



Hong Kong Probability Seminar

<https://sites.google.com/site/hkprobability/>

Date: March 23, 2018 (Friday)
Time: 2:00 - 5:30pm
Venue: Room 4475 (via Lifts 25/26)
Academic Building, HKUST

Program

- **2:00-3:30pm: Benoît Collins (Kyoto University)**

Strong convergence for random permutations

Abstract: We consider an n -dimensional random matrix model obtained from a non-commutative polynomial in d unitaries and their inverse, after replacing the formal unitaries by random iid permutation matrices. This model has an obvious (Perron Frobenius) eigenvector and leaves invariant its orthogonal. We study the large n limit behavior of this model on the orthogonal of the PF eigenvector and show that in addition to asymptotic freeness, it has asymptotically no outliers. Time allowing, we will also discuss applications to random graph theory. This is joint work with Charles Bordenave.

- **3:30-4:00pm: Coffee break**
- **4:00-5:30pm: Laurent Ménard (Université Paris Ouest Nanterre)**

Random planar triangulations with an Ising model

Abstract: Angel and Schramm proved in 2003, that uniform planar triangulations converge for the local topology. The limit law, known as UIPT (for Uniform Infinite Planar Triangulation) has been much studied since and is now a well understood object. In this talk, I'll explain how such objects are defined and studied. In particular, I'll explain why the algebraicity of the generating functions is crucial, and where it comes from. I'll then turn to triangulations weighted by an Ising model and show how to extend the combinatorial results known for uniform triangulations and the local weak convergence. This is a joint work with Marie Albenque and Gilles Schaeffer.

All are welcome