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.

Prof. 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, Prof. 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.

Prof. 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.

Prof. 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.