



# "Infinite Exchangeability and Random Set Partitions"

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## **ABSTRACT**

This talk aims to introduce a Bayesian idea on multiple comparisons or simultaneous inference. Instead of constructing statistics for comparing variety means in pairs, we start with an infinitely exchangeable Gaussian prior for the variety effects such that each pair of varieties is equal with positive prior probability. Consistency conditions on joint exchangeable priors involving set partitions are discussed. The marginal posterior distribution on variety partitions is studied in an effort to interpret the real relations among them. The comparison with classical results is also given, as well as the marginal posterior distribution on group means involving set partitions. Finally, some applications to cluster analysis are discussed.