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 (Chairman)

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 Institute of Technology, Israel

Rajendra Bhatia

Ashoka University, Haryana

**Paritosh Biswas** 

Von Karman Society, Jalpaiguri

Francisco Carvalho

Polytechnic Institute of Tomar, Portugal

Katarzyna Filipiak

Poznan University of Technology, Poland

Surender Kumar Jain

Ohio University, USA

**Daniel Klein** 

PJ Safarik University in Kosice, Slovak Republic

S. H. Kulkarni

Indian Institute of Technology, Madras

**Augustyn Markiewicz** 

Poznań University 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

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 Igbal 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

G. Sudhakara





# **International Conference on Linear Algebra and its Applications** (ICLAA 2021)



December 15 - 17, 2021

ICLAA 2021 will be held in the hybrid format



Endorsed by



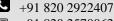
Centre for Advanced Research in **Applied Mathematics and Statistics** Manipal Academy of Higher Education, Manipal Karnataka 576 104, India

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 2570062

#### **About the Conference**

The present conference shall provide a platform for leading Mathematicians and Statisticians, working around the globe in the theme area to discuss several research issues and to introduce new innovations. The main goal of the conference is to bring experts, young researchers, and students together to present recent developments in this dynamic and important field. The conference also aims to stimulate research and support the interaction between the scientists by creating an environment for the participants to exchange ideas and to initiate collaborations and professional partnerships. ICLAA 2021 is in sequel to the conferences CMTGIM 2012, ICLAA 2014, and ICLAA 2017 held in Manipal during January 2012, December 2014, and December 2017, respectively.

#### The theme of the conference shall focus on

- Classical Matrix Theory and Linear Algebra
- Nonnegative Matrices and Special Matrices
- · Matrices and Graphs
- Combinatorial Matrix Theory
- Linear Statistical Inference
- Matrix and Graph Methods in Statistics
- Matrix and Graph Methods in Biological Sciences
- Matrices in Error Analysis and its Applications

## **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-campuses 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 to bridge the gap between Mathematicians/Statisticians and Applied Mathematicians working in the area of Health, Technological, and Social Sciences. For more details visit: <a href="http://carams.in">http://carams.in</a>

## **Special Issue and Proceedings**

We are exploring the journal in which a special issue can be dedicated to the conferences. For further updates, visit <a href="https://carams.in/">https://carams.in/</a>.

**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 <a href="http://carams.in/registration">http://carams.in/registration</a> 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**

Rafikul Alam, Indian Inst. of Tech. Guwahati, India S. Arumugam, Amrita Vishwa Vidyapeetham, India N. Balakrishnan, McMaster University, Canada Ravindra B. Bapat, Indian Stat. Inst., Delhi, India Adi Ben-Israel, Rutgers Business School, USA Abraham Berman, Technion-Israel Institute, Israel B. V. Rajaram Bhat, Indian Stat. Inst., Bangalore, India Shaun M. Fallat, University of Regina, Canada Surender Kumar Jain, Ohio University, USA Apoorva Khare, Indian Inst. Of Sci., Bangalore, India Samir K. Neogy, Indian Stat. Inst., Delhi, India

Sukanta Pati, Indian Inst. of Tech. Guwahati, India Simo Puntanen, Tampere University, Finland T. E. S. Raghavan, Uni. of Illinois at Chicago, USA Balaji R. Indian Inst. of Tech. Madras, India K. P. S. Bhaskara Rao, Indiana Uni. Northwest, USA T. S. S. R. K. Rao, Ashoka University, Haryana, India Sharad Sane, Chennai Math. Inst. Chennai, India K. C. Sivakumar, Indian Inst. of Tech. Madras, India M. K. Srinivasan, Indian Inst. of Tech. Bombay, India S. Sivaramakrishnan, Indian Inst. of Tech. Bombay, India

Hans Schneider ILAS lecture (2020): Stephen J. Kirkland, University of Manitoba, Canada

The above is the initially confirmed list of speakers and for the update, refer to https://carams.in/events/iclaa2021/

## **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 details visit: https://carams.in/events/iclaa2021/