Hong Kong Probability Seminar

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

Date:	**Dec 17, 2024 (Tuesday)**
Venue:	**Room 210, Run Run Shaw Building, HKU**

- **2:00 – 3:30pm : Shuangping Li (Stanford)**

  Some easy optimization problems have the overlap-gap property

  Abstract: We show that the shortest s-t path problem has the overlap-gap property in (i) sparse G(n,p) graphs and (ii) complete graphs with i.i.d. exponential edge weights. Furthermore, we demonstrate that in sparse G(n,p) graphs, shortest path is solved by O(log n)-degree polynomial estimators, and a uniform approximate shortest path can be sampled in polynomial time. This constitutes the first example in which the overlap-gap property is not predictive of algorithmic intractability for a (non-algebraic) average-case optimization problem. This is based on joint work with Tselil Schramm.

  3:30 – 4:00pm: Coffee break

- **4:00 – 5:30pm: Luca Lionni (ENS Lyon)**

  Introduction to invariant random tensors

  Abstract: I will discuss the characterization of invariant random tensors: their moments for finite size and asymptotically in the limit of infinite size, and known results for the real and complex, symmetric and non-symmetric Gaussians, and if time allows, the relation to the enumeration of pseudomanifolds.

All are welcome