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CARAMS

International Conference on Linear Algebra and its Applications (ICLAA 2023, Manipal, India)

December 18 - 21, 2023

ICLAA 2023 @

Endorsed by

ILAS
International Linear Algebra Society

SERB INDIA

Preconference Workshop
Special Matrices, Graphs and Applications
December 11-17, 2023

Organized by

Centre for Advanced Research in Applied Mathematics and Statistics
MAHE, Manipal, Karnataka 576 104, India

NBHM

In association with

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

Convener: Dr. K. Manjunatha Prasad
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Venue: Manipal Institute of Technology, Manipal, India

About the Conference

The present conference ICLAA 2023, Manipal India, the fifth in its sequel, 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 among the scientists by creating an environment for the participants to exchange ideas and to initiate collaborations and professional partnerships. Besides organizing invited talks from eminent speakers, we also invite participants to present their research work in the sessions of contributory talks.

On behalf of the Scientific Advisory Committee, and the Local Organizing Committee, we have much pleasure in extending a cordial invitation to participate in this conference.

> **The theme of the conference shall focus on but not limited to**
> - Classical Matrix Theory and Linear Algebra
> - Nonnegative Matrices and Special Matrices
> - Matrices and Graphs
> - Combinatorial Matrix Theory
> - Matrix Methods in Statistics
> - Linear Statistical Inference
> - Matrices in Error Analysis and its Applications.
> - Matrix and Graph Methods in Applied Sciences

This conference is in sequel to the conferences CMTGIM 2012, ICLAA 2014, ICLAA 2017, and ICLAA 2020(21) held in Manipal during January 2012, December 2014, December 2017, and December 2021, respectively. The present conference shall provide an avenue for leading Mathematicians, Statisticians, and scientists working in the applied area, who are working around the globe in the theme area to get together in the physical space, interact each other, discuss several research issues and to introduce new innovations. Besides organizing invited talks from eminent speakers, organizers invite the participants to present their research work in the sessions of contributory talks.

Special Sessions: The conference is with three special sessions namely, 'Special Matrices', 'Matrix Methods in Statistics', and 'Matrices, Graphs, and Applications'. These three sessions are dedicated to the great linear algebraists - Abraham Berman, Simo Puntanen, Ravindra B Bapat, and Steve J Kirkland who have been associated with the ICLAA series for last several years.

Publications: Research papers presented in the conference will get an opportunity of the possible publication in one of the special issues dedicated to the conference in the following journals, subject to acceptance after the standard peer review process adopted by the journals.
1. Indian Journal of Pure and Applied Mathematics, Springer
2. AKCE International Journal of Graphs and Combinatorics, Taylor & Francis
3. Palestine Journal of Mathematics, Palestine Polytechnic University

For the timelines and more details, please visit the conference page https://carams.in/.

Best Paper Award: To encourage research and motivate young researchers, the best paper award competition will be conducted under the following three themes:
    Theme 1. Matrix Theory, Special Matrices, and their applications
    Theme 2. Matrix Methods in Statistics, Linear Statistical Inference, and Applications
    Theme 3. Matrix Methods in Graphs, Generalized Inverses and Matrices over different Algebraic Structures

Eligibility: Full research articles (need not be original) on any of the above-mentioned themes are invited from the researchers (presenting authors) belonging to any of the following categories:
    Category 1. UG/PG Students and PhD Scholars within 1 year of PhD registration
    Category 2. Any researcher with age less than 35 years (DOB on/after December 21, 1988)

All original papers selected for presentations will be forwarded to the review process in the appropriate conference publications. For more details, visit: carams.in/events/iclaa2023/.

Preconference Workshop; IWSMGA 2023

Preconference workshop `International Workshop on Special Matrices, Graphs, and Applications' will be held during December 11 - 17, 2023. The workshop is aimed at training young students, scholars, and faculty interested in the focus area of special matrices, graphs, and their applications. Sessions in the workshop include lectures, tutorials and discussion on recent research trends in special matrices and graphs by Abraham Berman, Ravindra B Bapat, S K Neogy, and other leading personalities of the subject. Conference participants may seek participation in the workshop. The number of participants in the workshop is restricted. Participants who could gain the benefit from the course will be chosen as the applications arrive. The course conducted in the workshop will carry a credit of two. For the final list of speakers and the exact topics to be covered, please see https://carams.in/.

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 ranks 7th among Indian universities as of 2022. It has been granted Institution of Eminence status by the Ministry of Education, Government of India. Over 28,000 students from 57 different nations live,

For more details, visit: https://carams.in/

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 UG & PG programs in Science, Arts, Commerce, Humanities, & Public Policy streams. The Dubai campus offers programs in Engineering, Humanities & Social Sciences, Information Sciences, Life Sciences, Media & Communication, 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.

How to Register?

Enroll in our portal using the link http://carams.in/registration and then sign in '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, IIT Guwahati, India
Ravindra B. Bapat, ISI Delhi Center, India
Abraham Berman, Technion-Israel Inst. of Tech., Israel
Stephen J. Haslett, Massey Univ. New Zealand
Surender Kumar Jain, Ohio University, USA
Debajit Kalita, Tezpur University, India
Rajesh Kannan, IIT Hyderabad, India
Steve J. Kirkland, Univ. of Manitoba, Canada
Bojan Mohar, Simon Fraser University, Canada
S. K. Neogy, ISI Delhi Center, India
Sukanta Pati, IIT Guwahati, India
Simo Puntanen, Tampere University, Finland

Balaji R., IIT Madras, India
T. E. S. Raghavan, Univ. Illinois at Chicago, USA
Dietrich von Rosen, Linköping University, Sweden
Arumugam S., Ramco Inst. of Tech., Tamil Nadu, India
Sharad Sane, Chennai Mathematical Institute, India
Bhaba Kumar Sarma, IIT Guwahati, India
Peter Semrl, Inst. Of Math. Phys. & Mech., Slovenia
Martin Singull, Linköping University, Sweden
Bikas Kumar Sinha, ISI Kolkata, India
K. C. Sivakumar, IIT Madras, India
Sivaramakrishnan Sivasubramanian, IIT Bombay, India
Murali K. Srinivasan, IIT Mumbai, India

The above is the initially confirmed list of speakers and for the update refer to carams.in/events/iclaa2023/.

Registration Fee (MAHE Faculty/Students are exempted from paying GST)

Category	Conference		Workshop	
	Early Bird Reg Fee	Late Reg Fee	Early Bird Reg Fee	Late Reg Fee
Foreign Delegates (FD)	350 $/ 330 € #	400 $/ 370 € #	110 $/ 100 € #	135 $/ 125 € #
Foreign Accompanying	110 $/ 100 €	110 $/ 100 €	110 $/ 100 €	135 $/ 125 €
Indian Scholar/Faculty (ISF)	4000 INR + GST #	4500 INR + GST #	1000 INR + GST*	1500 INR + GST *
ISF Accompanying	1000 INR + GST	1000 INR + GST	-	-
Indian Students **	1000 INR + GST *	1000 INR + GST *	1000 INR + GST *	1000 INR + GST *

: The registration fee covers accommodation at Hostel/International Guest House, MAHE, registration kit, breakfast at venue, working lunch, and welcome dinner on 17th December.
*: The amount excludes accommodation charges, which is to be paid as per norm.
**: Indian students or research scholars not having any financial support of fellowship/salary.
Invited speakers are eligible for a registration fee waiver for the events to which he/she is invited.
Accommodation from the organizer will be arranged, if any, for the duration starting from the evening before the event and up to morning after the event.
CARAMS aims at supporting the travel and registration of senior and young scientists not having the fund support to present the paper, on the request made before November 30, 2023. However, such support (which could be partial) will be provided depending on the fund support received from the different organizations.

Deadlines (both ICLAA & IWSMGA)

- For early bird registration: **October 31, 2023**
- Abstract submission: **November 15, 2023** (For presentation)
- Extended abstract submission: **October 31, 2023** (For presentation and special issue)

Timeline for submission of paper for journal publications: Visit publication section in carams.in/events/iclaa2023/.