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INDIAN   **MATHEMATICAL**   **SOCIETY**

INDIAN MATHEMATICAL SOCIETY

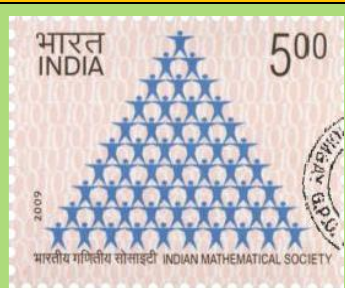**(Founded in 1907; Reg. No. S-550, Delhi)**
Registered Office: Department of Mathematics,
Savitribai Phule Pune University, Pune-411007

http://www.indianmathsociety.org.in

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NEWSLETTER

NO. 50

September 2023

Facsimile of the Commemorative Postage Stamp on the 'Indian Mathematical Society' issued by the Department of Posts (Philately Division, Government of India, to mark the completion of hundred years of the Society. Released on the Inaugural day of the Platinum Jubilee 75th Annual Conference of the Society on 27th December 2009.

THE INDIAN MATHEMATICAL SOCIETY (IMS)
NEWSLETTER NO. 50, September 2023

89th ANNUAL CONFERENCE OF THE IMS: AN INTERNATIONAL MEET
December 22 - 25, 2023

The 89th Annual Conference of the IMS: An international Meet will be held under the auspices of Birla Institute of Technology and Science, Pilani, Hyderabad Campus, Hyderabad-500078, India during December 22 to December 25, 2023 under the Presidentship of Prof. R. Balasubramanian, Former Director, IMSc, Chennai. Prof. P. K. Sahoo is the local Secretary. The information about the conference is available on the website : `https://beta.bits-pilani.ac.in/ims-2023`.

CALL FOR CONTRIBUTORY PRESENTATIONS:

The Indian Mathematical Society invites contributions for PAPER AND POSTER PRESENTATIONS for the 89th Annual Conference of the IMS - an International Meet. There will be paper presentation sessions for contributory papers. There will also be Poster presentation on the theme of symposia. The **pdf and LaTeX** (both) files of abstract of such contributions can be submitted online through the link `https://forms.gle/2q7FDTcHVhob2ebS6` In case of any difficulty, contact Local Organizing Secretary at ims2023@hyderabad.bits-pilani.ac.in

Please note that:

- The Abstract should be brief and should not exceed 250 words. The use of formulae and symbols should be kept minimum. Please use the Latex Template as source file available on the website `https://beta.bits-pilani.ac.in/ims-2023` for the abstract. Full Length papers are not required to be submitted.

- The last date of submission is **November 20, 2023** and all contributors will be informed about the acceptance of abstracts for presentation by **November 30, 2023**.

- After receiving the Letter of Acceptance, which will contain an Abstract Number in each case, complete the registration for the conference using the link `https://forms.gle/qqVP3RNbQfaPX9RX7`. The last date for registration is December 15, 2023.

- All contributors should be either life members of the IMS (this can be done online visit the website of the IMS) or should take a Sessional Membership. (for this visit Registration portal).

- Acceptance of a paper for presentation does not automatically imply its acceptance for publication in the Journal of The Indian Mathematical Society or in The Mathematics Student. In case an author wants a paper to be considered for publication in either of these periodicals, he/she should submit the same separately to the Editor concerned. (This can be done online - visit the website of the JIMS https://www.informaticsjournals.com/index.php/jims).

IMS Subject Classifications

(A) Combinatorics, Graph Theory, Logic, Discrete Mathematics, etc.

(B) Algebra, Number Theory, Lattice Theory and History of Mathematics

(C) Real and Complex Analysis (including Special Functions, Summability and Transforms, etc.) and Teaching of Mathematics

(D) Functional Analysis, Measure Theory, Probability Theory and Stochastic Processes, and Information Theory

(E) Differential / Integral / and Functional Equations

(F) Geometry and Topology

(G) Numerical Analysis, Approximation Theory and Computer Science

(H) Solid Mechanics, Fluid Mechanics, Astrophysics and Relativity, and related areas

(I) Mathematical Modelling, Bio-Mathematics, Operations Research, etc.

Award of Various Prizes for Research Papers Presentation

In order to encourage and inspire the young and budding research workers, the Society holds, during its Annual Conferences, a Special Session of Paper Presentation Competition for various Prizes to be awarded to the best research papers presented. This Special Session is held as a part of the Academic Programme with no other parallel session.

The following are the areas and the groupings for these prizes:

1. **IMS Prize-group-1:** Discrete Mathematics (Combinatorics, Graph Theory, Posets), Lattice Theory, Set Theory, Logic, Number Theory and related areas.

2. **IMS Prize-group-2:** Algebraic Geometry, Geometry, Topology, Algebraic Topology, and related areas.

3. **IMS Prize-group-3:** Measure Theory, Probability Theory, Stochastic Processes, and related areas.

4. **IMS Prize-group-4:** Differential / Integral / Functional equations and inequalities, Special Functions, Numerical Analysis and related areas.

5. **IMS Prize-group-5:** Solid Mechanics, Fluid Mechanics, Electromagnetic Theory, Magneto- Hydrodynamics, Astronomy, Astrophysics, Relativity and related areas.

6. **IMS Prize-group-6:** Operations Research, Optimization, Computational Mathematics, Information Technology, Bio mathematics, History of Mathematics and related areas.

7. **AMU Prize:** Algebra, Differential Geometry and Functional Analysis.

8. **V. M. Shah Prize:** Real Analysis, Complex Analysis, Fourier Analysis, Harmonic Analysis, Approximation Theory and related areas.

Three/Four judges are appointed by the Council for the "Paper Presentation Competition" for deciding the award of various Prizes. Each of these eight prizes listed above carries a Certificate and a Cash amount of Rs. 1000/-.

The following conditions apply:

1. Only the Members of the Society are eligible for participation in the Competition.

2. The upper age limit of a candidate for participation in the Competition is 40 years as on December 31, 2023.

3.   a. The paper to be presented for the competition has to be under single authorship.
   b. Independent work at the post-doctoral level is preferred.
   c. The work must have been carried out in India.
   d. The author should give a declaration that the work is unpublished and has not been submitted for competition anywhere else. In case of research scholars, the supervisor should verify that the work has been carried out independently.

4. Soft copy of the full paper with the Abstract (prepared in the format as given on page no.2 with Prize Category as given in the section classification) **in its electronic version (.pdf and .tex format)** should reach Prof. G. P. Raja Sekhar on the e-mail address given earlier not later than **September 25, 2023.** Candidates should also submit their latest CV which should also contain the life membership number and the proof of their age (scanned copy of high school certificate will do) along with the paper. Papers should be typed in double space and should be accompanied by an Abstract prepared as per the instructions and format given for Contributory Presentations.

Note: One who is already awarded a prize in a certain area in the past is not expected to participate in the competition for the prize in the same area.

89th Annual Conference of The Indian Mathematical Society an International Meet Under the auspices of Birla Institute of Technology and Science (BITS) Pilani, Hydrabad Campus, Hydrabad-500 078, Telangana, India
December $22^{nd} - 25^{th}, 2023$

Plenary Speakers:

1. Manjul Bhargava, Princeton University, USA.

2. Helen M. Byrne, University of Oxford, UK.

Memorial Award Lectures

1. Hansraj Gupta Memorial Award Lecture:
   U. K. Anandavardhanan, IIT Bombay.

2. P. L. Bhatnagar Memorial Award Lecture:
   A. K. Nandakumaran, IISc Bangalore.

3. Ganesh Prasad Memorial Award Lecture:
   B. V. Rathish Kumar, IIT Kanpur.

4. S. Ramanujan Memorial Award Lecture:
   D. S. Nagaraj, IMSc Chennai.

5. V. Ramaswamy Aiyer Memorial Award Lecture:
   Jaya Iyer, IMSc Chennai.

Invited Talks: (Half an Hour Talks)

1. Anuradha Kameswari, Andhra University.

2. R. Radha, IIT Madras.

3. Ch. Srinivasa Rao, IIT Madras.

4. Smita Bedekar, University of Pune.

5. Ganesh Kadu, University of Pune.

6. R. Thangadurai, HRI, Prayagraj (Allahabad).

7. Anshumali Srivastava, Rice University, USA.

Symposia

1. Controllability & Differential Equations: Muslim Malik, IIT Mandi.

2. Recent Trends in Graph Theory: Tarakeshwar Singh, BITS-Pilani, Goa Campus.

3. Theoretical Astrophysics & Cosmology: Farook Rahaman, Jadavpur University.

4. Commutative Algebra: Vijay Kodiyalam, IMSc Chennai.

5. Hyperbolic PDEs and Shock waves: T. Raja Sekhar, IIT Kharagpur.

6. Harmonic Analysis: Aparajita Dasgupta, IIT Delhi.

NOMINATIONS FOR ELECTION TO THE COUNCIL OF THE SOCIETY

The Council has nominated Prof. Madhu Raka, Former Professor, Punjab University, Chandigarh, for election to the office of the President of Society for a period of one year w.e.f. April 1, 2024.

The Council also nominated the following three members to the Council for a period of three years starting from April 1, 2024:
Prof. Sameer Chavan, IIT Kanpur, Uttar Pradesh
Prof. Swaroop Nanda Bora, IIT Guwahati, Assam
and Prof. S. Padhi, Birla Inst. of Technology, Mesra,Ranchi, Jharkhand

A member of the IMS can contest for membership to the Council of the IMS or to any other office for which there is a vacancy by following the procedure laid down in the following two paras.

He/She may approach to the Returning Officer, Prof. B. N. Waphare, Department of Mathematics, Savitribai Phule Pune University, Pune - 411007, Maharashtra, India on or before September 30, 2023.

In the context of (h) of the constitution of the IMS. If a member wishes to contest for any office of the council or as a member of the council (wherever applicable) his/her nomination should be supported by at least TEN life members individually and separately with the mention of their exact names as well as their exact unique membership numbers as per records of the IMS so as to reach the returning officer not later than September 30, 2023. Nominations submitted in the manner indicated above shall be considered valid nominations. There shall be a scrutiny of the nominations in the light of above rule by the Returning officer.

In the context of (i) of the constitution of the IMS. The nominations made by the council with an indication made to that affect, together with other valid nominations made by the members of the society (following the procedure mentioned in the above para) shall be sent through e-mail by the Returning officer on the registered E-mail addresses of members of the society not later than October 12, 2023. The members should take a print out, complete the formalities and send it by registered post to the Returning officer so as to reach him latest by November 08, 2023.
The following (j) and (k) are modified in the lines of the constitution of the IMS for the purpose of information only.
(j) The Returning Officer shall collect all the ballot papers returned to him/her by the members up to November 15, 2023 and carry them to the venue of the Annual Conference, where they will be opened and counted by him in the presence of a Committee consisting of the President (or his nominee) and the three Secretaries. A simple majority shall determine the result of the election (in each case, the same determined by lot in case of equality of votes)
(k) The list of newly elected officers and additional members of the Council shall be announced at the General Body meeting held during the Annual Conference. The new Council shall assume charge of its office with effect from April 1, 2024.

NOTICE OF THE ANNUAL GENERAL BODY MEETING

The Annual General Body Meeting of The Indian Mathematical Society will be held on December 25, 2023 at 12:00 noon at Birla Institute of Technology and Science, Pilani, Hyderabad Campus, Hyderabad - 500078, India to consider the following agenda.

All the members of the Society are requested to kindly attend the meeting.

AGENDA

1. To confirm the Minutes of the General Body Meeting held on 30th December 2022

2. To receive the report of the General Secretary.

3. To receive the report of the Academic Secretary.

4. To consider the Audited Statement of Accounts for the year $2022-2023$ and the Budget for the Financial Year $2024-2025$.

5. To receive the report of the Editor-in-Chief of the Journal of The Indian Mathematical Society for 2023.

6. To receive the report of the Editor-in-Chief of the Mathematics Student for 2023.

7. To consider the venue of the 90th Annual Session of the Society to be held in December 2024.

8. Announcement of the results of the following elections:

   (i) President for $2024-2025$.
   (ii) Three members of the Council for a period of three years w.e.f. April $01, 2024$.

9. Any other item with the permission of the chair.

Prof. M. M. Shikare
General Secretary, IMS.

Periodicals published by the Society

The Society publishes two periodicals: The Journal of the Indian Mathematical Society (JIMS; the Journal; Print ISSN 0019-5839, Online ISSN 2455-6475) and **The Mathematics Student** (Math Student the Mathematics Student Print ISSN 00255742) both of which are quarterly. The details can be found on the website: `www.indianmathsoc.org`

Subscriptions

Annual subscription for the Journal / the Mathematics Student :
For each periodical

- Rs. 2500/- for Libraries of Educational Institutions in India - provided the subscription is direct.

- Rs. 3000/- for Libraries of Educational Institutions in India, if the subscription is through an agent who gives complete name and address of the subscriber. The supply will be made directly to the subscribing library.

- Rs. 12000/- for others or to the agents who do not supply the name and address of the end user.

- $200/- for personal use or for Libraries outside India.

The agents are entitled to 15 % discount on their orders.

From the 2012 onward, the life Members are given online access to issue of The Mathematics Student / sent the soft copy of issue of The Mathematics Student instead of supplying the hard copy, for their personal use (not for circulation) at their E-mail address registered with the Society.

Those Members who have not registered their e-mail address are requested to register it online on msgoesgreen@gmail.com

It may please be noted that the contents of `The Mathematics Student` will continue to be available on the Society's website www.indianmathsociety.org and a physical copy of `The Mathematics Student` will continue to be available at the IMS Library (Ramanujan Institute of Advanced Study in Mathematics, Madras University, Chennai) as well as at the Registered Office of the Society (Department of Mathematics, S. P. Pune University, Pune 411 007) for reference during office hours.

IMS MEMBERSHIP DETAILS
1. Membership terms:
1. Applicant should be a graduate and should have interest in the Objectives of the IMS.
2. All such persons as the Council of the IMS may admit from time to time to membership shall be the members of the Society.
3. Applications for membership should be made on the form available on the IMS website.
4. The Council of the IMS may refuse to admit to membership any person without

assigning any reason for the refusal.

5. Member of good standing: A member is considered to be of good standing in a particular year if he/she has paid his/her Annual (or life) Membership fees by July 31 of that year.

2. There are three types of members of the Society:

1. Life Members: Any eligible person can be enrolled as a life member by applying on the prescribed form and by paying the membership fees as prescribed from time to time by the IMS.

2. Annual members; Any eligible person can be enrolled as an annual member by applying on the prescribed form and by paying the annual membership fees as prescribed from time to time by the IMS. This membership will come to end on March 31, irrespective of the date of paying the membership fees.

3. Sessional Members; Any person desirous of participating in the Annual Conference of the IMS will be enrolled as a sessional member by paying the membership fees as prescribed from time to time by the IMS. This membership is only for participating in one conference after paying the fees.

3. Rights and Obligations of the Members:

1. All Annual and Life members shall be entitled to receive communications about the activities of the Society and participate in its conferences.

2. A member with good standing shall attend the General Body Meeting and will be eligible to vote if necessary.

3. Only life members will be eligible to be elected as a member of the IMS Council.

4. Membership Fees:

With effect from January 1, 2021, the membership fees is follows.

i) Life Membership fee - For Indian citizens Rs. 3000/- For members of the Societies having Reciprocity arrangement with the IMS,US $ 100/- For others US $150/- For members form SAARC countries - US $ 50/-

ii) Annual Membership - Rs. 500/- (US $25/- for foreigners).

iii) Sessional Membership- Rs. 300/- (US $15/- for foreigners).

1) Name of the Account Holder : Indian Mathematical Society.
2) Account No. : 0981000100312287
3) Name of the Bank : Punjab National Bank.
4) IFSC Code: PUNB 0375900
5) Branch Name and Address : Adalat Road Branch, Aurangabad - 431001.

For Payment through DD/NEFT it should be in the name of Indian Mathematical Society. In case, the demand draft is purchased from the State Bank of India, please use the branch code for Aurangabad, Maharashtra, as 1716.

5. Application for Membership: Application for membership should be made on the Membership form available on the IMS website.

The completed membership form can be sent to

Prof. B. N. Waphare,
Treasurer, IMS,
Department of Mathematics,
Savitribai Phule Pune Uniersity,
Pune- 411007

Business Correspondence and Payments:

All business correspondence be addressed to Prof. B. N. Waphare, Treasurer, IMS; Department of Mathematics, Savitribai Phule Pune Uniersity, Pune- 411007. All payments should be sent to Prof. B. N. Waphare, Treasurer, IMS by DD / NEFT drawn in favor of **"The Indian Mathematical Society"** payable at **Aurangabad** (Maharashtra), India at the address mentioned as above.

IMS Library:
The information pertaining to IMS library is available on the website `https://www.indianmathsoc.org` of the society.

Guidelines for acceptance of Donations to the Society:

The donation amount will not be less than Rupees Five Lacs. (There could be an upward revision of this amount from time to time).

The donor may be an individual or a trust or a group of individuals.

The Indian Mathematical Society will solely and independently own the amount donated to it.

A prospective donor should approach the General Secretary of the Indian Mathematical Society with a Offer. Keeping with the spirit of this Policy Guidelines and if so felt necessary, referring to the Council whether the proposal be negotiated or not, in his wisdom, the General Secretary will negotiate the terms and conditions for each donation proposal and will put it before the Council for its consideration and approval. The Council will deliberate on the proposal, and after modifications, if any, may accept the proposal through a special resolution with specific details mentioning the terms and conditions. This will be published in the IMS News Letter after the Donor agrees to the resolution of the Council.

Ordinarily during every Annual Conference of the Society there are several Invited Lectures and Symposia running in parallel sessions. One of these academic programmes may be permanently marked / identified as "so and so sponsored programme in the (fond) memory of " or "so and so sponsored programme in the honor of" as per the wish of each donor by the Council. This programme may be arranged in a parallel session during the Conference.

Not withstanding the above,

(A) An offer of a donation with a stipulated purpose (not as part of the corpus), may be accepted by the Council on its merit.

(B) An offer of a donation of any amount in general, without any stipulated conditions, may be accepted by the Council on its merit as a part of the General Purpose Corpus.

The Council reserves its right whether or not a particular donation be accepted.

Appeal for Support to The Indian Mathematical Society's Building Complex - Ganit Bhawan, Pune

The Indian Mathematical Society (IMS) is the oldest Scientific Society of our country which was founded in the year 1907. It has been serving the cause of promoting mathematical research and teaching in the universities, colleges, research Institutes like IITs, IIERs etc. in the entire country. The Society had been instrumental in publishing the earliest work of the legendary mathematician Srinivasa Ramanujan which was instrumental in getting the attention of the world to his work in the beginning of his career. A large number of eminent Indian Mathematicians have been associated with the IMS and have also served the Society in the capacity of its President and/or other office bearers in the past. IMS continues to get the support mathematicians across the country. All its Council members work voluntary and do not receive any honorarium.

For a long time the IMS was planning for its own campus. I am glad to share that The Indian Mathematical Society has now purchased a plot of land near Pune Airport in Pune for having its permanent Headquarters. The land is about 44,000 sq ft in area with a cost of about Rs. 2.1 crore including registration and boundary fencing etc.

The Council of the IMS is now planning to develop a building complex (Ganit Bhawan) having all facilities like an office, an auditorium, a library, a computer center, meeting halls, and a guest house for small conferences, and so on. The main building on the campus is planned to be a 'four storey structure' accommodating all of these requirements. A copy of the Master Plan designed by an eminent architect of Pune 'Design India' is attached herewith for your kind perusal. The estimated cost of the project is about Rs. 13 crores.

It may be noted that the IMS is a non-profit organization and not supported by any Government organization, and depends on the membership fees and a small amount of money coming from the subscription of its two periodicals. It is supported by the NBHM, DST and other agencies only for organizing its annual conferences. Therefore, the funds needed for developing this complex will depend mostly on the donations from well wishers and life members.

On behalf of the Council of the IMS, I am, therefore, making this appeal to all of you to generously support the IMS in building its complex by giving donations of any amount that you can conveniently give. It may be mentioned that donations received after Oct. 1, 2021 are eligible for exemption under Section 80 G of the Income Tax Act of the Govt of India. All donations will be acknowledged on the website of the IMS.

The donations can be made by bank transfer with the following details:
1. Name of the Account Holder : Indian Mathematical Society.
2. Account No. : 0981000100312287
3. Name of the Bank : Punjab National Bank.
4. Branch Name and Address : Adalat Road Branch, Aurangabad - 431001
5. IFSC Code: PUNB 0375900

Alternately donations can also be sent either in the form of Cheque/Draft (in the name of Indian Mathematical Society, payable at Aurangabad, Maharashtra) to: Prof. B. N. Waphare, Treasurer, IMS, Department of Mathematics, Savitribai Phule Pune Uniersity, Pune- 411007. I am sure your generous help will strengthen the Society to serve the cause of mathematics more efficiently.

Prof. M. M. Shikare,
General Secretary, IMS

THE INDIAN MATHEMATICAL SOCIETY

Council Members : 1st April, 2023 to 31st March, 2024

1) Prof. R. Balasubramanian
President,
Former Director, IMSc, Chennai.

2) Prof. S. D. Adhikari
Immediate Past President,
Ramkrishna Mission Vivekanand
Educational and Research Institute,
Belur, W. B. 411 007

3) Prof. M. M. Shikare
General Secretary,
Department of Mathematics,
Savitribai Phule Pune University, Pune

4) Prof. B. N. Waphare
Administrative Secretary
Department of Mathematics,
Savitribai Phule Pune University, Pune

5) Prof. G. P. Raja Sekhar
Academic Secretary,
Department of Mathematics,
IIT, Kharagpur, Kharagpur.

6) Prof. B. N. Waphare
Treasurer
Department of Mathematics,
Savitribai Phule Pune University, Pune.

7) Prof. Peeyush Chandra
Editor–In–Chief, J. Indian Math. Soc.
Professor (Retired)
Department of Mathematics and Statistics
IIT Kanpur, Kanpur.

8) G. P. Youvaraj
 Editor–In–Chief, The Math. Student
Ramanujan Institute for Advanced Study
in Mathematics, University of Madras,
Chennai-600 005.

9) M. Pitchaimani, **Librarian**
Ramanujan Institute for
Advanced Study in Mathematics
University of Madras, Chennai 600 005.

10) Prof. Veeramani P. V.
Formerly at Department of Mathematics,
IIT Madras,
Chennai.

11) Prof. Pankaj Jain
Department of Mathematics
South Asian University, New Delhi.

12) Prof. Jitendra Kumar
Department of Pure Mathematics,
IIT Ropar, Rupnagar, Punjab -140001

13) Prof. Pratulananda Das
Department of Mathematics,
Jadavpur University, Kolkata.

14) Prof. B. Rushi kumar
Department of Mathematics,
Vellore Institute of technology, Vellore.

15) Prof. Ajay Kumar Shukla,
Department of Mathematics,
SVNIT, Surat, Gujarat.

16) S. B. Nimse
Former Vice-Chancellor
SRTM University Nanded and
Lucknow University, Lucknow

17) Shiv Datta Kumar
Motilal Nehru NIT,
Allahabad, Prayagraj, Uttar Pradesh

18) Gajanan Lomte
MGM University,
Aurangabad, Maharashtra.

This Newsletter is Published by Prof. M. M. Shikare, General Secretary, The Indian Mathematical Society.