

# Permanents and Applications

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## **Lecture 1. Permanents and an Application to Ordered Data**

In this first talk, I will introduce the notion of permanents and describe some of its key properties. I will then explain the important role it can play in the distribution theory of order statistics and finally explain how various known results in the order statistics literature can be proved by using the permanent representation.

## **Lecture 2. Permanents with Applications to Outliers, Robustness and Ranked Set Sampling**

In this second talk, I will continue with the application of permanent representations of order statistics into some other related problems. I will specifically talk about applications to the analysis of multiple-outlier models and related robustness issues. Finally, I will explain how this theory can be used to discuss ordered ranked set sampling which results in more efficient inferential results than the usual ranked set sampling.