Permutons

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We know that large random combinatorial structures (e.g., graphs, tilings, Ising configurations) with given parameters tend to look alike. But what do they look like?

In the case of permutations, we can in some cases answer this question with the help of limit structures called "permutons," together with a variational principle. Although in most cases we can only approximate permutons computationally, they seem always to be beautiful, analytic objects. We'll present some examples, contrasting their apparent nice behavior with the case of graphs and graphons.

This is joint work with Rick Kenyon, Dan Kral' and Charles Radin, begun at ICERM.