Potential Theory of Regenerative Compositions

Supervisor: Alexander Gnedin

Research Group: Probability and Applications

Funding: For September 2021 entry: Funding may be available through QMUL Principal's Postgraduate Research Studentships, School of Mathematical Sciences Studentships, and EPSRC DTP, in competition with all other PhD applications.

Studentships will cover tuition fees, and a stipend at standard rates for 3-3.5 years.

We welcome applications for self-funded applicants year-round, for a January, April or September start.

Project description:

Composition structure is a consistent sequence of random ordered partitions, one for each integer n. There is a very precise correspondence between the increasing Lévy processes (subordinators) and composition structures with the property of regeneration, which allows one to model composition as path of a certain Markov chain. The aim of the project is to study how by the virtue of this correspondence the potential theory of subordinators translates in combinatorial terms, in particular as properties of the Green function of the Markov chain.

Further information:

How to apply

Entry requirements

Fees and funding