

THE NATIONAL ACADEMY OF SCIENCES, INDIA (NASI)

(The Oldest Science Academy of India)



(1) Need to set up the Institution? or the need that the Institution fulfils with regard to scientific inquiry?

The 1st World War and the world-wide economic depression caused a setback to scientific research globally - much more so in India whose scientists found it difficult even to publish their research work since they had to be almost entirely dependent on foreign journals. The post-World War India also saw the rise of the freedom movement which incidentally also drew attention to the numerous problems of the Indian people like poverty, hunger, diseases, recurrent floods, droughts, famines etc. Patriotic scientists felt deeply concerned with these. It was in this background that the idea of establishing a forum for scientists, which would bring them together to discuss and find scientific solutions to the problems of the country, was mooted by **Prof. Meghnad Saha**, a great scientist, patriot and then Professor of Physics at Allahabad University in 1929. His views were published in December 1929 issue of the Allahabad University magazine in an article entitled '**A Plea for an Academy of Sciences**'.

Thus, the National Academy of Sciences, India (NASI) was founded in the year **1930**, with the objectives to provide a national forum for the publication of research work carried out by Indian scientists and to provide opportunities for exchange of views among them. Further, the large base of its esteemed Fellows & Members made the Academy capable of generating ideas/views etc. on several important socio-scientific issues; and the Academy's role was recognized as a 'Think Tank' by many, including the government after independence. In the words of **Dr Atma Ram** (during his Presidential Address of Indian Science Congress at Varanasi in 1968) -

'It should encourage scientific societies and consult them on matters of moment.....What is needed is for the Government to cultivate the habit of consulting such societies.'

And, the NASI was included in the **Gazette of India Oct. 12, 1971**, as the three National Science Academies, to serve the '**Science & Society**'. The Academy is striving hard for the betterment of society in general and the science, in particular.



Prof. Meghnad Saha,
Founder of the NASI, Prayagraj.

(2) Legacy, Founder, Vision and Mission?

Legacy & the Founder: The Memorandum of Association of the NASI was signed by **seven distinguished and patriotic scientists** namely **Prof. Meghnad Saha, Prof. K.N. Bahl, Prof. D.R. Bhattacharya, Prof. P.C. MacMohan, Prof. A.C. Banerji, Prof. Ch. Wali Mohammad and Prof. N.R. Dhar**. Of these, Prof. N.R. Dhar was so closely associated that he also donated a piece of land to the Academy on which the Academy building stands today.

The Rules and Regulations of the Academy were based on those of the Royal Society of England and the Asiatic Society of Bengal. These have since been revised and updated to meet the emerging challenges. **Prof. Meghnad Saha was elected its first President**. In the Inaugural address, Prof. Saha Said: **“An Academy of Science can do a great deal by educating public opinion, undertaking particular problems, and bringing out scientific workers in various fields for discussion and cooperative research. But the main function of the Academy should be towards cultural improvement by contributions to human knowledge.** Since then, the Academy has crossed many milestones, successfully serving the **“Science & Society”**.

The Academy is financially supported by the Department of Science & Technology, Ministry of Science & Technology, Govt. of India; and it is also recognized as the Scientific and Industrial Research Organisation (SIRO) by the DSIR, Govt. of India as well as by the University Grants Commission as a premier scientific body.

Vision and Mission:

NASI - envisions the cultivation and promotion of Science & Technology in all its branches through -

- (a) promoting scientific and technological research related to the problems of societal welfare.
- (b) publication of proceedings, journals, memoirs, transactions and other works as may be considered desirable.
- (c) organising meetings and hold discussions on scientific and technological problems.
- (d) undertaking, through properly constituted committees and bodies, the scientific work(s) of technological or public importance.
- (e) cooperating with other organizations in India and abroad having similar objects, and to appoint representatives of the Academy to act on national and international bodies.

- (f) securing and managing funds and endowments for the promotion of science and technology.
- (g) organising a science library.
- (h) performing all other acts, matters and things that may assist in, conduce to, or be necessary for the fulfillment of the above mentioned aims and objects of the Academy.
- (i) creating an adequate impact of the Academy all over the country by opening Chapters of the Academy in other cities in the country, where reasonable number of Fellows and Members are available.

(3) Contribution to knowledge generation, inputs for Policy Makers, and any impact the institution's work may have made at the grassroots level?

The Academy, with the broad base of more than 3500 Fellows and Members from all the areas of Science & Society, has always acted as ‘think tank’ to provide solutions to the socio-scientific problems. The Academy undertakes several ‘Science & Society’ programs under the guidance of its President (Prof. G. Padmanaban), Past Presidents and Fellows. The Past Presidents, who are very distinguished scientists like Prof.M.S. Swaminathan, Prof.(Mrs.) Manju Sharma, Prof.P.N. Tandon, Prof.Jai Pal Mittal, Prof.V.P. Kamboj, Prof.Ashok Misra, Prof.Asis Datta, Dr.K. Kasturirangan, Prof.Akhilesh K. Tyagi and Prof.Anil Kakodkar are keenly associated with the Academy and contributing enormously to its development. It is worth mentioning that a few other Past Presidents (unfortunately who are not with us now), as Prof. MGK Menon, Prof.A.K. Sharma, Dr.V.P. Sharma, Prof.S.K. Joshi, Dr.T.N. Khoshoo, Prof.U.S. Srivastava, Dr.A.P. Mitra and Dr.S.Z. Qasim also contributed a lot to the development of science in general and the Academy in particular.

The impact of the Academy is visible by its many activities, as -

(1) publishing two quarterly journals (Proceedings of the National Academy of Sciences, India- Section A (Physical Sciences) and Section B (Biological Sciences) and one bi-monthly journal (National Academy Science Letters); (2) holding an Annual Session in a scientific and academic institution every year; (3) organizing symposia, seminars and workshops on subjects of current national and scientific interest; (4) planning and executing science communication programmes like Science Extension Lectures, *Vigyan-Chaupals*, State level Science Contests (Quiz, Debate, Oration, Exhibition, Essay, etc), Talent Search, Teachers’ Workshops, Summer/Winter Schools, Vocational Training Programmes, National level Scientific Creative Writing Contest, Celebration of National Technology Day, National Science Day, National Mathematics Day and World Environment Day, etc.; (5) recognizing the significant contributions of scientists at every level by honoring them with Fellowship/Membership/Awards such as Lecture Awards, NASI-Reliance Awards, NASI-SCOPUS Awards, NASI-Young Scientist Awards etc.; (6) instituting prestigious Research Fellowships/Chairs/Senior-Scientist Fellowships etc. to honor distinguished scientists; (7) organizing sensitization programmes for women researchers/scientists all across the country; (8) conducting the ‘Safe water’ project; (9)

organizing/conducting other projects and schemes, such as Nutrition Programme for eradicating malnutrition, Science Awareness Programme for Army Personnel, Entrepreneurship Development Programmes and a joint programme of NASI & ICAR on Farm Mechanization/ Implementation, etc.; (10) establishing River Galleries; and (11) organizing Tribal Welfare Programmes.

Besides the fore-mentioned activities, the Academy also organizes several other activities jointly with other two National Science Academies- INSA and IASc- all through the year. The Academy is also maintaining a well-organized library; and it has 21 Chapters all across the country to organize scientific activities in and around their respective regions.

As its policy support initiatives/endeavours, the Academy's publications/documents/reports have received attention of several policy makers and who's who of the scientific arena, some of the documents are worth mentioning here -

- **Report & Recommendations on the Science, Technology and Innovation (STI) Policy 2013 - Implementation aspects**
[http://nasi.nic.in/STI%20Final%20%20Report%20\[21.3.pdf](http://nasi.nic.in/STI%20Final%20%20Report%20[21.3.pdf)
- **Report & Recommendations on climate change**
http://nasi.nic.in/Climate_Change_Report_Recommendations-_Final.pdf
- **A Roadmap for Women in Science & Technology - A Vision Document**
<http://nasi.nic.in/Report%20-%20Women%20in%20Science%20&%20Technology%20-A%20Vision%20Document.pdf>
- **Indian Science, its Competitive Strength and its Relevance to National Needs - Report by NASI Study group 2018**
<http://nasi.nic.in/Booklet%20on%20Basic%20Research.pdf>

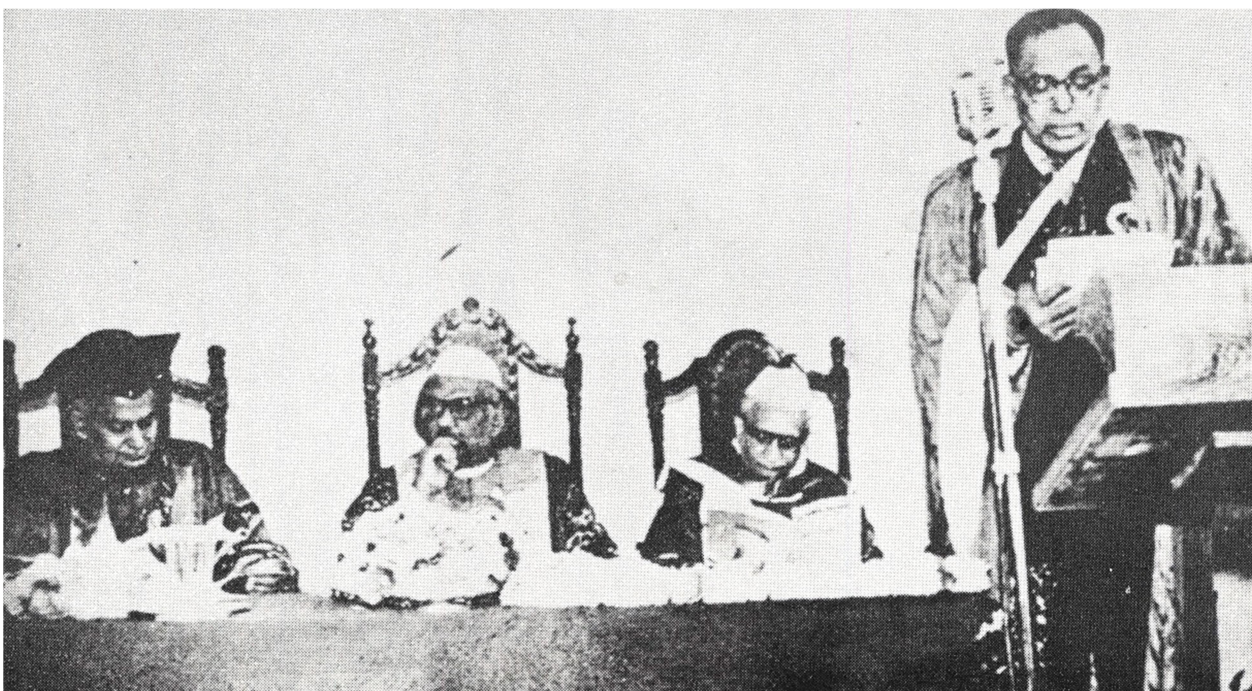
The Academy has actively contributed to several National Mission Programmes, as 'Swasthya Bharat', 'Swacch Bharat' and 'Samarth Bharat'. It is also undertaking the Scheduled Tribe Sub-Plan Programmes.

(4) Some Success Stories (about 3-4)? Success stories could be with regard to individuals or some path breaking research that pushed the boundaries of the subject.

In last 90 years the Academy has crossed several milestones, as -

i. The Silver Jubilee Session (Dec.26-28,1955) at Lucknow

Dr. Sampurnand, Hon'ble Chief Minister of Uttar Pradesh inaugurated the Session and in the Presidential Address, Prof. P.L.Srivastava acknowledged the sincere support of world renowned scientists as Prof. Einstein, Lord Rutherford, Prof. Sommerfeld, Prof. Eddington, Prof. Milikan, Prof. Siegbahn, Prof. Goldschmidt, Prof. Goodrich, Sir J.C.Bose, Sir C. V. Raman, Sir P. C. Ray and Sir James Walker. **Prof. Saha also emphasized the role of the Academies in developing human scientific resources.**



Prof. Meghnad Saha addressing the Silver Jubilee Session at University of Lucknow;
Dr. Sampurnand Chief Guest is seated in the centre.

ii. The Golden Jubilee Session (Oct.23-27,1980) at Allahabad

Shrimati Indira Gandhi, Hon'ble Prime Minister of India inaugurated the session. Sri Vishwanath Pratap Singh, Hon'ble Chief Minister of Uttar Pradesh welcomed the Prime Minister. The session was also addressed by Hon'ble Sri C.P.Singh, Governor of U.P., Sri Nurul Hasan, Vice-President, CSIR; Prof. MGK Menon, Secretary, DST and Dr. Hari Narain, President of the Academy. **Shrimati Gandhi stressed that science should not be confined to the laboratories.**



Sitting (L→R) Prof.B.Ramchandra Rao, Prof.U.N.Singh,Sri V.P.Singh (Chief Minister,UP), Dr.Hari Narain (President, NASI), Smt.Indira Gandhi (Prime Minister of India), Sri CPN Singh (Governor,UP), Prof.S.Nurul Hasan (VP,CSIR),Prof. MGK Menon (Secretary, DST), Prof. J.P.Thapliyal and Prof. N.R.Dhar.

iii. The Diamond Jubilee Session (Feb.13-14,1991) at New Delhi.

The inaugural address was delivered by Sri R. Venkataraman, **Hon'ble President of India, who explained the importance of science in relating to the lives of the people.** The session was also graced by the presence of Sri Yashwant Sinha, Hon'ble Minister of Finance, Govt. of India; Sri Mohan Dharia, Deputy Chairman of the Planning Commission; Sri Vikramaditya Pandey, Minister of State for S & T, Govt. of U.P. The memorial lectures were delivered by Prof.M.S.Swaminathan, Prof. A.P.Mitra, Prof. R.C.Mehrotra, Prof. V.G.Bhide and Prof. V.P.Sharma.



L→R: Sri Mohan Dharia, Sri R. Venkataraman, Hon'ble President of India, Prof. M.S. Swaminathan, Hon. Sri Yashwant Sinha, Prof. MGK Menon, Dr. T.N. Khoshoo and Prof. U.S. Srivastava

The second part of the Diamond Jubilee Session was held on May 3-4, 1991 at Allahabad. The symposium on "Science & Technology in 2000 A.D. and Beyond" was held under the Presidentship of Prof. A. P. Mitra. Sri Chandra Shekhar, Hon'ble Prime Minister of India was to inaugurate the symposium but, could not come; his address was read out by Dr. (Mrs.) Manju Sharma. Prof. MGK Menon in his keynote address stressed the need of spreading scientific awareness among the society and said, **".....this will call for the creation of linkages and inter-connections that will enable the scientific capabilities of the country to be related to the real life problems encountered at grass root levels"**. The Who's Who of Indian Science & Technology graced the occasion including Prof. U.R. Rao, Dr. V.S. Arunachalam, Dr. V.K. Gaur, Prof. S.K. Joshi, Prof. Yash Pal, Prof. P.N. Tandon, Dr. N. Seshagiri, Dr. P. Rama Rao, Dr. B.N. Dhawan, Dr. P.K. Iyengar, Dr. S.K. Rangarajan, Prof. B.K. Bachhawat and several others.

iv. The Platinum Jubilee Session

- ✚ (Inaugural Session held on Oct.6,2005 at Allahabad)
- ✚ (Concluding Function held on Oct.6,2006 at Mumbai)

The Platinum Jubilee Celebrations and the Symposium on 'Excitement of Science' were inaugurated by the Hon'ble President of India, Dr. A.P.J. Abdul Kalam. In the inaugural address, Hon'ble President appreciated **".....the Academy has left no stone unturned in pursuing its aim and objectives"**. Dr. Kalam praised **the role of the Academy in boosting the zeal of the budding scientists, who could do better in future with such support and endeavour.**

Shri T.V. Rajeswar, Hon'ble Governor of Uttar Pradesh; Shri Mulayam Singh Yadav, Chief Minister of Uttar Pradesh; Prof. MGK Menon, Chairman, Advisory Committee, Platinum Jubilee Celebrations and Past President of the Academy; Hon'ble Prof. Murli Manohar Joshi, Honorary Fellow of the Academy; Shri Mukesh Ambani, Chairman & Managing Director, Reliance Industries Ltd.; Past Presidents, Fellows and Members of the Academy and other distinguished guests were also present on this historic occasion.



L→R: Dr.S.Z.Kasim, Prof.MGK Menon, Dr.A.P.Mitra, Prof.P.N.Tandon, Dr.J.P.Mittal, Dr.APJ Abdul Kalam, President of India, Dr.V.P.Kamboj, Prof.S.K.Joshi, Dr.(Mrs) Manju sharma, Dr.V.P.Sharma

The concluding function of the Platinum Jubilee Celebrations and Symposium on **"Science & Technology in the Service of Society"** were inaugurated by Dr.Manmohan Singh, Hon'ble Prime Minister of India, on Oct.06,2006, at IIT, Mumbai. Dr. Singh said, **".....the link between the teaching and research must be restored to make science and technology instrumental in socio-economic transformation"**.

The function was also graced by Shri S.M.Krishna, Hon'ble Governor of Maharashtra; Shri Vilasrao Deshmukh, Hon'ble Chief Minister of Maharashtra; Shri Chauhan, Hon'ble Minister of State, Govt. of India. The function was attended by Prof. MGK Menon, Prof.P.N.Tandon, Prof.(Mrs.) Manju Sharma, Prof.J.P.Mittal, Prof.R.Chidambaram, Dr.Anil Kakodkar, Dr.H.N.Sethna and a number of Fellows and Members of the Academy including distinguished academicians and industrialists as Shri N.R.Narayana Murthy, Shri Rahul Bajaj, Shri Ajay Piramal, Shri Hitel Meshwani and so.

v. Sensitization Programmes for Women Researchers/Scientists

The Academy organized **32 workshops on Technological Empowerment of Women** in different parts of the country during the last seven years. More than 50,000 women scientists/researchers were sensitized under this programme. A **Vision Document-Report on Women in Science in India** published by the Academy was also released.

A **Mega Event on 'Technological Empowerment of Women'** was held at Vigyan Bhavan, New Delhi on **March 8-9, 2018** to commemorate the International Women's Day, with **Dr Harsh Vardhan, Hon'ble Minister for Science & Technology, Govt. of India, as the Chief Guest**; and thousands of women scientists, teachers and researchers from all across the country. The event was addressed by world famous scientists as **Prof. M. S. Swaminathan**, Father of Green Revolution in India, **Prof. Anil Kakodkar**, Nuclear Scientist & Former Chairman, AEC of India, **Prof. K. VijayRaghavan**, Principal Scientific Adviser to the Government of India, **Prof. Manju Sharma** (Convener), former Secretary to the Govt. of India, **Dr. Renu Swarup**, Secretary to the Govt. of India, Department of Biotechnology, **Prof. Balram Bhargava**, Secretary to the Govt. of India, Department of Health & Family Welfare, six foreign scientists from different countries and several others. The Proceedings of the Mega-event including significant recommendations was also published and sent to concerned departments and ministries.



Dr.Harsh Vardhan, Hon'ble Minister for Science & Technology, Govt. of India, felicitating Dr.Karen Elizabeth Nelson, President, JCVI,USA; Prof.Ashutosh Sharma,Secretary,DST, Prof. Anil Kakodkar, President,NASI; Prof. (Mrs) Manju Sharma, Past President, NASI; Prof. Prof. Paramjit Khurana,General Secretary,NASI; Prof.Pramod Garg, Foreign Secretary, NASI during the Mega Event.

Thus, the NASI has carved a niche in the area of 'Science & Society'.

It has organized thousands of programmes in last 90 years to improve the scientific culture of the society. The concept of 'Excitements in Science', 'Science in Action' and 'Learning by doing', was introduced by the Academy for its several science-society programmes, several decades ago, which gave a new dimension to the cultivation of scientific temperament among the students and general mass. The process is on and it is shaping future of the budding scientists.

(5) Does your institute have a Museum or archival section? I ask this as this will be an important aspect of the visuals we shoot at the Institute.

Major and Unique National Facilities created -

- **The Multidimensional Ganga-gallery with Interactive domain,** established in the year 2011 at its Head Quarter at Prayagraj. IGNOU, New Delhi has included the gallery in its syllabus/projects; UP Tourism and Consortium of IITs have also included the gallery on their websites.
- **The Brahmaputra gallery** in Gowahati, Assam established in the year 2015; now being handed over to the Govt. of Assam.
- **The Cauvery gallery** has also been established recently at Mysuru, Karnataka with the major support from Govt. of Karnataka.
- **The library of the Academy** is serving our nation for nearly 90 years. The new Library Complex was opened in 1986, dedicated to the memory of Sir Lala Padampat Singhanian. It includes more than 8,000 books and about 50 journals/magazines.

(6) Important scheme or courses that the Institute may run?

As described above, the Academy imparts hands on training to the budding scientists and entrepreneurs for improving their skill and know-how of the science & technology. Several such programmes are held regularly to serve the purpose. It is also giving scientific training to the tribal populace for improving their skill and socio-economic status.

(7) Importance of the Institute's work in today's perspective?

The NASI is a premier scientific body of not only of historical importance, but also well known for disseminating scientific knowledge in the society with its hundreds of programmes/publications/initiatives for the scientific intervention to solve the problems of the society.

(8) A list of 4-5 key persons from the Institute that we can interview – Director/ eminent Scientists/students. Someone who could tell us the history and past accomplishments of the Institute. Someone who can tell us the future vision of the work at the Institute (this could be the Director).

- Prof. G. Padmanaban, President, NASI
- Prof. Anil Kakodkar, Past President, NASI
- Prof. Manju Sharma, Past President, NASI
- Prof. K. Kasturirangan, Past President, NASI
- Prof. Akhilesh K Tyagi, Past President, NASI