



NAAC A+ Accredited

INTERNATIONAL CONFERENCE
on
APPLIED AND INDUSTRIAL
MATHEMATICS
(ICAIM-2023), INDIA,
organized by

The A.H. Siddiqi Centre for Advanced
Research in Applied Mathematics &
Physics (CARAMP), India



in association with

Indian Society of Industrial and Applied
Mathematics (ISIAM), India



Virtual Conference 24th-26th March 2023

Chief Patrons

- **Mr. P. K Gupta**
(Chancellor, Sharda University, India)
- **Mr. Y. K Gupta**
(Pro-Chancellor, Sharda University, India)

Patrons

- **Prof. Sibaram Khara**
(Vice-Chancellor, Sharda University, India)
- **Mr. Prashant Gupta**
(CEO, Sharda Group of Institutions, India)

Conference Chair

- **Prof. R. C. Singh**
Professor, Department of Physics and Advisor-
(CARAMP), Sharda University, India.

Conference Co-Chairs

- **Prof. S. K. Banerjee**
(Dean, Sharda School of Basic Sciences &
Research, Sharda University, India)
- **Prof. P. Manchanda**
(Professor, Department of Mathematics, Guru
Nanak Dev University, Amritsar, Punjab,
India)

Convenors

(Scientific Organizing Committee Chairs)

- **Prof. Khurshed Alam,**
(Coordinator, CARAMP, Sharda University,
India)
- **Prof. Yeliz Karaca,**
(Massachusetts Institute of Technology (MIT),
USA)

Invited Speakers

- **Prof. Günter Leugering,** Friedrich-Alexander-
University, Germany
- **Prof. Dumitru Baleanu,** Çankaya University,
Türkiye and Institute of Space Sciences,
Romania
- **Prof. Barry Arnold,** University of California,
USA
- **Prof. H. Georg Feichtinger,** University of
Vienna, Austria
- **Prof. Stephané Jaffard,** University of Paris -
Est, France
- **Prof. Barbara Lee Keyfitz,** The Ohio State
University, USA
- **Prof. Shafer Momani,** Ajman University, UAE
and The University of Jordan, Jordan
- **Prof. Yu-Dong Zhang,** University of Leicester,
UK
- **Prof. Mehiddin Al-Baali,** Calabria University,
Italy
- **Prof. Zafer Aslan,** Istanbul Aydin University,
Turkey
- **Prof. Osvaldo Gervasi,** University of Perugia,
Italy
- **Prof. Yeliz Karaca,** University of Massachusetts,
USA
- **Prof. Akhtar Khan,** Rochester Institute of
Technology, USA
- **Prof. René Lozi,** University of Nice, France
- **Prof. Sita Ram Sharma,** Chitkara University,
India
- **Prof. Farokh Marvasti,** (Sharif University of
Technology, Iran
- **Prof. Ravi. P. Agarwal,** Texas A&M
University-Kingsville, Texas, USA
- **Prof. Ayoub Khan,** University of Bisha,
Kingdom of Saudi Arabia
- **Prof. Khan Muhammad,** Sungkyunkwan
University, Republic of Korea
- **Prof. Mukhayo Rasulovala,** Institute of Nuclear
Physics Academy of Sciences of Uzbekistan,
Uzbekistan
- **Prof. Luis Manuel Sánchez Ruiz,** Universitat
Politecnica de Valencia, Spain

- **Prof. Liliana Guran**, Western University of Arad, Romania
- **Prof. Maria Skopina**, St. Petersburg State University, Russia.
- **Prof. Md. Kalimuddin Ahmad**, Aligarh Muslim University, India
- **Prof. Muhammad Shah Jahan**, The University of Memphis, USA.
- **Prof. Sanjeev Kumar Sharma**, Dr. B. R. Ambedkar University, India.

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- **Prof. R. C. Singh**, (Sharda University), India
- **Prof. Dinesh Singh**, (Former Vice-Chancellor, University of Delhi), India
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- **Dr. Nitendra Kumar**, (AIMT, India)

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- **Prof. S. K. Banerjee** (Conference Co-Chair, Dean SSBSR)
- **Prof. P. Manchanda** (Secretary, ISIAM, Conference Co-Chair)
- **Prof. Bhuvnesh Kumar** (Dean of Research, Sharda University)
- **Prof. Parma Nand** (Dean Academics, Sharda University)

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- **Prof. Yeliz Karaca** (University of Massachusetts, USA,
- **Prof. N. B. Singh** (Member RDC, Sharda University)

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- **Dr. Munendra Singh**

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About ICAIM-2023

ICAIM- 2023, International Conference on Applied and Industrial Mathematics, is a prestigious event organized to provide an ideal academic platform for academicians, researchers, scientists, and engineers around the world, to present their research findings to global experts. The main objective of this conference is to provide an interdisciplinary opportunity for research activities in all domains of science and technology, to exchange knowledge, innovative ideas, and various new problems or techniques. The brainstorming sessions of the conference will be of immense help in achieving this objective. Featured selected papers from the conference will be of interest to experts in various fields which will be useful to develop an innovative solution in the broader research community.

About Sharda University

Sharda University (NAAC A+ Accredited) is a leading educational institution based in Greater Noida, Delhi NCR, India A venture of the renowned SGI group, the University has established itself as a high-quality education provider with a prime focus on holistic learning and imbining competitive abilities in students. The University is approved by UGC and prides itself in being the only multi-discipline campus in the NCR, spread over 63 acres and equipped with world-class facilities having more than 21,000 students in more than 180 courses. Being the only global University in India that has seen students from 85+ countries, experience world-class facilities, and has 250+ global academic partnerships. Sharda University offers a truly international learning environment. For more information, please visit: <https://www.sharda.ac.in>.

About CARAMP

Centre for Research in Advanced Research in Applied Mathematics & Physics (CARAMP) was established by the late Prof. Abul Hasan Siddiqi in July 2018 in collaboration with Nadeem Tarin Education Foundation led by Dr. Nadeem

Tarin and funded by Dr. Nadeem Tarin. Recently, it is renamed as "A. H. Siddiqi Centre for Advanced Research in Applied Mathematics & Physics" on 15th August 2022 in the memory of late Prof. Abul Hasan Siddiqi.

The Centre was established with the objective to promote interdisciplinary research in emerging fields of Mathematics and Applied Sciences. Since its establishment, this Centre is continuously engaged in various research-oriented activities and initiatives like guest lectures of internationally reputed speakers on contemporary research problems. The Centre also provides financial support and a research nurturing ecosystem to associated research scholars. It is an initiative to establish a centre of excellence in applied mathematics and cognitive Science to encourage and nurture innovation in the areas of Medical Imaging including accurate prediction of diseases, brain studies, and prediction of natural calamities (Earthquake and tsunami). Mathematical models in Meteorology Pollution and Artificial Intelligence, Applications of emerging areas of Mathematics could be focused on industries related to Railways, Metro, Oil, and Gas. All these future technologies are based on elevating the research in Applied Mathematics to international standards. This can only be accomplished by establishing collaboration between the lead researchers in India and abroad and providing them the support of dedicated researchers in the area of applied mathematics and image processing through centres like CARAMP.

Objectives of the Conference

- The main objective of this conference is to explore the recent developments in Mathematical Modelling and Applied Mathematics and to acquaint challenging problems like perplexing the experts.
- To promote and influence a deep understanding of the theoretical and computational aspects of Applied Mathematics and to encourage and enable discussion/ collaboration among young researchers and eminent experts of their fields.
- To ignite young minds with fundamental ideas of modeling, simulation, qualitative and quantitative analysis of problems from non-linear, inverse problems, Time series analysis, Data mining and Stochastic models.
- To inculcate the ideas of advanced computations to deal with highly Mathematical methods for non-linear problems of engineering including medical Sciences and Social Sciences.

Focused Areas

The conference will focus on high-quality and industrial papers on theory, design and implementation of emerging science and technology, including all the interdisciplinary areas under the following major disciplines:

Track- 1: Mathematical Analysis & Modelling

Topics included but not limited to: Wavelet, Fractals and Its Variants; Curvelet, Shearlet, and Its Variants; Inverse Problems, Functional Analysis; Numerical Analysis and PDEs; Modeling and Simulation, Optimization Techniques; Signal Processing, Image Processing; Approximation Theory, Query processing, query optimization; Number Theory and Cryptography; Computational Fluid Dynamics and Dynamical Systems, Algebraic Coding Theory and Information Theory & optimizations.

Track- 2: Artificial Intelligence & Machine Learning

Topics included but not limited to: Classification and clustering, deep learning, industry learning, inference rule learning, learning, and adaptive control. Real-time event learning and directions; NLP, statistical and evolutionary learning, soft computing, image processing, computer vision, IoT, virtual reality, and augmented reality, and robotic annotation of media content.

Track- 3: Statistics, Data Sciences & Engineering

Topics included but not limited to: Statistical Inference, Time series analysis, Stochastic models, Data Privacy and Security, sampling theory, Bayesian inference, demography, and vital statistics. Data handling and pre-processing, pattern recognition features and engineering, computational biology & bioinformatics, Data Mining, and information network analysis.

Track- 4: Sustainable Development Goals

Topics included but not limited to: Epidemic model- no poverty, zero hunger, good health and quality education, gender equality. Clean water and sanitation, industry innovations and infrastructure, sustainable cities and communities, climate action, and life below water.

Publication

All papers will be accepted through the blind review process. Abstracts of accepted papers will be published in a Conference Book bearing International Standard Book Number (ISBN). Outstanding papers will also be published in the following peer-reviewed Scopus/SCI/SCIE/ESCI/Web of Science/Google Scholar indexed journals and other UGC care-listed journals.

- Progress in Fractional Differentiation and Applications (Natural Sciences Publishing: Scopus Indexed).
<https://www.naturalspublishing.com/show.asp?JorID=48&pgid=0>
- Chaos Theory and Applications.: Scopus Indexed
<https://dergipark.org.tr/tr/pub/chaos/board>
- Mathematical Analysis & Modelling, Book Series, published by **Springer** Nature (Proposal accepted).
- Mathematical Models Using Artificial Intelligence for Surveillance Systems, Scrivener Publication (Co-published by Wiley, Publication), Scopus indexed.
- The Aligarh Journal of Statistics (AJS) (UGC Listed) <https://www.amu.ac.in/miscellaneous/the-aligarh-journal-of-statistics/home-page>
- Proceedings on Engineering Sciences (Scopus Indexed) <https://pesjournal.net/>
- Some more journals/edited books are to be included in the above list.

The article processing charges are applicable depending on the journal.

Registration Fee

Registration details	India (INR)	Asian Countries (USD)	Others (USD)
Students and Research Scholars	Rs. 2950/- (inclusive 18% GST)	USD 100/-	USD 125/-
Academia	Rs. 5310/- (inclusive 18% GST)	USD 150/-	USD 175/-
Industry Professional	Rs. 8260/- (inclusive 18% GST)	USD 200/-	USD 225/-
Listeners / Accompanying Member**	Rs. 1180/- (inclusive 18% GST)	USD 20/-	USD 30/-

Mode of Payment

Online Banking/NEFT

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Abstract Submission

Submit your abstract to icaim2023@gmail.com

and also fill out the below google form for registration.

<https://forms.gle/dJN2SfY8pFeXRrQB6>

For more details

E: icaim2023@gmail.com

WEB LINK:

<https://www.sharda.ac.in/caramp/icaim2023/>

Important Dates

Abstract/Full Paper Submission: 20 Mar. 2023

Acceptance Notification: 22Mar. 2023

Registration Deadline: 20 Mar. 2023

Note: e-Certificate will be provided to all participants