Permutation Designs and Codes

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Many problems in extremal set theory, design theory, and coding theory can be recast for permutations; these include analogues of the Erdos-Ko-Rado theorem, the existence of uniformly transitive sets of permutations with special properties and their relation to various designs such as SOMAs, and the possibility of decoding permutation codes beyond their minimal distance. The talk will survey some recent work on these issues.

A Web-Based Resource for Design Theory

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At Queen Mary, University of London, a project to create a web-based resource for design theory is underway. I will talk about some of the issues that have arisen during work on this project. In particular, it has been quite difficult to resolve the difference between the views of designs taken by mathematicians and statisticians, and also the fact that the same underlying structure can be used as an experimental design in many different ways.