



The University of Chicago  
Department of Statistics

Seminars for Second Year Ph.D. Students

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**Partition-Valued Markov Processes**

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**ABSTRACT**

Partition-valued processes are often useful in modeling how relationships among individuals evolve with some index (time,  $\mathbb{N}$ , etc.). In genetics, random partitions can be used to model in which cluster of the population an individual lies at selected loci on a chromosome. When using a partition-valued Markov process to model the sequence of partitions induced by haplotypes for a sample of individuals, it is natural to require that the process is both reversible and consistent. In this talk, I will discuss why these conditions are natural in this context and how they give rise to a class of reversible and consistent partition-valued Markov processes.