

Patrons:

Dr. M. Ramdas Pai
Chancellor, MAHE, Manipal
Lt. Gen. (Dr.) M. D. Venkatesh
Vice Chancellor, MAHE, Manipal
Dr. PLNG Rao
Pro Vice Chancellor(QA & FHS), MAHE,
Manipal
Dr. Anil Rana
Director, MIT, MAHE, Manipal

Scientific Advisory Committee:

Ravindra B. Bapat (Chairman)
ISI Delhi Centre
Stephen J. Kirkland
University of Manitoba, Canada

Advisory Committee:

Lt. Gen. (Dr.) M. D. Venkatesh
Vice Chancellor, MAHE, Manipal
Sayed Ejaz Ahmed
Brock University, Ontario, Canada
Narayanaswamy Balakrishnan
McMaster University, Hamilton, Canada
R. Balakrishnan
Bharathidasan University, Tiruchirappalli
Abraham Berman
Technion-Israel Inst. of Technology, Israel
Paritosh Biswas
Von Karman Society, Jalpaiguri
Rajendra Bhatia
Ashoka University, Haryana
Francisco Carvalho
Polytechnic Institute of Tomar, Portugal
Katarzyna Filipiak
Poznan Uni. of Technology, Poland
Surender Kumar Jain
Ohio University, USA
Daniel Klein
PJ Safarik Uni. in Kosice, Slovak Republic
S. H. Kulkarni
Indian Institute of Technology, Madras
Augustyn Markiewicz
Poznań Uni. of Life Sciences, Poland

Local Organizing Committee:

Narayana Sabhahit(Chairman)
Registrar, MAHE, Manipal
Ramesha C. (Co-org. Secretary)
DOM, MIT, MAHE, Manipal
Vinay M. (Co-org. Secretary)
DOM, MIT, MAHE, Manipal

Local Organizing Committee Members:

Asha Kamath
Associate Director, PSPH,
Prof. & Head, DDS, MAHE, Manipal

Anjan Raychaudhuri
Prof., & Head, DOM,
SMIT, Sikkim

G. Sudhakara
Prof. & Head, DOM,
MIT, MAHE, Manipal

Dr. H. S. Ballal
Pro Chancellor, MAHE, Manipal
Dr. H. Vinod Bhat
Executive Vice President, MAHE, Manipal
Dr. Helmut Brand
Director, PSPH, MAHE, Manipal

Manjunatha Prasad Karantha (Convenor)
CARAMS, MAHE, Manipal
Simo Puntanen
Tampere University, Finland

Samir K. Neogy
Indian Statistical Institute, Delhi Centre
Simo Puntanen
Tampere University, Finland
T. E. S. Raghavan
University of Illinois at Chicago, USA
K. P. S. Bhaskara Rao
Indiana University Northwest, Gary, Indiana
T. S. S. R. K. Rao
Ashoka University, Haryana
Dietrich von Rosen
Swedish Uni. of Agricultural Sciences, Sweden
Sharad Sane
Chennai Mathematical Institute
Bhaba Kumar Sarma
Indian Institute of Technology Guwahati
Ajit Iqbal Singh
Indian National Science Academy, New Delhi
Martin Singull
Linköping University, Linköping, Sweden
George P. H. Styan
McGill University, Canada
Julia Volaufova
Louisiana State University, New Orleans
Hans-Joachim Werner
University of Stuttgart, Germany

Manjunatha Prasad Karantha (Org. Secretary)
CARAMS, MAHE, Manipal
Vasudeva Guddattu (Co-org. Secretary)
DDS, PSPH, MAHE, Manipal



CARAMS

International Workshop on Matrices and Statistics (IWMS 2021)



December 13 - 15, 2021

28th IWMS will be held in the hybrid format



Sponsors



National Medical
Commission

Centre for Advanced Research in
Applied Mathematics and Statistics
Manipal Academy of Higher Education, Manipal
Karnataka 576 104, India

In association with

Department of Data Science, PSPH, MAHE, Manipal, Department of Mathematics, MIT, MAHE, Manipal,
Department of Mathematics, SMIT, Sikkim.



carams@manipal.edu
carams.mahe@gmail.com



+91 820 2922407
+91 820 2570062

Visit us at <https://carams.in/events/iwms2021/>

About the Workshop

CARAMS welcomes the opportunity to hold the 28th international workshop once again in India. The series of workshops started at University of Tampere, Finland in the year 1990 and the 27th was held at Shanghai, China. The 9th Workshop, the first one in India, was held at Hyderabad in 2000, celebrating 80th birthday of C. R. Rao. To know more about the history, see <https://tinyurl.com/y327rsv2>.

The purpose of the workshop is to stimulate research and, in an informal setting, to foster the interaction of researchers in the interface between statistics and matrix theory. The workshop will provide a forum through which statisticians may be better informed of the latest developments and newest techniques in linear algebra and matrix theory and may exchange ideas with researchers from a wide variety of countries. As well as range of plenary speakers we are to strengthening the interactions between participants by organizing a range of mini-symposia in various specialist areas. Beside organizing invited talks from eminent speakers, we invite participants to submit their research articles in the sessions of **contributory talks**.

Topics to be covered

- Matrix Analysis
- Projectors in Linear Models & Multivariate Analysis
- Growth Curve Models
- Linear Regression Models
- Linear Statistical Inference
- Modelling Covariance Structures
- Multivariate and Mixed Linear Models
- Statistics in Big Data Analysis

About MAHE, Manipal

Manipal Academy of Higher Education is synonymous with excellence in higher education. MAHE is one of India's leading academic and research institutions. It has been granted Institution of Eminence status by the Ministry of Human Resource Development, Government of India. Over 28,000 students from 57 different nations live, learn and play in the sprawling University town, nestled on a plateau in Udupi district of Karnataka. It also has nearly 2500 faculty and almost 10000 other support and service staff, who cater to the various professional institutions in Health Sciences, Engineering, Management, Communication and Humanities which dot the Wi-Fi-enabled campus. The University has off-campus in Mangalore and Bangalore, and off-shore campuses in Dubai (UAE) and Melaka (Malaysia). The Mangalore campus offers medical, dental, and nursing programs. The Bangalore Campus offers programs in Regenerative Medicine. The Dubai campus offers programs in Engineering, Management and Architecture, and the Melaka campus offers programs in Medicine and Dentistry. Every institute has world class facilities and pedagogy, which are constantly reviewed and upgraded to reflect the latest trends and developments in higher education. For more details visit us <https://manipal.edu/>.

About CARAMS

CARAMS has been established in September 2018 at MAHE with the objective of fostering advanced research and training in the area of Mathematics, Statistics and their applications. It facilitates the bridging of the gap between Mathematicians/Statisticians and Applied Mathematicians working in the area of Health, Technological, and Social Sciences. For more details, visit <https://carams.in/>.

Special Issue and Proceedings:

We are exploring the journal in which a special issue is dedicated to the conferences. For further updates, visit <https://carams.in/>.
Proceedings: We also invite, research and expository articles in the form of chapters focused on the theme area of ALAPS 2020, IWMS 2021 and ICLAA 2021 for the possible publication in a proceeding. Title of the book in honor of Prof. C. R. Rao will be "Applied Linear Algebra, Probability, and Statistics".

How to Register?

Enroll in our portal using the link <http://carams.in/registration> and then sign in to 'My Page' for further registration, guidelines for online fee payment, uploading of personal information, title and abstract of talk, and any relevant information.

Speakers

- N. Balakrishnan**, McMaster University, Canada
Adi Ben-Israel, Rutgers Business School, Newark
Arup Bose, Indian Stat. Inst., Kolkata, India
Susmita Datta, Uni. of Florida, Gainesville, USA
Stephen J. Haslett, Massey University, New Zealand
Somdeb Lahiri, PD Energy University, Gujarat, India
- Augustyn Markiewicz**, Poznan Uni. Of Life Sci., Poland
S. K. Neogy, Indian Stat. Inst., Delhi, India
Simo Puntanen, Tampere University, Finland
Arni S. R. Srinivasa Rao, Medical Col. Of Georgia, USA
Dietrich von Rosen, SLU Uppsala, Sweden
George P. H. Styan, McGill University, Canada

The above is the initially confirmed list of speakers and for the update, visit <https://carams.in/events/iwms2021/>

Registration Fee (for In Person Participation)

Category	IWMS 2021	IWMS 2021 + ICLAA 2021
Foreign Nationals	\$350	\$350
Indian Nationals, Research Scholars and Faculty	₹2000 + GST	₹3500 + GST
Indian Students having no funding support	₹1000 + GST	₹2000 + GST

There is no GST for the Faculty/Research Scholars/UG/PG Students of MAHE

Registration Fee for Accompanying Person

Category	IWMS 2021	IWMS 2021 + ICLAA 2021
Foreign Nationals	\$200	\$200
Indian Nationals, Research Scholars and Faculty	₹1000 + GST	₹2000 + GST

Registration Fee (for Virtual Participation)

Category	IWMS 2021 + ICLAA 2021
Foreign Nationals	\$100
Indian Nationals, Research Scholars and Faculty	₹1000 + GST

Participants seeking the certificate of participation must pay the registration fee on time as above. Registration fee covers registration kit, breakfast, lunch and dinner.

Important Dates:

- Last date for registration : **December 01, 2021**
- Last date for abstract submission : **November 25, 2021**
- Notification of abstract acceptance : **December 05, 2021**

In case of delegates making virtual presentation, deadline for registration, payment of registration fee, submission of abstract and submission of pre-recorded talk is **November 15, 2021**.

Accommodation

Since arranging safe single accommodation away from the population is preferred, participants will be charged for their accommodation at the guest house. The cost of single accommodation is approximately 1000 INR + GST per night.

For more information visit us at <https://carams.in/events/iwms2021/>