

# Random Matrices & Asymptotical Combinatorics Seminar

Organizer: I. Dumitriu & N. Reshetikhin

Tuesday, 3:30–5:00pm, Evans 443

---

Nov. 2     **Ioana Dumitriu**, U.C. Berkeley

*Semicircle-type Laws: the method of moments in a new setting*

As the size of the matrix tends to infinity, the level density of a Gaussian ensemble (more generally, Wigner ensemble) tends to the semicircle distribution. This can be shown by the method of moments. For the Wishart ensembles, similar results hold, with the limiting distribution depending on a parameter  $\gamma$  which is the ratio of the two dimensions of the matrix.

I will show this result in a more general  $\beta$  setting, for both the Hermite and the Laguerre ensembles, and generalize to slightly more complicated random matrices which can be modeled in a "fixed plus Gaussian" setting.