

STATISTICS/DEAS (EE)  
JOINT  
COLLOQUIUM

WEDNESDAY, DECEMBER 06, 2006  
TALK: 4:00 PM - Maxwell Dworkin, Rm. G-115

**“Semigraphoids, Permutohedra, and Mice”**

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ABSTRACT

Semigraphoids are combinatorial structures that arise in statistical learning theory. They are equivalent to convex rank tests and to polyhedral fans that coarsen the hyperplane arrangement associated with the symmetric group. This lecture gives an introduction to this theory. It centers around our recent answers to questions raised by Matus, Studeny, Postnikov, Reiner and Williams. The mice are in the title because everything started with the analysis of microarray data in molecular biology.

Background reference: Milan Studeny: Probabilistic Conditional Independence Structures, Springer Series in Information Science and Statistics, 2005.