We also demonstrate that our technique can be applied to sampling of DR paths of the Aztec diamond domino tiling.

*Joint work with Sungwoo Jeong.*