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*of*  
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*Science Academy*

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**Volume II**

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*2019*

Volume-II



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# INTRODUCTION

The Indian National Science Academy was established in January 1935 with the object of promoting science in India and harnessing scientific knowledge for the cause of humanity and national welfare. The foundation of the Academy, earlier known as the National Institute of Sciences of India (NISI), was the outcome of joint endeavours of several organizations and individuals and the Indian Science Congress Association (ISCA) playing a leading role in this regard.

Towards the end of 1930, the then Government of India wrote to various State (then provincial) Governments, Scientific Departments, Learned Societies, Universities and the ISCA seeking their opinion on the desirability of forming a National Research Council which would adhere to and cooperate with the International Research Council and its affiliated Unions. This period witnessed the visit of Sir Richard Gregor, the Editor of *Nature* for discussions with the Editor of *Current Science* for the promotion of an Indian Academy of Sciences. The proposal was considered by various eminent scientists whose views regarding the composition and functioning of such a national council were put up in the form of resolution to the ISCA during its Pune Session. A special meeting of ISCA was held in Mumbai in January 1934 to consider the scheme. In response to the plea made by the President of the ISCA, Professor MN Saha in support of an Indian Academy of Sciences on the model of the Royal Society, London, the General Committee of the ISCA unanimously accepted the proposal for the formation of a national scientific society. The Committee formed an 'Academy Committee', which was requested to submit a detailed report for consideration at the next session of the ISCA. The committee submitted the report in January 1935 incorporating (i) the aims and objects of the national scientific society to be formed; (ii) draft constitution; (iii) names of 125 Foundation Fellows selected by a Special Committee of Specialists; and (iv) names of 25 scientists as members of the provisional Council of Academy. The report of the Academy Committee was placed by Dr LL Fermor (President, 22nd Session, ISCA) before a Special Meeting of the Joint Committee on January 3, 1935. The recommendations of the Academy Committee were accepted by unanimous resolution by the ISCA and the foundation of the National Institute of Sciences of India as an all India body of scientists was thus laid. An inaugural meeting of the National Institute of Sciences of India (NISI) was held on January 7, 1935 under the Chairmanship of Dr JH Hutton (President, 23rd Session, ISCA) in Calcutta, and the Inaugural Address was delivered by the first President of NISI, Dr LL Fermor. The Institute, thus, started functioning with its Headquarters at the Asiatic Society of Bengal, 1 Park Street, Calcutta, from that day.

The issue of the Government recognizing the NISI as the representative body of the scientists was taken up after ten years of its foundation. After due deliberations and discussions, it decided to recognise the National Institute as the premier scientific society representing all branches of science in India in October 1945. The Headquarters moved over to Delhi in May 1946, and the Government commenced providing increased grants to meet expenses on travel, publications, research fellowships, and for allocating grants-in-aid to other scientific societies for bringing out their publications. A capital grant for the Headquarters building was also sanctioned in 1948 by the Government. The foundation stone of the building was laid by Pt Jawaharlal Nehru, the then Prime Minister of India, on April 19, 1948. The Office of the NISI moved to its present premises on Bahadur Shah Zafar Marg, New Delhi in 1951. It was designated as the adhering organization in India to the International Council for Science (ICSU) on behalf of the Government of India in January 1968.

The name of the National Institute of Sciences of India was changed to the Indian National Science Academy (INSA) in February 1970.

## **OBJECTIVES**

- (a) Promotion of scientific knowledge in India including its practical application to problems of national welfare.
- (b) Coordination among Scientific Academies, Societies, Institutions, Government Scientific Departments and Services.
- (c) To act as a body of scientists of eminence for the promotion and safeguarding of the interests of scientists in India and to present internationally the scientific work done in the country.
- (d) To act through properly constituted National Committees, in which other learned academies and societies may be associated, for undertaking scientific work of national and international importance which the Academy may be called upon to perform by the public and by the Government.
- (e) To publish such proceedings, journals, memoirs and other publications as may be found desirable.
- (f) To promote and maintain liaison between Science and Humanities.
- (g) To secure and manage funds and endowments for the promotion of Science.
- (h) To perform all other acts that may assist in, or be necessary for the fulfillment of the above-mentioned objectives of the Academy.

# CALENDAR OF MEETINGS–2019

Date	Event	Venue
<b>FEBRUARY</b>		
28 (Thu)	Meetings of Sectional Committees for Election of Fellows/National Science Day	INSA, New Delhi
<b>MARCH</b>		
27 (Wed)	Advisory Committee for Science & Society/ Publication Advisory Board/ Infrastructure and Informatics Committee	INSA, New Delhi
28-29 (Thu-Fri)	Meeting of the Indian National Commission for History of Science	INSA, New Delhi
<b>APRIL</b>		
24-26 (Wed-Fri)	Meetings of Sectional Committees for Selection of Young Scientists and Election of Fellows /Advisory Boards for INSA Awards/Council Meeting/General Body Meeting/Science Promotion Committee	INSA, New Delhi
<b>JULY</b>		
18-19 (Thu-Fri)	History of Science Seminar/Meeting of the Indian National Commission for History of Science/ Science Promotion Committee	INSA, New Delhi
25-26 (Thu-Fri)	Meetings of ISC National Committees/Inter-Academy Exchange Committee/Council/ General Body/Resource Management Committee	INSA, New Delhi
<b>DECEMBER</b>		
16-18 (Mon-Wed)	Seminar/Lectures Meetings of INSA Council/Anniversary General Meeting/Fellowship Induction Ceremony/INSA Young Scientists Medal Presentation/INSA Teachers Award Presentation	Venue to be decided





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Professor V Ramgopal Rao ( <i>New Delhi</i> )	(011)	2659-1701 (O), 2659-1801 (R)
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## PAST PRESIDENTS

Sir Lewis Leigh Fermor	1935-36
Professor Meghnad Saha	1937-38
Lt Col Ram Nath Chopra	1939-40
Dr Bainsi Prasad	1941-42
Dr Jnan Chandra Ghosh	1943-44
Dr Darashaw Noshewanji Wadia	1945-46
Dr Shanti Swarup Bhatnagar	1947-48
Professor Satyendra Nath Bose	1949-50
Dr Sunder Lal Hora	1951-52
Professor Kariamannikkam Srinivasa Krishnan	1953-54
Dr Amulya Chandra Ukil	1955-56
Professor Prasantha Chandra Mahalanobis	1957-58
Professor Sisir Kumar Mitra	1959-60
Dr Ajudhia Nath Khosla	1961-62
Dr Homi Jehangir Bhabha	1963-64
Professor Vasant Ramji Khanolkar	1965-66
Professor Tiruvenkata Rajendra Seshadri	1967-68
Dr Atma Ram	1969-70
Professor Bagepalli Ramachandrachar Seshachar	1971-72
Professor Daulat Singh Kothari	1973-74
Dr Benjamin Peary Pal	1975-76
Dr Raja Ramanna	1977-78
Dr Vulimiri Ramalingaswami	1979-80
Professor Mambillikalathil Govind Kumar Menon	1981-82
Professor Arun Kumar Sharma	1983-84
Professor Chintamani Nagesa Ramachandra Rao	1985-86
Professor Autar Singh Paintal	1987-88
Professor Man Mohan Sharma	1989-90
Professor Prakash Narain Tandon	1991-92
Professor Shri Krishna Joshi	1993-95
Dr Srinivasan Varadarajan	1996-98
Professor Goverdhan Mehta	1999-2001
Professor Marthanda Varma Sankaran Valiathan	2002-04
Dr Raghunath Anant Mashelkar	2005-07
Professor Mamannamana Vijayan	2008-10
Professor Krishan Lal	2011-13
Professor Raghavendra Gadagkar	2014-16

## RECENT PAST VICE-PRESIDENTS

Professor Arumugham Gnanam	1994-96
Professor Goverdhan Mehta	1995-97
Professor Marthanda Varma Sankaran Valiathan	1997-99
Professor Dipankar Chakravorty	1998-2000
Professor Sushanta Dattagupta	2000
Professor Maroli Krishnaya Chandrashekar	2000
Professor Ramesh Chand Mahajan	2000-01
Professor Janardan Nanda	2000-01
Dr Harsh Kumar Gupta	2001
Professor Varadachari Krishnan	2000-02
Professor Chhitar Mal Gupta	2002
Professor Tiruppattur Venkatachalamurti Ramakrishnan	2001-03
Professor Mohammad Shamim Jairajpuri	2001-03
Professor Samir Bhattacharya	2003
Dr Inder Pal Abrol	2002-04
Professor Surendra Prasad	2002-04
Professor Raghavendra Gadagkar	2003-05
Professor Rajinder Jeet Hans-Gill	2004-05
Professor Sudhir Kumar Sopory	2004-06
Dr Swaminathan Sivaram	2004-06
Professor Subhash Chandra Lakhota	2006
Professor Mamannamana Vijayan	2005-07
Professor Anupam Varma	2005-07
Professor Narayanaswamy Balakrishnan	2006-08
Professor Alok Krishna Gupta	2007-09
Professor Predhiman Krishan Kaw	2007-09
Professor Tej Pal Singh	2007-09
Professor Narinder Kumar Gupta	2008-10
Professor Ajay Kumar Sood	2008-10
Dr Mahtab S Bamji	2009-11
Professor Akhilesh K Tyagi	2009-11
Professor Ramamurti Rajaraman	2010-12
Professor Narayanasami Sathyamurthy	2010-12
Professor Alok Bhattacharya	2011-13
Professor ML Munjal	2011-13
Professor SS Agarwal	2012-13
Professor SK Saidapur	2012-14
Professor JP Khurana	2014
Professor MK Chaudhuri	2013-15

Dr DM Salunke	2013-15
Professor JP Mittal	2014-16
Professor Rajendra Prasad	2014-16
Professor SC Lakhotia	2015-17
Professor LS Shashidhara	2015-17
Professor Kankan Bhattacharyya	2016-18
Dr Chandrima Shaha	2016-18

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**FELLOWS AND FOREIGN FELLOWS DECEASED  
DURING THE YEAR 2018 (OR EARLIER)**

<i>Fellows</i>	<i>Foreign Fellows</i>
Baldev Raj	Breslow, RCD
Bhisey, AN	Hagenmuller, Paul
Biswas, BB	Massevitch, AG
Chawla, MM	Olah, GA
Ghosh, JK	Parr, RG
Guptasarma, Dharmajit	
Joshi, BS	
Katiyar, SS	
Kaw, PK	
Mohan Ram, HY	
Nigam, HL	
Pillai, MKK	
Raja Gopal, ES	
Ramachandran, Arcot	
Ramesh, Rengaswamy	
Rastogi, RP	
Rastogi, RG	
Santappa, Mushi	
Sharma, Tikaram	
Singh, Digvijai	
Subba Rao, GV	
Tandon, BN	
Thathachar, MAL	

**TABLE SHOWING THE NUMBER OF FELLOWS, FOREIGN  
FELLOWS AND PRAVASI FELLOWS OF THE ACADEMY**

	<i>Fellows</i>	<i>Foreign Fellows</i>	<i>Pravasi Fellows</i>
As on 1 January 2018	931	99	4
Elected in 2018 (wef 1.1.2019)	30	5	–
Deceased during the year	23*	5	–
Total	938	99	4

\*till 01.12.2018

## FELLOWS AND FOREIGN FELLOWS DECEASED SINCE THE FOUNDING OF THE ACADEMY

### FELLOWS

Abhyankar KD	Bahl KN	Bhaskara Sastri TP
Abhyankar SS	Baini Prasad	Bhat JV
Abraham KP	Balbhadra Prasad	Bhatia BL
Abraham WEV	Baldev Raj	Bhatia IS
Adiga PR	Baliah V	Bhatia ML
Agarwal SC	Banerjee DK	Bhatnagar PL
Agarwal SS	Banerjee H	Bhatnagar SS
Agarwala SC	Banerjee K	Bhatt MV
Agharkar SP	Banerjee PK	Bhattacharya DR
Ahmad B	Banerjee S	Bhattacharya P
Ahmad F	Banerjee T	Bhattacharya SK
Ahmad N	Banerji AC	Bhattacharyya A
Ahuja PS	Banerji I	Bhattacharyya JC
Aiyar RG	Banerji SK	Bhattacharyya PK
Ajrekar SL	Bappu MKV	Bhattacharyya SC
Ali SM	Bardhan JC	Bhattacharyya Sudhir K
Ambasht RS	Barnabas J	Bhide VG
Anand Bal Krishan	Basu BC	Bhimachar BS
Ananda Rau K	Basu Debidas	Bhisey AN
Ananthakrishnan RI	Basu JK	Bhowmik BB
Ananthakrishnan SV	Basu JN	Bilgrami KS
Ananthakrishnan TN	Basu Kalipada	Bir SS
Anantharaman TR	Basu NM	Biswas AB
Antia DP	Basu S	Biswas BB
Antia KF	Basu Saradindu	Biswas K
Asana RD	Basu UP	Biswas NN
Ash WC	Beeson CFC	Biswas SN
Asundi RK	Berkeley-Hill OAR	Biswas Sukumar
Aswathanarayana U	Bhabha HJ	Bomford G
Atma Ram	Bhaduri AN	Bor NL
Auden JB	Bhaduri JL	Bose A
Auluck FC	Bhaduri PN	Bose AK
Awasthi DD	Bhagavantam S	Bose DM
Awati PR	Bhakuni Vinod	Bose GS
Ayyangar GNR	Bhar JN	Bose JC
	Bhardwaja Y	Bose JP
Bachhawat BK	Bhargava KP	Bose MK
Bagchee KD	Bhargava KS	Bose MN
Bagchi KN	Bharucha FR	Bose Nirmal Kumar
Bahadur R	Bhaskaran K	Bose Nolini Kanto

Bose PC	Chopra RN	Desikachary TV
Bose PK	Chopra SRK	Dessau Gabor
Bose RC	Choudhury B	Dewan IJ
Bose SN	Chowdhury AB	Dey AK
Bose SR	Chowdhury JK	Dey BB
Brahm Prakash	Chowdhury KA	Dhar ML
Brahmachari UN	Chowdhury Mihir	Dhar MM
Buchi EC	Chowla S	Dhar NR
Burma DP	Clegg ELG	Dhar SC
Burns W	Coates JC	Dhawan BN
Burridge W	Couchman HJ	Dhawan S
Burt BC	Coulson AL	Dikshit BB
	Crookshank H	Dinesh Mohan
Cadambe V		Divatia AS
Calder CC	Damodaran M	Dixit KR
Chakrabarty SK	Daniel RR	Dogra PD
Chakravarti D	Das AK	Dominic CJ
Chakravarti DN	Das BK	Doraiswamy LK
Chakravarti R	Das BN	Doss KSG
Chakravarti Ram N	Das Jajneswar	Dubey GK
Chakravarti Rabindra N	Das Jyotirmoy	Dumir VC
Chakravarti SN	Das K	Dunn JA
Chakravarty C	Das MR	Dunncliff HB
Chakravorty M	Das PK	Dutt AB
Champion HG	Das Gupta CR	Dutt SB
Chandrasekhar S	Dasgupta MK	Dutta AK
Chandrasekharan K	Das Gupta NN	Dutta NK
Chandrashekar MK	Dasgupta Somesh	Dutta PC
Chatterjea JB	Das Gupta SN	Dutta Roy RK
Chatterjea JN	Dastur DK	
Chatterjee A	Dastur JF	Ekambram T
Chatterjee B	Dastur RH	Elwin V
Chatterjee G	Datey KK	Esh GC
Chatterjee GP	Datta AG	Evans P
Chatterjee NC	Datta Sachhingananda	
Chatterjee SC	Datta Snehamoy	Fermor LL
Chatterjee SD	Dayal B	Finch GL
Chattoo BB	De MN	Forster MO
Chattopadhyaya KP	De P	Fowler GJ
Chaudhuri H	De Rajat	Fox CS
Chaudhuri RN	Deb SS	
Chawla MM	Deodikar GB	Gajri PR
Chhibber HL	Desai RD	Ganapathi K
Chinoy JJ	Deshpande BG	Ganapati PN
Chopra BN	Deshpande DL	Gandhi Indira

Ganesh Prasad	Guha BC	Johri BM
Gangulee Hirendra C	Guha BS	Joshi AB
Ganguli HC	Guha PC	Joshi AC
Ganguly AK	Gulatee BL	Joshi BS
Ganguly J	Gupta AS	Joshi SS
Ganguly NC	Gupta BM	Jussawalla DJ
Ganguly PB	Gupta HR	
Ganju PN	Gupta J	Kadam BS
Garde RJ	Gupta JC	Kailasam LN
Gayen AK	Gupta S	Kallianpur G
Gee ER	Guptasarma Dharmajit	Kanungo MS
Ghatage VM	Guraya SS	Kapahi VK
Ghatak UR		Kapil RN
Ghidyál BP	Haddow JR	Kapil RS
Ghose SL	Har Swarup	Kapur JN
Ghose AMN	Hariharan P	Kapur SN
Ghosh A	Harish Chandra	Kar AB
Ghosh BN	Hasan M	Kasliwal RM
Ghosh CS	Heilig Robert	Katiyar SS
Ghosh J	Hendry D	Kaushal Kishore
Ghosh JC	Heron AM	Kaw PK
Ghosh JK	Hora SL	Kedharnath S
Ghosh NL	Huque MA	Khan Abrar M
Ghosh PK	Husain MA	Khan Hamid
Ghosh PN	Hutton JH	Khanolkar VR
Ghosh RN	Huzurbazar VS	Khastgir SR
Ghosh SN		Khatri CG
Ghosh Satyeswar		Khattri KN
Ghosh Subir Kr	Ishaq Mohammed	Khoshoo TN
Ghosh Suddhodan	Iyengar MOP	Khosla AN
Ghosh Sudhamoy	Iyengar PK	Kichlu PK
Ghosh TK	Iyer LKA	Kilpady Sripadrao
Ghosh TN	Iyer PVK	King CA
Ghurye GS		Kini MG
Gill PS	Jacob TM	Knowles R
Giri KV	Jagannathan V	Kosambi DD
Glennie EA	Jai Krishna	Koshy PK
Gnanam A	Jain GC	Koteswaram P
Gopal-Ayengar AR	Jain SC	Kothari DS
Gopala Rao RV	Janaki Ammal EK	Kothari LS
Gopinath N	Jhingran AG	Kothavala ZR
Govindachari TR	Jhingran VG	Krishna Murti CR
Govindaswamy MV	Job TJ	Krishna Rao GS
Gravelly FH	Joglekar DV	Krishnan KS
Greval SDS		

Krishnan KV	Malik SK	Mookerjee HK
Krishnan MS	Malurkar SL	Mookerjee RN
Krishnan PS	Mangalik VS	Mookerjee S
Krishnan RS	Mani AM	Mookherjee A
Krishnaswami KR	Manna GK	Moudgal NR
Krishnaswami S	Mata Prasad	Mowdawalla FN
Kulkarni AB	Mathur HB	Mudaliar AR
Kumar Narendra	Mathur KK	Mukerjee SM
Kumar LSS	Mathur KS	Mukerji B
Kundu Anjan	Matthai G	Mukerji S
Kundu BC	Mehra HR	Mukherjee AS
Kundu DN	Mehra PN	Mukherjee JN
Kushwaha RS	Mehra SR	Mukherjee KC
Lahiri A	Mehrotra KN	Mukherjee P
Lahiri DB	Mehrotra RC	Mukherjee Surath Kumar
Lakhanpal RN	Mehta KC	Mukherjee Sushil Kumar
Lal Devendra	Mehta SM	Mukherji SM
Lal KB	Mehta VB	Mundkur BB
Lal MB	Menon KKG	Murty BR
Lal RB	Menon MGK	Murthy YS
Lal RK	Menon PK	
Lala AK	Metcalf EP	Nag BR
Law SC	Metre WB	Nagappa Y
Laumas KR	Mills JP	Nagarajan S
Lewis CG	Minakshisundaram S	Nagaraju J
	Mishra RS	Nagchaudhury BD
Macgregor RA	Misra R	Nagendra Nath NS
Macmahon PS	Misra RC	Naha K
Madhava KB	Mitra AP	Naidu PRJ
Madhava Rao BS	Mitra HK	Naik KG
Mahabale TS	Mitra K	Nair KR
Mahadevan C	Mitra RP	Nair NBK
Mahajani GS	Mitra S	Nair US
Mahalanobis PC	Mitra SC	Nakra BC
Mahanti PC	Mitra Sisir Kumar	Nanda J
Maheshwari P	Mitra Sujit Kumar	Nanda KK
Maitra AN	Mitra SN	Nanjundayya C
Maitra Ashok P	Mitter GC	Naqvi SM
Maitra PK	Mitter PC	Narain Hari
Majumdar CK	Modak NV	Narasimham NA
Majumdar DN	Modi VV	Narasimhan PT
Majumdar GP	Moghe MA	Narasimhan R
Majumdar RC	Mohammad Wali	Narayan AL
Malhotra DR	Mohan Ram HY	
Malhotra PK	Mohanty PK	

Narayana B	Paul RC	Ramamurti B
Narayanan ES	Penman D	Ramamurti V
Narayanamurthy D	Percival FG	Ramamurthy B
Narlikar VV	Peters B	Raman CV
Nasipuri D	Philpot HP	Ramanathan KG
Natarajan P	Pichamuthu CS	Ramanathan KR
Nath MC	Pillai MKK	Ramanathan N
Nayar KK	Pinfold ES	Ramanujam Srinivasa (E. 1948)
Nayudamma Y	Pisharoty PR	Ramanujam Srinivasa (E. 1983)
Nehru Jawaharlal	Pradhan S	Ramaseshan S
Neogi P	Pradhan SK	Ramaswami LS
Nigam HL	Prakash Ishwar	Ramaswamy GS
Nijhawan BR	Prakash Shyam	Ramaniah MV
Nityanand Swarn	Pramanick SK	Ramanna R
Normand Charles WB	Prasad BN	Ramdass LA
Notani NK	Prasad MRN	Ramesh R
	Prihar SS	Ramiah K
Olver Arthur	Pruthi HS	Ram Udar
	Puri BR	Ranadive KJ
	Puri V	Randhawa MS
Padayatty JD	Purkayastha RP	Randhawa NS
Paintal AS		Ranganathan D
Pal BP	Qasim SZ	Ranganathan S
Pal RK	Qureshi M	Rangarajan SK
Pal Yash		Rangaswami S
Palit SR	Racine C	Rao AK
Pande IC	Radhakrishna BP	Rao AR
Pande SK	Radhakrishnan AN	Rao BR
Pandeya SC	Raghavan S	Rao Bellur Rama
Pandit CG	Raghavarao R	Rao BS
Pandya AH	Raizada MB	Rao CRN
Panikkar NK	Rajagopal CT	Rao CV
Panja G	Raja Gopal ES	Rao CVH
Panse VG	Rajasekarasetty MR	Rao HS
Pant DD	Rajnath	Rao KR
Pant NC	Raju SP	Rao KR
Paranjpe GR	Rakshit H	Rao LR
Paranjpye RP	Ram Behari	Rao MVR
Parija P	Ramachandra K	Rao NGP
Parkinson PE	Ramachandran Arcot	Rao NSG
Parthasarathy N	Ramachandran LK	Rao NVS
Parthasarathy S	Ramachandran GN	Rao P Ramachandra
Pasricha CL	Rama Das VS	Rao PS
Patel CC	Ramakrishnan T	Rao SRN
Patwardhan VN	Ramalingaswami V	Rao SR

Rao TR	Saha Amulya Kumar	Sen SN
Rao UR	Saha MN	Sen SP
Rao VSR	Saha NK	Sengupta JC
Rastogi RP	Sahni B	Sengupta M
Rastogi RG	Sahni MR	Sengupta NN
Ray AP	Saksena RK	Sengupta P
Ray BB	Saksena SB	Sengupta SM
Ray HN	Salim Ali MA	Seshachar BR
Ray JC	Sandhu SS	Seshadri TR
Ray JN	Santapau H	Seshaiya RV
Ray M	Santappa Mushi	Seth BR
Ray NK	Sanyal GS	Sethna HN
Ray PC	Sanyal SC	Setna SB
Ray PR	Sarabhai VA	Sewell RBS
Ray RC	Sarkar JK	Shah RC
Ray SN	Sarkar Pulin Bihari (E. 1935)	Shah SM
Raychaudhuri AK	Sarkar Pulin Bihari (E. 1946)	Shah VC
Raychaudhuri Sachi P	Sarkar SN	Shankar Jagdish
Raychaudhuri Satya P	Sarkar SS	Shanmugam G
Raychaudhuri Syama P	Sarma PS	Sharif M
Reddy GM	Sarma YSRK	Sharma Archana
Reddy CRRM	Sastri MVC	Sharma AK
Rodrigues VF	Sastri VV	Sharma GP
Rohatgi-Mukherjee KK	Sastry PS	Sharma KN
Roonwal ML	Sathyanesan AG	Sharma Tikaram
Row LR	Satya Swaroop	Sharma VK
Row R	Satyamurthy NS	Sharma VP
Roy Amalendu	Savur SR	Shaw FJF
Roy AK	Sawhney K	Sheth AR
Roy BB	Saxena PN	Shortt HE
Roy BC	Saxena RN	Shri Ranjan
Roy DP	Seal SC	Siddiqi Obaid
Roy RP	Sekhon GS	Siddique HN
Roy Supriya	Sen AB	Siddiqi MR
Roy SK	Sen B	Sikka SM
Roy Sarat Chandra	Sen BM	Simpson RR
Roy Sures Chandra	Sen HG	Singh B
Roy SN	Sen HK	Singh BK
Royds T	Sen JM	Singh Baij Nath
	Sen KC	Singh Bhola Nath
Sachdev PL	Sen NK	Singh Digvijai
Sadasivan TS	Sen NR	Singh Inderjit
Sadhu DP	Sen PK	Singh J
Saha Ajit Kumar (E. 1959)	Sen RN	Singh Lalji
Saha Ajit Kumar (E. 1968)	Sen SK	Singh RP



Singh S	Surange KR	Vaidyanath LR
Singh SN	Suxena MR	Vakil RJ
Singhwi KS	Swaminathan M	Varadachari VVR
Sinha MS	Swarup K	Varma RK
Sinha SK		Varma RS
Sinton JA	Tandon BN	Vasudeva RS
Sircar AC	Tandon HD	Venkataraman K
Sircar SM	Tandon RN	Venkataraman GS
Sirkar SC	Tandon SL	Venkataraman TS
Sivaraman C	Tata JRD	Venkatesachar B
Sohi HS	Tawde NR	Venkateshwarlu J
Sohoni VV	Taylor J	Venkateswarlu P
Sokhey SS	Temple FC	Venkiteshwaran SP
Somayajulu BLK	Thacker MS	Verma AR
Sondhi VP	Thapar GS	Verma JP
Soparkar BM	Thapliyal JP	Venkoba Rao A
Spencer E	Thathachar MAL	Verman LC
Sreenivasan A	Thind KS	Vig OP
Sri Krishna	Thirumalachar MJ	Vijayaraghavacharya T
Srikrishna A	Thiruvencatachar VR	Vijayaraghavan T
Srinivasan R	Thomas Joseph	Vishwa Nath
Sri Niwas	Thosar BV	Vishwanath B
Sriramachari S	Tilak BD	Vishwanathan R
Srivastava BN	Tirumurti TS	Vishwanathiah MN
Srivastava HD	Toshniwal GR	Viswamitra MA
Srivastava PL	Trehan SK	
Srivastava PN	Trevor CG	Wadia DN
Srivastava US	Tribedi BP	Wadia NH
Stewart AD	Trivedi BS	Wahi PN
Subba Rao GV	Trivedi H	Ware F
Subramaniam AP		West WD
Subramanian CV	Udgaonkar BM	Wheeler REM
Subramanyam K	Udupa HVK	Wheeler TS
Subramanian V	Ukil AC	Wraight EA
Sukhatme PV	Uppal BN	
Sukheswala RN	Uppal HL	Yadava SL
Sulaiman SM		Yajnik NA
Sundaram CV	Vachell ET	
Sundaram K	Vaidya PC	Zaidi SH
Sundararaj B	Vaidya WM	
Sundararaj BI	Vaidyanathan CS	
Sur NK		

## FOREIGN FELLOWS

Alexandrov AP	Dirac PAM	Kadyshevsky VG
Alfvén HOG	Dodson GG	Kanazir Dusan
Allen Percival	Donnan FG	Kapitza P
Ambartsumian VH		Karrer P
Appleton EV	Eddington Sir Arthur	Katritzky AR
Arnold JR	Edmunds CW	Keith Sir Arthur B
Asahina Y	Einstein A	Kendrew JC
	El-Kassas MAF	Khurana Har Govind
Bailey EB	Engelhardt VA	Kihara H
Bardeen John	Erdos Paul	Kinne Otto
Barton DHR	Euler Hans Von	Koptyug VA
Basov NG		Kovda Victor A
Beadle GW	Feng TP	Kostrzewski JK
Belousspv VV	Fisher RA	Krebs Sir Hand
Benson SW	Fleming Sir Alexander	Kriebel HB
Bergstrom KS	Frazer Sir James G	Kuhn R
Bern HA	Frumkin AN	Kuznetsov FA
Birch AJ	Fyfe WS	
Blackett PMS		Laue M Von
Blakeslee AF	Ginzburg VL	Lawrence EO
Bogolubov NN	Goodrich ES	Leiper RT
Borlaug NR	Greenwood Major M	Li Choch Hao
Breslow RCD		Lighthill J
Brown HC	Hagenmuller Paul	Lindgre Waldemar
Burris RH	Haldane JBS	Lord Lewis NJ
	Hammond GS	
Cahn RW	Harris T	Maass Hans
Carey SW	Heim Albert	Maier-Leibnitz Heinz
Caspersson TO	Heisenberg W	Makino S
Chagas C	Henbury-Brown Robert	Marchuk GI
Chain EB	Herzberg G	Mark HF
Chandrasekhar S	Heslop-Harrisson J	Marshall Sir Guy
Chapman S	Hill AV	Massevitch AG
Chatt Joseph	Hodgkin Sir Alan Lloyd	Millikan RA
Christophers Sir Richard	Hollaender A	Mitchell JS
Cockcroft Sir John	Holland Sir Thomas	Monod JL
Cohen Morris	Holliday Robin	Mössbauer RL
Compton AH	Hopkins Sir FG	Mott Nevil
Cotton FA	Horecker BL	Mulier HG
Crick FHC	Housner GW	
	Houssay BA	
Dale Sir Henry Haiieti	Hutchinson J	Neergaard PPFM
Daly RA	Huxley AF	Nesmeyanov AN
De-Brogile L		Niggli P
Debye P	Joshida T	
Diels L		

Odhiambo TR  
Ochoa Severo  
Olah GA  
Oliva Ota  
Ourisson Guy  
Ovchinnikov YA

Parr RG  
Pauling LC  
Perrin J  
Ponnamperuma Cyril  
Pontecorvo Guido P  
Porter George Lord  
Prigogine Ilya  
Prosser CL  
Pullman B  
Pungor Erno

Ratcliffe JS  
Reichstein T  
Riley Ralph  
Robinson R  
Roche Marcel

Rouxel J  
Rustom Roy  
Runcorn SK  
Russell Sir John  
Rutherford Lord O’Nelson

Salam A  
Sanger F  
Schell JS  
Schrodinger E  
Selberg Atle  
Selye Hans  
Seward Sir Albert C  
Shapley H  
Sherrington S Charles  
Schockley WB  
Schwartz L  
Siddiqui S  
Siegbahn M  
Steward FC  
Sultanbawa MUS  
Szentagothai JM  
Szent-Gyorgy Albert

Tani I  
Tischler Georg  
Tiselius AWK  
Titchmarsh EC  
Todd AR  
Tomonaga Sin-Itiro  
Townes CH  
Turner WES

Urey Harold C

Vago Constantin  
Vinogradov AP

Waksman SA  
Weil A  
Wenyon CM  
Weyl H  
Wied DD  
Woodward RD  
Whittridge DM

Yukawa H

Zamaraev KI

## INSA REPRESENTATION ON OTHER ORGANIZATIONS

Invitations are received from the Government of India and several scientific institutions/organizations for representation of the Academy on their Committees. These representatives are appointed by the Council and they serve on these committees during the tenure of Committees specified by these organizations. The following list gives the names of the representatives on the organizations concerned:

- |  |   |
|--|---|
| <p><b>(A) <i>Council of Indian Statistical Institute</i></b><br/><i>(For two years upto Sept. 2020)</i></p> <p>1. <i>Mathematics</i></p> <p>2. <i>Statistics</i></p> <p>3. <i>Natural/ Biological Sciences</i></p> <p>4. <i>Information Sciences</i></p> | <p>Manindra Agrawal</p> <p>BLS Prakasa Rao</p> <p>Madhu Dikshit</p> <p>Y Narahari</p> |
| <p><b>(B) <i>Indian Council of Philosophical Research</i></b><br/><i>(For three years from March 2016)</i></p>   | <p>SK Sopory</p>  |
| <p><b>(C) <i>Indian Science Congress Association</i></b><br/><i>(For one year upto 31 March 2019)</i></p>  | <p>NR Jagannathan</p>   |
| <p><b>(D) <i>Indian National Academy of Engineering</i></b><br/><i>(1.1.2019-31.12.2021)</i></p>   | <p>V Ramgopal Rao</p>   |
| <p><b>(E) <i>CR Rao Advanced Institute of<br/>Mathematics, Statistics &amp; Computer Science</i></b></p>   | <p>RL Karandikar</p>  |

# RULES OF THE INDIAN NATIONAL SCIENCE ACADEMY

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## NAME

1. The Society shall be called the Indian National Science Academy.

## OBJECTIVES

2. The main objectives of the Indian National Science Academy are:
  - (a) Promotion of scientific knowledge in India including its practical application to problems of national welfare.
  - (b) Coordination among Scientific Academies, Societies, Institutions, Government Scientific Departments and Services.
  - (c) To act as a body of scientists of eminence for the promotion and safeguarding of the interests of scientists in India and to present internationally the scientific work done in the country.
  - (d) To act through properly constituted National Committees, in which other learned academies and societies may be associated, for undertaking scientific work of national and international importance which the Academy may be called upon to perform by the public and by the Government.
  - (e) To publish such proceedings, journals, memoirs and other publications as may be found desirable.
  - (f) To promote and maintain liaison between Science and Humanities.
  - (g) To secure and manage funds and endowments for the promotion of Science.
  - (h) To perform all other acts that may assist in, or be necessary for the fulfillment of the above mentioned objectives of the Academy.

## CONSTITUTION

3. The Academy shall consist of Fellows and Foreign Fellows.
  - (a) **Fellows:** those who are elected according to rules of election and admission of Fellows.
  - (b) **Foreign Fellows:** those who shall be persons eminent for their knowledge of, or contributions to science, or the welfare thereof, and domiciled outside the territorial limits of India, who have in some way contributed or can contribute to the progress of science in the country. Persons of all countries other than India shall be eligible for the Foreign Fellowship of the Academy.

## ADMINISTRATION AND OFFICERS

4. The administration, direction and management of the affairs of the Academy shall be entrusted to a Council composed of the Board of Officers of the Academy, namely, a President and six Vice-Presidents and 20 other Fellows making a total of 27. The Vice-Presidents will have collective as well as independent responsibilities and they will be designated as: Vice-President (Fellowship Affairs); Vice-President (Science Promotion); Vice-President (Resource Management); Vice-President (International Affairs); Vice-President (Publications/Informatics) and Vice-President (Science and Society). In addition, there shall be a provision for Additional Members of the Council, one each to be nominated by the cooperating Academies i.e., the Asiatic Society, Kolkata; the National Academy of Sciences (India), Allahabad, and the Indian Science Congress Association from amongst the Fellows of the Academy. Further, there shall be a provision for the Government of India to

nominate, from amongst the Fellows of the Academy, their representative on the Council as an additional member.

5. No Council member can hold more than one Office at a time except in circumstances relating to interim vacancies stated in rule 28.

### **ELECTION AND ADMISSION OF FELLOWS**

6. The election of Fellows shall be governed by Regulations framed by the Council, but these Regulations shall provide for the following points, from which a departure can be made only after reference to all the Fellows of the Academy:
  - (a) Eligibility for election to the Fellowship shall be restricted to Indian citizens.
  - (b) The number of Fellows elected shall be limited to 40 annually, till such time as the total number of living Fellows reaches 1000.
  - (c) Each nominee shall be proposed, seconded by two Fellows on a form prescribed for the purpose. Of these, at least one shall certify from personal knowledge of his/her scientific attainments. The Vice-President (Fellowship Affairs) shall have the power to sign a certificate on behalf of a Fellow not resident in India on receiving written request from him/her.
  - (d) The selection from the total list of the nominees proposed to the Academy shall be made by the Council from amongst those recommended by Sectional Committees, following a prescribed set of regulations framed by the Council for this purpose. The election shall be conducted by postal ballots, papers for which will be sent to every Fellow, as per the Regulations framed by the Council.
  - (e) Persons who, in the opinion of the Council, have either rendered conspicuous service to the cause of science or whose election would be of signal benefit to the Academy could also be elected to the Fellowship provided that not more than two persons shall be so elected in any year, and that if two persons be elected in any year, there shall be no selection under this category in the following year.
7. The Vice-President (Fellowship Affairs) shall send a written announcement of the election to the persons who have been duly elected, and shall therewith send (i) the Obligation Form to be signed and (ii) a copy of current Rules and Regulations.
8. An admission fee and Fellowship subscription shall be due on election from the persons elected as Fellows. If the admission fee and Fellowship subscription are not paid within two months of the intimation of his/her election as Fellow, such election shall become inoperative. Provided that, the Council shall have power to reinstate him/her with full privileges after the admission fee and Fellowship subscription have been paid within a period not exceeding twelve months from the date of his/her election. In the case of a Fellow elected under the provisions of Rule 6(e), the Council may, at its discretion waive off payment of admission fee and Fellowship subscription.
9. No person, although duly elected according to the Rules and Regulations of the Academy, shall be entitled to exercise the rights and privileges of Fellowship, nor shall his/her name be entered in the list of Fellows, until he/she has paid admission fee and Fellowship subscription and until he/she has signed and returned the Obligation Form.
10. Effective Fellowship shall commence after the payment of the admission fee and Fellowship subscription and the signature of the Obligation Form and shall be equivalent to the expression

of a direct acquiescence to the Rules and Regulations of the Academy then in existence, and of an undertaking to be bound by them and by Rules and Regulations as may thereafter be passed, as hereinafter provided.

11. Every new Fellow who has paid the admission fee and Fellowship subscription, and has returned the Obligation Form, duly signed and addressed to the Vice-President (Fellowship Affairs) shall, at the first General Meeting which he/she attends, be presented by a Fellow to the Chairperson who addressing him/her by name shall say, 'In the name and by the authority of the Indian National Science Academy, I admit you a Fellow thereof', and will present him/her with diploma in a form prescribed by the Council certifying his/her election to the Academy, after which the Fellow shall subscribe to a duplicate of the aforesaid Obligation in a book to be kept for the purpose.

### **THE OBLIGATION TO BE SUBSCRIBED**

12. Every person elected a Fellow of the Academy shall, before his/her admission, subscribe to the Obligation in the following words:

*As a Fellow of the Indian National Science Academy I shall follow the code of scientific ethics, maintain integrity in research and publications, uphold the cause of science and the dignity of the Academy, endeavour to be objective in my judgement and strive for the enrichment of human values and thoughts.*

*(Signed)*

### **ELECTION OF FOREIGN FELLOWS**

13. The procedure of electing Foreign Fellows shall be as prescribed in the Regulations framed by the Council from time to time but the number shall be limited to 150 and not more than six will be elected each year. No admission fee or Fellowship subscription shall be due from Foreign Fellows.

### **RIGHTS AND PRIVILEGES OF FELLOWS/FOREIGN FELLOWS/ PRAVASI FELLOWS**

14. Fellows/Foreign Fellows/Pravasi Fellows shall be entitled to the following rights and privileges:-
  - (a) To be present and vote at all General Meetings.
  - (b) To propose and recommend nominees for Fellowship.
  - (c) To propose persons for the awards of the Academy.
  - (d) To have personal access to the Library of the Academy.
  - (e) To take out books, plates, drawings, manuscripts, etc., from the Library, subject to such Regulations as may be prescribed by the Council.
  - (f) To receive gratis any one of the three journals *viz.*, Proceedings of the Indian National Science Academy, Indian Journal of Pure and Applied Mathematics (*IJPAM*) and Indian Journal of History of Science (*IJHS*). In addition, memoirs of INSA Fellows and copies of such other INSA publications as the Council may decide from time to time and, subject to the direction of the Council, to purchase, at a reduced price any of the Academy's publications.

### **CESSATION OF FELLOWSHIP**

17. Any Fellow may withdraw from the Academy by signifying his wish to do so, by a letter addressed to the Vice-President (Fellowship Affairs).



18. A letter of withdrawal may be cancelled by the Vice-President (Fellowship Affairs) at the request of the sender within six months of its receipt, and he/she shall thereupon recover all rights of Fellowship. The Council shall have power to waive, in special cases, the limit of six months specified above.
19. Any Fellow who ceases to be a Fellow of the Academy, either by voluntary withdrawal or by forfeiture of his/her Fellowship, shall continue to be liable for payment of sums (if any) due from him/ her to the Academy and shall return all books, material or other property (if any) borrowed by him/her from the Academy, or shall make full compensation if lost, damaged, or not forthcoming.
20. Fellows who have withdrawn from the Academy shall be eligible for re-election according to Rule 6. If re-elected, only the admission fee shall be due from them.
21. If any Fellow of the Academy shall willfully disobey Rules or Orders of the Academy or Council, or shall commit wilful breach of order at any of the General Meetings, or having unwittingly committed, shall persist in any disobedience or breach of order, after being admonished by the President, or if for any other reasons it shall appear to the Council that the name of a Fellow should not remain on the rolls, he/she shall be liable to be removed from the Academy. Whenever there shall appear cause as aforesaid, for the removal of a Fellow from the Academy, if a majority of the Council shall, after due deliberation determine by ballot, to propose to the Academy the removal of the said Fellow, the President shall, at any General Meeting of the Academy, announce from the Chair such determination of the Council, and at the next meeting after that at which the said announcement has been made, the proposition shall be submitted to ballot. If three-fourth of the Fellows present and voting at such General Meeting vote for the removal of such Fellow, he/she shall be removed from the Academy.
22. Fellow removed under the operation of Rule 21 shall not be eligible for renomination without the Council's approval.
23. The demise of a Fellow/Foreign Fellow of the Academy shall be recorded and announced from the Chair at the next General Meeting of the Academy.

### **THE COUNCIL & OFFICERS**

24. The election of Officers and other Members of the Council shall take place at the Annual General Meeting of the Academy.
25. The Council shall prepare in accordance with the following procedure, a list of names of those persons whom they recommend for election as Officers and other members of the Council for the ensuing year :
  - (i) The Council shall determine the vacancies that will occur among Board of Officers and other Members of the Council during the ensuing year as per Rule 26 and 27.
  - (ii) The list of the Council Members for the current and the two preceding years along with the list indicating vacancies that will occur in the ensuing year, shall be circulated to all Fellows for inviting suggestions regarding the filling up of vacancies.
  - (iii) The suggestion received shall be circulated to the members of the Council for expression of views. This will be considered by the Council when the final nominations shall be made out of the names suggested. While the nominations are discussed, members of the Council who are being considered for the position of the President shall not participate in the selection procedure for this position.

- (iv) The list of names recommended by the Council for election for the ensuing year shall be sent by post as a ballot paper to each Fellow of the Academy at least one month before the date of Annual General Meeting of the Academy. The ballot paper shall have blank column for such alternations as any Fellow may wish to make. The ballot papers shall be returned to the Academy at least a week before the date fixed for the Annual General Meeting.
  - (v) The manner of election shall be as follows:
    - (a) Two scrutineers shall be appointed by the Chairperson with the approbation of the majority of the Fellows present.
    - (b) The scrutineers shall count the ballot papers, and shall report to the Chairperson the names of those having a majority of votes for election as Officers and other Members of the Council of the Academy and these names shall be announced from the Chair as duly elected.
    - (c) If any ballot paper contains more than the proper number of names, or includes the name of a scientist who is not eligible, it shall be void, and shall not be regarded by the scrutineers.
    - (d) If there be an equal number of votes for any two or more nominees, the scrutineers shall announce the fact, and the Chairperson shall proceed to decide by lot which nominee shall have preference.
  - (vi) The new Council shall assume office after the conclusion of the Anniversary General Meeting.
26. The President of the Academy shall be eligible to hold office for a period of three consecutive years. After the end of the term of the President, he/she will not be eligible for re-election to the membership of the Council or any office of the Council.
27. The retiring members and the Vice-Presidents shall not be eligible to the membership of the Council or to any office of the Council until after a lapse of three years from the date of their retirement except as provided under Rule 28(f). The retirement shall be decided by seniority except in so far as vacancies have not otherwise occurred. In the event of equal seniority, the seniority will be decided by lots. Notwithstanding this, all retiring and incumbent members and Vice-Presidents of the Council are, however eligible for election to the Office of the President.
28. (a) For a vacancy occurring in the office of the President or office of any of the six Vice-Presidents, the remaining members of the Council shall be competent to fill up such vacancy for the remaining period of that position from the existing members of the Council, subject to its confirmation by the subsequent General Meeting.
- (b) If a vacancy occurs amongst the members of the Council the remaining members of the Council shall be authorised to fill up such vacancy from the Fellows of the Academy, subject to its confirmation by the subsequent General Meeting.
  - (c) Interim Vacancies shall be filled by the Council only for the unexpired period.
  - (d) During his/her absence, for whatever cause, the President shall nominate senior most Vice-President to perform functions of the President and sign papers until his/her return, subject to its confirmation by the Council at the first opportunity.

- (e) If one of the Vice-Presidents, is unable to perform his/her duties, the President shall nominate one of the members of the Council to perform such duties and sign papers, until his/her return, subject to its confirmation by the Council at the first opportunity.
  - (f) Any member, who has served the Council for not more than one year, either as an additional member or interim vacancy, will be eligible to be elected for a full term of three years.
29. The Council, as constituted in accordance with these Rules, shall continue in office notwithstanding the fact that their period of office may have, in fact, expired, until their successors have been duly appointed.

### **POWERS AND DUTIES OF THE COUNCIL**

30. The powers and duties of the Council shall be as follows:
- (a) To manage the affairs of the Academy, and for this purpose to make such Regulations and Guidelines as may appear conducive to the good administration of the Academy and the attainment of its objectives, provided that Regulations and Guidelines are not inconsistent with anything contained in these Rules. The Council is empowered to revise or alter any of the Regulations. The Guidelines of the Academy could be revised or altered by the Board of Officers and reported to the Council.
  - (b) To consider communications to the Academy, which in the opinion of the President, cannot be dealt with under the present Regulations and Guidelines, and in the case of those to be submitted to General Meeting, to determine the order and manner of such submission.
  - (c) To superintend and direct the publication of the periodicals or other works published by the Academy.
  - (d) To appoint as many salaried employees as deemed necessary and to define their duties, allowances, salaries, gratuities and privileges, recruitment rules, terms and conditions of service and procedures, to suspend or dismiss them or dispense with their services, as the occasion may require.
  - (e) To exchange for other property, or otherwise dispose of in such a manner as may, in their opinion, advance the objectives and interest of the Academy, any duplicate books, maps, specimens etc., belonging to the Academy.
  - (f) To prepare and submit to the Annual General Meeting a report on the general concerns of the Academy. A copy of this report along with the audited statement of accounts for the year ending March 31, and the estimated income and expenditure for the succeeding year, shall be placed on the table for information of Fellows present and shall be made available to all Fellows.
  - (g) The Council may appoint, from the General Body of Fellows, Committees for the consideration of special items and subjects within the purview of the Academy. The Council may also appoint Foreign Fellows and other distinguished persons who are competent and well-versed in the subject to be Members of such Committees. The Council may appoint Chairman/Secretaries/Conveners for such Committees. The Council will have power to define the duties, tenure and to dissolve any existing committee.
  - (h) The Council shall be empowered, subject to the sanction of a General Meeting, to take legal proceedings for recovery of any sums due from Fellows who, after receiving the notice of their liabilities, refuse or fail to comply.

## **MEETINGS OF THE COUNCIL AND OF COMMITTEES APPOINTED BY THE COUNCIL**

31. The following Rules shall be applicable to Meetings of the Council:-
- (a) The Council shall meet at such times as may be deemed advisable, and may make such Regulations not inconsistent with these Rules as they may think proper for the transaction of business at such Meetings. There shall be at least three statutory Meetings of the Council and three General Meetings every year. However, if the transaction of business demands more meetings, these may be called by the President by giving one month's notice.
  - (b) The President may also summon a Special Meeting of the Council giving notice to all other Members.
  - (c) Ten members shall form a quorum for the Statutory Meeting of the Council. No quorum is needed for a Non-Statutory Meeting of the Council.
  - (d) The President or in his/her absence, one of the Vice-Presidents shall take the chair. If neither the President nor one of the Vice-Presidents be present within fifteen minutes after the hour appointed for the meeting, the Fellows present shall elect a Chairperson.
  - (e) The ordinary method of voting shall be by show of hands, but the votes shall be taken by ballot on motion to this effect being duly carried, or when the rules provide for such method of voting.
  - (f) The Chairperson shall be entitled to vote with the other Fellows, and when the votes are equal he/she shall have a second and casting vote.
  - (g) The voting on any question except when it be one of adjournment, shall, on the demand of any Fellow present, be postponed to the next ensuing meeting provided it has the concurrence of the majority of the Council present.
  - (h) Minutes of the proceedings of every meeting of Council shall be taken during their progress by Vice-President (Fellowship Affairs) or any other Vice-President present whom the Chairperson shall appoint for the occasion. The Minutes shall afterwards be circulated to the members for the purpose of ascertaining their correctness, and then be entered in a Minute-Book and presented at the next Meeting of the Council and signed by the Chairperson.
32. (a) The Committees appointed by the Council will meet at such time and place as may be decided by the Chairperson/Convener of the Committee.
- (b) The Committees will follow the Regulations and Guidelines as may be given to them by the Council.
  - (c) The minutes of the proceedings of Meetings of such Committees shall be recorded and reported to the Council, if called for.

## **POWERS AND DUTIES OF THE PRESIDENT**

33. The powers and duties of the President shall be as follows:
- (a) To preside at all Meetings of the Academy and of the Council, and to regulate the proceedings at such Meetings.

- (b) To ensure the implementation of the Rules, Regulations, and Guidelines framed by the Council under Rule 30, Clause (a).
- (c) To be ex-officio Member of all the Committees appointed by the Council.
- (d) In case of doubt in the interpretation of any Rule, to decide on the interpretation. In such case, the President's interpretation shall hold until the next Meeting of the Council, when the interpretation of the Rule under consideration will be finally determined.

### **POWERS AND DUTIES OF THE VICE-PRESIDENTS**

34. The powers and duties of the Vice-Presidents shall be as follows:
- (a) To preside at Meetings (including the Council Meetings) and to regulate the proceedings in such meetings, in the absence of the President.
  - (b) To be ex-officio member of Committees appointed by the Council from time to time except the Sectional Committees and other Committees as appointed under rule 30 (g).
  - (c) To take responsibility of the activity of the Academy as specified.

### **POWERS AND DUTIES OF THE VICE-PRESIDENT (RESOURCE MANAGEMENT)**

35. In addition to powers and duties common to Vice-Presidents under Rule 34(a), (b) & (c) the Vice-President (Resource Management) shall be responsible for the following:
- (a) To receive and hold for the use of Academy, subject to Rule 36, all the money paid to the Academy. He/She shall disburse the sum due from the Academy and shall supervise in keeping exact accounts of all such receipts and payments.
  - (b) He/She will be responsible for the Property and the Infrastructural facilities of the Academy.

### **FUNDS AND ACCOUNTS**

36. (a) The accounts and vouchers of the receipt and expenditure of the Academy shall be subject to examination by the Resource Management Committee which shall include two representatives of the Government of India, at such intervals as the Council may prescribe, and shall be subject to the annual audit. Separate Accounts shall be kept of all funds administered by the Academy on behalf of the Government. The annual statement of Accounts shall, after professional audit, be printed in the Annual Report of the Academy.
- (b) All financial matters of the Academy including matters affecting the quantum of the Government grant and those dealing with the conditions of service, recruitment and promotion, of the staff of the Academy, shall be considered by the Resource Management Committee before they are placed in the Council for discussion. No such matter shall be considered by the Council until it has been considered by the Resource Management Committee.
37. All the sums received from the Fellows as admission fee and Fellowship subscription shall be regularly invested as per Regulations by the Vice-President (Resource Management) as soon as possible after the receipt thereof and only the interest accruing therefrom shall be considered available for the general expenditure of the Academy.
38. All the securities and money of the Academy shall be lodged for safe custody as per Regulations.

39. The Council shall be competent to decide the Regulations to be followed for maintaining the financial control of the funds of the Academy.

### **POWERS AND DUTIES OF THE VICE-PRESIDENT (FELLOWSHIP AFFAIRS)**

40. In addition to powers and duties common to Vice-Presidents under Rule 34 (a), (b) & (c), and subject to such delegation of duties as may be made in accordance with Rule 45, the Vice-President (Fellowship Affairs) shall be responsible for the following:
- (a) To conduct the correspondence of the Academy and of the Council, except where alternative provisions have been made in the Rules.
  - (b) To attend the meetings of the Academy and of the Council, to record minutes of the proceedings of such meetings, to present the minutes and to report the action taken on the decisions of the previous meeting.
  - (c) At the General Meetings, to announce the presents made to the Academy since the last Meeting, and to read the names of nominees for Fellowship.
  - (d) To prepare for submission to the Annual General Meeting a list of Fellows corrected up-to-date.
  - (e) To enter or cause to be entered in the Minute-Book, all the proceedings of Academy and the Council before the following Meeting, and to see that all letters and papers and documents of every kind connected with the business of the Academy are properly filed and preserved.
  - (f) To exercise general supervision over the employees and affairs of the Academy, to prepare Guidelines for smooth functioning of the Academy, and to assist in carrying out the Rules, Regulations and Orders made by the Council under Rule 30.

### **POWERS AND DUTIES OF THE VICE-PRESIDENT (INTERNATIONAL AFFAIRS)**

41. In addition to powers and duties common to Vice-Presidents under Rule 34 (a), (b) & (c) the Vice-President (International Affairs) shall be responsible for the following:
- (a) To conduct correspondence with foreign countries, relating to the business of the Academy, to convey thanks for presents from foreigners made to the Academy and to forward to persons, elected as Foreign Fellows, a diploma certifying their election to the Academy.
  - (b) To supervise all matters concerning International Programmes of the Academy and foreign deputations of Indian scientists using grant from the Academy.

### **POWERS AND DUTIES OF THE VICE-PRESIDENT (PUBLICATIONS/INFORMATICS)**

42. In addition to powers and duties common to Vice-Presidents under Rule 34 (a), (b) & (c), the Vice-President (Publications/Informatics) shall be responsible for the following:
- (a) The management of publications of the Academy and matters related to such activities.

- (b) He/She will be responsible for the Informatics including Library, Information Technology facilities and maintenance of the Archives of the Academy.
- (c) To identify and suggest to the Council, the persons for appointment as Editors/Guest Editors for each of the journals /monographs /special publications of the Academy.

### **POWERS AND DUTIES OF THE VICE-PRESIDENT (SCIENCE PROMOTION)**

43. In addition to powers and duties common to Vice-Presidents under Rule 34 (a), (b) & (c), the Vice-President (Science Promotion) shall be responsible for the following:

To oversee activities of the History of Science and the Basic Science Research Schemes or any research support programme of the Academy. He/She will provide advice to implement the guidelines formulated by the Council from time to time for completion of the activities related to the schemes.

### **POWERS AND DUTIES OF THE VICE-PRESIDENT (SCIENCE AND SOCIETY)**

44. In addition to powers and duties common to Vice-Presidents under Rule 34 (a), (b) & (c), the Vice-President (Science and Society) shall be responsible for the following:

To oversee the programmes related to Science and Society. He/She will provide advice to implement the guidelines formulated by the Council from time to time for completion of the activities related to this programme.

### **DUTIES OF THE EXECUTIVE DIRECTOR**

45. The Executive Director shall be responsible for the general administration and for the implementation of the decisions of the Council. He shall act under the general direction of the Officers and will be governed by the Regulations and Guidelines as may be laid down by the Officers. The Executive Director shall be a full time salaried employee of the Academy.

### **GENERAL MEETINGS OF THE ACADEMY**

46. General Meetings of the Academy shall be of four kinds *viz*-
- (i) Ordinary
  - (ii) Annual
  - (iii) Anniversary
  - (iv) Extraordinary
47. The following Rules shall be applicable to all the General Meetings of the Academy:
- (a) Ten Fellows shall constitute a quorum.
  - (b) The President or in his/her absence, one of the Vice-Presidents shall take the chair. In their absence one of the senior members of the Council present shall take the chair. If neither the President, nor one of the Vice-Presidents nor a member of the Council be present, on the expiration of fifteen minutes after the hour fixed for the meetings, the Fellows present shall proceed to elect a Chairperson.

- (c) The business of each Meeting shall be proceeded within the order hereinafter prescribed in Rules 49, 50 and 51, provided always, that on a written notice being given to the President or one of the Vice-Presidents, not less than 48 hours prior to the Meeting, a motion for the immediate transaction of urgent business may be made, and if such motion be seconded and carried, this rule shall be suspended.
  - (d) With the exception mentioned in the previous clause, notice of motion on any matter of importance shall be given at the General Meeting preceding that at which the subject is to be considered or by a letter not less than one month before the General Meeting at which the subject is to be considered, in order that the Fellows interested in the question may have an opportunity of informing themselves regarding it and expressing their assent or dissent and no motion of which notice has not been given shall be carried at the Meeting at which it is proposed, if the President or Chairperson of the Meeting rules that it should be postponed.
  - (e) All motions and amendments except those emanating from the Council shall require to be seconded, otherwise they cannot be put. Amendments must be in writing, unless executed by the Chairperson. Not more than a single amendment to the original motion shall be laid before the Meeting at one time. When any such amendment has been negatived or has been allowed to take the place of the original motion, other amendments involving fresh points may be proposed.
  - (f) The method of voting shall be by show of hands provided always that the votes on any particular subject may be taken by ballot on a motion to that effect duly carried and, in the cases specially provided for by these rules, the votes shall be so taken.
  - (g) The Chairman's decision on the show of hands shall be final unless a division is called for. Any Fellow present may call for a division.
  - (h) The Chairperson shall not vote with the rest of the Meeting but when the votes for and against are equal he/she shall have a casting vote.
  - (i) Any Fellow shall have the right of recording his protest, together with the reasons for the same, against the decision of the majority upon any question, provided that such protest be forwarded in writing to the Vice-President (Fellowship Affairs) within two weeks from the date of the Meeting at which the decision protested against was arrived at.
48. The General meeting shall be held at such time and in such places as the Council may decide, so that total number of General Meetings held during a year is not less than three. The December/January meeting shall be called the Anniversary General Meeting. One of the Meetings held during the year be termed the Annual General Meeting and others, the Ordinary General Meeting.
49. Normally the order of business at Meetings shall be as follows:
- (a) The Minutes of the last Meetings shall be read and confirmed after correction, if necessary and signed by the Chairperson.
  - (b) To announce INSA awards and distinctions conferred on eminent scientists.
  - (c) Such business as is necessary in connection with the election of Fellows according to the regulations framed by the Council, shall be transacted.
  - (d) Notice of the intended motions shall be given.



- (e) Motions of which notice was given at the preceding meeting or by post in accordance with Rule 47 clause (d), shall be disposed of, save as provided in clause (f) of this Rule and in clauses (c) and (d) of Rule 47.
  - (f) Matters of current business and routine shall be disposed of. If any question arises as to whether any particular question is one of current business and routine, it shall be decided by the Chairperson.
  - (g) Reports and communications from the Council shall be submitted for consideration.
  - (h) Papers and communications received by the Academy shall be read in the order prescribed by the Council under Rule 30(b).
  - (i) The Chairperson shall announce the names of the new Fellows and Foreign Fellows if any, and invite such persons to complete formalities of Rule 11. Fellows present who have not signed the obligation book shall do so and shall in addition be presented to the Chairperson in accordance with the provision of Rule 11.
  - (j) The Chairperson shall have the power, when he/she considers that Meeting has been unduly prolonged, to order any uncompleted business, except that provided for in (i), to be postponed to the next Meeting.
50. The Annual General Meeting of the Academy shall be held under the following Rules and for the transaction of the following business:
- (a) The Meeting shall be held on such date and at such place as the Council may prescribe. If a quorum be not present, the Meeting shall stand adjourned until a date to be decided by the Chairperson not more than two weeks later.
  - (b) Notice of the Meeting, of the hour and date at which it is to be held, and the place of Meeting, and of the business to be transacted thereat, shall be given to Fellows not less than two weeks before the date of Meeting.
  - (c) The business to be transacted at the Meeting shall be:
    - (i) To hear the Annual Report prepared by the Council in accordance with the provision of Rule 30 (f).
    - (ii) To hear Presidential remarks reviewing the work of the Academy.
    - (iii) To transact other business of which notice has been given as provided for in clause (b).
    - (iv) To announce the Board of Officers and other Member of the Council for the ensuing year as provided in Rule 25.
    - (v) To announce names of the Fellows elected unless the Council decides that this can be more conveniently done at a Meeting of the Council or at an Ordinary General Meeting.
51. The Anniversary General Meeting of the Academy shall be held under the following rules and for the transaction of the following business:
- (a) The Meeting shall ordinarily be held in December/January every year preferably at the city selected for the Meeting of the Indian Science Congress Association. If a quorum be not present, the Meeting shall stand adjourned until a date to be decided by the Chairperson not more than a week later.

- (b) Notice of the Meeting, of the hour and the date on which it is to be held, and the place of Meeting and of the business to be transacted thereat, shall be given to Fellows not less than two weeks before the date of the Meeting.
  - (c) The business to be transacted at the Meeting shall be:
    - (i) To hear the Presidential Address.
    - (ii) To transact other business of which notice has been given as provided in clause (b).
52. The following Rules shall be applicable to Extraordinary General Meetings:
- (a) Such Meeting may be convened by a majority of the Council and shall be convened by the President, when called on to do so by a requisition signed by not less than forty Fellows and stating the special business for which it is desirable that an Extraordinary General Meeting should be convened.
  - (b) Notice of the day and hour of the Meeting, and of the special business to be transacted thereat, shall be given to the Fellows within one month of receiving the request for the Extraordinary Meeting, and before one month of the date of the Meeting, provided that, if the business be very urgent, it should be competent to the Council to substitute any earlier notice than that of one month but no business of the nature specified in Rule 53 (c) shall be deemed urgent within the meaning of this clause.
  - (c) No other business than that included in the notice shall be transacted at such meeting, nor shall any stranger be permitted to be present thereat.

### **VOTES OF FELLOWS**

53. The votes of Fellows shall be taken by ballot papers (transmitted to them by the Vice-President (Fellowship Affairs)) in any of the following cases:-
- (a) When the Council at their discretion consider it in the interest of the Academy that an appeal should be made from the decision of a General Meeting to all Fellows of the Academy.
  - (b) When ten or more Fellows sign a requisition, calling upon the President to make such an appeal.
  - (c) Proposals requiring major changes in respect of Finances, Organization, Alteration of Rules and Objectives of the Academy or any other major item which in the opinion of the Council requires reference to all the Fellows of the Academy.
54. Before circulating any question coming under Rule 53 for the votes of all the Fellows of the Academy, the Council shall cause to be sent to every Fellow at least two weeks before the General Meeting at which such question is to be proposed, a printed circular in which shall be set forth the nature of the proposal and the reason for it, in order that it may be duly discussed at such General Meeting. A statement of any objection that may be raised at the Meeting against the proposal shall be circulated with the ballot papers.
55. Any question referred to the votes of all the Fellows of the Academy shall be brought before the General Meeting after a period of thirty days from the issue of the ballot papers for the return of votes. The Chairperson shall proceed to get the votes examined and counted and report the result.

### MISCELLANEOUS

56. No person appointed as a salaried employee in the INSA Secretariat shall have the privilege of voting. If any Fellow be appointed to any such office, he/she shall not be entitled to vote at the meeting of the Academy as long as he/she continues to hold it but shall not be deprived of his/her other privileges of Fellowship.
57. The Executive Director shall keep a record of the proceedings of the Academy, of its General Meetings and of the Meetings of the Council, as shall be, from time to time, prescribed by the Council. All Fellows shall be entitled to inspect record of General Meetings.
58. All letters, notices, minutes of meetings, and other documents connected with the business of the Academy shall be filed in the order of their dates, and shall be preserved.
59. When the introduction of any new, or the alteration or repeal of any existing Rule, is recommended by the Council, or proposed by ten or more Fellows, the Council shall cause to be sent to every Fellow of the Academy entitled to vote, a statement of the proposed changes and the reasons for them, with a view to the votes of the General Body of Fellows being taken as directed in Rule 55. Provided always that no change in the Rule shall be valid unless a majority of the two-thirds of the Fellows who have voted shall be in favour of the proposed changes.
60. These Rules took effect from the date of conclusion of Anniversary General Meeting held in December, 1999. All previous Rules are hereby rescinded as from that date. The old rules will, however, be available in the archives of the Academy for reference.

## REGULATIONS FOR ELECTION OF FELLOWS, FOREIGN FELLOWS, PRAVASI FELLOWS, SECTIONAL COMMITTEES AND LOCAL CHAPTERS

### FELLOWS

1. **Invitation for Nomination:** A circular letter drawing attention of the Fellows of the Academy, to the last date on which nominations for Fellowship should reach the Office of the Indian National Science Academy, New Delhi, shall be issued in the first week of June every year.

2. **Certification of Nominations:** Every nominee shall be proposed and recommended by a certificate in writing signed by two Fellows. Of these, at least one shall certify from personal knowledge of the scientific attainments of the candidates. Vice-President (Fellowship Affairs), on receiving a written request from a Fellow not residing in India but competent to certify recommendation for a particular discipline, shall have the power to sign a certificate on behalf of the Fellow.

The nominating paper shall specify the name, date of birth, field of specialization, designation, address (both official and residential), academic and professional attainments of the nominee in a form prescribed by the Academy and shall include a brief statement as well as a detailed critical analysis highlighting the most important research contributions of the nominee. The proposer must also send a separate list of up to ten most important publications of the nominee, and pdf of up to five best papers, a 50 word citation highlighting the work of the scientist which justifies the claim to the Fellowship, a complete list of publications and a set of reprints of publications along with the Nomination Form. Nominations not complete in all respects and not accompanied by the above two lists of publications and a set of reprints, shall not be valid for consideration.

The proposer should ensure that the critical information required in the form is complete. The nominee should not send any information directly to the Academy.

The proposer shall send the nomination paper to such other Fellow for his support who, in his opinion, will second the nominee. The nomination paper should be transmitted by one Fellow to another directly. After both the Fellows have affixed their signatures and also given their own remarks on the nominee's suitability, the nomination paper shall be forwarded to the Executive Director during working hours so as to reach him not later than July 15. In case July 15 happens to be a Sunday, or a holiday the next working day will be the last valid date for receipt of nominations in the Academy. The particulars of the nomination paper shall be recorded with the date of receipt in a book to be kept for the purpose which will be read at the next meeting of the Council.

3. **Communication of Nominations:** All communications in respect of the nomination shall be carried on with the proposer or the seconder. However for the purpose of updating information regarding the scientific achievements and publications, the Academy may correspond with nominee directly.

4. **List of Nominees:** At the meeting of the Council at the time of the Anniversary General Meeting, a list of all persons whose nomination papers are valid in accordance with the provision of Regulation

6, shall be prepared according to the disciplines of the Sectional Committees without any reference to the dates of their nomination. The Council shall consider and send the list of eligible nominees to the concerned Sectional Committees for expression of opinion on the list of nominees referred to them. However, the nomination papers of any person for election on the basis of his work in any discipline not coming within the purview of any of existing Sectional Committees shall be considered by the Council at the time of selecting the persons for Fellowship without necessarily being referred to any Sectional Committee for its recommendations.

5. **Book of Nominations:** Not later than January 20, a list of nominees arranged in alphabetical order, together with brief statements of their most significant research achievements along with a list of ten best papers, names of Fellows who have proposed and seconded them and the year in which the nominations were considered for the first time and the year of the birth of each nominee shall be uploaded on the web and the fellowship be informed accordingly.

Fellows may make such observations/comments as they may wish to, on the suitability or otherwise of the candidates included in the Book of Nominations and communicate to the Convener of the concerned Sectional Committee. The Conveners shall write by January 20 to all Fellows whose specializations belong to their Committee requesting them to send in additional information about the scientific attainments of the candidates under consideration for election to Fellowship. The observations/comments received from the Fellows shall be placed before the Sectional Committee.

6. **Validity of Nomination:** A nomination shall remain valid for a period of five years unless the proposer or seconder of the nomination withdraws it before July 15 immediately preceding an election.

7. **Selection by Sectional Committees:** The Executive Director shall circulate by January 20 to the members of the Sectional Committees the list of the persons proposed for election from the respective Sections, with a statement showing the research work (as given in the nomination papers) of the individual nominee and shall request the members to send their recommendations along with reasons for the same to the Conveners of the respective Sectional Committees at least a fortnight before the meeting of the Sectional Committees.

**Guidelines for Sectional Committees:**

- I. The primary criterion for election to the Fellowship will be scientific and technological achievements of the nominee (e.g. contributions to new knowledge, new discoveries, development of new technologies, substantial improvement in existing technologies etc.) as evidenced by publications, patents, authenticated scientific reports which could not be published and the economic impact of his/her work.
- II. The work done in India should be given primary importance. Sectional Committees should not consider the nomination of those scientists who are abroad on a long term basis. They should be considered only when they are back in India and have made notable contributions to science in India.
- III. The election should be recommended for the work done in the entire career of the scientist. Work done well before the nomination is proposed should also be given due consideration.
- IV. The Conveners of the Sectional Committees should make all efforts to obtain reports from Fellowship/ experts of the Academy.

- V. The Sectional Committee is charged with the responsibility of studying the work of the nominees by consulting fellows/experts in the area of specialization of the nominee, where necessary. The use of bibliometric data in the selection process should be discouraged.
- VI. All the new nominations received in an year will be considered by the Committee of Conveners. If the Conveners change the assignment to a Sectional Committee which is not suggested as an alternate committee, the consent of the proposer should be taken and the change should be effected only if the consent is received. No change of Sectional Committee will be considered thereafter.

The Executive Director shall call two meetings of the Sectional Committees, in February and in April, on the dates as may be decided by the Council in the calendar of meetings, to consider these recommendations.

### ***Two meetings of the Sectional Committees***

- a) There will be two meetings of the Sectional Committees each year; the first one will be held in February and the second meeting will be in the month of April prior to the Council meets.
- b) At the first meeting, the Sectional Committees will shortlist the nominations to a maximum of ten. The Conveners will make all efforts to procure the opinion of the fellowship about the nominees. The opinions received by the Conveners should be thoroughly discussed at the meeting.
- c) The Sectional Committees may identify a minimum of five experts for each of the above shortlisted ten names who may be contacted for obtaining specific information about the nominee. The national experts may be restricted to INSA Fellows only. These short-listed names are to be informed to the members of the Council also.
- (d) At the second meeting of the Sectional Committees, the opinion of experts (on each nominee) will be placed on the table and will be critically discussed. The Committee will then make a final list of up to five names, in alphabetical order, for the consideration of the Council. The Committee shall also bring out clearly for each recommended nominee the reason for its recommendation, by highlighting the importance of the scientific contributions of the concerned nominee.

The reports of the Sectional Committees will be forwarded to the Vice-President (Fellowship Affairs) by the Conveners.

### ***Election of Fellows in New Category***

The nominations for the election of Fellows in the following three disciplines, not covered under the regular subject areas of present sectional committees, will be considered by a search committee duly constituted for this purpose by the Council:

- i) Scientists working in Technology Missions of National importance (such as Space)
- ii) Scholars in History and Philosophy of Science
- iii) Social Sciences – Economics, Sociology, Psychology, Anthropology, Political Sciences etc.

8. ***Selection by the Council:*** At the meeting of the Council to be held normally in April the Council will consider recommendations made by each Sectional Committee and search committee (for the election of Fellows in the new category not covered under the regular subject areas of present sectional committees) and shall then select a number not exceeding forty (including scientists in new categories) to be recommended to the Fellows of the Academy for election.

The opinion of experts and any other material placed on the table in the second meeting will be made available to the Council at its August Meeting.

9. **Selection from Sections:** It shall not be obligatory for the Council to recommend a certain fixed number of persons for elections to Fellowship from each of the **12** Sections. The Council shall be free to recommend a larger number for any Section if there are more deserving persons in that Section and also not to recommend for any Section if, in the opinion of the Council, none is fit for election.

10. **Communication of the Selected Names to Fellows:** Soon after selection by the Council, an electronic circular-letter shall be sent to every Fellow as an e-voting paper enclosing a list of the selected persons.

11. **Date of Election:** The election of Fellows not included in the class referred to in Regulation 7 shall take place at the Statutory Meeting of the Council in July.

12. **Election Procedure:** Each Fellow then may tick the names of those (s)he wishes to be elected and cross the names of those (s)he does not wish to be elected.

13. **Appointment of Scrutineers:** Two scrutineers shall be nominated by the President for counting the votes.

14. **Declaration of Election Results:** The scrutineers, after examining the voting papers, shall report to the President the number of votes received by each candidate. The President shall at the meeting of the Council to be held in July, duly declare the names of the candidates who have been elected. In the case of a tie, the President shall have a casting vote. The result of election shall be notified on the web. This election, however, shall be effective from January 1 of the following year.

15. **Re-nomination:** On the expiry of the validity of the nomination, a re-nomination can be made afresh only after a gap of two years. The fresh nomination shall be submitted as prescribed in Regulation 2.

16. **Nomination for Special Election:** In accordance with Rule 6 (e), the Council may recommend names for election as Fellow/s otherwise than that provided under paras 1 to 15 of these Regulations. The persons so recommended shall be selected by the Council by ballot provided always that no person shall be so recommended unless he obtains two-thirds of the votes of the Members of the Council present and that the total number of votes registered in his favour are not less than seven.

17. **Special Election:** At the Ordinary General Meeting of the Academy, immediately following the Meeting of the Council at which the selection of persons to be elected under Regulation 16 is made, the person(s) nominated shall be proposed for election by means of a certificate prepared by the Vice-President (Fellowship Affairs). This certificate shall explicitly specify the basis of nomination for special election. Such certificate shall remain with the Academy until the day on which a ballot is taken on it. The name of the person so proposed shall be posted to each fellow for voting by a date given on the ballot paper. The result of the ballot shall be ascertained at the next meeting of the Council after the close of the ballot, following the procedure of Regulations 12 to 14.

18. **Subscription:** An admission fee of Rs 500/- and one time Fellowship subscription of Rs 2000/- shall be due on election.

\*19. **Participation in General Body Meetings:** For participation in the General Body Meetings, no international travel expenses will be covered by the Academy. This will apply to Fellows, Foreign Fellows and Pravasi Fellows.

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\* Approved in Council Meeting October 12, 2018.

## FOREIGN FELLOWS

1. A letter drawing attention of the Fellows of the Academy, to the last date on which nominations for Foreign Fellowship should reach the office of the Indian National Science Academy, New Delhi, shall be issued by the Academy. Every nominee shall be proposed in prescribed form by a Fellow of the Academy. The nomination paper shall specify the name, date of birth, nationality, field of specialization, profession, rank and present address, and shall include a brief statement of the most significant achievements of the nominee, information regarding his/her membership of the academies in the home country and his/ her interest in scientific activities in India. The Proposer shall also specify how the nominee's election would help the Academy in the furtherance of its aims and objects.

The nomination paper, complete in all respects, shall be sent by post or may be handed over personally by a Fellow of the Academy to the Executive Director during working hours. The particulars of the nomination paper when received along with all documents at the office of the Executive Director shall be recorded with the date of receipt in a book to be kept for the purpose, which will be read at the next meeting of the Council. The nomination shall be valid for three years only.

### 2. Guidelines for Selection

- (a) The nominee should be a foreign citizen.
- (b) The nominee should be an internationally recognized leader in his own field.
- (c) He or she should be a Fellow/Member of the National Academy of own country. Alternatively he or she should be a Foreign Fellow / Associate of a foreign academy. Further, Council would consider those nominees who are awardees of Noble Prize, Fields Medal or any other International award of equally eminent standing.
- (d) The nominee should have close connection with Indian scientists and should be aware of the progress of Indian science, its accomplishments and aspirations. The past, present and future advantages and gains to the Academy and to the scientists of India by the election of a Foreign Fellow may also be kept in view.
- (e) Academy will constitute a Nominating Committee consisting of the following:
  - 1) President, INSA
  - 2&3) Two Past-Presidents
  - 4&5) Two Fellows and
  - 6) Vice-President (Fellowship Affairs)
  - 7) Vice-President (International Affairs) who will act as the Member-Secretary of this Committee.

The members of the nominating committee could also suggest additional names on their own. All efforts should be made by the Nominating Committee to increase the number of Foreign Fellows of the Academy elected each year without compromising / diluting the principles underlying the present selection process.

- (f) The Vice-President (International Affairs) and Member-Secretary of the Nominating Committee will write a letter to all the fellows every year inviting nominations from them. He will also contact



the members of the Sectional Committees for suitable nominations. It will be helpful for the Vice President to be in touch with the Conveners of the Sectional Committees so that they act in good time and in the manner envisaged.

- (g) The meeting of the Nominating Committee will be held sometime during February-March to select suitable names among the nominations so received. The names selected for Foreign Fellowship by the Nominating Committee will be reported to the Council in the month of April.
3. The names of the candidates so selected shall be circulated to all Fellows on a voting paper to be returned by a prescribed date. The Fellow shall vote by placing a cross for the names of those he wishes to be elected.

The selection of candidates to be so nominated for Fellowship up to the permissible number under Rule 13(a) shall be recommended to the Fellows of the Academy for election.

It shall be the aim of the Council to see that the recommendations are distributed evenly, as far as possible, in different branches of Science.

4. The voting paper shall not be signed but enclosed in a sealed envelope, which shall be forwarded to the Vice-President (Fellowship Affairs) in an outer cover with a covering letter signed by the Fellow so as to reach the Office of the Academy by the date prescribed. In the absence of a covering letter the voting paper shall be invalid.
5. Two scrutineers shall be appointed by the President for counting the votes. The scrutineers, after examining the voting papers, shall report to the President the number of votes received by each candidate. The President shall then at the meeting of the Council to be held in July, announce the names of candidates who have secured the votes of two-thirds of the Fellows voting and shall declare them as duly elected. In the case of a tie, the President shall have a casting vote. The result of election shall be notified to all the Fellows. This election, however, shall be effective from January 1 of the following year.

## **SECTIONAL COMMITTEES**

1. The Council shall appoint, from among the Fellows of the Academy, Committees representing the various branches of Natural Knowledge, called 'Sectional Committees'.

The members of each Committee shall be chosen with a view to secure, as far as possible, a representation of the several sub- divisions of each branch of Natural Knowledge, and to obtain the assistance of Fellows who are specially qualified to advise the Council regarding particular parts of Natural Knowledge.

2. Each Sectional Committee shall advise the Council or any of the Officers on the matters referred to it by the Council or by any of the Officers, and also shall make to the Council suggestions pertaining to the branch or branches of knowledge which it represents. It shall, inter-alia, (a) recommend in alphabetical order, the names of the nominees who in the opinion of the Sectional Committee, are worthy of election to the Fellowship, (b) recommend in order of priority, the names of those who in the opinion of the Sectional Committee, are worthy for the Young Scientist Award of the Academy, (c) advise in connection with communications received from Government on scientific matters of high policy, (d) advise on subjects to be discussed at the Annual General Meeting so that the Academy can play its part in national development and planning, (e) draw up lists of persons suitable for scrutinizing papers submitted for publication indicating the branches which they are competent to deal with, (f) recommend books and journals which should be added to the Academy's library, (g) suggest original

research problems of both fundamental and applied nature, on which work should be initiated in the national interest.

3. The Council shall each year appoint a Member of each Committee to serve as Secretary and Convener of the Committee and to be the channel of communication between the Committee and the Council or the Officers.

4. **Sectional Committees:** The Sectional Committees shall be twelve in number and referred to by their number and not by name. The allocations of subjects to each Committee, which are only indicative but not exhaustive, shall be as follows:

#### **SECTIONAL COMMITTEE I**

**Mathematical Sciences:** Applied Mathematics, Pure Mathematics, Theoretical Computer Science, Statistics.

#### **SECTIONAL COMMITTEE II**

**Physics:** Astronomy, Astrophysics, Condensed Matter Physics, Nuclear and High Energy Physics, Atomic, Molecular and Optical Physics, Statistical Physics, Space Physics.

#### **SECTIONAL COMMITTEE III**

**Chemical Sciences:** Analytical, Inorganic, Organic, Physical and Theoretical Chemistry.

#### **SECTIONAL COMMITTEE IV**

**Earth & Planetary Sciences:** Surface and Solid Earth Science, Atmospheric Science, Ocean Science and Planetary Science.

#### **SECTIONAL COMMITTEE V**

**Engineering & Technology:** Electronics, Electrical, Mechanical, Chemical, Civil, Aeronautical, Telecommunication and other branches of Engineering, Computer and Information Sciences and Technology Development.

#### **SECTIONAL COMMITTEE VI**

**Material Sciences & Engineering:** Materials including Composites, Nano Materials, Biomaterials, Materials Chemistry and Materials Engineering.

#### **SECTIONAL COMMITTEE VII**

**Plant Sciences:** Taxonomy, Structure, Function, Physiology, Development, Genetics, Ecology and Evolution of Plants.

#### **SECTIONAL COMMITTEE VIII**

**Animal Sciences:** Taxonomy, Structure, Function, Physiology, Development, Genetics, Ecology, Behaviour and Evolution of Animals.

**SECTIONAL COMMITTEE IX**

**Microbiology and Immunology:** Biology of Viruses, Bacteria and Parasites, Microbial Genetics and Genomics, Immunology.

**SECTIONAL COMMITTEE X**

**Cell and Biomolecular Sciences:** Biochemistry, Biophysics, Cell Biology, Molecular Biology, Structural Biology, Bioinformatics, Systems Biology, Biotechnology.

**SECTIONAL COMMITTEE XI**

**Health Sciences:** Basic and Clinical Medical Sciences, Anthropology, Psychology, Human Genetics, Public Health, Nutrition.

**SECTIONAL COMMITTEE XII**

**Agricultural Sciences:** Agriculture, Horticulture, Forestry, Fisheries, Veterinary Science.

5. Each Sectional Committee shall comprise nine Members; five Members shall constitute a quorum.
6. Members shall be retired by seniority, at the rate of one-third every year. Where necessary, retirement shall be determined by ballot. If a Sectional Committee Member is not able to attend the meetings of Sectional Committee in a particular year, the President is authorized to appoint a suitable substitute in his/her place for that year. If any Sectional Committee Member does not attend two consecutive meetings without valid reasons, the Council may appoint a new member in his/her place for the remaining period.
7. The retiring Members of Committee shall each year vacate office on December 31, and shall not be eligible for selection as a Member in the ensuing year. However, this restriction will not be applicable to Fellow(s) appointed by the Council in an interim vacancy.
8. Should an interim vacancy occur at any time, the council shall appoint a Fellow to fill the vacancy, and the retirement of the Fellow so nominated, shall be according to the rules that would have applied to the member whose place he fills provided that, if on the date of retirement the said Fellow has not served more than one year, he shall be eligible for immediate reappointment.
9. The appointment of the Fellows to serve as new Members of the Committee shall be made by the Council in August and the Member, so appointed, shall enter the office on forthcoming January 1.

**LOCAL CHAPTERS**

1. Local Chapters are established for regions at places where five or more Fellows of the Academy reside. In exceptional cases, if the number is less but the Local Fellows desire a Local Chapter, their request may be examined by the President, for decision.
2. All Fellows of the Academy shall be affiliated to one of the Local Chapters.
3. The Local Chapters should give their views on various matters affecting the scientific policy in the country. These should include suggestions like social impact of science, planning in science and technology and liaison with Local Academies and learned bodies to bring fruitful participation between these bodies and the Indian National Science Academy. The Chapters should comment on special problem of local interest which could be analysed scientifically. For this purpose, special committees

with appropriate experts be formed within the Chapter. Some Fellows, particularly those with many years of experience in science management, can be requested to make themselves responsible for compiling reports on such issues. The reports should be sent to the Academy so that the Academy may prepare a consolidated version of the various reports for consideration by the Council. The Council should then publicise its views and thereby make itself felt as an important organ of the society.

4. Local Chapters should encourage young scientists to participate in scientific activities.
5. All Local Chapters should make efforts to strengthen scientific activities. They should organize at least two scientific programmes in a year dealing mainly with the advancement of science and the popularization of science. All Fellows attached to a Local Chapter should make efforts to attend meetings of the Chapter which may be held at the Headquarters or elsewhere at which among other things, nominations could also be made for the various endowment lectures of the Academy.
6. (a) Return I Class/II AC rail fare will be admissible to all outstation Fellows attending the meetings of Local Chapters.  
(b) For local Fellows the expenditure incurred on transportation, including taxi fare, will be reimbursed.
7. In every meeting of the Local Chapter, a Chairman should be elected.
8. Every Local Chapter should suggest the name of a Fellow for appointment as Convener of that Local Chapter by the Council. The term of the Convener will be **three years**.

The Conveners of Local Chapters should be requested to call their first meeting in April to draw as detailed a programme as possible giving the dates of various activities proposed which could be circulated to the Fellowship and also published in the INSA News.

## ACADEMY AWARDS

The Indian National Science Academy has instituted 69 awards which are broadly classified into following categories:

- (A) International Awards
- (B) General Medal & Lecture Awards
- (C) Subjectwise Medals/Lectures/Awards
- (D) Awards for Young Scientists
- (E) INSA Teachers Award

### (A) INTERNATIONAL AWARDS

#### (i) INSA-Vainu Bappu Memorial Award

The award was established in 1985 from an endowment by Mrs Sunanna Bappu, mother of the late Dr. Manali Vainu Bappu, an eminent Astronomer and a Fellow of the Academy.

The award is to be given to a **Astronomer/Astrophysicist of international recognition**. The first award was announced in 1985. The award consists of a bronze Medal, an honorarium of Rs.25,000/- and a citation. Scientists from all nations are eligible for consideration. In the event of the award being given to a foreign Scientist, the international airfare will be met and he / she may be provided with cash equivalent of the honorarium in US dollars.

#### (ii) Jawaharlal Nehru Birth Centenary Medal

The award was established in 1989 by the Academy. The award will be given for **international cooperation in Science & Technology and for contributions to public understanding of Science**. Scientists from all nations are eligible for consideration. The first award was made in 1990. The award carries a plaque and a citation.

President INSA, shall suggest names for consideration by the Council at its meeting in December in the year preceding the year of award. The name selected by the Council shall be announced at the Anniversary General Meeting of the Academy.

#### (iii) PMS Blackett Memorial Lecture and JC Bose Memorial Lecture

These Lectureships were established in 2011 from General Funds of the Academy and will be awarded to a scientist of international repute in any branch of science. The award will be given once in three years alternatively i.e. 2013 (first Blackett Memorial lecture), 2016 (first Jagadis Chandra Bose Memorial lecture), 2019 (second Blackett Memorial lecture) and so on. The Lectureships carry an honorarium of Rs. 25,000/- and a citation. Scientists from all nations are eligible for consideration. In the event of the award given to an overseas scientist, the international airfare will

be reimbursed and the awardee will be provided with cash equivalent of the honorarium in US dollars. The nominations will be invited from the entire Fellowship.

## (B) GENERAL MEDALS AND LECTURES

### MEDALS

#### (a) *Any Branch of Science*

- (i) **Chandrasekhara Venkata Raman Medal**
- (ii) **Shanti Swarup Bhatnagar Medal**
- (iii) **Meghnad Saha Medal**
- (iv) **Aryabhata Medal**

The above Medals shall be awarded for outstanding contribution in any branch of science coming within the purview of the Academy. The President, INSA, shall suggest name/s for consideration by the Council, at a meeting to be held in December/January of the year of the award and the name selected by the Council shall be announced at the Anniversary General Meeting.

The awardee will deliver a lecture on the subject of his choice normally at the following Anniversary General Meeting or at one of the General Meetings of the Academy. The award consists of a Copper Medal (gold plated) and a citation.

#### (b) *Popularization of Science*

##### (i) **Indira Gandhi Prize for Popularization of Science**

1. The award was instituted by INSA in 1986 to encourage and recognize popularization of science in the country. The prize shall be awarded once in three years for outstanding work done by an individual for the **popularization of science in any Indian language**, including English. The nominee must have had a distinguished career as a writer, editor, journalist, lecturer, radio or television programme director, science photographer or as an illustrator, which has enabled him/her to interpret science (including medicine), research and technology to the public. He/She should have a knowledge of the role of science, technology and research in the enrichment of cultural heritage and in solution of problems of humanity. The first award was made in 1986.

The prize is open to any Indian national residing in the country and will carry honorarium of Rs. 25,000/-, citation and a bronze medal. Maximum of six prizes (two in each category) will be awarded to the following categories:

- a) Science popularization efforts in English language by a career media personnel
  - b) Science popularization efforts in English language by a career scientist
  - c) Science popularization efforts in any language other than English either by a career media personnel or a career scientist
2. Nominations for consideration for the prize shall be invited from INSA Fellows, Vice-Chancellors, Deans, Principals, Directors of leading scientific institutions and national laboratories and Editors of selected Indian science journals. Advertisements will also be inserted in the selected popular science journals for this purpose.

The nomination paper shall specify: (i) Name and address of nominee; (ii) Name, designation and address of nominator; (iii) Category of the award (Nominator should clearly indicate the language in which the nominee has predominantly worked and whether he/she belongs to media personnel or a career scientist category); (iv) Summary of the work done by the nominee which will form the basis for nomination (about 200 words); (v) a longer statement (not exceeding 1000 words) providing additional information regarding the career of the nominee as a popularizer of science; (vi) nominee's biodata (not more than three pages) and list of nominee's published works. Two sets of reprints or xerox copies of important works to be made available for viewing by the jury; (vii) whether the work (part or whole) presented has been recognized for any other prize or award; and (viii) names of three references (with addresses and telephone numbers) who may be contacted for further information. The last date for receipt of nominations in the Academy is *July 15*.

3. The President, INSA, will appoint a Committee which will consist of four members besides him to consider the nominations and make recommendations to the Council. The Committee will be empowered to consult experts in the field, if necessary. The material for judging would include writing in newspapers, magazines, popular books and scripts prepared for radio and television programmes and films. Initiative, originality, scientific accuracy, clarity of interpretation and impact of creating excitement, interest and understanding of science would be important criteria for judging the entries. Work already recognized for any other award will not be considered. The recommendations of the Committee shall be considered by the Council in December /January. The name of the person selected for the prize will be announced at the Anniversary General Meeting of the Academy.

(ii) **INSA Medal for Promotion and Service to Science**

The Medal was established by the Academy in the year 2001 for purpose of recognizing those who have rendered exceptional service for promoting science in India.

The Medal shall be awarded for exceptional service to promoting Science in India. The prize is open to any Indian national and will carry a gold medal (of 20 grams) and a citation. The President, INSA, shall suggest, for consideration by the Council, names at a meeting of the Council to be held in December/January prior to year of the award and the name selected by the Council shall be announced at the Anniversary General Meeting. The first award was made in the year 2002.

## LECTURES

### *Any Branch of Science*

(i) **Sisir Kumar Mitra Memorial Lecture**

The lecture was established in the year 1963 from the General Funds of the Academy in the memory of late Professor Sisir Kumar Mitra, a Foundation Fellow and past President of the Academy. The first award was made in the year 1966.

(ii) **Kariamanikkam Srinivasa Krishnan Memorial Lecture**

The lecture was established in the year 1965 from the General Funds of the Academy in the memory of late Professor Kariamanikkam Srinivasa Krishnan, a Foundation Fellow and past President of the Academy. The first award was made in the year 1969.

**(iii) Daulat Singh Kothari Memorial Lecture**

The lecture was established in the year 1993 from the General Funds of the Academy in the memory of the late Professor Daulat Singh Kothari, a distinguished Fellow and a past President of the Academy. The first award was made in the year 1996.

The President, INSA, shall suggest, for consideration by the Council, names at a meeting of the Council to be held in December/January and the names selected by the Council shall be announced at the Anniversary General Meeting. The lectureship includes an honorarium of Rs 25,000/- and a citation.

**(iv) Jawaharlal Nehru Birth Centenary Lecture**

The lecture was established in 1989 from the general funds of the Academy. Two Lectureships are awarded once in three years to Indian scientists. One award will be made in Physical Sciences (SC-I to VI) and the other one in Biological Sciences (SC-VII to XII). The lectureship includes an honorarium of Rs. 25,000/- and a citation.

President, INSA, shall suggest names for consideration by Council at its meeting to be held in December/January preceding the year of awards. The names selected by the Council shall be announced at the Anniversary General Meeting of the Academy.

## **(C) SUBJECTWISE MEDALS/LECTURES/AWARDS**

**(A) Medals Instituted by the Academy**

- (i) Srinivasa Ramanujan Medal**  
– for Mathematical Sciences
- (ii) Satyendranath Bose Medal**  
– for Physics
- (iii) Homi Jehangir Bhabha Medal**  
– for Physics
- (iv) Jagadis Chandra Bose Medal**  
– for Biochemistry, Biophysics, Molecular Biology & related areas
- (v) Sunder Lal Hora Medal**  
– for Animal Sciences
- (vi) Darashaw Noshewanji Wadia Medal**  
– for Earth Sciences including Geography
- (vii) Prasanta Chandra Mahalanobis Medal**  
– for Mathematical Sciences
- (viii) Syed Husain Zaheer Medal**  
– for Engineering & Technology
- (ix) Silver Jubilee Commemoration Medal**  
– for Agricultural Sciences



- (x) **Golden Jubilee Commemoration Medal**  
– for Chemical Sciences
- (xi) **Golden Jubilee Commemoration Medal**  
– for Animal Sciences
- (xii) **Kalpathi Ramakrishna Ramanathan Medal**  
– for Atmospheric Sciences and Meteorology

The medals shall be awarded for outstanding contributions to the concerned discipline of science. Eminence is to be judged in accordance with the criterion that the scientific work of the candidate is such that its impact has been felt for a considerable length of time. The award carries a Copper Medal (Silver plated) and a citation.

**(B) Endowment Medals\***

**1. Vishwakarma Medal**

The medal was established in 1976 from an endowment by Dr. Pulin Bihari Sarkar, a distinguished Fellow of the Academy.

*The Medal is awarded to eminent scientists, technologists or any person who has made outstanding contributions in **Engineering & Technology** related to discovery or invention that has led to the start of a new industry in India or to significant improvement of an existing process resulting in cheaper or better product. The award carries an honorarium of Rs 25,000-, a bronze medal and a citation. The first medal was awarded in 1979.*

**2. Professor Brahm Prakash Memorial Medal**

The award was established in 1987 from an endowment from Mrs R Brahm Prakash and by friends of late Dr Brahm Prakash, a distinguished Fellow of the Academy.

*The award is to be given to a scientist/engineer who has made outstanding contributions in **Engineering and Technology**. The award carries an honorarium of Rs 25,000/-, a bronze medal and a citation. The first award was given in 1989.*

**\*3. Professor Shyam Bahadur Saksena Memorial Medal**

The award was established in 1989 from an endowment by Mrs Sarla Saksena to commemorate the memory of late Professor Shyam Bahadur Saksena, a distinguished botanist and Fellow of the Academy.

*The award is to be given to an eminent scientist who has made outstanding contributions in **Plant Sciences**. The award carries an honorarium of Rs 25,000/-, a bronze medal and a citation. The first award was given in 1990.*

**4. Professor GN Ramachandran 60th Birthday Commemoration Medal**

The award was established in 1989 out of an endowment by the Organizing Committee to commemorate 60th Birthday of Professor GN Ramachandran, a distinguished Fellow of the Academy.

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\* Approved in Council Meeting October 12, 2018.

*The award is to be given to an eminent scientist for outstanding contributions in the field of **Biochemistry and Biophysics**. The award carries a bronze medal, an honorarium of Rs 25,000/- and a citation. The first award was given in 1991.*

\*5. **Professor TR Seshadri Seventieth Birthday Commemoration Medal**

The Medal was established in 1971 from an endowment by students of Professor Seshadri, a distinguished organic chemist Fellow and a past President of the Academy.

*The medal is awarded to a scientist for outstanding work in **Chemical Sciences**. The award carries an honorarium of Rs 25,000/-, a bronze medal and a citation. The first medal was awarded in 1973.*

6. **Professor KP Bhargava Memorial Medal**

The Medal was established in 1992 out of an endowment made by Mrs Savitri Bhargava, to commemorate the memory of late Professor KP Bhargava, an eminent Pharmacologist and a distinguished Fellow of the Academy.

*The selection of the scientist is to be made from amongst the persons who have made outstanding contributions in **Medical Sciences**. The award carries a bronze medal, an honorarium of Rs 25,000/- and a citation. The first award was given in 1996.*

7. **Professor K Naha Memorial Medal**

The Medal was established in 1996 from an endowment by the family members of Professor Naha to commemorate the memory of late Professor Kshitindramohan Naha, an eminent geologist and a distinguished Fellow of the Academy.

*The selection of the scientist is to be made from amongst the persons, who have made outstanding contributions in **Earth Sciences**. The award carries a bronze medal, an honorarium of Rs 25,000/- and a citation. The first award was made in 1998.*

8. **Professor Krishna Sahai Bilgrami Memorial Medal**

The Medal was established in 1998 from an endowment contributed by family, colleagues and students to commemorate late Professor Krishna Sahai Bilgrami, an eminent botanist and a distinguished Fellow of the Academy.

*The Medal is to be given to a scientist for recognition of outstanding contribution in the field of **Agricultural Sciences**. The award carries a bronze medal, an honorarium of Rs. 25,000/- and a citation. The first award was made in 2001.*

9. **The Chandrakala Hora Memorial Medal**

The Medal was established in 1945 from an endowment by Mrs Hora and Dr Sunder Lal Hora, a distinguished Fellow and past President of the Academy and in memory of their daughter.

*The Medal is awarded to an eminent scientist for contributions in the field of **Animal Sciences**. The award carries an honorarium of Rs. 25,000/-, a bronze medal and a citation. The first medal was awarded in 1950.*

\*10. **Shree Dhanwantari Prize**

The Prize was established in 1969 from an endowment by Shri Anant Krishna Asundi in the memory of his youngest daughter Shrimati Akkadevi.

*The Prize is awarded to eminent scientists for outstanding work in India in any branch of **Medical Sciences**. The prize carries an honorarium of Rs 25,000/-, a bronze medal and a citation. The first medal was awarded in 1971.*

11. **Professor Bhim Shanker Trivedi Memorial Medal**

The Medal was established in 2013 out of an endowment made by the family members of late Professor BS Trivedi, a distinguished Paleo botanist and Fellow of the Academy.

*The Medal is to be given to an eminent scientist for outstanding contributions in any branch of **Biological Science including Medicine and Psychology**. The award carries a bronze medal, an honorarium of Rs. 25,000/- and a citation. The first award was given in 2014.*

12. **Professor Har Swarup Memorial Medal**

The Medal was established in 2016 out of an endowment by the family of Professor Swarup to commemorate the memory of late Professor Har Swarup, a distinguished Fellow of the Academy known for his researches on endocrinology, physiology and developmental biology.

*The Medal is awarded to an eminent woman scientist for outstanding contributions in any branch of **Science and Technology**. The award carries an honorarium of Rs. 25,000/-, a bronze medal and a citation. The first medal was awarded in 2018.*

13. **Professor Subramania Ranganathan Memorial Medal**

The Medal was established in 2017 out of an endowment by the family of Professor Ranganathan to commemorate the memory of late Professor Subramania Ranganathan, a distinguished Fellow of the Academy known for his researches on organic chemistry and molecular biology.

*The Medal is awarded to an eminent scientist for outstanding contributions in any branch of **Chemistry**. The award carries an honorarium of Rs. 25,000/-, a bronze medal and a citation. The first medal was awarded in 2018.*

14. **Professor Mihir Chowdhury Memorial Medal**

The Medal was established in 2017 out of an endowment by the admirers, students and family of Professor Chowdhury to commemorate the memory of late Professor Mihir Chowdhury, a distinguished Fellow of the Academy known for his researches on physical chemistry.

*The Medal will be awarded to an eminent scientist for outstanding contributions in any branch of **Chemistry**. The award carries an honorarium of Rs. 25,000/-, a bronze medal and a citation. The first medal will be awarded in 2019.*

**(C) Endowment Lectures****1. Professor Bal Dattatraya Tilak Lecture**

The Lecture award was established in 1982 out of an endowment by Professor BD Tilak Scientific Research and Education Trust, Pune, to commemorate Professor BD Tilak, a Fellow of the Academy distinguished for his researches in the field of dyestuffs chemistry and organic chemical technology.

*The selection of the scientist is to be made from amongst the persons who have made outstanding contributions to **rural economy and life through innovative and effective application of science and technology**. The lectureship carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1983.*

**\*2. Dr TS Tirumurti Memorial Lecture**

The Lecture was established in 1985 out of an endowment by Mrs Janaki Ramachandran, daughter of late Dr Tirunelveli Subbaiyer Tirumurti, an eminent medical scientist and a Foundation Fellow of the Academy.

*The selection of the scientist is to be made from amongst the persons who have made outstanding contributions in **Medical Sciences**. The lectureship carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1985.*

**3. Dr Nitya Anand Endowment Lecture**

The Lecture was established in 1986 out of an endowment by the organizing committee to celebrate the 60th Birthday of Dr Nitya Anand, an eminent chemist and a distinguished Fellow of the Academy.

*The lecture shall be delivered by a scientist who has done outstanding work in **Biomedical Research including New Drug Development**. The award shall be based on work done in India during the previous 10 years. The lectureship carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1987.*

**\*4. INSA Prize for Materials Science**

The Lecture was established in 1986 out of the Endowment by the Organizing Committee of the International Conference on the 'Application of Mossbauer Effect', held in 1981.

*The prize shall be awarded for outstanding contributions in **Materials Science**. The Prize carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1987.*

**5. Professor S Swaminathan 60th Birthday Commemoration Lecture**

The Lecture was established in 1990 out of an endowment by Professor S Swaminathan 60th Birthday Commemoration Committee to commemorate Professor S Swaminathan, an eminent organic chemist and a distinguished Fellow of the Academy.

*The lecture shall be awarded for outstanding contributions in **Chemical Sciences**. The lectureship carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1992.*

#### 6. **Professor Darshan Ranganathan Memorial Lecture**

The Lectureship was established in the year 2001 out of an endowment made by Professor S Ranganathan, FNA to commemorate the memory of his wife Professor Darshan Ranganathan, a distinguished Fellow of the Academy.

*The Lecture shall be delivered by a woman scientist who has made outstanding contributions in any field of **Science and Technology**. The lecturership carries an honorarium of Rs 25,000/- and a citation. The first lecture was awarded in 2003.*

#### \*7. **Professor MRN Prasad Memorial Lecture**

The Lecture was established in 1989 out of an endowment by the colleagues and friends to commemorate the memory of Professor MRN Prasad, an eminent Physiologist and a distinguished Fellow of the Academy.

*The lecture shall be awarded for outstanding contributions in **Animal Sciences**. The award carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1992.*

#### 8. **Bires Chandra Guha Memorial Lecture**

The Lecture was established in 1965 out of an endowment by (Mrs) Phulrenu Guha in the memory of her husband, Professor Bires Chandra Guha, a distinguished Fellow of the Academy.

*The lecture shall be awarded for outstanding contributions in the field of **Biophysics and Biochemistry**. The lecturership carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1969.*

#### \*9. **Bashambar Nath Chopra Lecture**

The Lecture was established in 1968 out of an endowment by the family members to commemorate the memory of Dr Bashambar Nath Chopra, a distinguished Fellow of the Academy.

*The lecture shall be awarded for outstanding contributions in any branch of **Plant Sciences**. The lecturership carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1971.*

#### \*10. **Professor Shambu Nath De Memorial Lecture**

The Lecture was established in 1992 out of an endowment by the Organizing Committee of the VIII International Symposium on Yeasts (IUMS) on behalf of the Association of Microbiologists of India (AMI) to commemorate Professor SN De, a distinguished scientist for his research in Microbiology.

*The lecture shall be awarded for outstanding contributions in **Biochemistry and Biophysics**. The award carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1993.*

#### 11. **Professor Vishnu Vasudeva Narlikar Memorial Lecture**

The Lecture was established in 1992 out of an endowment by the family members and a close friend of late Professor VV Narlikar, to commemorate Professor VV Narlikar, an eminent mathematician and a distinguished Fellow of the Academy.

*The lecture shall be awarded for outstanding contributions in **Mathematics**. The award carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1994.*

**\*12. Dr Jagdish Shankar Memorial Lecture**

The Lecture was established in 1992 to commemorate the memory of Dr Jagdish Shankar, a Fellow of the Academy and a distinguished scientist in the field of nuclear and radiation chemistry. The endowment was made by the organizing committee of the Emerging Frontiers in Chemistry Symposium, students, admirers and family members of Dr Shankar.

*The lecture shall be awarded for outstanding contributions in **Chemical Sciences**. The award carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1994.*

**13. Professor Vishwa Nath Memorial Lecture**

The Lecture was established in 1992 to commemorate the memory of Dr Vishwa Nath, an eminent zoologist and a distinguished Fellow of the Academy out of an endowment made by his students, family members and friends.

*The lecture shall be awarded for outstanding contributions in **Biochemistry and Biophysics**. The award carries an honorarium of Rs. 25,000/- and a citation. The first award was made in 1995.*

**14. Dr Biren Roy Memorial Lecture**

The Lecture was established in 1993 out of an endowment made by the Biren Roy Trust to commemorate the memory of Dr Biren Roy, an eminent aeronautical engineer of our country.

*The lecture shall be awarded for outstanding contributions in **Physics**. The lectureship carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1995.*

**15. Professor Sadhan Basu Memorial Lecture**

The Lecture was established in 1993 out of an endowment made by Professor Sadhan Basu Memorial Fund Committee to commemorate the memory of Professor Sadhan Basu, a distinguished Fellow of the Academy who had made significant contributions in areas ranging from polymer chemistry to spectroscopy and quantum chemistry.

*The lecture shall be awarded for outstanding contributions in **Chemical Sciences**. The lectureship carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1996.*

**16. Dr Yellapragada SubbaRow Memorial Lecture**

The Lecture was established in 1995 out of an endowment made by the National Committee for Dr Yellapragada SubbaRow Centenary celebrations to commemorate the memory of Dr SubbaRow known for his outstanding contributions in the field of biomedical sciences.

*The lecture shall be awarded for outstanding contributions in **Medical Sciences**. The lectureship carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1996.*

\*17. **Professor K Rangadhama Rao Memorial Lecture**

The lecture was established in 1979 out of an endowment by students of Professor K Rangadhama Rao, an eminent physicist and a distinguished Fellow of the Academy.

*The lecture shall be awarded for outstanding contributions in **Spectroscopy**. The lectureship carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1979.*

\*18. **Professor Rango Krishna Asundi Memorial Lecture**

The Lecture was established in 1983 out of an endowment by the Asundi Endowment Fund to commemorate Professor Rango Krishna Asundi, a Fellow of the Academy distinguished for his researches in spectroscopy.

*The lecture shall be awarded for outstanding contributions in **Spectroscopy**. The lectureship carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1984.*

\*19. **Professor Toppur Seethapathy Sadasivan Lecture**

The Lecture was established in 1982 out of an endowment by Professor Toppur Seethapathy Sadasivan Endowment Committee to commemorate Professor Sadasivan, a distinguished Fellow of the Academy known for his researches in physiology and plant pathology.

*The lecture shall be awarded for outstanding contributions in **Plant Sciences**. The lectureship carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1982.*

\*20. **Professor Panchanan Maheshwari Memorial Lecture**

The lecture was established in 1984 out of an endowment by the colleagues and friends of late Professor Panchanan Maheshwari, an eminent botanist and a distinguished Fellow of the Academy.

*The lecture shall be awarded for outstanding contributions in **Plant Sciences**. The lectureship carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1987.*

\*21. **Dr Guru Prasad Chatterjee Memorial Lecture**

The Lecture was established in 1979 out of an endowment by Dr GP Chatterjee and Mrs Suniti Chatterjee to commemorate Dr Guru Prasad Chatterjee, an eminent metallurgist and a distinguished Fellow of the Academy.

*The lecture shall be awarded for outstanding contributions in **Engineering & Technology**. The lectureship carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1981.*

22. **Professor Har Swarup Memorial Lecture**

The Lecture was established in 1981 out of an endowment by Dr (Mrs) Savitri Swarup to commemorate Professor Har Swarup, a distinguished Fellow of the Academy known for his researches on endocrinology, physiology and developmental biology.

*The lecture shall be awarded for outstanding contributions in **Animal Sciences**. The lectureship carries an honorarium of Rs 25,000/- and a citation. The first award was made in 1984.*

### 23. Dr MR Das Memorial Lecture

The Lectureship was established in 2003 out of an endowment made by Dr (Mrs) Radha R Das to commemorate the memory of her husband Dr MR Das, a distinguished Fellow of the Academy.

*The lecture shall be awarded for outstanding contributions in **Biophysics & Biochemistry**. The lectureship carries an honorarium of Rs 25,000/- and a citation. The first award was made in the year 2005.*

### **PROCEDURE FOR SELECTION AND OTHER CONDITIONS**

*(for International Awards (except Jawaharlal Nebru Birth Centenary Medal) and subject-wise medals/ lectures)*

1. **Notice of the Award:** Preceding the year of the award, the Executive Director shall issue a circular in August to all Fellows of the Academy inviting nominations by October 15.

The nomination paper shall specify (a) Full name, age and address of the nominee; (b) Academic and professional qualifications and positions held; (c) A brief statement (of about 300-350 words) of the outstanding contributions of the nominee in the discipline concerned, highlighting the impact of the work; and (d) A list of titles of the most significant published works (not more than 10).

The communication inviting for nominations should also indicate the names of all the previous recipients of the award.

2. **Appointment of the Advisory Board:** At a meeting of the Council to be held in December/ January, the Council shall appoint a joint Advisory Board, for all the awards due in the ensuing year, consisting of President of INSA as Chair, six Vice-Presidents, Convener of the concerned sectional committee and other experts. Scientists who are proposed for the award shall not be members of the Advisory Board. The Chairman of the Board shall have a casting vote.

The candidate proposed for the award should play no role in appointment and/or subsequent deliberations of the Committee which would make selection for the award.

3. **Circulation of the List to Members of the Advisory Board:** The Executive Director shall arrange to circulate the list of valid nominations with detailed information together with their brief particulars to the members of the Advisory Board. The Members of the Advisory Board will be requested to select any one or more names for consideration of the Board giving specific reasons for their selection and forward the same to the Chairman of the Board. Members of the Advisory Board may also be requested to send additional nominations if they wish to do so, one month in advance of the date of the meeting of the Advisory Board.
4. **Selection by the Advisory Board:** The Chairman of the Board shall, on receipt of the views of the members, convene the meeting of the Advisory Board in April close to the meetings of the Sectional Committees. The recommendations of the Board shall be considered by the Council. It shall be open to the Board to report to the Council that no award shall be made for the particular year, should the Board consider that no suitable name can be proposed in which case the award for the year shall lapse.
5. **Selected Name to be Communicated to the Council:** At the meeting of the Council to be held in April the report received from the Chairman of the Advisory Board shall be considered and decision taken regarding the award.



6. **Announcement:** The name(s) of recipient(s) shall be announced to the Fellowship in the General Body Meeting held in April.

## (D) AWARDS FOR YOUNG SCIENTISTS

### 1 . INSA Medal for Young Scientists

#### *Introduction*

In 1974, the Academy, in association with Kothari Scientific Research Institute, instituted the scheme of Science Academy Medals for Young Scientists with the aim of distinguishing young scientists of extraordinary promise and creativity who have made notable research contributions in Science and Technology. Since 1981, however, this award has been solely managed and funded by INSA. The INSA Young Scientists Award, considered to be the highest recognition of promise, creativity and excellence in a young scientist, is made annually to those distinguished for these attributes as evidenced by their research work carried out in India. Till 2018, 819 young scientists have been thus recognized. Many of them have established a rewarding scientific career and continue to make outstanding contributions winning further honour both in this country and abroad.

#### *Eligibility*

The award of an Academy medal to a Young Scientist shall be made in recognition of notable contributions to any branch of science or technology, recognized by the Academy, on the basis of work carried out in India.

Any citizen of India who has not attained the age of 35 years on December 31, of the year preceding the year of award, shall be eligible for the award.

#### *Number of Awards*

The number of awards to be made in any year will be limited to 30.

#### *Nominations and Last Date*

A notification inviting nominations for the award shall be issued after the Council Meeting of the Academy held in July each year.

A candidate may be proposed by a Fellow of the Indian National Science Academy or by earlier recipients of this award. Scientific societies of national standing, university faculties, post-graduate departments or research institutions may also make nominations of eligible candidates.

A nomination will remain valid for consideration for 3 years or the eligibility age whichever expires earlier.

The nomination shall be made in the prescribed format. The soft copy (in MS-Word/pdf only), along with all supporting documents, must reach the Academy latest by October 31.

#### *Selection Committee for the Award*

All the valid nominations, based on the subject area of the work, will be considered by the respective sectional committees of the academy.

***Circulation of the List to the Members of the Sectional Committees***

Not later than the second week of January, the Academy shall arrange to circulate the list of nominees along with their particulars to the members of the respective Sectional Committees with a request to communicate their assessment of the candidate to the Conveners of the respective Sectional Committees, by March 1.

The Convener, if necessary, may refer the particulars of such candidates whose areas of specialization are not clearly represented among the members of the Sectional Committee to appropriate experts amongst the Fellows of the Academy.

***Grading***

The candidates shall be evaluated by the referees in the following grades:

A. Outstanding; B. Very Good; C. Average; D. Unsuitable

Conveners of the various Sectional Committees shall prepare a list of the grades obtained by each candidate and shall recommend not more than seven candidates in order of merit to be called for presentation of their work, provided that they have been rated atleast 'B' by 50% of the members who have sent in their assessment. Assessment from at least five members of Sectional Committees must be elicited before making this recommendation.

The candidates invited to present their work shall do so before the concerned members of the Sectional Committee. Efforts will also be made to ensure the presence of other experts (Academy Fellows) at such presentations. These experts, if they so desire, may give their views to the Convener of the Sectional Committee.

The meetings of the Sectional Committees will normally be held during the second week of April every year. The Sectional Committees shall devote one full day exclusively to this work.

Candidates called for presenting their work before the Sectional Committees shall be entitled to II AC return rail fare and local conveyance as applicable. Reimbursement will be made on production of supporting documents.

***Recommendations of the Sectional Committees***

Each Sectional Committee shall send its recommendations to the Council in writing, duly signed by all members present. The recommendations shall contain, strictly in order of priority, not more than three names. The main criteria for selection will be the originality of the candidate's research contributions and his/her understanding as evidenced by publications and performance during the presentation.

The recommendations of the Sectional Committee shall be handed over, after the meeting, in a sealed envelope addressed to the Vice-President (Fellowship Affairs) of the Academy.

***Selection by the Council***

The Council will select candidates for this award at the meeting in the month of July, based on the reports received from the Conveners of Sectional Committees.

***Announcement of the Awards***

The names of the Young Scientists selected for the award by the Council shall be announced at the Ordinary General Meeting in the month of July and subsequently communicated to the awardees/Fellowship.

***Presentation of the Medals***

The presentation of Medals will be made by the President, INSA, at the time of Anniversary General Meeting.

For receiving the medal, the awardees (along with spouse or one accompanying person) will be paid travel expenses to cover the actual II AC rail fare and local conveyance as applicable. Reimbursement will be made on production of supporting documents.

The Academy would bring out a brochure containing contributions of the Young Scientists for the award at the time of the presentation of the award.

***Value***

The award shall consist of a bronze medal of the following specifications:

- (i) Size : 6.35 cm in diameter
- (ii) Weight : About 114 grams
- (iii) Design
  - Obverse* : Name of Medal (in Devanagari character)  
Name of the recipient (in Devanagari characters)  
Year (in International numerals)
  - Reverse* : Seal of the Academy

Each awardee will be presented a Medal, a certificate and cash prize of Rs. 50,000/-.

**\*2. Professor LSS Kumar Memorial Award**

Established in 1986 out of an endowment by Mrs K Kumar, widow of Professor LSS Kumar, to commemorate the memory of Professor LSS Kumar, an eminent Fellow known for his contributions to Genetics and Plant Breeding.

***Eligibility and Value***

The award shall be given to a recipient of INSA Medal for Young Scientists for the year in the disciplines of Plant Sciences (Sectional Committee VII), Animal Sciences (Sectional Committee VIII) and Agricultural Sciences (Sectional Committee XII) by rotation, i.e. first award will be made to Plant Sciences, second to Animal Sciences and the third to Agricultural Sciences and the cycle would repeat. In case of more than one person being recommended by the Sectional Committee for the award of the INSA Medal for Young Scientists, the person who is first in order of merit in the list shall be given the award. The award will consist of Rs 1,000/-.

***Announcement and Presentation of the Award***

The name of the scientist selected for the award shall be reported at the meeting of the Council to be held in July/August. The award shall be presented at the time of the presentation of the INSA Medals for Young Scientists in December.

**\*3. Anil Kumar Bose Memorial Award**

Established in 1987 from donations received from the family of late Shri Anil Kumar Bose, formerly Executive Secretary, INSA, his friends and Fellows.

***Eligibility***

The award is open to the recipients of INSA Medal for Young Scientists below the age of 40 years as on 31 December preceding the year of award.

***Number and Scope***

Two awards (one in Physical Sciences and one in Biological Sciences) shall be made for the best research paper published in reputed Journal by the recipient of INSA Medal for Young Scientists on the work done in India in the subjects falling under Sectional Committees I to VI and VII to XII within five years from the date of receipt of the award of INSA Medal for Young Scientists. The period under consideration for the first award to be given in October 1988 at the Annual General Meeting will be last five calendar years, i.e. 1983-1987. In subsequent years, the period under consideration would be past five years.

***Value***

The value of the award will be Rs 1,000/-, a bronze medal and a certificate. The recipient will be paid travel expenses to cover actual second AC rail fair and local conveyance as applicable. Reimbursement will be made on production of supporting documents.

Entries for the award shall be submitted by the eligible candidates in the prescribed form enclosing the following:

- (a) 15 copies of best research paper.
- (b) 15 copies of complete list of publications.
- (c) A complete set of all the papers published after the young scientist award. The last date for receipt of entries in the Academy shall be 15 January.

***Advisory Committee***

The Advisory Committee to recommend names for the award shall consist of President, Vice-President (Publications/Informatics), Vice- President (Fellowship Affairs), Conveners of Sectional Committees concerned and one or two experts, if necessary, nominated by the President. The Advisory Committee will meet in April/May at the time of meetings of Sectional Committees.

***Selection and announcement of the award***

At the meeting of the Council to be held in July, the recommendations of the Advisory Committee will be considered and decision taken regarding the awards. The names of the awardees will be intimated to the Fellowship.

***Presentation of award***

The presentation of the award will be made at the Anniversary General Meeting.

**4. Professor Har Swarup Memorial Award**

Established in 2016 out of an endowment by the family of Professor Swarup to commemorate the memory of late Professor Har Swarup, a distinguished Fellow of the Academy known for his researches on endocrinology, physiology and developmental biology.

***Number and Scope***

To be awarded once in three years for the best research paper published in a reputed journal by the recipient of INSA Medal for Young Scientists on the work done in India in any branch of Biological Sciences within three years from the date of receipt of the award of INSA Medal for Young Scientists. The first award will be given in 2019.

Nominations for the award shall be submitted by the eligible candidates in the prescribed form enclosing the following:

- (a) One copy of best research paper.
- (b) Complete list of publications.

The last date for receipt of entries in the Academy shall be 31 January.

***Value***

The value of the award will be Rs 25,000/-, a bronze medal and a certificate. The recipient will also be paid second class AC Sleeper rail fare for receiving the award.

***Advisory Committee***

The Advisory Committee to recommend names for the award shall be constituted by the President, INSA. The Advisory Committee will meet in April/May at the time of meetings of Sectional Committees.

***Selection and Announcement of the Award***

At the meeting of the Council to be held in July, the recommendations of the Advisory Committee will be considered. The name of the awardee shall be announced at the Annual General Meeting in the month of July.

***Presentation of Award***

The presentation of the award will be made by the President, INSA, at the time of Anniversary General Meeting.

**(E) INSA TEACHERS AWARD*****Scope***

To recognize and value excellence, consistency and high level of teaching in Indian Colleges, Universities and Institutions, the Academy instituted INSA Teachers Award in 2012. The award shall be made annually to recognize and honour teachers for providing guidance, inspiration and mentoring students to take up careers in Science and Technology. All disciplines of Science and Technology including Medical & Engineering Sciences come under the purview of this award.

***Eligibility***

- a) The award shall be made to outstanding teachers currently working or worked in India, with at least 20 years of teaching experience at undergraduate or postgraduate level in any Indian College/University/Institution.
- b) Maximum age limit is 55 years as on December 31 of the year preceding the year of the award.
- c) The award will not be offered to Fellows of any of the national academies. It will also not be offered to anyone who is Vice-Chancellor of a University, Director of an Institution/laboratory and/or holding a position where his/her teaching is restricted.
- d) Selection will be based on consistent excellence in teaching as evident from performance of students, inspiring students to take up careers in Science and Technology, introducing novel teaching methods, experiments and materials, and pedagogy. Active involvement in science popularization and outreach activities will be an additional consideration.

***Number of Awards***

The number of awards to be made in any year shall be up to 12.

***Nominations and Last Date***

A notification inviting nominations for the award shall be issued each year in the month of April.

A teacher may be nominated by Fellows of INSA, Principal of a College, Vice-Chancellor of a University, Director of an Institution, a colleague or by a former student who is associated with an academic/R&D institution. The nominator may forward only one nomination in a year.

A nomination shall remain valid for consideration for two consecutive years or the eligibility age, whichever expires earlier.

The nomination shall be made in the prescribed format. A soft copy (in MS-Word/Pdf only), along with all supporting documents, must reach the Academy latest by May 15.

***Selection Committee for the Award***

Nominations shall be considered by a nine member Committee duly constituted by President, INSA. Each member in this committee will serve for a period of three years. One third of the members will

retire every year. No new names should be discussed and proposed during the meeting. The Committee shall place its recommendations to the Council in October meeting for final approval.

Particulars of such candidates whose details/areas of specialization are not clearly represented among the members of the Committee may be referred to appropriate experts as identified by the Committee members preferably amongst the Fellows of the Academy.

#### ***Announcement of the Awards***

The names of the awardees selected for the award shall be announced in the Annual General Meeting in the month of July and subsequently communicated to the awardees.

#### ***Presentation of the Award***

The presentation of the Awards shall be made by the President, INSA, at the time of Anniversary General Meeting.

For receiving the award, the awardees (along with spouse or one accompanying person) will be paid travel expenses to cover the actual airfare (economy) by Air India only and local conveyance as applicable. INSA will help in providing local hospitality. Reimbursement will be made on production of tickets.

#### ***Value***

Each awardee will be presented a scroll and a cash award of Rs. 50,000. In addition, the awardee will also be eligible for a onetime book grant up to Rs. 20,000. For this, appropriate bills may be submitted to the Academy for the re-imbusement.

### **(F) INSA YOUNG HISTORIAN OF SCIENCE AWARD**

The Academy has instituted an **INSA Young Historian of Science Award** in 2014 with the aim of recognizing young historian of science of extraordinary promise and creativity who have made notable research contributions in areas related to History of Science. This award, considered to be the highest recognition of promise, creativity and excellence is made annually to those historians of science distinguished for these attributes as evidenced by their research work carried out in India or abroad.

The awardee shall receive a **certificate**, a **bronze medal** and a cash award of **Rs. 25,000/-**.

A candidate may be nominated by a Fellow of the Indian National Science Academy and other National Scientific societies, Vice-Chancellors of Universities and Heads of Research Institutions. Nomination proforma can be downloaded from website [www.insaindia.res.in](http://www.insaindia.res.in).

## GUIDELINES FOR THE AWARD OF ACADEMY MEDALS/PRIZES/LECTURES

1. **Periodicity:** All Academy Medals/Prizes/Lectures will be awarded once in three years.
2. **Eligibility:** A person shall not be eligible for more than two awards excluding the General Medals, International Medals and Medals related to Young Scientists.

The selection for General Medals which are given for outstanding contributions in any branch of science coming within the purview of the Academy, may be made from distinguished scientists in recognition of their service to the Academy or to science.

The selection for Subjectwise Medals/Lectures should be made from persons who have made outstanding contributions to the discipline of science for which the awards are allocated.

The awards shall normally be given to Fellows. In exceptional circumstances, and in certain areas where nominees are likely to be from a broader base, they may be awarded to non-Fellows.

3. **Presentation of award and delivery of lecture:** The presentation of the award will be made to each recipient after he/she delivers the award lecture. The lecture will be arranged under the aegis of INSA Local Chapter unless otherwise stated. The summary of the award lecture will be included in INSA News and the full text in *Proceedings* of the Academy.

TA/DA will be paid to the Awardee for delivering the award Lecture.

4. **Specification of the Medal:** The specifications of the Medal (Copper Medal, Gold/Silver plated or the Bronze medal as the case may be) will be as follows:

(i) *Size* : 6.35 cm in diameter

(ii) *Weight* : About 114 grams

(iii) *Design* : *Obverse:* Name of the Medal and the Recipient *in Devanagari characters*  
Year of the Award (in International Numerals)

*Reverse:* Seal of the Academy



## GUIDELINES FOR ACCEPTING ENDOWMENTS FOR INSTITUTING AWARDS

1. Endowments shall not be operated in the name of a living Fellow.  

These endowments will be used to create a medal or lecture award or for a named travel fellowships.
2. The minimum endowment amount acceptable shall be Rs. 10 lakhs.
3. The endowment amount shall be invested by the Academy to earn maximum interest.
4. 10% of the income accruing from the endowment fund shall be credited to INSA fund for recovering some of the administrative expenses involved in administering the award.
5. The scope of the award should be as broad as possible and should not be restricted to specific subdivision of science.
6. The award will be made once in three years.
7. No award will be established in the name of a non-scientist.
8. The award may consist of a cash prize and a bronze medal. The recipient may also be paid TA/DA for journeys performed for delivering the award lecture. Expenditure on TA/DA shall be charged to the income from endowment fund. The venue of the award lecture shall be decided by the Council.
9. In addition to establishing an endowment lecture/medal, the Council will also accept endowments to establish **Young Scientists Travel Award** for supporting young researchers to attend International conferences/workshops/training programmes or for them to undertake a visit for collaborative work connected with their research project within the country or abroad.
10. The selection and other conditions of the award shall be governed by the regulations as may be framed by the Council.
11. Council of the Academy will have a right to amend any regulation concerning operation of the endowment and of the award.

# JAWAHARLAL NEHRU BIRTH CENTENARY VISITING FELLOWSHIP

## REGULATIONS

### ***1. Name of Fellowship***

The Fellowship established in 1989 shall be called the “Jawaharlal Nehru Birth Centenary Visiting Fellowship”. The first Fellowship shall be awarded for the year 1991.

### ***2. Objective***

The “Jawaharlal Nehru Birth Centenary Visiting Fellowship” is established to commemorate Pt. Jawaharlal Nehru’s support for science. This lectureship would enable the Academy to project the progress made by India in Science and Technology in the countries abroad.

### ***3. Number of Fellowship***

One Fellowship would be awarded once in three years and would not be restricted to the countries with whom INSA has Exchange Programme.

### ***4. Duration of Visit***

The scientists selected by INSA under this Fellowship would be deputed to undertake a visit upto the period of 4 weeks in one or two countries to be specified each year.

### ***5. Procedure of Selection***

President, INSA, shall appoint a Search Committee to select the name of a distinguished scientist for the Fellowship for the ensuing year in any field of Science and Technology. The Committee shall consist of 4 members including President, INSA who will be the Chairman of the Search Committee. The name selected by the Search Committee shall be reported to Council at its October meeting.

### ***6. Announcement of Fellowship***

The name of the scientist selected for the Fellowship shall be announced at the Annual General Meeting of the Academy in October preceding the year of the Fellowship.

### ***7. Value of the Fellowship***

INSA would meet the cost of return passage of the awardee from the place of duty to the place of last destination. If the awardee desires to visit a country with whom INSA has exchange programme, the cooperating Academy/Organisation of that country would be requested to provide local hospitality for a period upto 4 weeks. In that case INSA would provide him/her \$ 20 per day for incidental expenses. For other countries INSA may provide \$ 120 per day for board and lodging and meet the cost of medical and other insurances.

### ***8. Report of Visit***

The scientist would submit a report of visit within two months.

## RECIPIENTS OF INSA MEDAL FOR YOUNG SCIENTISTS 1974-2018

**1974**

Brij Gopal  
Chandrasekharaiah MN  
Gupta CM\*  
Johri BN  
Kapoor AK  
Kaw PK\*  
Padmanabhan KA  
Raizada MK  
Rajoria DS  
Rao BV  
Rastogi PP  
Ray SK  
Sahni VC  
Sankaran MS  
Sengupta S  
Shaila MS  
Singh Lalji\*  
Singh VR  
Suryanarayana C  
Swamy KN  
Tandon SK\*

**1975**

Bhattacharya NC  
Dhindsa KS  
Hagroo AA  
Kataria SK  
Khalatkar AS  
Kochhar N  
Krishnaswami S\*  
Lakhotia SC\*  
Munjaj ML\*  
Rao J Lakshmana  
Ray M  
Shamsuddin

**1976**

Banerjee S\*  
Banerji J  
Bhattacharya AR  
Dani SG\*  
Haider S  
Halyburton RV  
Mohapatra P  
Pawar VM  
Prasad SSV  
Sen A\*  
Surolia A\*  
Tyagi VVS

**1977**

Ahmad A  
Balaram P\*  
Chandola A  
Dattagupta S\*  
Dubey SK  
Joshi VP  
Kak SC  
Kumar Vijay  
Raghavendra AS\*  
Rathore RKS  
Singhi NKM\*  
Sinvhal H  
Sobti RC\*  
Suri AK

**1978**

Chaddah P\*  
Das KC  
Datta AR  
Deodhar VV  
Easwaramoorthy S

Ghosh Chunilal  
Goswami JN\*  
Khanna-Chopra R\*  
Ramasesha SS\*  
Ranganath HA\*  
Sen K\*

**1979**

Bansal M\*  
Brahmachari SK\*  
Chattopadhyay K\*  
Jaluria Y  
Koul OK  
Ladha JK  
Pal Amita  
Ramakrishnan S

**1980**

Agrawal P  
Amla DV  
Balasubramanian R\*  
Barma M\*  
Chakrabarti DK  
Mehetre SS  
Nori MV\*  
Pandey D\*  
Pattabiraman N  
Paul S  
Pillai S  
Reddy ESP  
Sathyamurthy N\*  
Saxena AK  
Vasudev VN

**1981**

Chatterjee RN

\*Elected INSA Fellow

Chaudhuri BK  
 Das UC  
 Joshi JB\*  
 Katti CP  
 Kota VKB  
 Kulkarni BD\*  
 Kunwar AC  
 Lala AK\*  
 Mohandas S  
 Nagaraj R\*  
 Nagarkatti PS  
 Pain D  
 Rentala N  
 Sainis KB  
 Sidhu KS  
 Srivastava SM  
 Tripathi RD  
 Vittal KPR  
 Yadav RL

**1982**

Anand A\*  
 Bhatia R\*  
 Gadre SR\*  
 Ghosh DP  
 Goela JS  
 Gupta G  
 Gupta SK\*  
 Gupta YK  
 Hasan SS  
 Jemmis ED\*  
 Kaul RK\*  
 Mohan Kumar N  
 Ramanuja Rao IV  
 Raychaudhuri A\*  
 Seetharaman V  
 Sivakumar MVK

**1983**

Aggarwal PK  
 Dhar D\*  
 Haldar Misra C  
 Jha S  
 Krishnamurthy HR\*  
 Lamba VJ  
 Lobo MLR

Malakondaiah G  
 Prasad BVV  
 Ram Babu HV  
 Rana NC  
 Sarma DD\*  
 Sastri DC  
 Saxena AK  
 Srivastav AK  
 Tuli R\*  
 Yadav RB

**1984**

Chakrabarti BK\*  
 Giri AK\*  
 Gupta PD  
 Hosur RV\*  
 Kulkarni RN  
 Lavania UC\*  
 Padmanabhan T\*  
 Rao N Hanumantha  
 Ray DS\*  
 Sastry GVS  
 Sharan M\*  
 Singh SK  
 Srivastava Nalini  
 Thakur MK  
 Viswanathan K

**1985**

Brahmachari Vani\*  
 Dutta A  
 Gadagkar R\*  
 Ganesh KN\*  
 Jain Sudha  
 Karandikar RL\*  
 Krishna KR  
 Ogale S  
 Radhakrishna T  
 Rai A  
 Raka Madhu  
 Ramaswamy R\*  
 Saikia DJ  
 Singh VP  
 Sundararajan G\*  
 Venkataramani N

**1986**

Bagchi B\*  
 Basra AS  
 Battacharyya K  
 Chary KVR\*  
 Gowrishankar J\*  
 Home D  
 Koul SK  
 Mehrotra R  
 Mishra B  
 Sampathkumaran EV\*  
 Sekhar JA  
 Sekharudu YC  
 Sharma A\*  
 Upadhyay RS  
 Varadachari Chandrika

**1987**

Biswas DJ  
 Biswas SK  
 Datta Dipankar  
 Jarori Gotam K  
 Joenathan C  
 Khan Mohd Islam  
 Kumar Ajay  
 Kumar PA  
 Lakhani Sujata  
 Mehrotra Priti  
 Misra RDK  
 Pal Sourav\*  
 Pande Gopal  
 Ramesh R\*  
 Srikrishna A\*  
 Srinivas Vasudevan\*

**1988**

Arora VK  
 Chaturvedi MM  
 Durga Prasad M  
 Jayaraman A  
 Mahata SK  
 Majumder K  
 Nautiyal CM  
 Pandit Rahul\*  
 Samuelson AG  
 Sarkar Utpal\*

\*Elected INSA Fellow

Sharma Eklabya\*  
Singh Zora  
Srikant YN  
Visweswariah SS\*

**1989**

Basu Joyoti\*  
Chanda Bhabatosh  
Chandrasekhar V\*  
Chowdhury D\*  
Dadhwal VK  
Deobagkar Deepti D  
Dey GK\*  
Dikshit Madhu\*  
Mandal B  
Mehra Anurag  
Mohan Anand  
Mohanty S  
Nitsure Nitin  
Pande Kanchan  
Ramesh N  
Ray Debraj  
Saluja Daman  
Viswanathan N

**1990**

Asokan S  
Chakrabarti SK  
Chari Vyjayanthi  
Chattaraj PK\*  
Das P  
Dattananda CS  
Grover A\*  
Joshi RR  
Kaul RK  
Mukhopadhyay NK  
Nityanand Soniya  
Sarkar A\*  
Singh SM  
Venkataramana TN\*

**1991**

Ajayaghosh A\*  
Amarendra G  
Bagchi SN  
Bhaskarwar Ashok N

Chakrabarti PP\*  
Das Bibhu Ranjan  
Kumar Vinay  
Mazumdar S  
Mohanty Ajit Kumar  
Murthy C Siva Ram\*  
Padma S  
Rajaram Nirmala  
Sengupta Pulak\*  
Uma Kuchibhotla

**1992**

Basu Partha  
Bhatt JR  
Gaikar VG  
Ghosh SK  
Gupta Vibha  
Hayaran Archana  
Kumar Anil  
Mandal N\*  
Manna Indranil\*  
Mehta Anuradha  
Mukhopadhyay J  
Naik NR  
Pandey S  
Radhakrishnan TP\*  
Ramachandran HS  
Ramesh DS  
Tripathi Renu

**1993**

Balasubramaniam R  
Chakraborty Tapas  
Chaudhury Santanu  
Dhawan Alok  
Garde Chandrasekhar S  
Goyal Neena  
GuptasarmaPurnananda  
Jood Sudesh  
Kumar Alok  
Puri Sanjay\*  
Ramesh R  
Ray Samit Kumar  
Singh Narpinder\*  
Sujatha R\*  
Teni Tanuja R

**1994**

Bhagat Lakshmi  
Bhandari SK  
Chowdhury DR  
Jain Sudhir Ranjan  
Kinger Asha Kiran  
Mohan G  
Mohapatra T\*  
Parameswaran AJ  
Raghubanshi AS  
Rangarajan PN  
Ray Debashish  
Singh Ashok Kumar  
Singh-Sangwan N  
Tribedi LC  
Venkatesh R

**1995**

Alam Jane  
Banerjee Mohua  
Chandra Amalendu\*  
Das Indranil  
David Sunil Abraham  
Ghosh Ashish  
Jayadeva  
Kumar Sanjay  
Manna Dipankar  
Mukherjee Sushmita  
Mukhopadhyay CK  
Murty Budaraju S\*  
Porsezian K  
Shah Riddhi  
Tahseen Qudisia

**1996**

Basak Jayanta  
Chakravarty C\*  
Chandrasekhar Srivari\*  
Dhar Manoj Kumar  
Geetha L  
Ghosh Kartik Chandra  
Habib Saman  
Kumar Sanjay  
Kumaran Viswanathan\*  
Mukhopadhyay Siddhartha  
Raman Bakthisaran

\*Elected INSA Fellow

Shah Nimish Arun  
Srivastava Pratima

**1997**

Bhat BV Rajarama\*  
Das B  
Das TK  
Gahalaut VK  
Khan FA  
Mazumdar C  
Ramachandran S  
Rao BSS  
Senthilkumaran P  
Srianand R  
Suresh V\*

**1998**

Awana VPS  
Bashyam MD  
Bhatt AG  
Ghosh HN  
Guha Suranjana  
Gupta SK  
Gupta Taruna Madan  
Kannan S  
Lakshminarayan A  
Lele AK  
Majumdar SN  
Manglik A  
Narayan JP  
Pandit Alka  
Reddy JJ  
Sane AP  
Sharma VK\*  
Sridharan R

**1999**

Agarwal Rajiv  
Chandran Mahesh  
Dasgupta P  
Emerald BS  
Gahalaut Kalpna  
Ghosh Sandip  
Khare C  
Mittal Sanjay\*  
Rathore D

Uma Shankar  
Venkatesh KV

**2000**

Arvind  
Bandyopadhyay S\*  
Bhardwaj Dheeraj  
Datta Malabika  
Mahaptra Susanta  
Pal Arupkumar  
Pal Debnath  
Ray JS  
Tiwarei VM

**2001**

Hariharan R  
Krishna MMG  
Krishnamurthy M  
Nagendra Harini  
Padiath QS  
Patel VV  
Ratnaparkhi GS  
Roy Lopamudra  
Singh Baljeet

**2002**

Banerjee SS  
Kannan Natarajan  
Mishra Sukumar  
Mohapatra DK  
Nath Sukhendu  
Roy Sudipto  
Safvan CP  
Satheesh SK\*  
Raja Sekhar GP  
Shenoy VB

**2003**

Ahmad Altaf  
Anil Veena S  
Bhattacharya S  
Chakraborty Suman  
Guhan N  
Holla Yogish I  
Jhaveri Dhanisha  
Mohanty B

Narayanan G  
Nayak Dalia  
Radder RS  
Raychaudhuri P  
Sheth HC  
Unniraman Shyam  
Walia Kamini

**2004**

Agarwal Tushar  
Bhattacharyya SN  
Fernandes RA  
Ghazi Arjumand  
Goswami Debashish  
Gujral HS  
Harinipriya S  
Marhas Kuljeet Kaur  
Meena Balaraman  
Patwardhan AW  
Radhakrishna Sindhu  
Rudrabhatla Parvathi  
Shankar Vishwanthan  
Sreenivas G  
Upadhyaya A

**2005**

Banerjee S  
Basu B  
Chandrakumar KRS  
Chakraborty PS  
Choudhury D  
Dalai TK  
Jain SL  
Karmakar S  
Krupa A  
Kshetrapal P  
Perumal A  
Richa Rikhy V  
Roy A  
Sandeep K  
Sharma PK  
Stephen J  
Vohra A

**2006**

Babu S Suresh  
Chakrabarti S

\*Elected INSA Fellow

Chandra Poonam  
Datta AB  
Garg Naveen  
Ghosh S  
Hossain GM  
Hotha Srinivas  
Joshi PK  
Joshi YM  
Kessarkar PM  
Mishra Vandana  
Modi DN  
Prakash Prachee  
Ramachary DB  
Roy A Ghosh  
Sawant SV  
Selvin J  
Sunoj RB  
Trivedi OA

**2007**

Agarwal AK  
Banerjee S  
Bisht NC  
Chandran L. Sunil  
Dhawan S  
Ghosh S  
Gupta A  
Jain M  
Jana T  
Kulwal PL  
Kumar A  
Manimekalai R  
Mondal M  
Nair S  
Panjabi P  
Ramakrishna SA  
Ranganathan A  
Ravi Kumar MNV  
Sandhu AS  
Satheshkumar PS  
Sethi DK  
Sodhi NS  
Sriram V  
Vasa P  
Vidya TNC

**2008**

Ahmed KA  
Anandavardhanan UK  
Bose Sangita  
Chaterjee Saibal  
Dey Sagnik  
Gadgil S  
Ganguly Agneyo  
Garg Ashish  
Gharpure SJ  
Gogate PR  
Iyer PK  
Kavitha T  
Kumar PS  
Mukherjee PS  
Nagarajan R  
Pal Bipul  
Pal Dinesh  
Prabhudesai VS  
Qamra Rohini  
Sarkar RR  
Sharma Deepak  
Siddappa NB  
Simanshu DK  
Sinha Sharmistha  
Sundar Durai  
Thakur JK  
Varshney RK\*  
Yadav SK

**2009**

Anand Govindan V  
Atreya HS  
Bhadra Anindita  
Bharali Gautam  
Bharti Alok Chandra  
Brinda KV  
Chakraborti Anirban  
Chaturvedi CP  
Dabeer OJ  
Gandhe AS  
Ghosh Anil Kumar  
Gonnade RG  
Krishnan Yamuna  
Kulkarni AA  
Kumar Brijesh

Mahajan Namit  
Mallappa Chandrashekara  
Mohapatra JK  
Mukhopadhyay Soumik  
Patil SA  
Pillai BR  
Prasad Kalika  
Purkait MK  
Rajeev PP  
Ramesh KV  
Tiwari Manish  
Venkatasubramanian G  
Yadav Manoj Kumar

**2010**

Bahadur RP  
Bajaj Kanika  
Baskar V  
Biswas Krishanu  
Chandrasekar VK  
Datta Ayan  
Dey Sutirth  
Dixit NM  
Hendre PS  
Jha Gopaljee  
Kumar KK  
Kumar Niti  
Kumbhakar Manoj  
Misra Santanu  
Mitra Supriyo  
Mukhopadhyay D  
Nandi Dhananjay  
Natarajan Vijay  
Paila Yamuna Devi  
Pakshirajan Kannan  
Parida SK  
Patil Nitin T  
Prasad A  
Rana SS  
Roy Choudhury S  
Saravanan M  
Sawarkar RS  
Shankaranarayanan S  
Shukla RK  
Srivastava Tapasya

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\*Elected INSA Fellow

**2011**

Ananth Sudarshan  
 Arun Kumar KP  
 Biswas Kingshook  
 Bose Dasgupta Sombeb  
 Chaki Moumita  
 Choudhury Sharmistha D  
 Dasgupta Basudeb  
 Dewangan Pawan  
 Divya Lekha  
 Fathima Nishter Nishad  
 Ghosh Ananda Kumar  
 Govindraju  
 Guha Roy Mainak  
 Gupta Tarun  
 Jain Sanyog  
 Kumar Amit  
 Kumar Dhiraj  
 Mabalirajan Ulaganathan  
 Majee Manoj  
 Maji Pradipta  
 Misra Deepankar  
 Naimuddin Md  
 Nair Sivadasan Vijaykumar  
 Pani Tapan Kanti  
 Priyakumar U Deva  
 Roy Amit  
 Singh Rajender  
 Vishnoi Nisheet Kumar  
 Yadav Gitanjaali

**2012**

Agarwal Pinky  
 Bandyopadhyay Samiran  
 Bera Melinda Kumar  
 Bhattacharyya Partha  
 Biswas Kaushik  
 Chakraborty Kausik  
 Chandra Vivek  
 Chaturvedi Rajnish Kumar  
 Chavali Sreenivas  
 Das Siddarth Shankar  
 Dasgupta Suman  
 Ghosh Subimal  
 Gopalan Aravind  
 Hussain Tanveer  
 Kayal Neeraj

Mallik Moushami  
 Mondal Partha Pratim  
 Mukherjee Saptarshi  
 Ojha Maheswar  
 Patel Nitinkumar L  
 Rub Abdur  
 Sahoo Bijaya Kumar  
 Saxena Rachit Kumar  
 Sen Pratik  
 Singh Ajay  
 Singh Amanjot  
 Singh Amit Kumar  
 Sridhar P Ramu  
 Srivastava Vimal Chandra  
 Tiwari Supriya

**2013**

Abhilash PC  
 Biswas Imran Habib  
 Chavali PL  
 Dwivedi Suneet  
 Ghosh Sujit Kumar  
 Grover Abhinav  
 GV Pavan Kumar  
 Jeganmohan Masilamani  
 Kar Susanta  
 Kota Murali  
 Kommireddy Vasu  
 Mandal Sumantra  
 Mishra Amit Kumar  
 Misra Abha  
 Mitra Aniruddha  
 Mrinal Nirotpal  
 Nair Nisanth Narayanan  
 Nair Shiny Narayanankutty  
 Rajaraman Gopalan  
 Raju Suvrat  
 Roy Nirupam  
 Sahu Kirti Chandra  
 Saraswat Rajeev  
 Sengupta Sonali  
 Sharma Pradeep  
 Trivedi Arun Kumar  
 Upadhyay Santosh Kumar  
 Vaish Rahul  
 Vaze Rahul  
 Wahi Pankaj

**2014**

Agarwalla Sanjib Kumar  
 Bose Suryasarathi  
 Chakraborti Sayan  
 Chandrasekharan Nair Vineeth  
 Chatterjee Abhijit  
 Das Soumya  
 Garg Rohini  
 Ghosh June  
 Gupta Neena  
 Hogadi Amit Pratap  
 Jash Sukanta  
 Karri Mani Krishna Venkata  
 Kumar Ashutosh  
 Kumar Mahesh  
 Lata Charu  
 Maiti Debabrata  
 Misra Rajneesh  
 Mukherjee Animesh  
 Mukherjee Santanu  
 Palit Mithun  
 Pananghat Gayathri  
 Pant Vimlesh  
 Radhakrishnan Mahalakshmi  
 Rout Prakash Chandra  
 Singh Ram Pratap  
 Singh Sunil Kumar  
 Srivastava Ashish Kumar  
 Verma Gaurav  
 Viswantha Ranjani  
 Yadav Vijay Pal

**2015**

Anand B  
 Augustine Rehna  
 Bhowmick Jyotishman  
 Das Arup Kumar  
 Dhaka Rajendra Singh  
 Ghosh Sumit  
 Giri Jitender  
 Gupta Ashish  
 Gurao Nilesh Prakash  
 Jain Tanvi  
 Jain Vikas  
 Khan Sameena  
 Kudapa Hima Bindu  
 Mandal Biman Behari



Naganathan Athi N  
Nair Rajesh V  
Pal Santanu Kumar  
Parkar Vivek Vijay  
Pazhamalai Anbarasan  
Prajapati Vijay Kumar  
Ray Upasana  
Saxena Nitin  
Shanmugam Maheswaran  
Singh Narendra Pratap  
Singh Pankaj Kumar  
Sridhar Hari  
Tiwari Shashi Kant  
Tripathy Gyana Ranjan  
Yadav Shri Ram

**2016**

Abbas Nazia  
Ahmad Sadeem  
Barpanda Prabeer  
Bhalamurugan Sivaraman  
Bhaskar Ashima  
Biswas Kanishka  
Bohra Abhishek  
Ghosh Soumitra  
Gorthi Sai Siva  
Gupta Aditi  
Hazra Rajat Subhra  
Iqbal Mohd Askandar  
Kapat Santanu  
Kumar Praveen  
Kushwaha Nirbhay Kumar  
Mishra Aastha  
Nakka Kiran Kumar  
Pandey Anshu

Rotti Swathi Srinivasamurthy  
Saha Chandan  
Somlata  
Srinivasan Srikanth

**2017**

Agarwal Swati  
Baidya Md Mahiuddin  
Basu Priyoneel  
Bhattacharyya Sanchari  
Bist Vashist  
Biswas Anup  
Chakraborty Kunal  
Chaudhuri Swetaprovo  
Choudhury Debraj  
Dar Srishti  
Datta Riddhi  
Dhandapani Yogeshwaran  
Gayen Dipak  
Holla Sahana  
Jagadeesan Dinesh  
Kumar Smita  
Nandy Bodhisatta  
Ninan Joe Philip  
Pandey Ashutosh  
Patil Rucha Kiran  
Prasad Kartik  
Pratihari Sanjay  
Reddy Uday Kumar B  
Rengan Aravind Kumar  
Sen Arnab  
Shetty Sunil  
Singh Vikas Kumar  
Sinha Devanjan  
Thakur Jitendra

Vishal Vikram

**2018**

Ahmad Hafsa  
Badhulika Sushmee  
Bhakta Mousomi  
Das Gupta Mainak  
Gupta Mehak  
Gupta Neha  
Huilgol Dhananjay  
Jana Biman  
Jha Somnath  
Kaur Charanpreet  
Koley Ujjwal  
Muthamilarasan M  
Mishra Ratnesh Chandra  
Mukesh  
Mukherjee Budhaditya  
Paranjape Aseem Sudhir  
Vinu R  
Rajawat Ketan  
Routh Satya Brata  
Vijayan S  
Sen Santara Sumit  
Sen Sakya Singha  
Sharma Mahak  
Sharma Prerna  
Shrivastava Mayank  
Singh Sanjay  
Somyajit Kumar  
Thakur Shallu  
Tiwari Vishvanath  
Volla Chandra MR

**Anil Kumar Bose Memorial Award**

1988	Jemmis ED	1996	Mazumdar S	2001	Sharma VK
1989	Biswas DJ	1996	Guptasarma P	2002	Mittal Sanjay
1989	Chary KVR	1997	Chandra Amalendu	2003	Narayan JP
1990	Bagchi B	1998	Porsezian K	2004	Mahapatra S
1991	Sharma Anurag	1998	Raman B	2004	Venkatesh KV
1992	Datta Dipankar	1999	Chakravorty C	2005	Patel Vijay V
1993	<i>No Award</i>	1999	Jain SR	2006	Raychaudhuri P
1994	Chakrabarti SK	2000	Ghosh HN	2007	Chakraborty S
1995	Chakrabarti PP	2001	Khan FA	2008	Anil Veena S

2009	Selvin J	2010	Sawant SV	2011	Jain Mukesh
2010	Ramachary DB	2011	Gogate PR		

**Professor LSS Kumar Memorial Award**

1986	Upadhyay RS	1995	<i>No Award</i>	2004	Rudrabhatla P
1987	Pande Gopal	1996	Habib Saman	2005	Kshetrapal P
1988	Singh Zora	1997	<i>No Award</i>	2006	Selvin J
1989	Saluja Daman	1998	Pandit Alka	2007	Jain Mukesh
1990	Singh SM	1999	Emerald BS	2008	Pal Dinesh
1991	<i>No Award</i>	2000	<i>No Award</i>	2009	Mohapatra JK
1992	Bhatt JR	2001	Nagendra H	2010	Shukla RK
1993	Goyal Neena	2002	Roy Sudipto	2011	Roy Amit
1994	Mohapatra T	2003	Ahmad Altaf		

**Professor Har Swarup Memorial Award**

Nil

**RECIPIENTS OF INSA TEACHERS AWARD 2012-18****2012**

Dhamodharan R  
Elias AJ  
Gautam P  
Mazumder Shibnath  
Nair AS  
Pandi AS  
Pandit AB\*  
Pati PK  
Yadav RR

**2013**

Chaudhuri AN  
Donde SU  
Dube RK  
Eswaran SV  
Hegde VS  
Kumaresan S  
Mani HS  
Ravishankar Lakshmy  
Riesz RP  
Sahu PP

**2014**

Dasgupta Somnath\*  
Kumar Anil  
Kumar Arvind  
Mallik Asok Kumar\*  
Patil Sharashchandra  
Harishchandra  
Ranganathan Subramania\*  
Roy Bimal Kumar  
Som Sankar Kumar  
Verma Satish Chander  
Wadia Murzban Sorab

**2015**

Cherkupally SR  
Jaggi Seema  
Joag SD  
Keshavamurthy Prakash  
Mishra RK  
Mukhopadhyay Joydip  
Pandya TC  
Parkash Ravi

Rangwala AA  
Rao TR  
Sahadevan Ramajayam  
Vellat KK

**2016**

Bekkam VR  
Bhagwat SS  
Burma PK  
Islam NS  
Kakkassery JT  
Kale SN  
Lalitha CS  
Mallick AB  
Narayanasamy Nandita  
Santhanam G  
Sreeman SM  
Subraya Bhat DN  
Verma MK

**2017**

Alagappan AL Ramanathan

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\* Fellow

Bhagat Sunita  
 Chaturvedi AK  
 Chugh Renu  
 Das Pratulananda  
 Gadre VM  
 Hazarika Ajit  
 Keshavamurthy Srihari  
 Misra Somen  
 Nandula Raghuram

Phookun Bikram  
 Rao SBS

**2018**

Ali Javed  
 Bajpai Urmi  
 Dutta AK  
 Ganai NA  
 Iyer RR

Jha PK  
 K Vijaya Kumar  
 Mukherjee AK  
 Mukhopadhyay Achintya  
 R Sivaraman  
 R Vasudeva  
 Taraphder Srabani

## **RECIPIENTS OF INSA YOUNG HISTORIAN OF SCIENCE AWARD 2014-18**

2014	Pai Venketeswara R
2015	Mahesh K
2015	Sharma Rohit
2016	Mishra Anuj
2016	Keerthi Naresh
2017	Yadav Nisha
2018	Ramnath Aparajith

## RECIPIENTS OF MEDALS/LECTURES/AWARDS

### INTERNATIONAL AWARDS

#### INSA-Vainu Bappu Memorial Award

1985	S Chandrasekhar	1991	AK Raychaudhuri	1998	KD Abhyankar
1986	M John Rees	1992	RR Daniel	2001	No Award
1987	G Swarup	1993	JP Ostriker	2004	No Award
1988	JV Narlikar	1994	B Buti	2007	T Padmanabhan
1989	G Burbidge	1995	SM Chitre	2010	S Ananthakrishnan
1990	AA Penzias	1996	A Hewish	2013	Arnold Wolfendale
1990	RW Wilson	1997	R Cowsik	2016	Anil Bhardwaj

#### Jawaharlal Nehru Birth Centenary Medal

1990	Karl Sune Bergstrom	2002	No Award	2010	Lu Yongxiang
1993	Sir Michael Atiyah	2003	Hubert Curien	2013	Alain Carpentier
1996	S Nagakura	2004	Yuan T Lee	2016	Venkatraman
1999	F Gros	2005	VG Kadyshesky		Ramakrishnan
2000	Bruce Alberts	2006	Paul J Crutzen		
2001	Hubert Markl	2007	David King		

### GENERAL MEDALS & LECTURE AWARDS

#### The Chandrasekhara Venkata Raman Medal

1979	Salim Ali	1995	AS Paintal	2007	GS Khush
1982	GN Ramachandran	1997	PN Tandon	2010	S Dattagupta
1985	MGK Menon	1999	SK Joshi	2013	R Chidambaram
1988	C Gopalan	2001	S Varadarajan	2016	N Sathyamurthy
1991	AP Mitra	2003	G Mehta		
1993	G Swarup	2005	MS Bamji		

#### The Shanti Swarup Bhatnagar Medal

1959	Atma Ram	1979	Braham Prakash	2001	RA Mashelkar
1962	No Award	1982	TR Anantharaman	2003	NH Wadia
1964	TR Seshadri	1985	R Narasimha	2005	P Ramachandra Rao
1966	DS Kothari	1988	Dinesh Mohan	2007	NK Ganguly
1968	P Ray	1991	BK Bachhawat	2010	Anupam Varma
1970	S Bhagavantam	1993	MA Viswamitra	2013	Indira Nath
1972	No Award	1995	CS Seshadri	2016	V Ravindranath
1974	AN Khosla	1997	R Kumar		
1976	No Award	1999	G Padmanaban		

**The Meghnad Saha Medal**

1958	SN Bose	1978	DS Kothari	2000	N Kumar
1961	HN Bhabha	1981	MS Swaminathan	2002	R Chidambaram
1963	DN Wadia	1984	R Ramanna	2004	P Rama Rao
1965	DM Bose	1987	Sukh Dev	2006	Yash Pal
1967	No Award	1990	CNR Rao	2009	VS Ramamurthy
1969	CR Rao	1992	S Chandrasekhar	2012	T Ramasami
1971	TR Seshadri	1994	MM Sharma	2015	BC Sinha
1973	No Award	1996	SV Kessar	2018	Ashutosh Sharma
1975	TR Govindachari	1998	AK Sharma		

**The Aryabhata Medal**

1977	KR Ramanathan	1994	V Ramalingaswami	2006	MS Raghunathan
1980	BP Pal	1996	MVS Valiathan	2009	HY Mohanram
1983	S Dhawan	1998	RP Bambah	2012	KK Talwar
1986	S Ramaseshan	2000	K Kasturirangan	2015	Alok Bhattacharya
1989	PN Srivastava	2002	VL Chopra	2018	SC Lakhota
1992	Obaid Siddiqi	2004	KL Chopra		

**Indira Gandhi Prize for Popularization of Science**

1986	Surendra Jha	2000	Yash Pal & Partha (Sarathy) Ghose	2014	Rajesh Kochhar Hari Om Vats
1986	M Nalini Mohan Rao				
1988	Saroj Ghose	2002	VG Bhide	2017	Arnab Bhattacharya
1990	JV Narlikar		D Balasubramanian		<i>(Career Scientist)</i>
1992	GP Phondke	2004	No Award		Narottam Sahoo
1994	G Venkataraman	2006	RD Sharma		<i>(Career Scientist)</i>
1994	AR Bhattacharya	2008	Arvind Gupta		Pallava Bagla
1996	VS Venkatavardhan	2011	BN Dwivedi		<i>(Media Personnel)</i>
1998	Santimay Chatterjee		Biman Nath		

**INSA Medal for Promotion & Service to Science**

2002	MGK Menon	2008	MM Sharma	2017	Goverdhan Mehta
2004	S Varadarajan	2011	PN Tandon		
2006	CNR Rao	2014	MVS Valiathan		

**The Sisir Kumar Mitra Memorial Lecture**

1966	KR Ramanathan	1992	KS Valdiya	2009	PL Sachdev
1972	RN Chakravarti	1995	CR Bhatia	2012	SK Sopory
1978	T Ramachandra Rao	1998	S Sriramachari	2015	SWA Naqvi
1984	Asima Chatterjee	2001	P Rama Rao	2018	Indira Nath
1990	MK Das Gupta	2004	MK Bhan		

**The Kariamanikkam Srinivasa Krishnan Memorial Lecture**

1969	RK Asundi	1992	KL Chopra	2004	R Nityananda
1975	AP Mitra	1995	TV Ramakrishnan	2010	Surendra Prasad
1981	Devendra Lal	1998	AR Verma	2013	NK Gupta
1987	SK Joshi	2001	M Vijayan	2016	Sudha Bhattacharya

**The Daulat Singh Kothari Memorial Lecture**

1996	K Lal	2005	SP Sukhatme	2014	HK Gupta
1999	VG Bhide	2008	Yash Pal	2017	D Balasubramanian
2002	CNR Rao	2011	SK Joshi		

**Jawaharlal Nehru Birth Centenary Lecture**

1990	G Mehta, HG Sharat Chandra
1991	SS Jha, MK Chandrashekar
1992	N Mukunda, KK Kannan
1993	B Buti, SK Sinha
1994	DK Dutta Majumdar, PS Ramakrishnan
1995	RA Mashelkar, P Balaram
1996	N Kumar, HK Jain
1997	AN Bhaduri, BLK Somayajulu
1998	P Natarajan, MS Bamji
1999	Asis Datta, DVS Jain
2000	GS Agarwal, MRS Rao
2001	N Appaji Rao, S Chandrasekaran
2002	R Cowsik, N Balakrishnan
2003	SS Agarwal, KS Valdiya
2004	R Parimala, Ashima Anand
2005	J Gowrishankar, M Vidyasagar
2006	VS Chauhan, A Jhunjhunwala
2007	Kanury VS Rao, K Vijayraghavan
2008	B Bagchi, A Surolia
2011	Alok K Gupta, TP Singh
2014	Mustansir Barma, Sudhir K Sopory
2017	V Ravindranath, Sankar K Pal

**SUBJECTWISE MEDALS****The Srinivasa Ramanujan Medal**

1962	S Chandrasekhar	1979	RP Bambah	2003	CR Rao
1964	BP Pal	1982	S Chowla	2006	R Parimala
1966	K Chandrasekhar	1985	CS Seshadri	2010	SG Dani
1968	PC Mahalanobis	1988	MS Narasimhan	2013	KR Parthasarathy
1970	No Award	1991	MS Raghunathan	2016	TN Venkataramana
1972	GN Ramachandran	1994	No Award		
1974	Harish Chandra	1997	K Ramachandra		
1976	No Award	2000	No Award		

**The Satyendranath Bose Medal**

1977	ECG Sudarshan	1986	AN Mitra	1995	R Rajaraman
1980	CNR Rao	1989	CK Majumdar	1998	G Rajasekaran
1983	MKV Bappu	1992	SS Jha	2001	Deepak Dhar

2004	Ashoke Sen	2009	Rohini M Godbole	2015	J Maharana
2007	DP Roy	2012	SM Roy	2018	Chandan Dasgupta

### The Homi Jehangir Bhabha Medal

1978	BV Sreekantan	1993	ES Raja Gopal	2008	Arup K Raychaudhuri
1981	FC Auluck	1996	AV Narlikar	2011	No Award
1984	KG Ramanathan	1999	BA Dasannacharya	2014	Varun Sahni
1987	S Chandrasekhar	2002	AK Sood	2017	Chanda Jayant Jog
1990	PK Iyengar	2005	SK Sikka		

### The Jagadis Chandra Bose Medal

1977	V Ramalingaswami	1992	PK Maitra	2007	SK Brahmachari
1980	DP Burma	1995	AN Bhaduri	2010	V Nagaraja
1983	V Sasisekharan	1998	D Balasubramanian	2013	PK Das
1986	MA Viswamitra	2001	MRS Rao	2016	P Chakrabarti
1989	N Appaji Rao	2004	P Balaram		

### The Sunder Lal Hora Medal

1960	MOP Iyengar	1978	GP Talwar	2002	SC Lakhota
1963	P Maheshwari	1981	CR Krishna Murti	2005	Rajiva Raman
1965	BR Seshachar	1984	PN Mehra	2008	Rakesh Tuli
1967	MJ Thirumalachar	1987	SP Raychaudhuri	2011	EA Siddiq
1969	K Ramiah	1990	CMS Dass	2014	BK Thelma
1971	Salim Ali	1993	SK Sinha	2017	Mewa Singh
1973	TS Sadasivan	1996	BM Johri		
1975	LS Ramaswami	1999	TN Ananthakrishnan		

### The Darashaw Noshervanji Wadia Medal

1977	AG Jhingran	1992	BP Radhakrishna	2007	VK Gaur
1980	JB Auden	1995	KS Valdiya	2009	Ashok Sahni
1983	WD West	1998	S Roy	2012	SK Sen
1986	CS Pichamuthu	2001	SS Merh	2015	S Sengupta
1989	SN Sen	2004	Ashoke Mookherjee	2018	Somnath Dasgupta

### The Prasanta Chandra Mahalanobis Medal

1978	C Ambasankaran	1993	DK Dutta Majumdar	2008	VS Borkar
1981	Y Nayudamma	1996	KL Chopra	2011	IBS Passi
1984	Govind Swarup	1999	BN Das	2014	MG Nadkarni
1987	UR Rao	2002	J Nanda	2017	Rajendra Bhatia
1990	GS Sanyal	2005	A Sridharan		

**The Syed Husain Zaheer Medal**

1980	DP Antia	1995	V Ramamurti	2008	JB Joshi
1983	LK Doraiswamy	1998	V Rajaraman	2011	Ashutosh Sharma
1986	CV Sundaram	2001	SK Pal	2014	B Yegnanarayana
1989	Rajinder Kumar	2004	J Nanda	2017	GD Yadav
1992	SC Dutta Roy	2007	KT Jacob		

**The Silver Jubilee Commemoration Medal**

1970	S Rangaswami	1988	SK Mukherjee	2003	Shyam Prakash
1973	MS Swaminathan	1991	VL Chopra	2006	S Nagarajan
1976	AK Sharma	1994	No Award	2010	No Award
1979	MS Randhawa	1997	EA Siddiq	2013	RP Sharma
1982	VS Mathur	2000	RS Paroda	2016	Himanshu Pathak
1985	No Award				

**The Golden Jubilee Commemoration Medal (Chemical Sciences)**

1986	TR Govindachari	1998	V Krishnan	2010	Kankan Bhattacharyya
1989	G Mehta	2001	JP Mittal	2013	V Chandrasekhar
1992	SV Kessar	2004	GSR Subba Rao	2016	Ashwini Nangia
1995	No Award	2007	S Chandrasekaran		

**The Golden Jubilee Commemoration Medal (Animal Sciences)**

1986	Obaid Siddiqi	1998	Jyotirmoy Das	2009	TN Ananthakrishnan
1989	J Barnabas	2001	CM Gupta	2012	No Award
1992	MS Kanungo	2004	VF Rodrigues	2015	MD Gadgil
1995	No Award	2007	GP Talwar	2018	PP Majumder

**The Kalpathi Ramakrishna Ramanathan Medal**

1987	Anna Mani	1999	BM Reddy	2011	K Krishnamoorthy
1990	PR Pisharoty	2002	RG Rastogi	2014	No Award
1993	PK Das	2005	GS Lakhina	2017	Sulochana Gadgil
1996	R Raghavarao	2008	BN Goswami		

**ENDOWED MEDALS****Vishwakarma Medal**

1979	Sukh Dev	1994	P Ratnasamy	2009	E Sreedharan
1982	Nitya Anand	1997	No Award	2012	No Award
1985	MM Sharma	2000	JB Joshi	2015	AB Pandit
1988	RA Mashelkar	2003	S Sivaram	2018	AK Shukla
1991	AV Rama Rao	2006	Purnima Jalihal		



**Professor Brahm Prakash Memorial Medal**

1989	No Award	2001	R Krishnan	2013	Baldev Raj
1992	BL Deekshatulu	2004	S Banerjee	2016	No Award
1995	BN Das	2007	VS Arunachalam		
1998	KT Jacob	2010	Shrikant Lele		

**Professor Shyam Bahadur Saksena Memorial Medal**

1990	HY Mohan Ram	1996	VS Rama Das	2005	No award
1993	SP Raychaudhuri	1999	JS Singh	2008	AN Lahiri Majumder
1996	SK Jain	2002	Sushil Kumar	2011	LC Rai

**Professor GN Ramachandran 60th Birthday Commemoration Medal**

1991	NN Das Gupta	2003	MRN Murthy	2015	Amitabha
1994	M Vijayan	2006	TP Singh		Chattopadhyay
1997	R Jayaraman	2009	DM Salunke	2018	DN Rao
2000	A Surolia	2012	B Bhattacharyya		

**Professor TR Seshadri 70th Birthday Commemoration Medal**

1973	K Venkataraman	1988	A Chakravorty	2003	GP Pandey
1976	RC Mehrotra	1991	MV George	2006	SK Dogra
1979	SC Bhattacharyya	1994	JP Mittal	2009	D Basavaiah
1982	Sukh Dev	1997	GSR Subba Rao		
1985	DK Banerjee	2000	Harjit Singh		

**Professor KP Bhargava Memorial Medal**

1996	No Award	2002	Vijayalakshmi R	2011	KS Gopitnath
1999	Rita Mulherkar	2005	Sudhanshu Vrati	2014	KN Agarwal
1999	Madhu Dikshit	2008	BN Dhawan	2017	SK Sarin

**Professor K Naha Memorial Medal**

1998	SK Ghosh	2007	AK Singhvi	2016	VP Dimri
2001	D Mukhopadhyay	2010	K Gopalan		
2004	HK Gupta	2013	No Award		

**Professor Krishna Sahai Bilgrami Memorial Medal**

2001	Randhir Singh	2009	Bijay Singh	2018	TR Sharma
2004	S Nagarajan	2012	TK Adhya		
2007	SK Apte	2015	Yadvinder Singh		

**The Chandrakala Hora Memorial Medal**

1950	SB Setna	1975	SZ Qasim	2002	T Subramoniam
1955	GKN Mitra & KH Alikunhi	1980	VG Jhingran	2007	Samir Bhattacharya
1960	HL Chaudhury	1985	No Award	2010	G Marimuthu
1965	BS Bhimachar	1987	NBK Nair	2013	Chandrima Shaha
1970	NK Panikkar	1992	JS Datta Munshi	2016	SK Gupta
		1997	No Award		

**Shree Dhanwantari Prize**

1971	R Viswanathan	1986	PN Tandon	2001	BN Dhawan
1976	B Mukherji	1991	MVS Valiathan	2006	NH Wadia
1981	NK Dutta	1996	S Nityanand	2009	NP Kochupillai

**Professor Bhim Shanker Trivedi Memorial Medal**

2014	Chitra Mandal
2017	K Somasundaram

**Professor Har Swarup Memorial Medal**

2018	Usha Vijayraghavan
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**Professor Subramania Ranganathan Memorial Medal**

2018	VK Singh
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**Professor Mihir Chowdhury Memorial Medal**

Nil

**ENDOWMENT LECTURES****Professor Bal Dattatraya Tilak Lecture**

1983	PV Sukhatme	1993	No Award	2002	P Pushpangadan
1984	AB Joshi	1994	AD Karve	2003	RK Gupta
1985	AKN Reddy	1995	BE Vijayam	2004	No Award
1986	CV Seshadri	1996	KJ Ranadive	2005	Anil K Gupta
1987	SS Kalbag	1997	Devendra Kumar	2006	Sudha Nair
1988	PK Sethi	1998	No Award	2007	Anil P Joshi
1989	No Award	1999	DR Bapat	2008	No Award
1990	V Kurien	1999	D Chakraborti	2011	No Award
1991	No Award	2000	D Raghunandan	2014	Bijay Singh
1992	NH Antia	2001	No Award	2017	AK Tripathi

**Dr TS Tirumurti Memorial Lecture**

1985	B Ramamurthi	1995	A Venkoba Rao	2005	SS Agarwal
1987	SC Seal	1997	VI Mathan	2007	UC Chaturvedi
1989	No Award	1999	No Award	2010	Mahdi Hasan
1991	KP Bhargava	2001	MK Bhan		
1993	HD Tandon	2003	T Jacob John		

**Dr Nitya Anand Endowment Lecture**

1987	Indira Nath	1997	R Nagaraj	2007	S Bhattacharya
1989	CM Gupta	1999	AK Tyagi	2009	V Nagaraja
1991	BS Srivastava	2001	KN Ganesh	2012	HK Majumder
1993	A Datta	2003	SK Gupta	2015	TK Kundu
1995	No Award	2005	SE Hasnain	2018	No Award

**INSA Prize for Materials Science**

1987	TR Anantharaman	1995	EC Subba Rao	2003	R Nagarajan
1989	P Rama Rao	1997	P Ramachandra Rao	2005	Dipankar Chakravorty
1991	S Ranganathan	1999	KJ Rao	2007	G Sundararajan
1993	BR Nag	2001	Sri Kumar Banerjee	2010	Baldev Raj

**Professor S Swaminathan 60th Birthday Commemoration Lecture**

1992	RP Rastogi	2000	KK Balasubramanian	2010	M Periasamy
1994	UR Ghatak	2002	JS Yadav	2013	GP Pandey
1996	S Ranganathan	2004	SP Moulik	2016	No Award
1998	S Mitra	2006	SS Krishnamurthy		

**Professor Darshan Ranganathan Memorial Lecture**

2003	Kasturi Datta	2007	Maharani Chakravorty	2013	Madhu Dikshit
2005	Radha Balakrishnan	2010	Chandrima Shaha	2016	M Lakshmi Kantam

**Professor MRN Prasad Memorial Lecture**

1992	PR Adiga	2001	Kasturi Datta	2010	K Muralidhar
1995	SK Basu	2004	AJ Rao		
1998	S Bhattacharya	2007	SK Saidapur		

**The Bires Chandra Guha Memorial Lecture**

1969	V Subrahmanyam	1987	Mahtab S Bamji	2005	B Bhattacharyya
1972	A Sreenivasan	1990	NK Notani	2008	Amitabha
1975	J Ganguly	1993	PS Sastry		Chattopadhyay
1978	MG Deo	1996	IB Chatterjee	2011	P Chakrabarti
1981	AN Radhakrishnan	1999	K Krishnaswamy	2014	C Mohan Rao
1984	BK Bachhawat	2002	D Chatterji	2017	SC Mande

**The Bashambar Nath Chopra Lecture**

1971	PN Wahi	1986	No Award	2001	No Award
1974	J Venkateswarlu	1989	PM Bhargava	2004	Asis Datta
1977	BK Bachhawat	1992	SC Sanyal	2007	Akhilesh K Tyagi
1980	AG Datta	1995	MM Johri	2010	JS Singh
1983	S Sriramachari	1998	PD Dogra		

**Professor Shambu Nath De Memorial Lecture**

1993	NK Ganguly	1999	No Award	2005	HG Sen
1996	SN Chatterjee	2002	RC Mahajan	2010	Dilip Mahalanabis

**Professor Vishnu Vasudeva Narlikar Memorial Lecture**

1994	PC Vaidya	2003	AS Gupta	2012	RB Bapat
1997	SK Malik	2006	M Lakshmanan	2015	SK Khanduja
2000	N Rudraiah	2009	KB Sinha	2018	S Thangavelu

**Dr Jagdish Shankar Memorial Lecture**

1994	D Mukherjee	2000	SR Gadre	2006	Sourav Pal
1997	Biman Bagchi	2003	RV Hosur	2009	Swapan K Ghosh
2000	ED Jemmis	2006	DD Sarma		

**Professor Vishwa Nath Memorial Lecture**

1995	Lalji Singh	2007	No Award	2018	SK Apte
1998	No Award	2009	Siddhartha Roy		
2001	K Muniyappa	2012	PK Das		
2004	No Award	2015	Subrata Sinha		

**Dr Biren Roy Memorial Lecture**

1995	SK Trehan	2004	AK Ghatak	2013	No Award
1998	M Lakshmanan	2007	V Ramamurti	2016	Avinash Khare
2001	Roddam Narasimha	2010	SN Kaul		

**Professor Sadhan Basu Memorial Lecture**

1996	PT Manoharan	2005	Debashis Mukherjee	2014	Sourav Pal
1999	BM Deb	2008	J Gopalakrishnan	2017	Anunay Samanta
2002	Mihir Chowdhury	2011	Kankan Bhattacharyya		

**Dr Yellapragada SubbaRow Memorial Lecture**

1996	NR Moudgal	2005	SK Sarin	2014	No Award
1999	NK Ganguly	2008	SE Hasnain	2017	AC Banerjea
2002	Sandip K Basu	2011	Chitra Mandal		

**Professor K Rangadhama Rao Memorial Lecture**

1979	RK Asundi	1987	PT Manoharan	2000	AK Sood
1981	K Narahari Rao	1989	M Chowdhury	2004	N Chandrakumar
1983	NA Narasimham	1991	VB Kartha	2008	DD Sarma
1985	VG Bhide	1996	A Kumar	2011	Ajit C Kunwar

**Professor Rango Krishna Asundi Memorial Lecture**

1984	G Herzberg	1990	CL Khetrapal	2002	N Chandrakumar
1986	PT Narasimhan	1994	Surjit Singh	2006	KVR Chary
1988	G Govil	1998	RV Hosur	2009	N Periasamy

**Professor Toppur Seethapathy Sadasivan Lecture**

1982	KS Thind	1990	DD Pant	2006	AS Raghavendra
1984	R Mishra	1994	KS Bilgrami	2009	DJ Bagyaraj
1986	BM Johri	1998	A Gnanam		
1988	CV Subramanian	2002	Anupam Varma		

**Professor Panchanan Maheshwari Memorial Lecture**

1987	TV Desikachary	1996	PK Mohanty	2008	JP Khurana
1989	V Puri	2000	SK Sopory	2011	Sunil K Mukherjee
1991	DD Awasthi	2004	KR Shivanna		

**Dr Guru Prasad Chatterjee Memorial Lecture**

1981	SC Bhattacharyya	1989	R Rajaraman	2006	ML Munjal
1983	BN Singh	1991	VK Gaur	2009	SC Dutta Roy
1985	TN Khoshoo	1996	DV Singh		
1987	Prem Narain	2001	BC Nakra		

**Professor Har Swarup Memorial Lecture**

1984	ML Roonwal	2000	MS Jairajpuri	2014	PD Prasada Rao
1987	Sivatosh Mookerjee	2005	MK Chandrashekar	2017	Amitabh Joshi
1990	Ishwar Prakash	2008	T Subramoniam		
1995	CJ Dominic	2011	SK Saidapur		

**Dr MR Das Memorial Lecture**

2005	KP Gopinathan	2011	Saumitra Das	2017	Rajan
2008	Shahid Jameel	2014	Balaram Ghosh		Sankaranarayanan

**SPECIAL LECTURES****\*The PMS Blackett Memorial Lecture**

1976	Sir Harrie Massey	1988	Sir Roger Elliott	2001	Lord Robert McCredie
1978	BV Sreekantan	1990	CNR Rao	2003	Patrick Bateson
1980	Sir Michael Stoker	1992	Sir B Follett	2005	Julia S Higgins
1982	MS Swaminathan	1994	Peter Day	2007	Martin Rees
1984	Sir Andrew Huxley	1996	Sir Aaron Klug	2009	Lorna Casselton
1986	MGK Menon	1998	Sir Harold Kroto	2013	Paul Maxime Nurse

**\*Sir Jagadis Chandra Bose Memorial Lecture**

1993	AP Mitra	1999	S Chandrasekhar	2006	Asoke Sen
1995	MM Sharma	2002	G Swarup	2008	Narendra Kumar
1997	C Gopalan	2004	K Kasturirangan	2016	Kalyanmoy Deb

**Jawaharlal Nehru Birth Centenary Visiting Fellowship**

1991	G Padmanaban	1999	M Vijayan	2007	R Gadagkar
1992	R Chidambaram	2000	D Ranganathan	2008	Deepak Pental
1993	MG Deo	2001	SK Malik	2009	SC Lakhota
1994	G Govil	2002	RP Gandhi	2010	Krishan Lal
1995	R Kumar	2003	HK Gupta	2013	JP Mittal
1996	P Balaram	2004	MS Jairajpuri	2016	Rajiva Raman
1997	HY Mohan Ram	2005	R Godbole		
1998	OP Bhutani	2006	TV Ramakrishnan		

**Etienne Wolff-Ramanujan Lecture**

2006	Jules Hoffman	2013	MVS Valiathan	2016	No Award
2007	RA Mashelkar	2014	Nicole Le Douarin	2017	No Award
2012	Yves Brechet	2015	R Gadagkar	2018	No Award

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\*Since 2013 this award is independently organized by INSA.

## SCIENCE PROMOTION

Basic research, a pre requisite for applied research leading to developmental activity, conducted by the academic institutions, was supported by the Academy by instituting programmes to individual scientists, interdisciplinary and multi-institutional programmes. With the emergence of major funding bodies in the country for carrying out scientific research, the Academy modified its programme to support individual scientists. The programme now involves INSA Distinguished Professors for promotion and service to science, support to INSA superannuated Fellows, research projects of INSA Young Scientist Medal Awardees and INSA Visiting Scientists.

The Academy also provides partial financial assistance for organising international/national conferences, symposia or seminars in India.

### REGULATIONS

#### INSA DISTINGUISHED PROFESSORS

The Academy initiated Ten Professorial Chairs with effect from January 1, 2018, as INSA Distinguished Professors. Each Professor shall be attached with research institution / Universities in India.

**Objectives:** The Professorship is awarded in recognition of outstanding contributions to any branch of Science & Technology falling within the purview of the Academy. The main aim of the Professorship is to provide recognition to a person who has made outstanding scientific research contributions and to enable him/ her to continue to contribute to the subject of his/her choice. The INSA Distinguished Professors may continue to work in his/her own institution or in any other suitable institution within India.

**Eligibility:** Only superannuated Indian Fellows of INSA with no other source of support (except pension) will be eligible. The upper age limit to apply for INSA Distinguished Professors is 75 years. Fellows having any position with Honorarium/Fellowship/Salary will not be eligible.

**Number:** There will be a total of 10 Professorial Chairs.

**Duration:** The Professorship chairs are tenable for three years only. Selected Distinguished Professors have to join within a period of six months from the date of issue of the offer letter.

**Value:** The Professorship shall carry an honorarium of Rs.1.00 lakh per month. In addition, a sum of Rs.2.00 lakhs per annum will be provided as contingency. The contingency grant can be utilized for purchase of any equipment/s required for research, Computer/Laptop, Printer, Scanner, Camera, secretarial assistance, stationery, communication, travel for work (within India and abroad), registration fee, per diem, accommodation etc. as per the norms of the host institute. Items purchased out of the contingency grant will be the property of host institute after completion of project of Professorship chairs.

In case INSA Distinguished Professors wants to retain any of the above items purchased under contingency head he/she may pay 10% of the actual cost of the item to the host institute provided the items are purchased minimum two years before the completion of the tenure of the programme.

The institution concerned shall provide the working facilities to INSA Distinguished Professors. The funds will be drawn by the institution from INSA.

**Leave:** 60 days in a year with honorarium whether in India or abroad.

**Announcement of the Professorship:** The President will present the name/s of the scientist/s, selected with the help of a Committee constituted for the purpose, for approval of the Council. The name/s of the awardee/s will be announced in the subsequent General Body Meeting. The award offer will remain valid for six months from the date on which the offer is made by the Academy.

**Obligations:**

- (i) The intellectual property rights arising out of the work of the Awardee will be governed by the norms of the host institution.
- (ii) Support for the INSA Distinguished Professorship should be acknowledged in all publications.
- (iii) The INSA Distinguished Professors shall present to the Academy a yearly detailed report of the work done at the end of the year along with statement of expenditure for release of grant for next year.
- (iv) She/He shall, after the expiry of the Professorship, also present a comprehensive report in the form of a review article for publication in Academy's Proceedings.
- (v) Final adjustment/settlement of accounts should be done within a period of 60 days of completion/termination of the position.
- (vi) She/He may also be invited to deliver a talk during one of the INSA meetings after completion of his/her tenure as INSA Distinguished Professors.
- (vii) All the INSA Distinguished Professors are expected to participate in outreach programmes for school and college students as a part of the award.

These regulations may be revised or amended by the Council of INSA at any time.

## **INSA SENIOR SCIENTIST PROGRAMME**

The Academy instituted in 1985 a programme of INSA Senior Scientist to utilize the expertise of active superannuated Fellows of the Academy involved in high quality research in their specialized disciplines in recognized R&D Centre/University/ institution in India.

**Name of the Programme:** The Programme is called the 'INSA Senior Scientist Programme' and the Awardee is called 'INSA Senior Scientist'.

**Objectives:** The objective of the programme is to utilize the expertise of INSA Fellows after superannuation to continue to work in the area of his/her choice in an R&D centre/university/institution in India.

**Eligibility:** Superannuated INSA Fellows working in India. The upper age limit to apply for INSA Senior Scientists will be 75 years. Fellows having any position with Honorarium/Fellowship/Salary will not be



eligible. A Senior Scientist will have to avail the position in one go. He will not be allowed to break it up in smaller installments.

**Number of Positions:** The maximum number of Senior Scientist positions is restricted to 75.

**Tenure:** The term of an INSA Senior Scientist is for a period of three years. Selected Fellows have to join within a period of six months from the date of issue of the offer letter.

**Value:** The honorarium of INSA Senior Scientist is Rs. 30,000/- per month and the contingency is Rs. 1,00,000/- per annum.

The contingency grant can be utilized for purchase of any equipment/s required for research, Computer/ Laptop/ iPad, Printer, Scanner, Camera, secretarial assistance, stationery, communication, travel (within India and abroad), Air fare, registration fee, per diem, accommodation etc. as per the norms of the Host Institute. Items purchased out of the contingency grant will be the property of Host Institute after the completion of project of INSA Senior Scientist.

In case, INSA Senior Scientist wants to retain any of the above items like computer/laptop/iPad/ printer, etc., purchased out of contingency grant he/she may pay 10% of the actual cost of the item to the host institute provided the items are purchased minimum two years before the completion of the tenure of the programme.

The number of INSA Senior Scientist to be selected each year will be decided by the council based on the available funds position.

**Nomination and Selection:** Proposal in the prescribed form for the Senior Scientist position will be invited from the Fellows of the Academy in the month of May preceding the year of the award. The proposal duly completed in all respects, signed, and routed through the Head of the Institution where a scientist intends to work, should be sent to the Academy on or before June 15. The proposals received will be examined and selection be made by the Council at its meeting to be held in July/December.

The award of the INSA Senior Scientist position would be valid for a period of 6 months from the date of issue of letter. Otherwise, the selected scientist has to be nominated afresh for consideration by the Academy for future position.

**Renewal and Reports:** Senior Scientist will submit an Annual Report of his/her research work in the prescribed format at the end of the year along with the statement of expenditure for release of grant for the next year. At the end of the tenure, the Senior Scientist is required to submit a consolidated Technical Report of the entire duration of the tenure in the prescribed format.

**Leave:** 60 days in a year with honorarium whether in India or abroad.

**Obligations:**

- (i) The host Institution shall submit audited statement of accounts and utilization certificate to INSA.
- (ii) The position will stand terminated from the date the INSA Senior Scientist accepts any paid position.
- (iii) Support under the INSA Senior Scientist Programme should be acknowledged in all publications.
- (iv) Final adjustment/settlement of accounts should be done within a period of 60 days of completion/ termination of the position.

- (v) The intellectual property rights arising out of the work of the Senior Scientist will be governed by the norms of the host institution.
- (vi) At the completion of the tenure of the INSA Senior Scientist, the awardee shall hand over all permanent equipment purchased using the contingency funds to the host institution or any other institution as decided by INSA.
- (vii) These regulations may be revised or amended by the Council at any time.

## **INSA HONORARY SCIENTIST PROGRAMME**

The Academy instituted the INSA Honorary Scientist Programme in May 2000 to continue to engage and utilize the expertise of active superannuated Fellows of the Academy involved in research in their specialized disciplines in recognized institutions/universities in India.

**Objective:** The objective of the programme is to continue to engage and utilize the expertise of superannuated Fellows of INSA.

**Name of the Position:** The awardee shall be called 'INSA Honorary Scientist'

**Eligibility:** Superannuated INSA Fellows working in India. The upper age limit to apply for INSA Senior Scientists will be 75 years. An Honorary Scientist will have to avail the position in one go. He will not be allowed to break it up in smaller installments.

**Number of Positions:** The number of INSA Honorary Scientist to be selected each year will be decided by the council.

**Tenure:** The term of an INSA Honorary Scientist is for a period of three years. Selected Fellows have to join within a period of six months from the date of issue of the offer letter. INSA Honorary scientist position will be operated only through the organization to which the fellow is affiliated.

**Financial Support:** Contingency grant of Rs. 1,00,000/- per annum will be released in one installment through the host institution.

The contingency grant can be utilized for purchase of any equipment/s required for research, Computer/Laptop/ iPad, Printer, Scanner, Camera, secretarial assistance, stationery, communication, travel (within India and abroad), Air fare, registration fee, per diem, accommodation etc. as per the norms of the Host Institute. Items purchased out of the contingency grant will be the property of Host Institute after completion of project of INSA Honorary Scientist.

In case INSA Honorary Scientist wants to retain any of the above items like computer/laptop/iPad/printer, etc., purchased under contingency head he/she may pay 10% of the actual cost of the item to the host institute provided the items are purchased minimum two years before the completion of the tenure of the programme.

**Nominations:** INSA Fellows may nominate themselves or other superannuated Fellows for the position of Honorary Scientist. Fellows may write to the President INSA along with a brief CV, proposed plan of work and a letter of acceptance from the host institute. The names of awardees will be reported at the subsequent Council meeting.

**Joining:** Selected Fellows have to join within a period of six months from the date of issue of the offer letter.

**Progress Report and Renewal of Position:** The Honorary Scientist will submit a report of his/her work in the prescribed format after completion of each year along with utilization certificate and request for further grant.

**Obligations:**

- (i) The Position will stand terminated from the date the Honorary Scientist accepts any paid position.
- (ii) Support under the INSA Honorary Scientist Programme should be acknowledged in all publications.
- (iii) Final adjustment/settlement of accounts should be done within a period of 60 days of completion/termination of position.
- (iv) Council is empowered to amend any of the regulations.

**RESEARCH SUPPORT FOR THE INSA YOUNG SCIENTIST MEDAL AWARDEES**

The start-up research project for the INSA Young Scientist Awardee (Rs.5 Lakhs for three years) will be invited and considered subject to availability of funds. Interim Fellowship and the international travel associated with the award will not be considered by the Academy.

**INSA VISITING SCIENTIST PROGRAMME**

To conduct advanced research for undergoing specialised training in Indian research institutes/laboratories other than one's own institution.

**Name of the Programme:** The programme shall be called 'INSA-Visiting Scientist Programme' and the awardee shall be designated: 'INSA Visiting Scientist'.

**Objective:** Acquiring furtherance of research capabilities for undergoing training in specific techniques, or utilising facilities not available in their own institutions. Book writing is not permitted under this programme.

**Number of Awards:** The number of INSA-Visiting Scientist positions to be awarded each year will be a maximum of 120 man-months per annum.

**Value:** During the fellowship period, awardees will be paid consolidated amount of Rs.30,000/- (maximum) per month to cover their expenses related to boarding, lodging, travel etc.

**Duration:** The position shall be provided to a scientist to work for a minimum period of one month to a maximum of six months in a laboratory or a research institution of his/her choice in a city within India other than his/her own city.

**Mode of Selection:** Applications on prescribed Performa will be invited through open advertisement every year (November/December) and selection will be made during March/April.

**Application Procedure:**

- (i) Applications will be invited through open advertisement once a year. The applicants would be required to provide a concise account of their plan of work/study besides their bio-data

highlighting their achievements. It would be desirable that the applicant should have approached the host institution and the scientist concerned to ascertain their concurrence to accept him/ her.

- (ii) The applicant should be a **Scientist/Faculty** in any R&D organisation including Universities or Affiliated Colleges in India. Applicants should not have availed INSA Visiting Scientist Programme in **last one year**.
- (iii) Candidates should submit their application (Two Sets) on prescribed application form available in the Academy through proper channel to the Deputy Executive Director-I (Scientific), Indian National Science Academy, Bahadur Shah Zafar Marg, New Delhi - 110002. The decision of the Academy will be communicated during April/May in the following year.

#### **PARTIAL FINANCIAL ASSISTANCE FOR HOLDING NATIONAL/INTERNATIONAL CONFERENCE/SEMINAR IN INDIA**

The Academy provides partial financial support of Rs. 50,000/- (maximum) for National/International conferences/symposia/seminars/summer/winter schools and a maximum of 50 conferences can be supported in a financial year (not exceeding 13 in any quarter). Proposals are received by the Academy throughout the year but their selection is done on Quarterly basis.

**RECIPIENTS OF INSA-RESEARCH PROFESSORSHIP (all the Professorship Chairs have been renamed as INSA Distinguished Professor w.e.f. 01.01.2018)**

**1. INSA-Albert Einstein Centenary Research Professorship**

Professor GN Ramachandran (1984-89)  
 Professor AN Mitra (1989-94)  
 Professor CNR Rao (1995-99)  
 Professor GS Agarwal (2001-April 2005)  
 Professor PK Kaw (2007-2011)  
 Professor M Vijayan (2013-18)

**2. INSA-Golden Jubilee Research Professorship**

Professor AK Sharma (1985-90)  
 Professor R Narasimha (1991-95)  
 Professor Animesh Chakravorty (1996-2000)  
 Professor KS Valdiya (2003-08)  
 Professor G Govil (2009-2014)

**3. INSA-Chandrasekhar Venkata Raman Research Professorship**

Professor MGK Menon (1986-91)  
 Professor G Padmanabhan (1991-96)  
 Professor KR Parthasarthy (1996-2001)  
 Professor Virendra Singh (2003-08)

**4. INSA-Srinivasa Ramanujan Research Professorship**

Professor BV Sreekantan (1987-92)  
 Professor G Mehta (1992-97)  
 Professor TV Ramakrishnan (1997-2002)  
 Professor Paul Ratnaswamy (2004-09)  
 Professor HY Mohan Ram (2011-16)

**5. INSA-Satyendra Nath Bose Research Professorship**

Professor Sukh Dev (1988-93)  
 Professor MS Raghunathan (1994-96)  
 Professor Indira Nath (1998-2003)  
 Professor RC Mahajan (2004-09)  
 Professor R Gadagkar (2010-14)

**RECIPIENTS OF INSA DISTINGUISHED PROFESSOR**

Professor Samir Bhattacharya (2015- )  
 Professor N Mukunda (2015- )  
 Professor R Balasubramanian (2017- )  
 Professor S Chandrasekaran (2018- )  
 Professor SK Pal (2018- )

## RECIPIENTS OF INSA PLATINUM JUBILEE CHAIR

Dr S Varadarajan (2009-2014)

### RECIPIENTS OF INSA-SENIOR SCIENTIST

#### 1985

SN Ghosh  
D Mohan  
NA Narasimhan  
M Santappa

#### 1986

DP Burma  
D Nasipuri  
DD Pant  
S Swaminathan

#### 1987

TN Ananthakrishnan  
DD Awasthi\*  
PK Bhattacharya  
AS Divatia  
JN Kapur  
T Ramakrishnan  
NS Subba Rao  
AR Verma

#### 1988

MK Dasgupta  
TM Jacob  
BR Murthy  
AK Raychaudhuri

#### 1989

SC Agarwal  
SS Merh  
VV Modi  
NS Narasimhan  
SP Pandya  
S Sriramachari  
CV Subramanian

#### 1990

NK Notani  
KK Rohatgi Mukherjee  
KP Sinha  
OP Vig\*

#### 1991

MS Chadha  
GK Manna  
NR Moudgal

#### 1992

SN Chatterjee  
PD Dogra  
TR Kasturi  
I Prakash  
S Sen  
K Venkatesan

#### 1993

RV Gopala Rao  
B Ramachandran  
SM Sengupta  
R Srinivasan

#### 1994

RJ Garde  
PK Iyenger\*  
RN Kapil  
S Ranganathan  
SK Sen  
NT Singh

#### 1995

TR Anantharaman  
Haridas Banerjee  
SS Bir  
DK Chattoraj  
A Ghosh  
AC Jain  
MS Kanungo

SRV Rao  
RG Rastogi  
RP Rastogi

#### 1996

JC Ahluwalia  
KMV Apparao  
PK Banerjee  
OP Bhutani  
BN Das  
S Das Gupta  
JS Datta Munshi  
RP Gandhi  
UR Ghatak  
A Gnanam  
DVS Jain  
HY Mohan Ram  
A Mookherjee  
SC Pakrashi  
S Roy  
N Rudraiah  
PS Sastry  
Rangil Singh  
SK Trehan  
R Vijayaraghavan

#### 1997

SK Ghosh  
SV Kessar  
PM Mathews  
SK Mitra  
T Ramasarma  
GM Reddy

#### 1998

Maharani Chakravorty  
A Jayaraman  
BR Nag  
K Ramachandra  
N Sethunathan  
MA Viswamitra

\* Since deceased

**1999**

BK Agrawal  
 KK Kannan  
 CK Majumdar  
 MG Nadkarni  
 R Ramamurthi  
 G Shanmugam

**2000**

BG Ghosh  
 AB Roy  
 A Sridharan

**2003**

YP Abrol  
 PR Adiga  
 RS Ambasht\*  
 D Chakravorty  
 Maharani Chakravorty  
 Mihir Chowdhury  
 P Das  
 BA Dassanacharya  
 BG Ghosh  
 K Gopalan  
 PK Gupta  
 Mahdi Hasan\*  
 P Krishna  
 RK Lal\*  
 SP Moulik  
 D Mukhopadhyay  
 MG Nadkarni  
 J Nanda  
 Shyam Prakash\*  
 ES Rajagopal  
 R Ramamurthy  
 AB Roy  
 PL Sachdev\*  
 RN Saxena\*  
 G Shanmugam  
 RS Sharma  
 KR Shivana  
 Harjit Singh  
 BLK Somayajulu

\* Since deceased

A Sridharan  
 R Sridharan  
 MS Srinivasan  
 GSR Subba Rao  
 PN Takkar

**2004**

DJ Bagyaraj  
 SC Dutta Roy  
 MS Jairajpuri  
 PT Manoharan  
 Indira Nath  
 TJ Pandian  
 BLS Prakasa Rao  
 Rajendra Prasad  
 PK Sarkar  
 Sarvajit Singh

**2005**

NM Bujurke  
 KRK Easwaran  
 KP Gopinathan  
 SS Krishnamurthy  
 KK Mahajan  
 MM Mathan  
 IBS Passi  
 DK Paul  
 PS Ramakrishnan  
 V Ramamurti  
 A Saran  
 RP Sharma  
 K Subba Rao  
 RS Tripathi  
 Anupam Verma

**2006**

IP Abrol  
 Amitabha Ghosh  
 SS Kapoor  
 Sushil Kumar  
 Krishan Lal  
 NV Madhusudana  
 SM Naqvi\*  
 T Parthasarathy  
 C Ramakrishnan  
 NK Ray\*

Ashok Sahnii  
 T Subramoniam

**2007**

DM Banerjee  
 S Krishnaswamy  
 AV Narlikar  
 PD Prasada Rao  
 JS Sandhu  
 JS Singh

**2008**

Samir Bhattacharya  
 Kasturi Datta  
 Alope Dey  
 Alok K Gupta  
 GS Lakhina  
 Amarnath Maitra\*  
 K Nag  
 Ajit Iqbal Singh  
 Indra Bir Singh  
 Sita Ram Singh

**2009**

NM Bujurke  
 J Gopalakrishnan  
 RJ Hans-Gill  
 AK Kamra  
 BK Sadashiva  
 SK Subbarao

**2010**

G Ananthakrishna  
 SV Bhat  
 Mihir Deb  
 H Ila  
 M Lakshmanan  
 Ashok Kumar Mallik  
 Prasanna Mohanty\*  
 P Natrajan  
 RN Singh

**2011**

CK Dasgupta  
 AK Jain  
 Samaresh Mitra

S Nagarajan  
KN Pathak  
Phoolan Prasad  
DP Roy  
SM Roy  
SK Saidapur  
Sudipta Sengupta  
PK Singh  
Yadvinder Singh

**2012**

BK Agrawal  
VA Bapat  
AK Bhatnagar  
Alok Kumar Datta  
Kunal Ghosh  
NK Gupta  
H Junjappa  
Anil Kumar  
PT Manoharan  
SK Mukherjee  
J Nanda  
SK Sen  
Bijay Singh

**2013**

S Anantkrishanan  
CK Dasgupta  
Amitava Datta  
BM Deb  
VP Dimri  
MV Hosur  
ML Munjal  
G Padmanaban  
AJ Rao  
Bhagyashri A Shanbhag  
R Srinivasan  
M Udayakumar

**2014**

B Bhattacharyya  
SM Bhatwadekar  
MG Deo  
C Ganguly  
SN Kaul  
G Marimuthu

LM Patnaik  
BC Ranu  
Probir Roy  
JS Singh  
SP Singh  
TP Singh  
Yashwant Singh  
N Viswanadham

**2015**

TK Adhya  
KK Balasubramanian  
HS Balyan  
SV Bhat  
Amit Ghosh  
PK Gupta  
KP Joy  
AV Khare  
Anjan Kundu  
BC Nakara  
SK Pal  
M Palaniandavar  
PN Pandita  
Manmohan Sarin  
M Udayakumar

**2016**

Manju Bansal  
Archana Bhattacharyya  
SM Bhatwadekar  
Sampa Das  
Anuradha Dube  
C Durga Rao  
Tarun Kant  
SK Khanduja  
Renu Khanna-Chopra  
G Krishnamoorthy  
BD Kulkarni  
AN Lahiri Majumder  
SC Lakhota  
J Maharana  
JP Mittal  
MRN Murthy  
VK Parnaik  
R Parthasarathy  
Deepak Pental

TN Shorey  
M Sanjappa  
Shyam Lal  
S Sivaram  
S Subramanian  
Ghanshyam Swarup  
KC Upadhyaya

**2017**

Faizan Ahmad  
S Dattagupta  
LC Garg  
Subrata Ghosh  
AK Giri  
BN Goswami  
J Gowrishankar  
MV Hosur  
Premashish Kar  
DP Kasbekar  
SB Krupanidhi  
SK Kulkarni  
SK Mukherjee  
ML Munjal  
S Natarajan  
SS Ramasesha  
AJ Rao  
Probir Roy  
HS Savithri  
Abhijit Sen  
EA Siddiq  
YP Viyogi  
K Veluthambi  
B Yegnanarayana

**2018**

Srikumar Banerjee  
AK Bhatnagar  
RK Gupta  
PN Pandita  
BLS Prakasa Rao  
Kalidas Sen  
Yashwant Singh  
RC Sobti  
PK Tripathi  
N Viswanadham



## RECIPIENTS OF INSA-HONORARY SCIENTIST

### 2006

YP Abrol  
 IB Chatterjee  
 DK Chattoraj  
 BN Das  
 RP Gandhi  
 AS Gupta\*  
 DVS Jain  
 SK Jain  
 SV Kessar  
 SC Maheshwari  
 SP Moulik  
 Prem Narain  
 Rajendra Prasad  
 R Raghavarao\*  
 ES Rajagopal  
 HS Randhawa  
 RP Rastogi  
 KP Sinha

### 2007

N Bhandari  
 D Chakravorty  
 SM Chitre  
 J Nanda  
 PS Ramakrishnan  
 T Ramasarama  
 RG Rastogi  
 RN Saxena\*

### 2008

DD Awasthi\*  
 Mahtab Bamji  
 OP Bhutani  
 SC Dutta Roy  
 SK Ghosh  
 K Gopalan  
 VP Kamboj  
 SS Kapoor  
 D Mukhopadhyay  
 SVS Shastri  
 Virendra Singh

### 2009

KRK Easwaran  
 MS Jairajpuri

KK Mahajan  
 SC Pakrashi  
 PK Sarkar  
 KR Shivana  
 Sarvajit Singh  
 A Sridharan  
 Kalluri Subba Rao

### 2010

RS Ambasth\*  
 HK Das  
 KP Gopinathan  
 SS Krishna Murthy  
 Sushil Kumar  
 DK Paul  
 Anil Saran  
 PS Sastry  
 RP Sharma  
 GSR Subba Rao  
 T Subramoniam  
 PN Takkar  
 Anupam Varma

### 2011

IP Abrol  
 SS Bir  
 SK Dogra  
 R Raghavendra Rao  
 AB Roy  
 RS Tripathi

### 2012

NM Bujurke  
 DM Banerjee  
 K Nag  
 AV Narlikar  
 PD Prasada Rao  
 R Ramamurthi  
 Probir Roy  
 JS Sandhu  
 Sita Ram Singh

### 2013

Alok K Gupta  
 SK Sikka  
 Ajit Iqbal Singh

IB Singh

### 2014

ON Bhargava  
 G Govil  
 RJ Hans-Gill  
 SK Joshi  
 AK Kamra  
 JN Nanda

### 2015

BK Agrawal  
 G Ananthakrishna  
 RV Gurjar  
 PT Manoharan  
 JP Mittal  
 P Natarajan  
 TJ Pandian  
 RN Singh  
 BC Sinha

### 2016

AK Jain  
 SM Roy  
 PK Singh  
 Yadvinder Singh

### 2017

S Ananthakrishnan  
 MG Deo  
 Amitabha Ghosh  
 Kunal Ghosh  
 NK Gupta  
 PK Gupta  
 H Junjappa  
 IBS Passi  
 Bijay Singh  
 JS Singh

### 2018

DJ Bagyaraj  
 DM Banerjee  
 ON Bhargava  
 NM Bujurke  
 BM Deb  
 GS Lakhina

\* Since deceased

## **THE FUNDS OF THE ACADEMY**

1. All the sums received by the Academy shall be deposited with any of the nationalised bank(s) to be decided by the Council.
2. (a) The Council shall be competent to decide the limit of amounts in respect of cheques to be signed by the Deputy Executive Director (Finance) and either the Executive Director or any one of the paid officers of the Academy to be designated by the President.
- (b) All cheques beyond the limit decided under Regulation 2(a) shall be signed by the Executive Director and the Vice-President (Resource Management). In the absence from the Headquarters either of the Executive Director or the Vice-President (Resource Management) or both, the President shall designate any one of the other paid officers of the Academy and any one of the Office Bearers, as the case may be, to sign the cheques.

The following funds are administered by the Academy.

### **Chandrakala Hora Memorial Medal Fund**

In the year 1945, Dr SL Hora and Mrs V Hora made an endowment of Rs. 3,000.00 for the purpose of founding a Medal in the memory of their daughter, Kumari Chandrakala Hora, to be awarded for conspicuously important work on the development of fisheries in India once in three years.

An additional contribution of Rs. 10.00 lakhs was received by the Academy in the year 2007 from the Hora family for the medal award fund.

### **Dr Shanti Swarup Bhatnagar Memorial Fund**

This fund originated in the year 1955 from donations of Fellows and others amounting to Rs. 5,366.25. Its objective was to perpetuate the memory of the late Dr Shanti Swarup Bhatnagar, an eminent scientist who made great contribution to the cause of science and industry.

### **Bires Chandra Guha Memorial Lecture Fund**

In the year 1966 Dr (Mrs) Phulrenu Guha made an endowment of Rs. 10,000.00 for the purpose of founding a Lectureship in the memory of her husband, Professor Bires Chandra Guha, to be awarded for outstanding contributions in the field of biochemistry, nutrition, food and allied problems in the broadest sense. During the year 2010, a sum of Rs. 60,000/- was contributed by the students and well-wishers while during the year 2011 a sum of Rs. 5.00 lakhs was contributed by CSIR. Apart from this US\$ 3950 was donated by Dr. Deepak Haider from USA for the Professor BC Guha memorial fund during the year 2011.

### **Shree Dhanwantari Prize Fund**

In the year 1969, Shri Anant Krishna Asundi, BA, LLB (Bom.), Retired District and Sessions Judge, Bijapur (Karnataka) made an endowment of Rs. 16,000.00 for the purpose of founding a prize in memory of his youngest daughter, Shrimati Akkadevi, to be called Shree Dhanwantari Prize. A further gift of Rs. 2,500.00 was made by Shri AK Asundi in the year 1971.

### **BN Chopra Memorial Lecture Fund**

In the year 1968, the family (Mrs Iqbal Chopra, Shri Pran Nath Chopra, Shri Ramesh Nath Chopra and Mrs Mohini Duggal) of late Dr BN Chopra made an endowment of Rs. 10,000.00 for the purpose of founding a lectureship in any branch of biological sciences coming within the purview of the Academy.

### **Professor TR Seshadri 70th Birthday Commemoration Medal Fund**

In the year 1970, an endowment of Rs. 10,000.00 was made by the students of Professor Tiruvenkata Rajendra Seshadri for instituting 'Professor Tiruvenkata Rajendra Seshadri Seventieth Birthday Commemoration Medal'.

### **Vishwakarma Medal Lecture Fund**

In the year 1976, an endowment of Rs. 33,000.00 was made by Dr PB Sarkar, FNA, retired Director, Technological Research Laboratories, Indian Central Jute Committee, P 133 Lake Terrace, Calcutta, for the purpose of instituting a suitable prize to be awarded every third year to scientists or technologists or any one whose discovery or invention has led to the start of a new industry in India or to significant improvement of an existing process resulting in cheaper or better product. Rs. 1,48,586/- was added to the Endowment fund by Dr Gopa Sarkar De, daughter of late Dr PB Sarkar, after approval by the Council in December 2002.

### **Silver Jubilee Fund**

This fund was started in the year 1960 from the donations amounting to Rs. 2,642.73. Its objective was to commemorate the Silver Jubilee of the Academy by awarding a Silver Jubilee Commemoration Medal once in every three years for popularization of science.

### **INSA Endowment Lecture Fund**

- (i) In the year 1979, the Indian National Science Academy accepted an endowment of Rs. 10,000/- received from Dr C Ramasastry, IIT Madras (raised by old student of Professor K Rangadhama Rao) for institution of an INSA Endowment Lecture in memory of Professor K Rangadhama Rao.
- (ii) In the year 1979, an endowment of Rs 15,000/- was made by Dr GP Chatterjee, FNA and Smt Suniti Chatterjee for the purpose of instituting an INSA Endowment Lecture to be named after Guru Prasad Chatterjee at an appropriate time in the future. In 2010 a sum of Rs. 5000/- was donated by the well-wisher of Professor Chatterjee.
- (iii) In the year 1981, an endowment of Rs. 10,000/- was made by Dr (Mrs) Savitri Swarup for the purpose of instituting an INSA Endowment Lecture to be named after Dr Har Swarup, FNA. The lecture will be delivered once in every three years. Later, in 2010 and 2016 a sum of Rs. 5.00 lakhs and Rs. 6.00 lakhs, respectively was added to the endowment by the family members of late Professor Har Swarup.
- (iv) In the year 1982, an endowment of Rs. 25,000/- was received from Professor Toppur Seethapathy Sadasivan Endowment Committee for the purpose of instituting an INSA Endowment Lecture to be called Professor Toppur Seethapathy Sadasivan Endowment Lecture instituted out of an endowment of Rs. 25,000/- by Professor Sadasivans's students and admirers. An additional sum of Rs. 5,000/- had also been received by the Academy which was utilised for the first lecture held in December 1982. Further in 2010 an additional sum of Rs. 5000/- was donated by the well-wisher of Professor Sadasivan.

- (v) In the year 1982, an endowment of Rs. 1,00,000/- was received from Dr GT Panse, Member-Secretary, Professor Bal Dattatraya Tilak Scientific Research and Education Trust, Pune for the purpose of institution of an INSA Endowment Lecture for Rural Development through effective application of Science & Technology.
- (vi) In the year 1983, an endowment of Rs. 25,000/- was received from Dr NA Narasimham, FNA on behalf of the students of Professor Rango Krishna Asundi for the purpose of institution of an INSA Endowment Lecture in memory of Professor RK Asundi, who was a distinguished Fellow of the Academy.
- (vii) The Dr Panchanan Maheshwari Memorial Lecture was established in 1984 out of an endowment of Rs. 26,200/- by the colleagues and friends of the late Professor Panchanan Maheshwari, a distinguished Botanist and Foundation Fellow of the Academy.
- (viii) The INSA-Vainu Bappu Memorial Award was established in 1985 from an endowment of Rs. 3,00,000/- by Mrs Sunanna Bappu, mother of the late Dr Manali Kallat Vainu Bappu, an eminent Astronomer and Fellow of the Academy.
- (ix) The INSA-TS Tirumurti Lecture was established in 1985 out of an endowment of Rs. 25,000/- by Mrs Janaki Ramachandran, daughter of the late Dr Tirunelveli Subbaiyer Tirumurti, who made notable contributions to pathology and medicine and was a Foundation Fellow of the Academy.
- (x) The Nitya Anand Endowment Lecture was established in 1986 out of an endowment of Rs. 1,30,000/- by the Organising Committee to celebrate the 60th Birthday of Dr Nitya Anand, an eminent chemist and a Fellow of the Academy. The funds came from Dr Nitya Anand's friends, students and admirers in academic institutions and the pharmaceutical industry.
- (xi) The INSA Prize for Materials Science was established in 1986 out of an endowment of Rs. 50,000/- by the Organizing Committee of the International Conference on the 'Application of Mossbauer Effect,' held in 1981.
- (xii) The Professor LSS Kumar Memorial Award was established in 1986 out of an endowment of Rs. 10,000/- made by Mrs K Kumar, widow of Professor LSS Kumar to commemorate the memory of Professor Kumar. In 2010 a sum of rupees one lakh was further donated by the family members of Professor LSS Kumar.
- (xiii) The Anil Kumar Bose Memorial Award was established in 1987 out of an endowment of Rs. 18,000/- made by the family and friends of late Shri AK Bose, former Executive Secretary of INSA.
- (xiv) Professor Brahm Prakash Endowment Medal was established in 1987 from an endowment of Rs. 54,003/- of which Rs. 25,000/- was donated by Mrs Brahm Prakash and the remaining Rs. 29,000/- by friends of the late Professor Brahm Prakash. In the year 2010 a sum of Rs. 25000/- was donated by Dr CA Reddy a well-wisher of late Professor Brahm Prakash.
- (xv) Professor Shyam Bahadur Saksena Memorial Lecture was established in 1989 from an endowment of Rs. 60,000/- made by the family of late Professor SB Saksena.
- (xvi) Professor MRN Prasad Memorial Lecture was established in 1989 out of an endowment of Rs. 50,000/- made by the colleagues and friends of late Professor MRN Prasad.
- (xvii) Professor GN Ramachandran 60th Birthday Commemoration Medal was established in 1989 out of endowment of Rs. 1,00,000/- from the Organizing Committee for Commemoration of 60th Birthday of Professor GN Ramchandran.

- (xviii) Professor KP Bhargava Memorial Medal was established in 1992 out of endowment of Rs. 50,000/- from Mrs Savitri Bhargava to commemorate the memory of late Prof KP Bhargava. In the year 2011, an endowment amount of Rs. 2,00,000/- was received from the family members of late Professor KP Bhargava.
- (xix) Professor S Swaminathan 60th Birthday Commemoration Lecture was established in 1990 out of endowment of Rs 75,000/- from Professor S Swaminathan 60th Birthday Commemoration committee. In the year 2011, the Academy received an endowment of Rs. 1,65,000/- from students and well-wishers of Professor Swaminathan.
- (xx) Professor Shambu Nath De Memorial Lecture was established in 1992 out of endowment of Rs. 50,000/- from Specialised Symposium on Yeasts (IUMS) on behalf of the Association of Microbiologists of India (AMI).
- (xxi) Professor Vishnu Vasudeva Narlikar Memorial Lecture was established in 1992 out of endowment of Rs. 1,00,000/- received from family members and a close friend of late Professor VV Narlikar. In the year 2011, an endowment of Rs. 2,00,000/- was received from family members of late Professor Narlikar.
- (xxii) Dr Jagdish Shankar Memorial Lecture was established in 1992 out of endowment of Rs. 58,534/- from the Organizing Committee of the Emerging Frontiers in Chemistry Symposium, students, admirers and family members of late Dr Jagdish Shankar.
- (xxiii) Professor Vishwa Nath Memorial Lecture was established in 1993 out of endowment of Rs. 1,00,000/- received from students, family members and friends of late Dr Vishwa Nath.
- (xxiv) Dr Biren Roy Memorial Lecture was established in 1993 out of endowment of Rs. 2,00,000/- from the Biren Roy Trust.
- (xxv) Professor Sadhan Basu Memorial Lecture was established in 1993 out of endowment of Rs. 1,00,000/- from Professor Sadhan Basu Memorial Fund Committee. In the year 2011, a total endowment of Rs. 2,33,000/- was received from Professor Kankan Bhattacharya, Director, IACS, Kolkata, which he collected from the students and admirers of late Professor Sadhan Basu.
- (xxvi) Dr Yellapragada SubbaRow Memorial Lecture was established in 1995 from an endowment of Rs. 2,00,000/- made by the National Committee for Dr Yellapragada SubbaRow Centenary Celebrations.
- (xxvii) Professor Kshitindramohan Naha Memorial Medal was established in 1996 from an endowment of Rs. 3,00,000/- by the family members of Professor Naha to commemorate the Medal Award of late Professor Kshitindramohan Naha, an eminent geologist of our country.
- (xxviii) Endowment fund of Rs. 3,00,000/- was received in 1998 from family, colleagues and students for establishment of Endowment Medal award in the name of late Professor Krishna Sahai Bilgrami, FNA.
- (xxix) An endowment amount of Rs. 5,00,000/- was received in 2001 from Professor S Ranganathan, FNA which was invested for establishment of Dr Darshan Ranganathan Memorial Lecture. In the year 2011 an additional amount of Rs. 2,65,000/- was received from Professor S Ranganathan, FNA the husband of late Professor Darshan Ranganathan.
- (xxx) An endowment amount of Rs. 5,00,000/- was received in 2002 from Professor AC Jain, FNA which was invested for establishment of an award in his name at appropriate time.

- (xxxi) An endowment amount of Rs. 3,00,000/- was received in 2003 from Dr (Mrs) Radha R Das, wife of late Dr MR Das, FNA for establishment of Dr MR Das Memorial Lecture.
- (xxxii) IUPAB-Prof GN Ramachandran Lecture was established in 2006 out of an endowment of Rs. 30,00,000/- received from CSIR, New Delhi for an international award once in three years to commemorate the memory of late Professor GN Ramachandran.
- (xxxiii) Professor Bhim Shanker Trivedi Memorial Medal was established in 2013 out of an endowment of Rs. 10,00,000/- received from family members of late Professor BS Trivedi, a distinguished Paleo Botanist and Fellow of the Academy.
- (xxxiv) An endowment amount of Rs. 10,00,000/- was received in 2017 from Dr Anand Ranganathan, son of late Professor Subramania Ranganathan for establishment of endowment medal award in the name of late Professor Subramania Ranganathan, a distinguished Fellow of the Academy.
- (xxxv) An endowment amount of Rs. 10,00,000/- was received in 2017 from Fluorescence Society, Department of Chemical Sciences, Tata Institute of Fundamental Research, Mumbai for the institution of Professor Mihir Chowdhury Memorial Medal.

