

A Report

on

*International Conference on Mathematical Analysis
and its Applications
ICMAA - 2016*

28.11.2016 to 02.12.2016

Organizers

*Prof. V. K. Katiyar (President)
Prof. N. Sukavanam (Chairperson)
Dr. A. Swaminathan (Convener)
Dr. Uday Singh (Co-Convener)*



Organizing Department

**Department of Mathematics
Indian Institute of Technology Roorkee**

Relevance & importance of the Topic Mathematically in the context of National needs

The main concept of the conference international Conference on Mathematical Analysis and its Applications (ICMAA) 2016 is working on the theme of a particular branch of Mathematics called Mathematical Analysis and its Applications. The main objective of the conference is to bring experts working on these problems from various academic Institutions in the world together so that they can interact with the young researchers working in India and to exchange the ideas. The conference will act as a platform to inculcate research interests among young minds on recent topics of research in Mathematical Analysis.

a). Review State of Art

The conference focused on the following special topics of Mathematical Analysis.

- Analysis of Differential Equations (including control theory, Fractional Calculus and Stochastic PDEs)
- Complex Analysis of finite and infinite dimensions
- Fourier and Wavelet Analysis
- Harmonic Analysis (including Potential theory, Harmonic Mappings and Quasi-Conformal Mappings)
- Inverse Problems and Non-linear Analysis
- Matrix Analysis, Operator Theory and Function Spaces
- Modern Methods of Summability and Approximation.
- Orthogonal Polynomials and Special Functions

The concept of Mathematical Analysis is generally abstract and theoretical in nature. A clear understanding of the concepts can provide sufficient input to various applications. The focus on the conference was in the tools, methods and concepts where the fundamentals are complicated and poorly understood so that an insight is achieved to develop the subject and its application in various fields.

The subject area is well-known in India and has a strong literature and history in the academic circle. However the recent developments and modern techniques need to be updated so that academicians and in particular researchers working on these topics can be working in par with the international standards. For this purpose, the conference organized with the objective to serve as a platform to exchange the ideas and reduce the differences.

Schedule of the Conference

Separate sheet attached

Specific Programme of Action

Total program days	:	05 days
Total number of sessions	:	35 sessions
Plenary talks	:	11 (including Key-note Speaker) - 55 minutes each
Invited talks	:	21 - 45 minutes in parallel sessions
Expert talk (short talk)	:	31 - 35 minutes in parallel sessions
Contributed talk	:	92 - 20 minutes in parallel sessions
Proceedings to be published	:	Journal of Analysis (Springer)
Total No. of Participants	:	167 participants
No. of countries	:	16 countries (4 continents)
Instt. of National Importance	:	30 (inclusive of IITs and IISc)

Title and Abstracts of the Scientific talk/presentation

Book of abstracts attached.

Salient features

Chairperson for the Inaugural	:	Prof. R. Balasubramanian, Matscience, Chennai
Key-note speaker	:	Prof. Walter Van Assche, Kaothlike University of Leuven, Belgium, President, SIAM-OPSF

Other Prominent Experts

:

Prof. Francisco Marcellan, Spain and President, Royal Society,
Prof. Kerstin Jordaan, President South African Mathematical Society,
Prof. Marek Kowolski, Chairman, Poland Accreditation Council
Prof. David Gomez Ullatte, ICMAT, Spain
Prof. Michael Dorff, Brigham Young University, Utah, USA
Prof. Rosihan M Ali, Universiti Sains Malaysia, Penang, Malaysia
Prof. A. Sriranga, UNESP, SJ, Sau Paulo, Brazil
Prof. Arpad Baricz, Babes Bolyai University, Romania
Prof. Henrik L Pedersen, University of Copenhagen, Denmark
Prof. Teodar Bulboaca, Babes Bolyai University, Romania
Prof. S. Ponnusamy, Director, Indian Statistical Institute (Chennai), India.
Prof. S. Kesavan, Visiting Professor, I.I.T. Madras, Chennai
Prof. S. Thangavelu, I.I.Sc. Bangalore

Proceedings

The proceedings of the conference will be published by the Journal of Analysis (Springer) as a special volume for which the peer- review process as per the Springer Online system is in progress. The special editors for this volume are Prof. S. Ponnusamy, Prof. Fransisco Marcellan, Prof. Ram N. Mohapatra and Dr. A. Swaminathan

Acknowledgement

Due to the efforts of the members of the organizing committee, Prof. V.K. Katiyar, Prof. N. Sukavanam, Dr. A. Swaminathan and Dr. Uday Singh, the International Conference was a grand success. The conveners are thankful to the advisory committee members. The efforts of all the members of I.I.T. Roorkee, and in particular, the staff of Department of Mathematics and Department of Management Studies, office of the Dean SRIC and office of the Dean students before and during the program is also appreciated. Special thanks to the authorities of Guest Houses of IIT Roorkee, NIH Roorkee, CBRI Roorkee and in the Bhavans of IIT Roorkee for their support.

The Conference was sponsored by National Board for Higher Mathematics(NBHM), Department of Atomic Energy(DAE), Department of Science and Technology (DST), International Mathematics Union (IMU), Indian National Science Academy (INSA), International Society for Analysis, its Applications and Computation (ISAAC), Forum D'Analystes, Council of Scientific and Industrial Research (CSIR), Indian Space Research Organization (ISRO) and SCUBE Technologies besides travel grant by SIAM- USA for the researchers from USA.

In particular, The organizers wish to place in record their special thanks to the International Mathematical Union (IMU), Commission for Developing Countries (CDC) for their generous support that guaranteed the success of the conference



A. SWAMINATHAN
CONVENER, ICMAA 2016