



# THE UNIVERSITY OF CHICAGO

Department of Statistics

BAHADUR MEMORIAL LECTURES

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**High Dimensional Classical Multivariate Analysis: Ladders and  
Local Asymptotic Normality**

MONDAY, May 6, 2019, at 4:30 PM

Eckhart 133, 5734 S. University Avenue

*Refreshments before the seminar at 4:00PM in Jones 111*

## ABSTRACT

The ladder of hypergeometric functions  ${}_pF_q$  offers a classification of statistical distributions; in our case those of eigenvalues in multivariate analysis, as was first shown by James. Local asymptotic normality (LAN) transfers inferential questions from a sequence of potentially complicated models, for us involving high dimensional multivariate models with low rank structure, to a simpler limiting Gaussian model. In this talk, we outline an LAN theory for strong ('supercritical') signals in these models, emphasizing the systematic use of James' classification to guide the approximations. Confidence sets are used as an illustration.