आज़ादी का अमृत महोत्सव

INSA News Letter

Issue 226

APRIL - JUNE 2025

INDIAN NATIONAL SCIENCE ACADEMY, NEW DELHI

www.insaindia.res.in

Important Events/ Meetings

1. The 2nd meeting of all Sectional Committees were held during 21-22 and 24-25 April, 2025 in Hybrid mode.

2. The search cum Selection committee for Science in Translation and Science for Society were held on 9th April and 21st April, 2025 in Hybrid mode.

3. The meeting of Search committee for selection of Foreign Fellows was held on 9th April, 2025 in Hybrid mode.

   KS Krishnan Memorial Lecture (2022) was delivered by Dr Hemanta K Majumder, FNA on "*Leishmania*: An old enemy…… the Battle continues" at Presidency University, Kolkata on 2nd May, 2025 under the aegis of INSA Kolkata local chapter.

   INSA Council and General Body meeting was held during 9-10 May, 2025 respectively.

The following announcements were made on 10th May, 2025 during the General Body Meeting :

- The sad demise of Professor Mihir K Chaudhuri, Dr Rajagopala Chidambaram, Dr Krishnaswamy Kasturirangan, Professor Chandrasekharan Ramakrishnan, Professor Jyoti Prakash Tamang and Professor Kailasam Venkatesan, Fellows were reported.
- Selection of Twenty INSA Young Associates and twenty-one INSA Associate Fellows 2025 enclosed at Annexure-I and Annexure-II.
- Selection of Nineteen INSA Distinguished Lecture Fellows (IDL-1 : 9 and IDL-2 : 10) 2025 enclosed at Annexure-III and Annexure-IV.
- Selection of four INSA Overseas Chairs 2025 at Annexure-V.

Nominations were invited from the INSA fellowship for the suggestions for vacancies in sectional committees for the year 2026. The last date for receiving the nominations is 9th July, 2025.

An email sent on 28th May, 2025 followed by reminders sent on 4th June, 2025, 16th June, 2025 and 23rd June, 2025 to all INSA Fellows for E-voting to cast the vote on election for the Council, Indian, and Foreign Fellows for the year 2026. The voting process will be closed on 8th July, 2025.

General Body Meeting at INSA on 10th May 2025

A delegation from Georgia, comprising Members of the Parliament of Georgia and officials from the Embassy of Georgia in India, visited the Indian National Science Academy (INSA) on 8th April 2025 for a courtesy meeting to discuss strengthening scientific collaboration between India and Georgia. The meeting was chaired by Professor Ashutosh Sharma, President of INSA.

AASSA has elected INSA's nominees to its special committees for the term 2025–2027: Dr Harini Nagendra (FNA), Director, Research Centre and Professor at Azim Premji University, Bengaluru, to the Special Committee on Sustainability, and Professor Bushra Ateeq (FNA), Department of Biological Sciences & Bioengineering, Indian Institute of Technology, Kanpur, to the Special Committee on WISE (Women in Science and Engineering).

Delegation from Georgia visited INSA on 8th April 2025

The Inter Academy Partnership (IAP) has invited nominations for candidates to serve on the IAP Board, the IAP Advisory Committee, and the IAP Development and Programme Committees. The following fellows have been nominated by the Academy for various positions:

a. **Professor Ashutosh Sharma, President INSA** – Nominated for the position of **Co-chair from a Low- and Middle-Income Country** on the **IAP Board**.

b. **Professor Sanghamitra Bandyopadhyay (FNA)**, Director, Indian Statistical Institute – Nominated as a **Member of the IAP Advisory Committee**.

c. **Professor Anil Kumar Tripathi (FNA)**, Director, Indian Institute of Science Education and Research (IISER), Mohali – Nominated as a **Member of the Academy Capacity Building, Development and Programme Committee**.

d. **Dr Anurag Agrawal (FNA)**, Dean, Biosciences and Health Research, Trivedi School of Biosciences, Ashoka University – Nominated as a **Member of the Policy Advice, Development and Programme Committee**.

e. **Professor Indranil Manna (FNA)**, Vice Chancellor, Birla Institute of Technology (BIT), Mesra, Ranchi – Nominated as a **Member of the Communications, Education and Outreach, Development and Programme Committee**

As nominated by the Academy, **Dr Priyadarshi Dash** and **Dr Sabyasachi Saha**, Associate Professors at the Research and Information System for Developing Countries (RIS), New Delhi, attended the BRICS Forum Summit during June 24-25, 2025, in Rio de Janeiro, Brazil.

Leadership Development Program in Science & Technology (LEADS-April 2025)

Indian National Science Academy (INSA) and National Centre for Good Governance (NCGG) jointly organized Leadership Development Program in Science & Technology (INSA-NCGG LEADS April-2025) from 9-15 April 2025 at INSA, New Delhi. The one-week (7 days) residential program was designed to provide exposure to scientists to take up leading role in future. Throughout the program, participants gained an intensive understanding of essential topics, like institution building, statutory functions, governance, excellence in research, management, gender/ diversity

Inauguration of LEADS-April 2025

Presenting Certificate to the Participant

LEADS-April 2025

Speakers Delivering Lectures during LEADS-April 2025

issues, recruitment and mentoring of scientific human resources, industry laboratory collaboration, financial management, interpersonal relations, national needs, resource generation, administration, digital governance, machine learning etc.

Bharat Intelligence Summit

The IIT Kanpur Alumni Association, in collaboration with the Indian National Science Academy (INSA) and powered by SMC, organized the Bharat Intelligence Summit on 26th April 2025 at the IIT Alumni Centre, Bengaluru. The summit brought together leading DeepTech innovators, Global Capability Centres (GCCs), policymakers, and investors to catalyze innovation and advance India's leadership in AI and Sales force technologies. The event commenced with a tulsi plant watering ceremony by distinguished dignitaries, including Shri Jai Shankar Sharma (Chairman, SMC), Dr Alok De (Founder and CEO, TechCrafter), Profofessor S Sadagopan (Former Director, IIIT-Bangalore), ShriSanjeev Gupta (CEO, KDEM), and Dr.Manjeer (President, IITK Alumni Association, Bangalore Chapter). Keynote addresses by Dr Abhishek Singh (Additional Secretary, National AI Mission, Government of India) and Shri Sanket Atal (Managing Director, Salesforce India) highlighted the emerging opportunities in AI and DeepTech sectors. A panel discussion on "Future-Ready Skills: How AI is Shaping the Job Economy" featured prominent speakers from academia, industry, and policy. The summit featured product demonstrations, fireside chats, and discussions on policy frameworks supporting DeepTech and GCC ecosystems. It concluded with a keynote address by Padma Shri Prashanth Prakash (Accel), focusing on strategies to build scalable DeepTech solutions for the next billion. The event fostered collaboration, innovation, and knowledge exchange, contributing significantly to strengthening India's DeepTech landscape.

Memorandum of Understanding (MoU)

INSA and the Research and Information System for Developing Countries (RIS) have signed a Memorandum of Understanding (MoU) to advance policy research and strategic thinking in Science, Technology, and Innovation (STI). This agreement was signed by Prof Ashutosh Sharma, President-INSA and Prof Sachin Chaturvedi, DG-RIS, in presence of senior officials from RIS and INSA, Shri Sanjay Kumar Verma, Chairman, RIS; Ambassador Shri Sudhir T Devare, Chairman of the Research Advisory Council of RIS; Dr Seshadri Chari, Member, RIS Governing Council and General Body; Shri Anil Kant Sharma, Director (F&A), RIS; Dr Akhilesh Gupta, Sr Consultant, INSA and Dr Brajesh Pandey, ED, INSA. The partnership aims to strengthen STI policy research, collaborate on impactful studies and publications, engage with key stakeholders, and expand training opportunities for young scholars.

Workshop on Sustainability of Digital-Cyber World

INSA and Kotak School of Sustainability, IIT Kanpur, co-organized a one-day workshop on "Sustainability of Digital-Cyber World", on 8th May 2025 at the Imperial, New Delhi. The workshop's objective was to produce actionable insights and meaningful discussions on

integrating social, economic, and environmental considerations into the design, development, and use of digital technologies and cyber security practices. The event provided an excellent forum for students, researchers, academicians, and policymakers to discuss ideas and challenges, and suggest ways for developing a greener, more responsible, and inclusive digital future.

Financial Assistance by INSA

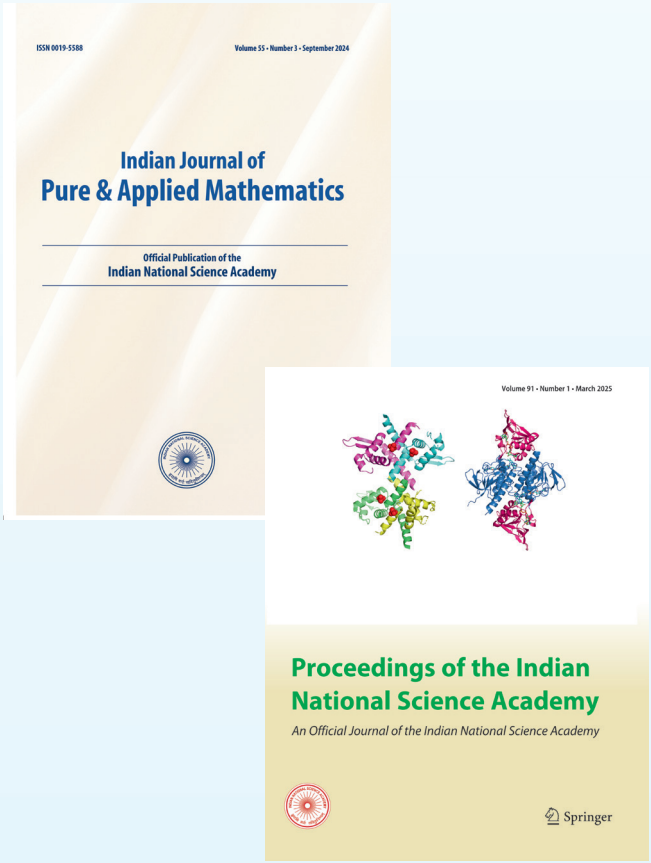
Eight Indian scientists were supported by the Academy for attending the Non ISC (International Science Council) sponsored conferences abroad.

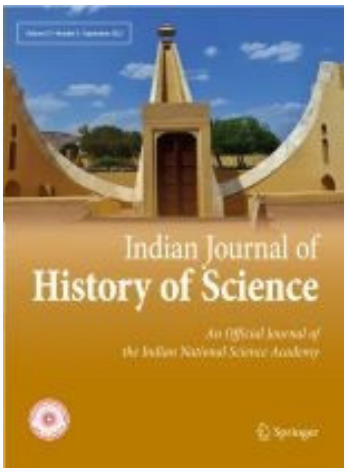
Recent Publications of the Academy

Proceedings of the Indian National Science Academy: Vol 91 No. 2 (June 2025 issue): Published.

Indian Journal of Pure and Applied Mathematics, Vol 56 No. 2 (June 2025 issue): Published.

Indian Journal of History of Science, (60 Issue 1) (March 2025 issue): Published.





Indian National Young Academy of Sciences (INYAS) Activity

The Indian National Science Academy established Indian National Young Academy of Sciences (INYAS) in December 2014. Following outreach activities have been carried out by INYAS members.

Lecture on Science for Society by PadamShri Prof. H.C. Verma

Padma Shri Professor H C Verma, renowned physicist and author of the iconic book Concepts of Physics, delivered two thought-provoking lectures under the "Science for Society" series at CUSB, Gaya. The first session, titled "Teachers: Endangered Species," was attended by around 450 undergraduate, postgraduate, and Ph.D. students. It began with traditional ceremonies and a welcome by Dr Rohit Ranjan Shahi, who also introduced the vision of INYAS and motivated young

Science for Society by PadamShri Professor HC Verma in CUSB Gaya

faculty to engage with its activities. Professor Verma emphasized the importance of hands-on experimental learning and interdisciplinary approaches in science education. He strongly criticized the widespread practice of "dummy schooling" and highlighted the urgent need to restore curiosity-driven, quality teaching to strengthen the academic foundation of students. The session concluded with an engaging interaction and a vote of thanks by Dr Shahi.

In the second session titled "Learning vs Scoring", around 350 students from various schools in the Gaya region participated, including those from DPS Gaya, DAV Cantt, Gyan Bharti, and government schools. Professor Verma inspired students to focus on the joy of learning rather than being driven solely by marks. He stressed that scoring without understanding is hollow and urged schools to create an environment that nurtures inquisitiveness. The students actively participated in the interaction session, making it a lively and enriching experience. Each student received a copy of the "Career Guidance Kit" by INYAS, helping them explore future possibilities in science.

Following the lectures, Professor Verma visited the research laboratories of the Physics Department, where he was impressed by the ongoing innovative work being carried out by faculty and students. He interacted with researchers, discussed their projects, and encouraged them to pursue physics with passion and persistence. His visit not only inspired students academically but also left a lasting impression on the faculty and administration, reinforcing the significance of integrating meaningful scientific discourse within educational institutions.

National Workshop cum Conference on Structural and Functional Analysis of Energy Storage Materials (NWCSFAESM-2025)

The National Workshop cum Conference on Structural and Functional Analysis of Energy Storage Materials (NWCSFAESM-2025), held 24–25 April 2025 in the Department of Physics at Banaras Hindu University, convened 97 participants for two days of intensive exchange. Co-convened by Dr Ashish Bhatnagar and organized in part by Dr Rohit R. Shahi, the meeting aligned squarely with INYAS's mandate to empower early-career researchers and champion ethically

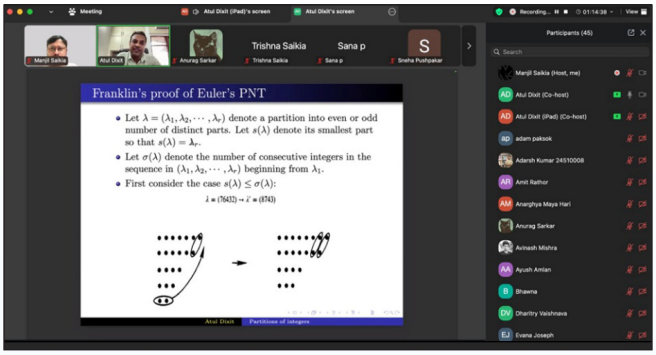
Interactive Session during the National Workshop at BHU

grounded, societally relevant science. Eminent speakers from IISER, JNU, NPL, KIST-Korea and BHU delivered plenary talks that surveyed hydrogen storage, supercapacitors, nanostructured and smart materials, and state-of-the-art structural-characterization techniques. Energetic poster and oral sessions allowed young scholars to present work, exchange ideas and forge collaborations, while a memorial tribute to Professor O. N. Srivastava underscored the values of scientific integrity and leadership.

The event's interdisciplinary mix yielded tangible outcomes: prospective special-issue submissions to journals such as International Journal of Hydrogen Energy and Energy Storage; new research networks linking fundamental science with deployable clean-energy technologies; and heightened motivation among attendees to advance India's net-zero ambitions. As IIT-BHU's Jay Narayan Mishra noted, the gathering "blended academic depth with real-world application," and Sharda University's Sadhna credited the poster forum with sparking fresh dissertation ideas. By combining high-impact technical content with capacity-building opportunities for young investigators, NWCSFAESM-2025 vividly advanced INYAS's vision of collaborative, future-focused research.

Summer Webinar Series for UG Students in Mathematics and Computer Science (Webinar 1: Introduction to Quantum Computing)

The inaugural session of the Summer Webinar Series for Undergraduate Students in Mathematics and Computer Science was successfully held on 1 June 2025 via the Zoom platform, with Dr ManjilSaikia as the



Summer Webinar Series for Undergraduate Students

convenor. Organized under the INYAS banner, the event aimed to introduce foundational and advanced topics to aspiring undergraduate students in an accessible manner. The first webinar, titled "Introduction to Quantum Computing," featured Professor AlokShukla from Ahmedabad University, who delivered a lucid and engaging talk to 29 participants from various institutions across the country.

Professor Shukla's session covered the basic principles of quantum computing, introduced students to quantum gates and their operations, and highlighted real-world applications along with a brief overview of his current research. The session was highly interactive, with students posing thoughtful questions throughout, reflecting their enthusiasm and curiosity. The successful conduct and positive response to this first session set a strong foundation for the remaining webinars in the summer series, reinforcing INYAS's mission to foster early scientific interest and understanding among undergraduate students.

World Environment Day Celebration 2025

The World Environment Day Celebration 2025 was successfully held on 5 June 2025 at Room No. 311, MCB Building, Cotton University, under the convenorship of Dr Mayuri Chabukdhara and organized as part of INYAS activities in the Northeast Zone. Themed around the global campaign "Ending Global Plastic Pollution," the event brought together 70 participants, including students from Panbazar Higher Secondary School, Cotton Collegiate Government Higher Secondary School, Cotton University Model School, and university attendees. Proceedings began with a SaraswatiVandana and a welcome address by

World Environment Day Celebration at Cotton University

the convenor, followed by a series of engaging and informative activities aimed at raising awareness about plastic pollution and environmental sustainability.

Key highlights included an on-spot essay competition in both English and Assamese for students of classes 7 to 12, interactive talks by Dr Akshai Kumar A.S. (IIT Guwahati) and Dr Ramu Adela (NIPER Guwahati), a documentary screening on local plastic issues, and an open quiz competition with spot prizes. The presence of faculty, research scholars, and students from Cotton University enriched the event further. Participants showed high enthusiasm, with many expressing a desire to attend similar awareness-driven programs in the future. The celebration concluded with a vote of thanks by Dr Narayan Sharma, followed by prize distribution and packed lunches for all attendees. The event not only served as a platform for education and engagement but also as a strong call to action for environmental stewardship among young minds.

Global Young Academy (GYA) Annual General Meeting & International Conference of Young Scientists 2025

The Global Young Academy (GYA) Annual General Meeting & the International Conference of Young Scientists 2025 themed 'Confluence of Visionaries: Empowering Science for Global Change' was organised from 08–14 June, 2025 at Indian Institute of Technology Hyderabad, India.

The Day-1 witnessed the Pre-Conference Activities. The program kicked off with the Science Leadership Workshop, specifically designed for newly elected GYA members. Interactivity and participatory exercises characterized the workshop as it concentrated on developing leadership skills, inclusive innovation and cross-disciplinary interactions in science. Participants went through both morning and afternoon sessions, creating a reflective and participatory atmosphere for the week.

The Day-2 of the Pre-AGM Workshops provided the platform to discuss the thematic session "Early and Mid-Career Researchers: Towards an Inclusive Research Assessment System" which underlined the constraints of traditional research indicators. The panel encouraged context-aware and inclusive research evaluation systems that are more conducive to transdisciplinary research and faculty equity worldwide. The day concluded with the session on "Bridging Borders: The Future of Science Diplomacy", where science diplomacy was discussed as an essential instrument in dealing with transnational issues. The session highlighted the need for evidence-based policymaking, trust-building and multilateral cooperation in determining future diplomatic efforts.

On 10 June, 2025, the official opening of the AGM and Conference commenced with ceremonial gathering and the honorary presence of Shri Dharmendra Pradhan as the distinguished Chief Guest. Professor Ashutosh Sharma, President of the Indian National Science Academy (INSA), graced the occasion as the Distinguished Guest. He spoke about the necessity of integrating both the sciences and social sciences for autonomous decision-making in the future. He emphasized the need for diversity, inclusion, and globalization in addressing the pressing challenges

GYA AGM and International Conference f Young Scientists 2025 hosted by INYAS

of our time. Additionally, a tree plantation drive was organised which represented sustainability. Following the trajectory of the day, the first plenary session on the topic "Innovation and Entrepreneurship: Global Landscape" discussed the changing intersections between academic research, technological innovation and entrepreneurship. Focus was given to ecosystem building, support infrastructure for startups and global knowledge sharing. The second plenary session on "Building Awareness on Environmental, Social & Governance (ESG) in a Global Context" explored the importance of ESG principles in defining responsible research and development agendas. The discussion emphasized ESG as a prime framework for enhancing scientific innovation and relating it to societal needs. The day ended with the GYA Activities Fair, which presented continuing working groups and thematic projects in GYA. Additionally, parallel GYA Research Talk Sessions in three venues where members presented their academic work from various fields was also carried in person.

The Day-4 witnessed the morning plenary session titled "Industry 5.0: Augmenting Human-Machine Interface" which convened academicians, policymakers and technologists to discuss how new technologies can be leveraged to expand human capabilities, with a focus on ethical assimilation and societal preparedness. Later on, the session on "Health and Nutrition for Global Wellness" focused on interdisciplinary solutions for public health issues. Science-policy interfaces, nutritional equity and scientific diplomacy for global health governance were some of the subjects discussed. Internal GYA governance work commenced after lunch with Executive Committee Pitches, followed by a local cultural outing to Golconda Fort, providing participants with an experiential heritage experience. The day ended with a formal reception and networking dinner at Chowmahalla Palace, hosted by the Government of Telangana which promoted intercultural engagement and Indian diversity on the global platform.

The Day-5 accommodated the GYA Internal Meetings & Thematic Dialogues. The day commenced with a General Assembly Meeting and a sequence of theme-based discussions: 1. Participating in Foresight & Innovation; 2. Enhancing the Science and Research Ecosystem; 3. Crossing Science and Society: Trust, Diplomacy, and Expertise and 4. Empowering Early- and Mid-Career Researchers (EMCRs). These activities helped to sharpen GYA's strategic priority areas and facilitate inclusive member engagement in future processes. Towards the end of the day, elections for the EC took place, determining leadership composition for the next term. The evening included a lively Cultural Evening and Gala Dinner, honouring cultural diversity of India.

The Day-6 of the AGM featured Committee Meetings and a definitive General Assembly Meeting where major resolutions and initiatives were finalized. The End-of-AGM EC Handover ceremony saw the official transition of the Executive Council. Alongside the technical session and meeting, various social engagement activities including 2K/5K Crystal Run, Yoga Session and Zumba session were organised throughout the conference days which testified to GYA's focus on overall well-being and bonding among communities.

Meeting of National Young Academies (NYAs) from Asia-Pacific Region

A major milestone in the journey of regional scientific collaboration has been achieved under the leadership of Indian National Young Academy of Science (INYAS) with the formal Launch of the Network of Asia-Pacific Young Academies (NAYA) through the historic Hyderabad Declaration, adopted on 14th June 2025. This landmark event was the culmination of the Meeting of National Young Academies (NYAs) from the Asia-Pacific Region, convened by the Indian National Young Academy of Science (INYAS) in collaboration with the Global Young Academy (GYA) at IIT Hyderabad. The meeting aimed to reinforce regional coordination, share best practices, and advance science diplomacy, capacity building, and sustainable development among national young academies. The declaration marks the beginning of Network of Asia-Pacific Young Academies (NAYA) — a first-of-its-kind platform in the Asia-Pacific region that will Connect, Strengthen, and Mentor early- and mid-career researchers through collaborative efforts and shared visions.

The meeting saw enthusiastic participation from including NAYAN (Nepal), YSN-ASM (Malaysia), ALMI (Indonesia), VYA (Vietnam), SLAYS (Sri Lanka), RSNZ ECR (New Zealand), the Hong Kong Young Academy of Sciences, TYSA (Thailand), the Young Academy of Japan, the Australian EMCR Forum, WAYS (China), the Global Young Academy (GYA) and INYAS (India).

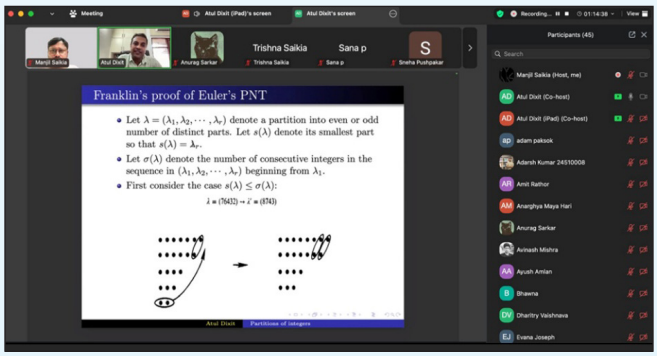
Hyderabad Declaration on the launch of the Network of Asia-Pacific Young Academies (NAYA)

We discussed an initial structure for the network comprising the Governing body (presently decided as INYAS, ALMI and Australian EMCR Forum) and a steering committee (composed of representatives from all member states).

Summer Webinar Series for UG Students in Mathematics and Computer

The second session of the Summer Webinar Series for Undergraduate Students in Mathematics and Computer Science was conducted successfully on 15 June 2025 from 4:00 PM to 5:15 PM IST via the Zoom platform, with Dr.ManjilSaikia as the convenor. With 51 participants in attendance, the webinar featured Professor Atul Dixit, who delivered an engaging lecture on the Theory of Partitions. Designed to make higher mathematical concepts accessible to undergraduates, the session offered a deep yet understandable exploration of integer partitions, a topic with strong ties to number theory and combinatorics.

Professor Dixit traced the historical development of the subject, beginning with its early roots and culminating in the revolutionary contributions of Srinivasa Ramanujan, particularly his identities and congruences. He also discussed the contemporary relevance of partition theory in modern mathematical research. The session remained highly interactive, with students enthusiastically participating through questions and discussions. By weaving historical context with mathematical rigor, the session provided not just technical knowledge but also inspiration drawn from Ramanujan's enduring legacy in Indian and global mathematics. This webinar further strengthened the educational goals of the series, reinforcing INYAS's commitment to fostering curiosity and foundational understanding among undergraduate students.



Second session of the Summer Webinar Series for Undergraduate Students

Obituary Notes

Fellows

DR KRISHNASWAMY KASTURIRANGAN

Dr K Kasturirangan (*b* 24.10.1940; *d* 25.04.2025) received his PhD from Physical Research Laboratory (PRL), Ahmedabad. Dr Kasturirangan was an Indian space scientist who headed the Indian Space Research Organisation (ISRO) from 1994 to 2003. Until his death, he was Chancellor of Central University of Rajasthan and NIIT University.

Dr Kasturirangan's interests include research in high energy X-ray and gamma ray astronomy as well as optical astronomy. He has made extensive and significant contributions to the studies of cosmic X-ray and gamma ray sources and effect of cosmic X-rays in the lower atmosphere. Dr Kasturirangan steered the Indian Space Programme as Chairman of the Indian Space Research Organization. Under his leadership, the programme witnessed several major milestones including the successful launching and operationalisation of the India's Polar Satellite Launch Vehicle and the Geosynchronous Satellite Launch Vehicle.

Dr Krishnaswamy Kasturirangan was elected as a Fellow of the Indian National Science Academy in 1989 and served its Council as Member (1993-94).

PROFESSOR CHANDRASEKHARAN RAMAKRISHNAN

Professor Chandrasekharan Ramakrishnan (*b* 30.01.1939; *d* 13.03.2019) obtained his PhD from University of Madras.He worked as Professor in Molecular Biophysics Unit of the Indian Institute of Science till his retirement.

Professor Ramakrishnan was involved in teaching courses on basics of conformation of biomolecules, and computer programming in addition to doing research. Nowadays, Ramachandran Map is used as a very reliable yardstick to test the correctness of any new protein structure that is being solved. He also used Ramachandran-map-principle to other polymers such as beta-poly saccharide and chitin and demonstrated its usefulness in related areas.

Professor Chandrasekharan Ramakrishnan was elected as a Fellow of the Indian National Science Academy in 1992.

PROFESSOR JYOTI PRAKASH TAMANG

Professor Jyoti Prakash Tamang (*b* 16.11.1961; *d* 29.04.2025) obtained his PhD from North Bengal University . He worked as Senior Professor in Sikkim Central University. He also became the VC of Sikkim Central University. He was working on fermented foods and alcoholic beverages of the Himalayan regions of India, Nepal and Bhutan and South East Asia for 39 years.

Professor Jyoti Prakash Tamang was elected as a Fellow of the Indian National Science Academy in 2023.

PROFESSOR KAILASAM VENKATESAN

Professor Kailasam Venkatesan (*b* 29.04.1932; *d* 31.12.2019) obtained his PhD from Indian Institute of Science (IISc), Bangalore. He worked as Professor in Indian Institute of Science, Bangalore till his retirement.

His research interests were concerned with the conformations of biologically relevant peptide molecules, structive-reactivity relationship of photo induced organic molecules in crystals and crystal engineering. Professor Venkatesan had deep interest in the areas of solid state photochemistry and crystal engineering. He solved the three dimensional structure of cobyric acid, nucleus of Vitamin B12.

Professor Kailasam Venkatesan was elected as a Fellow of the Indian National Science Academy in 1989.

HR Acticities

Swachhta Pakhwara (01.05.2025 to 15.05.2025): Pledge ceremony

The INSA staff took Pledge on Swachhta Pakhwara on 01.05.2025 at 4.00 PM in INSA Multipurpose Hall at ground floor Jubilee Centre and all old file/records etc. were disposed off/sold during Swachhta Pakhwara.

Institute of Chartered Accountant of India (ICAI) conduct a Financial Awareness workshop in INSA

Workshop on Financial and Tax literacy organized by "Institute of Chartered Accountant of India (ICAI), New Delhi on 27th May,2025 at 10.30 a.m. to 1.00 p.m. in INSA Multipurpose Hall.

Retirement of INSA staff

Mrs. Vandana Gajare, Programme Officer, superannuated from the service of the Academy on 31.05.2025 after serving for more than 38 years in the Academy.

International Yoga Day

11th International Day of Yoga was celebrated by the Staff Members of INSA on 21st June, 2025 (Saturday) at Multipurpose Hall at 8.30 AM. Yoga session was organized in the campus. Yoga T-shirts and yoga mats were distributed to the staff members.

Annexure-I

Recipients of INSA Young Associates (IYA)

(For the Year 2025)

Dr Chirodeep Bakli (08.05.1986), PhD, Associate Professor, School of Energy Science and Engineering, Indian Institute of Technology Kharagpur, Kharagpur.

Dr Chirodeep Bakli has made significant contributions to the field of micro- and nanofluidics, focusing on interfacial phenomena and energy conversion processes. His research has elucidated the complex interplay between surface wettability, slip length, and fluid structuring at the nanoscale, challenging traditional assumptions and enabling the design of smart surfaces for optimized fluid transport. By investigating electrokinetic effects and electric double layer dynamics, he has advanced the efficiency of energy conversion devices at micro- and nano-scales. Additionally, his work extends to renewable energy applications, including solar and wind energy systems, and the development of nanostructured materials for enhanced thermal and fluid performance in sustainable technologies.

Dr Prarabdh Chandrakant Badgujar (25.06.1986), PhD, Assistant Professor, Dept. of Food Science and Technology, National Institute of Food Technology, Entrepreneurship and Management (NIFTEM-K), Sonipat.

Dr Badgujar has designed a low-cost meat storage structure which does not involve direct use of electricity.

Dr Indranath Chakraborty (02.02.1989), PhD, Assistant Professor, School of Nano Science and Technology, Indian Institute of Technology Kharagpur, Kharagpur.

Outstanding work in the chemistry of new materials.

Dr Tanmoy Chakraborty (12.01.1988), PhD, Associate Professor, Department of Electrical Engineering and Yardi School of Artificial Intelligence, Indian Institute of Technology Delhi, New Delhi.

Dr Tanmoy Chakraborty has made significant contributions to natural language processing and computational social science, focusing on misinformation detection, hate speech moderation, and multilingual Artificial Intelligence systems. He developed frameworks like SpotFake for multimodal fake news detection and SAFE-MEME for robust hate speech detection in memes, and led the creation of MenstLLaMA, a specialized large language model for menstrual health education in India. His research also includes studies on code-mixed language processing and the influence of Hinglish in online engagement, as well as advancements in low-resource taxonomy expansion using large language models, contributing significantly to AI-driven solutions for societal challenges as well.

Dr Sucharita Dey (20.11.1982), PhD, Assistant Professor, Department of Bioscience & Bioengineering. Indian Institute of Technology Jodhpur, Jodhpur.

Dr Dey developed a scalable AI/ML- based strategy for proteome-wide prediction of homo-obligomeric protein complexes uncovering hundreds of novel assemblies, including experimentally validated megadalton structures.

Dr Amaranatha Reddy Devulapalli (04.04.1987), PhD, Assistant Professor, Indian Institute of Information Technology, Design & Manufacturing, Kurnool.

Dr Amaranatha Reddy Devulapalli has made significant contributions to nanomaterials research, focusing on sustainable energy and environmental applications. His work encompasses the synthesis and characterization of materials for solar fuel generation, including hydrogen production via photoelectron chemical water splitting, and the photocatalytic conversion of CO_2 into valuable chemicals. He also explores photocatalytic methods for decontaminating pollutants in water and air, and develops energy storage solutions like supercapacitors and photodetectors, advancing green hydrogen technologies and sustainable nanomaterials.

Dr Uttam Kumar Ghorai (15.07.1986), PhD, Assistant Professor and Head, Department of Industrial Chemistry & Applied Chemistry, Ramakrishna Mission Vidyamandira, Belur Math, Howrah.

Outstanding work in materials chemistry and electrochemistry with practical applications.

Dr Sreetosh Goswami (25.04.1990), PhD, Assistant Professor, Centre of Nanoscience and Engineering, Indian Institute of Science, Bangalore, Bangalore.

Dr Sreetosh Goswami has made significant contributions to the field of molecular electronics and neuromorphic computing. His research focuses on developing molecular memristors capable of storing and processing data in multiple states, exemplified by the creation of a "brain-on-a-chip" that can handle16,500 distinct conductance states within a molecular film, marking a substantial advancement over traditional binary computing systems, His research team introduced linear, symmetric, self-selecting 14-bit kinetic molecular memristors, which hold promise for enhancing the efficiency of analog computing platforms. Additionally, his earlier work demonstrated the use of solution-processable metal-coordinated azo aromatics to create robust resistive memory devices, contributing to the development of low-cost, scalable memory technologies.

Dr Purvi Gupta (15.06.1987), PhD, Assistant Professor, Department of Mathematics, Indian Institute of Science, Bengaluru.

Contributions to complex dynamics, Novel notions of Hardy spaces & Bergman kernel.

Dr Durga Prasada RaoHari (01.07.1986), PhD, Assistant Professor, Department of Organic Chemistry, Indian Institute of Science Bangalore, Bengaluru.

Outstanding work in developing novel organic transformations and synthesis.

Dr Kinjalk Lochan (25.06.1985),PhD, Associate Professor, Indian Institute of Science Education and Research Mohali, Mohali.

For innovative contributions to the quantum field theory effects in non – inertial frames and curved space times.

Dr Bhanu Prakash (01.06.1985), PhD, Associate Professor, Department of Botany, Institute of Science, Banaras Hindu University, Varanasi.

Dr Bhanu Prakash has done significant work in the formulation of plant-based antimicrobial and insecticidal agents to extend the shelf-life of agricultural commodities.

Dr Amiya Kumar Samal (13.05.1988), PhD, Assistant Professor, Department of Geology, Banaras Hindu University, Varanasi.

Contributed remarkably to identification and characterization of Large Igneous Provinces of India

Dr Nitika Sandhu (06.09.1986), PhD, Molecular Geneticist cum Rice Breeder, School of Agricultural Biotechnology, Punjab Agricultural University, Ludhiana.

Dr Sandhu has made significant contributions in broadening rice gene and germplasm pool through molecular mapping and introgression of a spectrum of QTL/genes associated with grain yield and adaptability of rice under direct-seeded cultivation conditions.

Dr Asmita Sengupta (22.03.1986), PhD, Fellow, Ashoka Trust for Research in Ecology and the Environment, Srirampura, Bengaluru

Sengupta Asmita's research has chiefly developed along two (not mutually exclusive) trajectories: plant-animal interactions and human wildlife-interactions. She has worked on seed dispersal ecology and various aspects of the human-wildlife interface such as primate tourism across Asia and assessing the factors underlying human-wildlife coexistence.

Dr Swati Singh (28.02.1988), DM, Clinician Scientist, Consultant Ophthalmologist, LV Prasad Eye Hospital, Hyderabad

Dr Swati Singh is a clinician-scientist who has done research in clinical and basic science disciplines. Her primary area of work is on the lacrimal glands. She has developed a novel, reliable, and easy technique for assessing lacrimal and salivary glands in patients with dry eye disease. She has also developed an animal model for this. She has developed "Ocular surface and adnexa" discipline in Ophthalmology which targets patients with ocular adnexal and surface problems.

Dr Somlata (31.01.1983), PhD, Assistant Professor, Multidisciplinary Centre for advanced Research and Studies, New Delhi

Dr Somlata is recognized for fundamental discoveries in the trogocytosis ("eating up") of host cells by parasites. The committee also appreciates her finding of phosphorylation pathways that affect cytoskeletal components during trogocytosis by Entamoeba

histolytica, and important pathogen.

Dr Rahul Srivastava (02.08.1985), PhD, Assistant Professor, Indian Institute of Science Education and Reaserch Bhopal, Bhopal.

For important contributions to neutrino, Dark Matter physics and beyond standard model phenomenology.

Dr Swati Tripath i(26.02.1986*),* PhD, Scientist-E, BirbalSahni Institute of Palaeosciences, Lucknow.

Contributed to Quaternary Palynology

Dr Mohit Verma (23.12.1986), Principal Scientist, Advanced Seismic Testing and Research (ASTaR) Laboratory, CSIR – Structural Engineering Research Center, Chennai.

Dr Mohit Verma has made significant contributions to structural dynamics, particularly in hybrid simulation techniques for seismic and thermo-mechanical testing of structures. His research includes developing real-time hybrid testing frameworks and impedance matching strategies to enhance the accuracy and efficiency of dynamic substructuring experiments. He has also applied fuzzy logic and multi-criteria decision-making models for structural health assessment, exemplified by his work on ranking and evaluating telecommunication towers based on visual inspections. Additionally, he has investigated the dynamic responses of off shore wind turbine platforms, contributing to the design of resilient floating structures under extreme environmental conditions.

Annexure-II

Recipients of INSA Associate Fellows (IAF)

(For the Year 2025)

Dr Purushothaman Chirakkuzhyil Abhilash (20.05.1978), PhD, Associate Professor, Institute of Environment & Sustainable Development (IESD), Banaras Hindu University, Varanasi

Dr PC Abhilash is working on the restoration of marginal and degraded lands for regaining ecosystem services and complexities, sustainable utilization of agrobiodiversity, nature-based solutions, and ecosystem-based adaptations for climate-resilient and planet-healthy food production.

Professor Arpan Banerjee (30.03.1979), PhD, Scientist VI, National Brain Research Centre, Gurgaon.

Dr Banerjee's key contributions are in the field of Cognitive Neurosciences with far-reaching significance on problems of mental health, brain injuries and neurodevelopmental disorders across adult human lifespan. He uses tools across Neuroimaging-Electrophysiology-Biophysics to marshal an integrative understanding of brain function. Recent focus of his group is utilizing big data analytic tools to characterize neurophysiological patterns of healthy lifespan ageing and to identify pathological variations of such patterns from biophysics-based computational models of disease mechanisms. He is of international renown.

Dr Varun Bhalerao (04.08.1983), PhD, Associate Professor, Department of Physics, Indian Institute of technology, Bombay.

For his sustained important contributions to the study of astrophysical transients and development of space instrumentation.

Professor Suryasarathi Bose (06.04.1980), PhD, Department of Materials Engineering, Indian Institute of Science, Bangalore, Bangalore.

D. Suryasarathi Bose has made pioneering contributions to the development of advanced polymer nanocomposites, significantly enhancing their electrical, thermal, and mechanical properties. His research has led to innovative approaches for aligning carbon nanotubes and graphene within polymer matrices, enabling multifunctional materials with superior performance. He has also explored sustainable materials by incorporating bio-based fillers and green processing methods. His work has wide-ranging applications in flexible electronics, energy storage, and lightweight structural components.

Dr Pranjal Chandra (01.01.1984), PhD, Associate Professor, School of Biochemical Engineering, Indian

Institute of Technology (BHU) Varanasi, Varanasi.

Dr Pranjal Chandra has done seminal work in developing ultra-sensitive biosensors for early disease detection, particularly in cancer and infectious diseases. He has innovated cost-effective, point-of-care diagnostic platforms using nanomaterials and electrochemical techniques, which hold the potential for scalable deployment. His research bridges nanotechnology and biotechnology, resulting in devices with rapid response times and high specificity. His contributions are also instrumental in advancing personalized medicine and real-time health monitoring.

Dr Dibyendu Das (29.06.1981), PhD, Associate Professor, Department of Chemical Sciences, Indian Institute of Science Education and Research Kolkata, Mohanpur.

Outstanding work in Systems Chemistry & Supramolecular Chemistry.

Dr Santosh Kumar Das (14.06.1983), PhD, Associate Professor, Indian Institute of Technology Goa.

For his high impact theoretical work to see the effect of strong initial magnetic field in ultra-relativistic heavy-ion collisions. This was subsequently verified by experiments at the LHC and RHIC.

Dr Rajib Deb (05.04.1981), PhD, Senior Scientist, Animal Health Laboratory, ICAR-National Research Centre on Pig, Guwahati.

Dr Deb has made remarkable contributions to animal biotechnology with a focus on advanced diagnostics, vaccines, and understanding host-pathogen interactions to improve livestock health and food safety.

Professor Debangshu Dey (11.04.1980), PhD, Electrical Engineering Department, Jadavpur University, Kolkata.

Dr Debangshu Dey has made significant contributions to electrical engineering and biomedical signal processing, particularly in the application of advanced signal processing and machine learning techniques. His research includes developing wavelet-based deep learning frameworks for denoising partial discharge signals in high-voltage equipment, enhancing fault detection accuracy. He has also worked on attention-based deep learning models for driver drowsiness detection and biomedical image analysis, such as lung nodule and skin lesion classification. Additionally, he has applied empirical wavelet transforms and hybrid algorithms for condition monitoring of bearings and transformers, improving predictive maintenance strategies.

Dr Sandeep Eswarappa (28.05.1980), PhD, Associate Professor, Department of Biochemistry, Indian Institute of Science, Bengaluru.

Dr Sandeep has pioneered the study of translational read through in mammals, identifying key genes and demonstrating microRNA and ASO- mediated modulation of this process, offering a novel, mutation specific therapeutic strategy for diseases like beta-thalassemia.

Dr Suphiya Khan (26.02.1976), PhD, Deputy Director, Shriram Institute for Industrial Research, Gurugram

Dr Suphiya Khan's research spans interdisciplinary fields, including water purification and technology development, with a particular focus on sustainable solutions for fluoride contamination. Her work is a blend of academic rigor and practical innovation, which has been translated into her spin-off company, Drumlins, which aims to address critical water-related challenges.

Dr Prashant Kumar (03.12.1982), PhD, Scientist – SF, Atmospheric Sciences Division, Atmospheric and Oceanic Sciences and Applications Group EPSA, Space Applications Centre, ISRO, Ahmedabad.

His primary research of developing particle filter for rainfall assimilation and all sky satellite radiance is major milestone.

Dr Charu Lata (14.12.1981), PhD, Principal Scientist, CSIR-National Institute of Science Communication and Policy Research, New Delhi.

Dr Charu Lata has made significant contributions towards elucidation of molecular mechanism of beneficial plant-microbe interactions leading to abiotic stress tolerance.

Professor Amit Mishra (01.07.1981), PhD, Professor, Department of Bioscience & Bioengineering, Indian Institute of Technology Jodhpur.

Dr Amit Mishra has done significant work in neuronal protein quality control mechanisms involved in neurodegenerative diseases. This has been achieved

by understanding the quality control functions of selective multifaceted E3 ubiquitin ligases, which barricade extreme defence against misfolded proteins aggregation. His findings provide a clear and better understanding of this innovative concept that can develop new therapeutic targets for neurodegeneration and aging.

Dr Kutubuddin Ali Molla (22.02.1985), PhD, Senior Scientist, Crop Improvement Division, ICAR-National Rice Research Institute, Odisha.

Dr Molla has developed a highly compact genome editing tool, TnpB, which is one-third the size of Cas9/ Cas12a. He has also developed 2 climate-resilient rice varieties.

Dr Rajesh Ramachandran (30.05.1976), PhD, Associate Professor, Indian Institute of Science Education and Research Mohali, Mohali

Dr Rajesh Ramachandran is being recognized for his well-recognized work on retinal regeneration in Zebrafish, and how this is orchestrated by microRNA, the myc-pathway and histone deacetylase enzymes. His results uncover important common mechanisms in developmental programming across species.

Professor Chandra Shekhar Sharma (05.11.1982), PhD, Department of Chemical Engineering, Indian Institute of Technology Hyderabad, Kandi.

Dr Chandra Shekhar Sharma has advanced the development of lithium–CO_2 batteries, successfully demonstrating their operation in simulated Martian conditions—a breakthrough with potential applications in future space missions and CO_2 utilization technologies. His research focuses on creating sustainable energy storage solutions, including biomass-derived carbon electrodes for lithium-sulphur and potassium-ion batteries, as well as high-performance supercapacitors. He has also developed eco-friendly technologies such as electrospunnanofiber-based sanitary napkins and a method to recycle thermocol waste using orange peel extract, both of which have received significant recognition. Additionally, his work on nanofibrous seed storage bags aims to reduce agricultural losses, contributing to food security through nanotechnology-driven solutions.

Professor Saurabh Kumar Shrivastava (28.02.1983), PhD, Indian Institute of Science Education and Research Bhopal, Bhopal.

Contributions to Harmonic Analysis.

Professor Sripada S. V. Rama Sastry (13.07.1979), PhD, Indian Institute of Science Education and Research Mohali, Mohali.

Contribution to Organic synthetic methodology and total synthesis.

Professor Basker Sundararaju (25.07.1980), PhD, Department of Chemistry, Indian Institute of Technology Kanpur, Kanpur.

Outstanding contribution to Organometallic chemistry.

Dr Amit Tuli (09.09.1980), PhD, Principal Scientist &Wellcome Trust-India Alliance Intermediate Fellow, Division of Cell Biology & Immunology, CSIR-Institute of Microbial Technology, Chandigarh.

Dr Amit Tuli's research findings have significantly contributed to the understanding of the mechanisms by which immune cell types such as macrophages and natural killer (NK) cells in our body get activated and respond to control the growth of intracellular pathogens. He gives equal importance to both the understanding of the fundamental mechanisms of the processes and their implications for disease. Thus, his work has strong translational components with thorough basic science grounding.

Annexure-III

Recipients of INSA Distinguished Lectures-1

(for current INSA Associate Fellows and INYAS only)

(for the year 2025)

(Subject to deliver the lecture during Anniversary General Meeting 2025)

Sectional Committee - I : Mathematical Sciences

Applied Mathematics, Pure Mathematics, Theoretical Computer Science, Statistics and Operations Research

Datar, Ved Vivek (*b.*13.11.1987), PhD, Assistant Professor, Department of Mathematics, Indian Institute of Science, Bengaluru.

Contributions to Geometric Analysis.

Sectional Committee - II : Physics

Astronomy, Astrophysics, Nuclear and High Energy Physics, Atomic, Molecular and Optical Physics, Statistical Physics, Theoretical Physics, Mathematical and Computational Physics, Condensed Matter including Soft, Liquids and Nano Materials, Cosmic Radiation, Cosmology, Space Physics, Basic Planetary Sciences, Lasers and Optoelectronics, Plasma Physics, Solar Physics, Atmospheric Physics

Tyagi, Mohit (*b.* 30.03.1983), PhD, Scientific Officer (G) & Associate Professor HBNI, Crystal Technology Section, Technical Physics Division, Bhabha Atomic Research Centre, Mumbai**.**

Single Crystal Growth

Sectional Committee - III : Chemistry

Analytical Chemistry, Inorganic Chemistry, Organic Chemistry, Physical Chemistry, Theoretical and Computational Chemistry, Structural Chemistry, Chemistry of Materials, Medicinal and Pharmaceutical Chemistry, Bio-organic, Bio-inorganic and Bio-physical Chemistry

Singh, Surya Prakash (*b.* 15.04.1978), PhD, Senior Principal Scientist, Department of Polymers and Functional Materials, CSIR-Indian Institute of Chemical Technology, Hyderabad.

Outstanding work towards the development of functional Optoelectronic Materials for application in OPV, DSSC and Perovskite solar cells

Sectional Committee - IV : Earth & Environmental Sciences

Surface and Solid Earth Science, Applied Atmospheric Chemistry and Physics, Climate Sciences, Meteorology, Geo Engineering, Ocean Sciences, Geo Sciences and Applied Planetary Sciences

Mitra, Supriyo (*b.* 12.11.1976), PhD, Professor, Department of Earth Sciences, Indian Institute of Science Education and Research Kolkata.

Pioneered broadband seismological field experiment in Eastern Sikkim and Jammu and Kashmir Himalaya: deliented velocity and attenuation structure for lithospheric evolution and qualification of seismic hazard.

Sectional Committee - V : Engineering & Technology

Electrical Engineering, Telecommunication Engineering, Electronics and Optoelectronics, Chemical Engineering, Civil Engineering, Environmental Engineering, Mechanical Engineering, Aeronautical Engineering, Metallurgical Engineering, Computer Science and Engineering including Software and Data science, Information Science and Technology, Advanced Materials (such as Bio-materials, Hybrid Materials and Nano Materials), Polymer Science & Engineering

Saha, Sriparna (*b.* 19.01.1982), PhD, Associate Professor, Department of Computer Science and Engineering, Indian Institute of Technology, Patna.

Dr Sriparna Saha is a prominent researcher in the field of natural language processing (NLP) and machine learning, with significant contributions to sentiment analysis, text summarization, and healthcare informatics. Her work often integrates deep learning,

multi-objective optimization, and multi-modal data to address real-world problems, particularly in low-resource settings. She has developed novel algorithms for emotion detection, fake news identification, and clinical decision support. Her research has been widely published in top-tier journals and conferences, advancing both theoretical frameworks and practical applications in AI.

Sectional Committee - VII : Molecular and Cellular Biology

Cell Biology, Physiology, Development, Genetics, Genomics and other Omics of Plants, Animals and Microbes including Unicellular Eukaryotes

Notani, Dimple (*b* 02.08.1976), PhD, Associate Professor, National Centre for Biological Sciences, TIFR, GKVK Campus, Bangalore.

Professor Dimple Notani, is an upcoming star scientist in genome organization and gene regulation and hence is nominated for an INSA Distinguished Lecture in recognition of her transformative research on enhancer biology, transcriptional dysregulation, and 3D genome organization. Her work has unveiled fundamental mechanisms driving oncogenic processes, with significant therapeutic implications. Professor Notani has received global acclaim, including the Wellcome Trust/DBT India Alliance Fellowship and invitations to elite forums (e.g., EMBO Global Lectures). As a passionate mentor and advocate for women in science, she embodies INSA's mission to foster excellence and inclusivity. This lecture would spotlight her pioneering science and inspire future breakthroughs.

Sectional Committee - VIII : Biomolecular, Structural Biology and Drug Discovery

Biochemistry, Biophysics, Molecular Biology, Pharmacology, Structural Biology, Bioinformatics, Computational Biology, System Biology

Tripathi, Timir (*b.* 28.01.1981), PhD, Professor of Molecular Biology, Department of Zoology, School of Life Sciences, NEHU, Shillong.

Professor Timir Tripathi, has advanced our understanding of protein dynamics, particularly the role of intrinsically disordered proteins in neurodegenerative diseases. His research on protein misfolding and aggregation has contributed to the development of novel therapeutic strategies.

Sectional Committee - IX : Health Sciences

Basic and Clinical Medical Sciences–Communicable and Non-communicable Diseases, Epidemiology, Anthropology, Psychology, Cognitive and Neurosciences, Medical Genetics and Genomics, Public Health, Nutrition, Immunology

Pilania, Rakesh Kumar (*b.* 24.11.1986), DM, Assistant Professor, Department of Pediatrics, Advance Pediatrics Centre, Postgraduate Institute of Medical Education and Research, Chandigarh.

Dr Pilania is conducting research in pediatric autoimmune disorders such as Kawasi Syndrome, lupus which have both clinical relevance in management of patients as well as translational value. He is also member of national and international bodies which formulate management guidelines. He has to his credit 172 publications and 11 book chapters.

Sectional Committee - X : Agricultural Sciences

Agriculture, Horticulture, Forestry, Fisheries, Food Science, Veterinary Science, Pathogen Biology and Host Pathogen Interaction Both Plant and Veterinary Importance

Chatterjee, Dibyendu (*b.* 23.10.1984), PhD, Senior Scientist, Crop Production Division, ICAR National Rice Research Institute, Cuttack.

Dr Chatterjee has used advanced eddy covariance approach for measuring greenhouse gas emissions and energy balance. They also investigated the energy balance in the rice ecology, which can be used as a source of default values in various meteorological or air quality models. Residual heat flux (was proposed as the best method for estimating energy balance closure in lowland irrigated rice fields. His team reported that the energy balance in paddy fields has a greater imbalance during the rainy season as the energy is advected in the fresh rainwater.

Annexure-IV

Recipients of INSA Distinguished Lectures-2
(for INSA Fellows only except those covered under IDL-1)

(for the year 2025)

(Subject to deliver the lecture during Anniversary General Meeting 2025)

Sectional Committee - I : Mathematical Sciences:

Applied Mathematics, Pure Mathematics, Theoretical Computer Science, Statistics and Operations Research

Athreya, Siva *(b* 07.01.1971), PhD, Senior Professor-I, International Centre for Theoretical Sciences-TIFR, Bengaluru.

Leading probabilist in the country.

Sectional Committee - II : Physics

Astronomy, Astrophysics, Nuclear and High Energy Physics, Atomic, Molecular and Optical Physics, Statistical Physics, Theoretical Physics, Mathematical and Computational Physics, Condensed Matter including Soft, Liquids and Nano Materials, Cosmic Radiation, Cosmology, Space Physics, Basic Planetary Sciences, Lasers and Optoelectronics, Plasma Physics, Solar Physics, Atmospheric Physics

Sen, Ashoke (*b.*15.07.1956) PhD, Professor, International Centre for Theoretical Sciences (ICTS)-TIFR, Bengaluru.

Distinguished contribution to string theory and gravity.

Sectional Committee - III : Chemistry

Analytical Chemistry, Inorganic Chemistry, Organic Chemistry, Physical Chemistry, Theoretical and Computational Chemistry, Structural Chemistry, Chemistry of Materials, Medicinal and Pharmaceutical Chemistry, Bio-organic, Bio-inorganic and Bio-physical Chemistry

Bhattacharya, Santanu (*b.* 23.04.1958), PhD, Director and Professor, Indian Institute of Science, Education and Research (IISER), Tirupati.

For his outstanding and creative contributions in Chemical Biology.

Sectional Committee - IV : Earth & Environmental Sciences

Surface and Solid Earth Science, Applied Atmospheric Chemistry and Physics, Climate Sciences, Meteorology, Geo Engineering, Ocean Sciences,Geo Sciences and Applied Planetary Sciences

Nayak, Shailesh (*b* 21.08.1953), PhD, Director, National Institute of Advanced Studies, Bengaluru.

For his outstanding contributions in building the National Tsunami Warning System and advancement of the Blue Economy of the Coastal Region of India. His notable contributions include improving the understanding of Polar Science, geoscience, Ocean Science and Ocean-modelling, resources and technology.

Sectional Committee - V : Engineering & Technology

Electrical Engineering, Telecommunication Engineering, Electronics and Optoelectronics, Chemical Engineering, Civil Engineering, Environmental Engineering, Mechanical Engineering, Aeronautical Engineering, Metallurgical Engineering, Computer Science and Engineering including Software and Data science, Information Science and Technology, Advanced Materials (such as Bio-materials, Hybrid Materials and Nano Materials), Polymer Science & Engineering

Radhakrishnan, Jaikumar (*b* 30.05.1964), PhD, Distinguished Professor, ICTS- Tata Institute of Fundamental Research, Bengaluru.

Professor Jaikumar Radhakrishnan is a leading figure in theoretical computer science, with significant contributions to complexity theory, communication complexity, and quantum computation. His research has advanced understanding in areas such as randomness in computing, information theory, and combinatorics, often employing algebraic and probabilistic methods to tackle fundamental computational problems, including his early seminal work on threshold formulas. His highly

scholastic archival research articles have reported novel findings on topics encompassing these areas, such as set membership problems, zero-error list-decoding capacity, and quantum communication complexity.

Sectional Committee - VI : General Biology

Taxonomy, Structure, Ecology, Environmental Biology, Evolution and Behaviour of Plants, Animals and Microbes including Unicellular Eukaryotes

Kumar, Vinod (*b.* 14.01.1956), PhD, Former Senior Professor, Department of Zoology, University of Delhi, Delhi.

Dr Vinod Kumar's research using blend of behaviour-physiology-neural-molecular studies have focused on adaptive strategies underlying daily and seasonal processes in songbirds. His research has significantly contributed to the mechanistic bases of behavioural, physiological and metabolic shifts with transition in seasonal life-history states.

Sectional Committee - VII : Molecular and Cellular Biology

Cell Biology, Physiology, Development, Genetics, Genomics and other Omics of Plants, Animals and Microbes including Unicellular Eukaryotes

Bachhawat, Anand Kumar (*b* 01.10.1958), PhD, Professor, Indian Institute of Science Education & Research (IISER), Mohali.

Professor Anand Bachchawat, is a luminary in bioenergetics/metabolic engineering, and therefore nominated for this INSA Distinguished Lecture. Renowned for his pioneering work on mitochondrial biogenesis/microbial synthetic pathways, he has reshaped our understanding of cellular energy dynamics and redox homeostasis with biotech applications. A Fellow of the Indian National Science Academy (FNA) and recipient of the Bhatnagar Prize/Goyal Prize, Professor Bachchawat's insights continue to inspire interdisciplinary science.

Sectional Committee - VIII

Biomolecular, Structural Biology and Drug Discovery Biochemistry, Biophysics, Molecular Biology, Pharmacology, Structural Biology, Bioinformatics, Computational Biology, System Biology

Sowdhamini, **Ramanathan** (*b.* 24.05.1964), PhD, Associate Professor, National Centre for Biological Sciences (TIFR), Bengaluru.

Professor Ramanathan Sowdhamini has made significant contributions to computational biology, focusing on protein structure, function, and evolution. Her research integrates bioinformatics and molecular modeling to understand complex biological systems.

Sectional Committee - IX : Health Sciences

Basic and Clinical Medical Sciences–Communicable and Non-communicable Diseases, Epidemiology, Anthropology, Psychology, Cognitive and Neurosciences, Medical Genetics and Genomics, Public Health, Nutrition, Immunology

Aggarwal, Rakesh (*b.* 13.02.1961), DM, Professor and Head, Department of Gastroenterology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow.

Dr Rakesh Aggarwal is a hepatologist and epidemiologist with research contributions in disciplines of epidemiology, clinical medicine, laboratory work, health economic studies, mathematical modelling, and public health policy. His work has helped clarify the epidemiology of HEV infection in the country. Using a mathematical Markov model, he showed that universal vaccination against hepatitis B was much more cost-effective than a policy of selective vaccination; this work influenced the decision to introduce hepatitis B vaccine in India's immunization program. His group has shown the benefits of direct-acting anti-viral agents (DAAs) in India for hepatitis C.

Sectional Committee - X : Agricultural Sciences

Agriculture, Horticulture, Forestry, Fisheries, Food Science, Veterinary Science, Pathogen Biology and Host Pathogen Interaction Both Plant and Veterinary Importance

Khurana, Paramjit (*b* 15.08.1956), PhD, Professor, JC Bose National Fellow, Department of Plant Molecular Biology, University of Delhi, South Campus, New Delhi.

Professor Khurana has made significant contributions in understanding biology of wheat through genomic studies. She pioneered genetic transformation of wheat for the trait improvement and stress tolerance. She has also worked on mulberry genomics.

Annexure-V

RECIPIENTS OF INSA OVERSEAS CHAIRS 2025

SECTIONAL COMMITTEE - VI: General Biology

Professor Adam K. Chippindale Professor, Department of Biology, Queen's

University at Kingston

Dr Adam K. Chippindale is a leading evolutionary biologist and professor in the Department of Biology at Queen's University, Kingston. He earned his BScH from the University of Alberta in 1989 and completed his Ph.D. at the University of California, Irvine in 1994. Following postdoctoral fellowships at Irvine, Santa Cruz, and Santa Barbara, he joined Queen's University in 2002 as a Canada Research Chair and rose to full professorship in 2014. Dr Chippindale's research focuses on the experimental evolution and genetics of Drosophila melanogaster, particularly in the areas of sexual selection, intralocus sexual conflict, and stress resistance. His work has significantly contributed to understanding evolutionary conflict between sexes and the genetic architecture underlying fitness.

He has published extensively, with over 49 peer-reviewed papers and an h-index of 35, reflecting more than 7,600 citations. His recent research continues to explore long-term evolutionary dynamics, with notable studies on reproductive isolation, X-chromosome evolution, and the effects of nanoparticle exposure. Dr Chippindale has been recognized with numerous teaching awards, including the Queen's Dean's Excellence in Teaching Award (2020), multiple Biology DSC awards, and the prestigious W.J. Barnes Award for Excellence in Teaching. He was also the recipient of the Genetics Society of Canada's Young Investigator Award and the Premier's Research Excellence Award.

SECTIONAL COMMITTEE - VII: Molecular and Cellular Biology

Dr Harmit S. Malik, Associate Director, Fred Hutchinson Cancer Center's Basic

Sciences Division, USA

Dr Harmit S. Malik, Associate Director of the Fred Hutchinson Cancer Center's Basic Sciences Division and Howard Hughes Medical Institute Investigator, is nominated for INSA Overseas Chair in recognition of his paradigm-shifting work on genetic conflicts, viral-host evolution, and centromere drive-research that has redefined our understanding of genome dynamics.

A member of the US National Academy of Sciences and Fellow of the American Academy of Arts & Sciences, Dr Malik has been honoured with the NIH Director's Pioneer Award, and the Radcliffe Fellowship at Harvard for his transformative contributions. His global scientific leadership, coupled with his commitment to mentoring and collaborative innovation, makes him an ideal steward for INSA's mission to advance science in India and beyond.

SECTIONAL COMMITTEE - IX: Health Sciences

Professor Shinji Yamasaki, Professor, Graduate School of Veterinary Science and Vice Director, Osaka International Research Center for Infectious Diseases, Osaka Metropolitan University

Professor Yamasaki holds a Ph.D. in Molecular Microbiology from the University of Tokyo. Over a career spanning more than three decades, he has significantly contributed to bacterial pathogenesis research, particularly in toxin-producing Escherichia coli. He has held key academic and research positions at leading institutions, including Kyoto University, University of Tsukuba, and the International Medical Center of Japan. He has also served as an international advisor and guest professor in China and India.

A prolific author with over 250 publications, reviews, and books in both English and Japanese. He received the Japanese Society of Food Microbiology Award in 2022 and has held numerous leadership roles in scientific societies, including the Japanese Societies of Bacteriology, Veterinary Science, and Food Microbiology. Beyond academia, he has advised major public health initiatives, including the Osaka-Kansai Expo 2025, where he serves as Vice Chairman of the Venue Health Council.

SECTIONAL COMMITTEE X: Agricultural Sciences

Professor Prem L Bhalla, Faculty of Science, University of Melbourne

Professor Prem L. Bhalla is an internationally acclaimed plant biotechnologist at the Faculty of Science, University of Melbourne. Her research focuses on plant reproductive biology, genetic engineering, and developing climate-resilient crops. She is best known for pioneering the development of the world's first hypoallergenic ryegrass and for innovations in hybrid seed production through genetically engineered male sterility in Brassica.

With over 160 peer-reviewed publications and 10 patents, her work is published in leading journals including Science, PNAS, and Plant Physiology. She has secured over A$26 million in competitive funding from agencies such as the ARC and international bodies including the Austrian Science Fund and NSF-USA.

Professor Bhalla has held major academic leadership roles, including Associate Dean (Research) and Head of Biosciences, and has served on multiple international funding panels. He is a Fellow of the Indian Society for Plant Physiology and recipient of the Royal Society of Victoria Research Medal.

Published by Dr VM Tiwari, Vice President (Publications & Informatics), Indian National Science Academy,
New Delhi 110 002 and designed and printed by M/s. Kamala Print-n-Publish, O 96, New Mahavir Nagar, New Delhi 110 018;
Executive Director: Dr. Brajesh Pandey, Compiled by Dr. Seema Mandal