

**INDIAN NATIONAL SCIENCE ACADEMY**  
**Bahadur Shah Zafar Marg, New Delhi 110002**

**Minutes of the General Body Meeting of the Indian National Science Academy held on 9 May 2023 in INSA premises in hybrid mode.**

The following Fellows attended the meeting:

(in person)

1. Professor Ashutosh Sharma, President
2. Dr Madhu Dikshit, Vice-President
3. Dr Amit Ghosh, Vice-President
4. Professor Narinder K Mehra, Vice-President
5. Professor Spenta Wadia, Vice-President
6. Professor Md. Zahid Ashraf
7. Professor DM Banerjee
8. Professor Santanu Bhattacharya
9. Professor Supriya Chakraborty
10. Professor Srubabati Goswami
11. Professor BD Malhotra
12. Professor Ranjan K Mallik
13. Professor Sushmita Mitra
14. Professor Sourav Pal
15. Professor GVR Prasad
16. Professor Bhim Singh
17. Professor Sudeshna Sinha

(Online)

1. Professor TK Adhya
2. Professor KN Aggrawal
3. Professor DJ Bagyaraj
4. Professor Amit Basak
5. Dr Anirban Basu
6. Professor Bikramajit Basu
7. Professor JK Batra
8. Dr Nita Bhandari
9. Professor SV Bhat
10. Professor Shinjini Bhatnagar
11. Professor Asit K Chakraborti
12. Professor Nagasuma Chandra
13. Dr SL Chpalot
14. Professor Probal Chaudhuri
15. Dr Pradeep Das
16. Professor Sampa Das
17. Professor SK Dhar
18. Professor VP Dimri
19. Dr NZ Ehtesham
20. Professor Anupama Gadiyara Chakrapani
21. Dr KN Ganesh
22. Dr Aswini Ghosh
23. Professor Subrata Ghosh
24. Professor Pradyut Ghosh

25. Professor AK Gupta
26. Professor Maneesha Inamdar
27. Professor NR Jagannathan
28. Professor AK Jain
29. Dr Dinakar Kanjilal
30. Professor HR Krishnamurthy
31. Professor SS Krishnamurthy
32. Professor Vinod Kumar
33. Professor AN Lahiri Majumder
34. Professor Rup Lal
35. Professor UC Lavania
36. Professor HK Majumdar
37. Professor Gobinda Majumder
38. Professor Nibir Mandal
39. Professor HS Misra
40. Professor PK Mukherjee
41. Professor Ritabrata Munshi
42. Dr Arnab Mukhopadhyay
43. Dr Shailesh Nayak
44. Dr AB Pandit
45. Professor G Parathasarathy
46. Professor Ashwini Pareek
47. Dr Manoj Prasad
48. Professor T Punniyamurthy
49. Professor G Rajasekaran
50. Professor LC Rai
51. Dr T Ramamurthy
52. Dr CS Rao
53. Professor Mamiyil Sabu
54. Professor Anunay Samanta
55. Professor Aditi Sen De
56. Professor Kalidas Sen
57. Professor Maithili Sharan
58. Professor Ajit Iqbal Singh
59. Dr GP Singh
60. Dr KP Singh
61. Professor Mewa Singh
62. Professor RN Singh
63. Professor VK Singh
64. Professor Yogendra Singh
65. Professor RS Singhal
66. Professor Rajesh K Srivastava
67. Professor SK Subbarao
68. Professor Kandaswamy Subramanian
69. Professor PN Takkar
70. Professor Anil K Tripathi
71. Dr PK Tripathi
72. Professor KC Upadhyaya
73. Professor Akhilesh Verma
74. Dr Amit Prakash Sharma
75. Professor Somdatta Sinha
76. Professor Alexei Starobinsky

*Note: Some Fellows who joined the meeting with different names (reflected in the list like.... Prakruthi Parthasarathy, Muthu, Nirupam Karmakar, KFRC, rshns, Vishaal Kant, HP, Redmi 9A, Sharda.*

## **Presentation of Award Ceremony**

12-00 noon – 01.00 pm      - INSA Medal for Young Scientist Awardees 2022  
   - Professor Har Swarup Memorial Awardees 2022  
   - INSA Teacher Awardees 2022

42 Young Scientists were selected in 2022, 28 received the INSA Medal and 2 Professor Har Swarup Memorial Award 2022 from President INSA. In addition, 15 INSA Teachers Awardees received the INSA Teachers award from President INSA. The list is given in ***Annexure-I, p/ 6-12.***

01.00 pm onwards              General Body Meeting (for INSA Fellows only)

President, INSA welcomed all the participant Fellows. Thereafter, the regular agenda items were taken up.

### **1. Condolence at the passing away of the following distinguished INSA Fellows and Foreign Fellows:**

The sad demise of Dr Sunil Kumar Mukherjee, Professor Ramesh Chandra Sachar, Professor Prahlad Kishore Seth, Professor Mahendra Pal Singh, Professor Krityunjai Prasad Sinha, Dr Kuppuswamy Nagarajan (Fellow) and Dr Nicholas Avrion Mitchison (Foreign Fellow) was reported. The obituary notes were read by the President, INSA and everyone present stood in silence for a minute as a mark of respect to the deceased.

### **2. Confirmation of minutes of Anniversary General Meeting held on 14-16 December, 2022.**

The minutes of the Anniversary General Meeting held on 15 December 2022 were presented by Dr Madhu Dikshit, Vice-President, INSA. The minutes were already uploaded on the INSA website. No comments were received. Thereafter, the minutes were confirmed.

### **3. To read as required under Rule 40(c) the name of nominees for election as INSA Fellow and Foreign Fellow received from 1 December 2022 to 30 April 2023.**

Dr Madhu Dikshit read the names of those whose nominations were received for election as INSA Fellows.

President, INSA requested all Fellows to send suitable and deserving nominations for INSA Fellowship.

**4. To announce the voting results on amendments of INSA Rules: No.4, 35, and 37.**

Voting results were announced by Dr Madhu Dikshit. President mentioned that overwhelmed responses have been received from the fellows for changing the rules. Rules are modified and new rules will be reflected in the Year Book 2024.

**5. To announce the new constitution in Council**

President, INSA announced the new Constitution of Council 2024:

*One President*

six Vice-Presidents (Fellowship Affairs; Science Promotion; Resource Generation and Management, International Affairs, Publications/Informatics, and Science and Society.

*and 20 other Fellows making a total of 27.*

In addition, Additional Members, one each to be nominated by the The National Academy of Sciences (India), Allahabad, The Indian Academy of Sciences, Bengaluru (IASc), The *Indian National Academy of Engineering, New Delhi (INAE)*, National Academy of Agricultural Sciences, New Delhi (NAAS) and National Academy of Medical Sciences, New Delhi (NAMS). The nominees should be the fellow of their respective academies and one nominee from the Government of India (Department of Science and Technology) from among the Fellows of the Indian National Science Academy.

(Total 33 Council members)

Additional Members nominated by bodies other than INSA will not have voting rights in the Council decisions.

**6. To announce the modifications in the New Category Fellowship.**

**President apprised the fellowship about the** modifications in the New Category Fellowship named:, the new category (i) was renamed as ***Science in Translation***. The components of this category are as follows:

- (a) Scientific leadership in Science-Based Innovation
- (b) Scientific leadership in Industrial R & D
- (c) Scientific leadership in Technology Missions of National importance and
- (d) Scientific leadership in the Management of Scientific Institutions

Similarly, Category Two (ii) has been renamed as ***'Science for Society'*** and some of its components/themes will be deliberated by a newly constituted committee.

**7. The New Initiatives in INSA.**

President, INSA informed about the following new initiatives to be taken up by the Academy.

- a) INSA Young Scientist Associate Fellows

- b) INSA Distinguished Teacher Fellows
- c) INSA Distinguished Lecture Series
- d) National Centre for Good Governance (NCGG) – INSA Leadership in Science Collaborative program.
- e) 4th Royal Society Yusuf Hamied Bilateral Workshop on 24-25 July 2023. The main theme of the meeting is “Artificial intelligence and our world”.
- f) Policy Centre will be established in INSA
- g) Strengthening Science Journalism in India  
(Global trends, regional media and the science-society connect)
- h) American Chemical Society – INSA Joint Programme
- i) G20 Engagement Group Science20 –India 2023  
(Science20 Meetings and Webinars)

While discussing INSA Distinguished Teachers Fellows, many members opined that there should not be any age bar for Teacher Fellows. President requested to all Fellows to propose a few more new initiatives to be taken up by the Academy. INSA Young Scientists, INSA Teachers, and INYAS members may be involved in these new initiatives.

President suggested that all Fellows should contribute at least one paper in PINSA. He suggested that all archives and digitized publications may be available online.

The meeting ended with a vote of thanks to the Chair.

**RECIPIENTS OF INSA MEDAL FOR YOUNG SCIENTISTS 2022**

**1. Sarit S Agasti, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Jakkur, Bengaluru**

For his outstanding contribution for the development of molecular assemblies by incorporating various dynamically interacting synthetic host-guest motifs and exploiting these systems to do useful biological work.

**2. Gaurav Ahuja, Indraprastha Institute of Information Technology-Delhi (IIIT-Delhi), New Delhi.**

For his significant contribution in deciphering the underlying mechanisms and codes involving odorant-receptor interactions, understanding the molecular basis of loss of smell in COVID-19 infected patients, and establishing a link between the diversity of olfactory receptors per cell and cancer cell stemness.

**3. Subhro Bhattacharjee, ICTS-TIFR, Bengaluru**

For his outstanding contributions to the theory of phase transitions beyond the conventional symmetry-breaking framework, the relationship between transport and chaos, and an unexpected connection between granular elasticity and gauge theories.

**4. Arnab Bhattacharjee, Jawaharlal Nehru University, New Delhi**

For his outstanding contributions in developing novel multiscale computer simulation techniques to investigate the physical and molecular factors that modulate the accessibility of genes within compact genome assemblies.

**5. Hillol Chakdar, ICAR-NBAIM, Kushmaur, Uttar Pradesh**

For his significant contributions to develop a cost-effective and easy-to-implement methodology for detecting infections of plants by fungal pathogens, especially two fungal pathogens of rice.

**6. Debashree Chakraborty, National Institute of Technology, Mangalore**

For her significant contributions in the area of molecular dynamics simulations of complex biomolecular systems using network analysis and other immunoinformatic tools.

**7. Siddhartha Chaudhuri, Adobe Tower, Prestige Tech Park, Bengaluru**

For his fundamental scientific contributions to scalable computational and data-driven approaches towards shape understanding, synthesis, and re-construction of high quality three-dimensional digital object.

**8. Sabyasachi Das, Manipal University College Malaysia, Bukit Baru, Melaka, Malaysia**

For his seminal contributions to malaria research of public health importance notably on the drug-resistant strains in Indian isolates. He discovered the existence of novel polymorphisms in Kelch protein sequences associated with the Artemisinin-resistant *Plasmodium falciparum* in the Indian population.

**9. Sonali Garg, University of Delhi, Delhi**

For her significant contributions to carrying out original and creative research on systematics, taxonomy, and biogeography of frogs and other amphibian taxa of the Western Ghats and the northeast Indian region.

**10. Srimonta Gayen, Indian Institute of Science, Bangalore**

For his significant contributions to reversible epigenetic modifications and their role in development and disease.

**11. Jino George, IISER Mohali, Mohali**

For his significant contributions toward the development and utilization of techniques for controlling chemical as well as physical properties of molecules exploiting the light-matter strong coupling inside the Fabry-Perot (FP) cavity.

**12. Nirupam Karmakar, Indian Institute of Tropical Meteorology, Pashan, Pune**

For his notable contributions to the understanding of active and break phases of Indian monsoon, and their relationship with intra-seasonal oscillations. He demonstrated that extreme rainfall in the break phases reduces the intensity of the following active phase.

**13. Vidya Kochat, Indian Institute of Technology, Kharagpur**

For her outstanding work on topological defects and their implications on transport in graphene and on localization phenomena in disordered graphene.

**14. Manas Shreekanth Kulkarni, ICTS-TIFR, Bengaluru**

For his groundbreaking work on the phenomena of localization, chaos, and transport in isolated and open systems, both quantum and classical.

**15. Modhu Sudan Maji, Indian Institute of Technology Kharagpur, Kharagpur**

For his significant contributions to the synthesis of natural products in fewer steps by employing novel strategies. One such notable reaction is organo-catalytic alkenylation of indoles and pyrroles using aldehydes as alkenylating agents under sequential Brønsted acid and tertiary-amine catalysis.

**16. Vijay Singh Meena, CIMMYT-Borlaug Institute for South Asia (BISA), Pusa, Samastipur, Bihar**

For his outstanding contributions in the field of natural resource management for sustainable agricultural production. He identified carbon management index as the key indicator to measure soil degradation in different agro-ecosystems.

**17. Sandip Mondal, Indian Institute of Technology Mumbai, Mumbai**

For his contributions to the development of 96 layer-based, low temperature (< 200°C) solution processed tunable flash memory device without the traditional tunneling and blocking layer, and in the development of ultrahigh speed (nano-second) Capacitance–Voltage measurement technique for characterizing the electronic deep traps in solution processed dielectric aluminum oxide phosphate.

**18. Subhronil Mondal, IISER Kolkata, Kolkata**

For his significant contributions for studies on spatio-temporal variation of local and regional ecological patterns to examine if local patterns scale up to global patterns.

**19. Subham Mukherjee, University of Delhi, Delhi**

For his significant contributions to integrate the fields of petrology, geochemistry and geodynamics. Through his innovative studies he has resolved the antiquity of the CGGC in the East Indian shield and for the first time quantified the nature of crust-mantle interaction vis-a-vis repeated felsic magmatism during ~1.70 to ~1.45 Ga and characterized the response of the resulting magmatic rocks during the subsequent super-continental cycles.

**20. Vignesh Muthusamy, ICAR-Indian Agricultural Research Institute, New Delhi.**

For his significant contributions in developing nutritionally-rich maize hybrids through genomics-assisted breeding.

**21. Saraswati Nayar, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram**

For her notable contributions to demonstrate first time the LONELY GUY, a putative cytokinin activating enzyme, has a role in cell division, cell growth, and chloroplast function of *Chlorella*. LONELY GUY's overexpression led to the formation of a stay-green phenotype and a high biomass-producing strain in *Chlorella*.

**22. Venkatesh Rajendran, IISc Bengaluru, Bengaluru**

For his significant contributions in obtaining a uniqueness theorem for tensor products of irreducible integrable highest weight representations of symmetrizable Kac-Moody algebras, vastly generalising the result for finite dimensional simple Lie algebras obtained by C S Rajan.



**23. K Sony Reddy, KIIT University, Bhubaneswar**

For his outstanding contributions in the biology of malarial parasite infection. Most significant contribution is on elucidating the molecular mechanisms of erythrocyte invasion by *Plasmodium falciparum*.

**24. Anand Sawant, TIFR Mumbai, Mumbai**

For his notable work in the emerging area of  $A^1$  homotopy theory. He has made important progress in recasting this highly abstract theory in terms of relatively concrete geometric concepts.

**25. Aakansha Sharma, University of Delhi, Delhi**

For her important contributions in our understanding of transcriptome-wide changes and overall molecular differences between crucial seasonal metabolic and reproductive life-history states of birds.

**26. Suhas Suresh Shetye, National Institute of Oceanography, Dona Paula, Goa**

For his outstanding contributions to regional and global carbon biogeochemical processes and acidification of the Southern and North Indian Oceans are based on large dataset.

**27. Bijay Prakash Tripathi, Indian Institute of Technology Delhi, New Delhi**

For his significant contributions in molecular grafting and functionalization to impart tunable wetting and anti(-bio) fouling properties in separation membranes by tailoring relevant surface and bulk properties in terms of surface energy, charge, porosity, roughness, wettability, physical and chemical reactivity, and compatibility with organic compounds and foulants useful for novel filtration membranes for separation and purification.

**28. Mayur Vaidya, Indian Institute of Technology Hyderabad, Sangareddy**

For his significant contribution in deciphering the mechanism of diffusion in high entropy alloys (HEA). The understanding developed through his work will help in the development of better HEAs for novel technological applications.

## **RECIPIENTS OF PROFESSOR HAR SWARUP MEMORIAL AWARD 2022**

### **1. Namisha Sharma, National Institute of Plant Genome Research, New Delhi**

For her paper entitled: *The Sw5a gene confers resistance to ToLCNDV and triggers an HR response after direct AC4 effector recognition* published in *Proceedings of the National Academy of Sciences*, United States of America, 118(33): e2101833 118.4

### **2. Kartik Sunagar, Indian Institute of Science, Bangalore**

For his paper entitled: *Biogeographical venom variation in the Indian spectacled cobra (Naja naja) underscores the pressing need for pan-India efficacious snakebite therapy* published in *PLOS Neglected Tropical Diseases*, <https://doi.org/10.1371/journal.pntd.0009150>

## **RECIPIENTS OF INSA TEACHERS AWARD 2022**

### **1. Professor Indranath Sengupta, Indian Institute of Technology, Gandhinagar**

For his significant contributions in teaching mathematical theories. His lucid teaching methods ensure that difficult mathematical theories become exciting.

### **2. Professor Madhuchanda Bhattacharjee, University of Hyderabad, Hyderabad.**

For her outstanding contributions in teaching Statistics and related areas. She formulated and introduced courses that became excellent tools for students pursuing research.

### **3. Professor Ananda Dasgupta, IISER Kolkata**

For his significant contributions in teaching over a wide variety of subjects in Physics, both theoretical and computational. His teaching has consistently inspired several students over the past two decades, spanning undergraduate, postgraduate and research levels.

### **4. Professor Saugata Bhattacharyya, Vidyasagar College, Kolkata**

For his outstanding contributions in teaching Physics at UG level. He was one of the main architects of the Indian Association for the Cultivation of Science summer school for school leaving students.

### **5. Professor Subhendu Sekhar Bag, Indian Institute of Technology, Guwahati**

For his excellence in teaching of chemistry courses at both undergraduate and postgraduate levels and guided number of M.Sc. and Ph.D. students for their master's doctoral thesis, and also for designing new courses and active participation in outreach activities including development of NPTEL courses.

### **6. Professor Satyen Saha, Banaras Hindu University, Varanasi**

For his excellence in teaching of chemistry courses for both undergraduate and postgraduate students including guidance of a large number of M.Sc. and Ph.D students.

### **7. Professor Dheerendra Kumar Dwivedi, Indian Institute of Technology, Roorkee**

For his excellence in teaching and research at both undergraduate and postgraduate levels in the field of Engineering

### **8. Professor Sanjay Gupta, Indian Institute of Technology, Kharagpur**

For his outstanding contributions in teaching and mentoring students in Engineering. Prof. Gupta is an outstanding exponent in propagating the domain of Biomechanics and has been championing spread of this field in the country.

### **9. Professor Dipak Chandra Pal, Jadavpur University, Kolkata**

For his innovative teaching and research guidance in the field of Geological Sciences especially in Geochemistry and Economic Geology at the undergraduate and post-graduate levels.

### **10. Professor Kunzang Chosdol, All India Institute of Medical Sciences, New Delhi**

For her excellent contributions in teaching Biochemistry with a firm commitment to the academic as well as social development of students at undergraduate (MBBS), postgraduate (MD and MSc) or PhD level.

### **11. Professor Sanjeev Kumar Singh, Alagappa University, Karaikudi**

For his significant contributions in teaching & research in the field of molecular modeling and computer-aided drug design. He continues to work in the root-level system of rural society to provide the impact of science on society.

### **12. Professor Rajat Sandhir, Panjab University, Chandigarh**

For significant contributions in teaching biochemistry curriculum at both undergraduate and postgraduate levels. He has also delivered many talks during INSPIRE camps to promote neuroscience in the country.

### **13. Professor Sanjit Dey, University of Calcutta, Kolkata**

For his inspirational and innovative mode of teaching in the field of human physiology which attracted several students to research. He popularized science teaching. The best part of his teaching lies in his continuous effort to work for first-generation tribal learners, underprivileged groups, and special children.

### **14. Professor Ashis Kumar Nandi, Jawaharlal Nehru University, New Delhi**

For his inspirational teaching in the areas of plant sciences. He is also an active researcher. Prof. Nandi has made pioneering contributions to understanding plant immunity development.

### **15. Professor Ravindra Nath Kharwar, Banaras Hindu University, Varanasi**

For his excellence in teaching of plant science courses at both undergraduate and postgraduate levels including guidance of a large number of Ph.D. students. In addition, he is an excellent researcher and has proved himself in the field of fungal and actinobacterial endophytic research.