THE THIRD

JYOTIPRASAD MEDHI MEMORIAL ANNUAL LECTURE

4:15 PM, 27 SEPTEMBER, 2019
LECTURE HALL 4, IIT GUWAHATI

SPEAKER
Professor Arup Bose
Indian Statistical Institute, Kolkata

Organized by
Department of Mathematics
IIT Guwahati, Guwahati - 781 039

Dr. Jyotiprasad Medhi (1925–2017) was undoubtedly the finest Mathematician and Statistician the north east region of the country has ever produced. We are glad to institute an annual lecture in the fond memory of the worldwide acclaimed scholar and writer.

About the talk:

The third *Jyotiprasad Medhi Memorial Annual Lecture* will be delivered by **Prof. Arup Bose**, one of the most acclaimed academicians in the field of Probability and Statistics in India. Prof. Bose is a Fellow of Institute of Mathematical Statistics, USA, a Bhatnagar awardee, a J. C. Bose Fellow and has received a lot of other distinctions for his contributions.

Title: Asymptotics of Large Dimensional Random Matrices and its uses in Statistical Analysis

Abstract:
Though the area of random matrices has grown rapidly within physics and mathematics, it is interesting to note that its first appearance was in Statistics. In the last couple of decades theory and applications of random matrices has grown enormously across many different scientific disciplines, for example in nuclear physics, operator theory, wireless communications, probability, and non-commutative probability. Though large dimensional random matrices (LDRM) has been gaining some attention in high dimensional statistics, statisticians by and large have remained unfamiliar with various aspects of LDRM.
The goal of this lecture is to quickly introduce a variety of asymptotic results for sequences of LDRM, specially from the point of view of the behavior of the limit spectrum of one or more sequences of random matrices, and point out some potential applications in statistics.
In particular, we hope to discuss some symmetric high dimensional random matrices (such as the Wigner matrix, the sample covariance and symmetrised polynomials of covariance matrices and auto-covariance matrices), and some non-symmetric high dimensional matrices (such as the Circulant matrix, the i.i.d. matrix and the autocovariance matrix).

The Department of Mathematics, IIT Guwahati, cordially invites you to the third *Jyotiprasad Medhi Memorial Annual Lecture.*

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