



The University of Chicago
Department of Statistics
Seminar Series

J. M. LANDSBERG

Department of Mathematics
Texas A & M University

Statistics and the Geometry of Tensors

MONDAY, February 28, 2011, at 4:00 PM

133 Eckhart Hall, 5734 S. University Avenue

Refreshments following the seminar in Eckhart 110.

ABSTRACT

I will describe how problems such as blind source separation and the reconstruction of evolutionary trees lead to questions in geometry. In the first case, quantities such as kurtosis (or more generally cumulants), viewed as homogeneous polynomials, need to be decomposed into sums of powers, which leads to the study of symmetric tensor rank. In the second, the field of algebraic statistics attempts to find polynomials that vanish on (multidimensional) tables with specified statistical behavior. Then I will survey results, old and new, from geometry relevant to these questions.

For further information and about building access for persons with disabilities, please contact Laura Rigazzi at 773.702.8333 or send email (lrigazzi@galton.uchicago.edu). If you wish to subscribe to our email list, please visit the following website: <https://lists.uchicago.edu/web/info/statseminars>.