Please post

Call for Participation

Workshop

On

Multivariate Analysis: Matrix Methods

(28th November 2011 to 3rd December 2011, One Week)

Organized by the

DST- Centre for Interdisciplinary Mathematical Sciences (DST-CIMS)
(http://www.bhu.ac.in/CIMS),
Banaras Hindu University (BHU),
Varanasi – 221005, India. E-mail: dstcims@gmail.com

All-India Selection: **30 seats** (Preference will be given to the applicants of the universities / colleges / institutions in the range of 200 Kilometer from the BHU).

Expenses:

Food, study materials, and stationary etc will be provided to all participants by DST-CIMS, while accommodation & travel support (up to 3 AC fair) is available to the limited number of participants. However, certificate will be issued to only sincere and successful candidates.

ELIGIBILITY

Faculty at any college / university / institution in India, post-doctoral fellow, Ph.D. degree holder, Ph.D. students, M..Sc., M.Tech, B.Sc. final year students of statistics, and others interested in research.

Minimum qualification:

B.Sc. (Mathematics / Statistics), M.Sc. in Mathematics / Statistics / Theoretical Physics / Computer Science, M.Tech. in Electronics / Communication Engineering / Computer Science. Desirable: exposure to basic probability and statistics and good background in calculus and some matrix theory.

Closing date of applications: 7th November 2011

Apply on enclosed registration form to

The Coordinator / Dr. Manoj Kumar Singh

DST-Centre for Interdisciplinary Mathematical Sciences (DST-CIMS),

Banaras Hindu University (BHU), Varanasi-221005, India; E-mail: dstcims@gmail.com

With all necessary documents. Advanced application can be made by E-mail (mks_kjist@yahoo.co.in) , but signed hard copy of the application is required for final consideration.

About the topic of the Workshop

Multivariate analysis, matrix-variable calculus, and statistical distribution theory are indispensable tools for handling many important problems in different branch of physical and life sciences and engineering. For dealing more advanced and complex problems in different disciplines of science and engineering it become necessary to develop the theory of multivariate functions, matrix-variable calculus. Recently, multivariate analyses have been found many applications in sonar, radar and other communication problems and engineering. The objective of this workshop is provide knowledge to research workers, students, and faculty, so that they will be able to deal with multivariable mathematical model, which are used in different fields such as life science modeling, engineering problem, weather modeling, demographic modeling, optimization etc. Following topics will be covered in this workshop:

Preliminaries: Vector and matrix derivative operators, properties, some basic Jacobians of matrix transformations, linear, quadratic and bilinear forms and definiteness of quadratic forms.

Topics to be covered in multivariate setup: Matrix variate gamma function in the real case, matrix variate beta functions and the corresponding densities; Wishart density as a particular case, decomposition of a matrix with reference to Wishart matrix, multivariate and matrix variate Gaussian density; sample matrix and matrix representations; Laplace transform in the matrix cases; Testing hypotheses in the multivariate Gaussian case, one and many populations, null and non-null distributions of test statistics; some eigenvalue problems; applications in various areas; Principal components and canonical correlation analysis; prediction and regression problems in multivariate setup.

Speaker:

Prof. A. M. Mathai,

Emeritus Professor (Full Professor) of Mathematics and Statistics, McGill University, Montreal, Canada, and Director, Centre for Mathematical Sciences, [Trivandrum Pala and Hill Area Campuses], Kerala, India. Web: www.cmsintl.org

Venue: CIMS, BHU, Varanasi, India.

The Centre for Interdisciplinary Mathematical Sciences (CIMS) has been established by the Department of Science and Technology, Government of India, New Delhi in Banaras Hindu

University (BHU), Varanasi in November 2007 to promote research and training in all branches of Mathematics but particularly those of interdisciplinary nature. The Department of Mathematics, Statistics, Applied Mathematics and Computer Sciences are its participating departments.

Varanasi is the cultural capital of India and the melting pot of Indian civilization. There are daily domestic flights to and from Varanasi to several cities in India. Apart from the state owned Indian Airlines, there are many private air taxi operators that offer their services from Varanasi to other Indian cities. Since Varanasi lies in the heartland of the North Indian plains, it is well connected to Delhi, Kolkata, Mumbai and other parts of India. There are two railway stations in Varanasi, the Kashi Junction and the Varanasi Junction (also known as Varanasi Cantonment). Varanasi has many landmarks for tourist.

Lectures

Monday – Saturday

First lecture: 8:30 – 10:30hrs; Coffee plus first problem session: 10:30 - 13:00 hrs
Second lecture: 14:00 – 16:00; Coffee plus second problem session : 16:00 – 18:00hrs

Attendance in every lecture and every problem-solving session is compulsory.

No part-time attendance. Class test at end of each section, certificate will be issued to only sincere and successful candidates. Moreover, cumulative grade will appear on the certificate.

How to Apply

Your application shall include following, in the prescribed format:
i. a short CV, giving information on personal and professional data.
ii. A complete application form

Application form completed in all respect must reach by the closing date of submission of applications i.e. 7th November, 2011 at the following e-mail: mks_kjist@yahoo.co.in, and send the hard copy at following address:

The Coordinator / Dr. Manoj Kumar Singh
DST –Centre for Interdisciplinary Mathematical Sciences (DST-CIMS),
(Near City Delegacy),
Faculty of Science, Banaras Hindu University (BHU),
Varanasi – 221 005. India.
Phone : + 91 – 8005434293 (Mob.)
E-mail: mks_kjist@yahoo.co.in
Web.: http://www.bhu.ac.in/CIMS

REGISTRATION FORM

Workshop

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Multivariate Analysis: Matrix Methods

(28th November 2011 to 3rd December 2011, One Week)

Name :

(In block letters)

Present Position :

Age / Sex :

Affiliation :

Research Experience: Years : Months:

Research Area :

Number of Publications: National : International:

Whether studied/ attended any course on Probability & statistics, Linear algebra and Matrix theory at undergraduate / master / research level. (If yes, please give brief outlines of the course attended)

Address for Correspondence:

Telephone Numbers: (O) (R) Mobile:

Signature of the Candidate

This is to certify that Dr. / Mr./ Ms. …… is a Faculty / Ph.D./ M.Sc. / M.Tech. student in the Department since ……

Signature and Seal of the HOD / Principal

Name and address of two referee with e-mail: i.

ii.