



**THE
NATIONAL ACADEMY OF SCIENCES, INDIA
(NASI)**

(The Oldest Science Academy of India)



89TH ANNUAL SESSION OF NASI AND SYMPOSIUM
ON
**SCIENCE AND TECHNOLOGY BASED ENTREPRENEURSHIP
DEVELOPMENT**

ON
DECEMBER 21-23, 2019

AT
ICAR-NATIONAL ACADEMY OF AGRICULTURAL RESEARCH MANAGEMENT
(NAARM)

RAJENDRANAGAR, HYDERABAD
(UNDER THE JOINT AUSPICES OF NASI & NAARM)

NASI: A Brief Profile - The idea of establishing a forum for Indian scientists, which would help them in publishing their researches and bringing them on one platform to discuss and find scientific solutions to the problems of the country, was mooted by **Prof. Meghnad Saha**, a great scientist, visionary and the then Professor of Physics at the University of Allahabad. His views were published in an article titled 'A Plea for an Academy of Sciences' in December 1929 issue of the University of Allahabad magazine; in the very next year, The National Academy of Sciences, India was established as the first Science Academy of this country. Speaking in the inaugural session, 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.”

Therefore, NASI got the mandate of Science and Society by its Founder. Presently, the programmes are being steered by **Prof. G. Padmanaban**, President of the Academy, and former Director, Indian Institute of Science, Bangalore. The Past Presidents, namely **Prof M. S. Swaminathan**, **Prof. P. N. Tandon**, **Prof (Mrs.) Manju Sharma**, **Prof S. K. Joshi**, **Prof Ashok Misra**, **Prof Asis Datta**, **Prof. J. P. Mittal**, **Dr V. P. Kamboj**, **Dr. K. Kasturirangan**, **Prof. Akhilesh K. Tyagi** and **Prof. Anil Kakodkar** have been taking keen interest in the development of Science in general and the Academy, in particular. The Academy was also nurtured by **Late Prof M. G. K. Menon**, **Prof A. K. Sharma** and **Dr V. P. Sharma**- Past Presidents, NASI.

NASI envisions the cultivation and promotion of Science & Technology in all its branches. Such 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, 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. Since the year 2000, the annual sessions have been held at places such as Allahabad, Pune, Shillong, Ahmedabad, Jaipur, Pondicherry, Mumbai, Mysore, Chandigarh, Kolkata, Jaipur, Trivandrum, Varanasi, Goa, Jodhpur, Bhubaneswar, Dehradun, Pune and Chitrakoot. These annual sessions provide a platform for the scientists across the country to interact, present their papers and exchange expertise with each other.

The Academy holds a well-organized library known as 'Dr. Sir Padampat Singhanian Library' in which there are two sections, one for research students and teachers and the other for school students. In the year 2011 the library was connected to National Knowledge Network (NKN). The Academy is also maintaining 21 Chapters all across the country to organize scientific activities in and around their respective regions.

Symposium on 'Science and Technology based Entrepreneurship Development' -

Over the last few decades, science & technology based entrepreneurship has become an increasingly important global phenomenon. It is perceived as necessary for growth, differentiation, and competitive advantage at regional and national levels. Science & Technology Entrepreneurship appeals mainly to leaders and top management teams who use the state of art technologies to create, deliver, and capture value for the stakeholders. It also appeals to personnel of regional economic development agencies that attract investments in productive technologies and talent to a particular geography. The primary function of such entrepreneurship is to assemble a combination of specialized individuals and heterogeneous assets in order to create and capture value for the development of a nation through collaborative exploration and experimentation. It is a vehicle that facilitates prosperity in individuals, firms, regions, and nations.

India aspires to transform from a service-based economy to innovation led knowledge-based economy with the objective of becoming one of the top three economies in the world; therefore, the analysis of our own efforts and endeavours is must to identify the gap areas which are still unexplored. The Academy after organizing the brainstorming sessions/discussions on the role of science & technology for sustainable development in the recent past, realized that it is the need of hour to interrogate ourselves for truly assessing the steps taken by the scientists, technocrats and the policy makers for ensuring the evolution of such an ecosystem for the development of our beloved country, which is rich in mineral, natural and human resources.

With large base of its Fellows and Members spread all across the country; and their involvement in science-society programmes, NASI has started several societal projects on Entrepreneurship Development, Technological Empowerment of Women, *Chaupals* on Safe Water, Nutrition & Health, Farm mechanisation, etc. during last decade. The participatory approach has given immense information about the ground realities; as well as area and scope of scientific intervention to solve the problems with pragmatic approach. The symposium on 'Science and Technology based Entrepreneurship Development' is a step forward in this direction, which is specially being organized during the 125th Birth Anniversary of **Prof. Meghnad Saha** and also 150th Birth Anniversary of **Ba & Bapu**, to pay tributes to the two great sons of India, who were crusaders of several revolutionary ideas and changes which transformed India as a developing/developed nation.

The Convener of the symposium, **Dr Manju Sharma**, Past President, NASI, has developed a compact programme incorporating almost all the essential points for discussion; and eminent scientists/technocrats/entrepreneurs having experience of working for the science and technology based entrepreneurship development, have given their kind consent to make it a fruitful brain storming. **Prof. G. Padmanaban**, President, NASI has also taken keen interest to ensure the involvement of the expertise from all relevant areas directly concerned with the aim & objective of this symposium; and the **Director, NAARM (host institution), Hyderabad**, as well as the **Chairman, NASI-Hyderabad Chapter** are extending the necessary support to make the event successful.

THE NATIONAL ACADEMY OF SCIENCES, INDIA (NASI)

Prof. Satya Deo

Ph.D.(Arkansas, USA), FNASc.

Prof. Paramjit Khurana

Ph.D., FNASc., FASc., FNA., FNAAS., FTWAS.

General Secretaries

5, Lajpatrai Road,
Prayagraj – 211 002, India

17.08.2019

Dear Sir/Madam,

We are happy to inform you that the **89th Annual Session of the National Academy of Sciences, India** and Symposium on **'Science and Technology based Entrepreneurship Development'**, will be held during **December 21-23, 2019** at NAARM, Hyderabad.

On behalf of The National Academy of Sciences, India, we have great pleasure in inviting you to attend these events and participate in the deliberations.

Scientific Sessions

The Scientific Sessions will be held in two sections: Section of Physical Sciences- **Sectional President Dr. Pratibha Jolly, former Principal, Miranda House, University of Delhi, Delhi;** and Section of Biological Sciences- **Sectional President Prof. Subhra Chakraborty, National Institute of Plant Genome Research, New Delhi.**

The scientific papers are presented by selected researchers/scientists in scientific sessions, for which prior submission of the Abstract(s)/Paper(s) is necessary (for details please see the sub-heading "Abstracts", given overleaf).

The National Academy of Sciences, India- **Swarna Jayanti Puruskars**, each comprising Rs.5000/= and a citation, will be awarded to young scientists (below the age of 35 years as on 1.1.2020) presenting the best research paper(s) in the Sections of Physical and Biological Sciences. Another prestigious award, **'NASI-Springer Young Scientist Award'** has also been started from the year 2015, for the young bright researchers and is given as per the norms of NASI and Springer.

Symposium

A Symposium on **'Science and Technology based Entrepreneurship Development'**, will be held during the Annual Session. **Presentation of papers in the Symposium would only be through invitation.** The Convener of the Symposium is **Prof. (Mrs.) Manju Sharma, NASI Distinguished Woman Scientist Chair & former Secretary to the Govt. of India, DBT, New Delhi.**

All interested persons are invited to attend the Symposium and Scientific Sessions of Physical and Biological Sciences; however, the facilities will be available only to those who get themselves registered with the host institution and enroll themselves as Sessional Members. Fellows and Members of NASI are exempted from paying the registration fee as well as the sessional membership fee; for all others, the sessional membership fee is Rs.50/- (for scientists and stipendiary researchers) or Rs.30/- (for non-stipendiary researchers).

The sessional membership fee should be sent to the **Executive Secretary, The National Academy of Sciences, India** by a Bank Draft or Account Payee Local/Multicity Cheque drawn in favour of **'The National Academy of Sciences, India'**. (Payment in Cash/I.P.O/Money Order/Outstation Cheque will not be accepted).

Through the next Circular, the host institutions (NAARM, Hyderabad) would inform about the last date of registration and the amount of accommodation fees etc.

Privileges

Fellows and Members of the Academy and Sessional Members are entitled to attend the Session and other activities, submit papers for presentation in scientific sessions, receive copies of the Presidential Addresses, Abstracts of papers and other related material circulated during the Session. They will be entitled to rail travel at concessional rates as per rules. Those desiring to obtain Railway concession should write to the Executive Secretary, NASI, referring the nature of their membership.

Abstracts in the Scientific Sessions

The abstract(s) of paper(s) (**not exceeding 250 words**), along with one copy of the full-length paper for presentation in the scientific session should reach the Office of the Academy at 5, Lajpatrai Road, Prayagraj - 211 002, India, **latest by October 15, 2019**. An author can submit up to a maximum of three papers, including papers having more than one author.

The advance copy of the abstract may also be sent by email to - nasi.annuals89@gmail.com

Bonafide research scholars are required to get their abstract(s)/research paper(s) forwarded by the Supervisor and/or the Head of the Department/Institution. All abstracts/papers submitted for presentation will be screened. Authors whose papers are accepted will be informed about the mode of presentation (Oral or Poster) at the earliest. The decision of the Academy for the acceptance/rejection and also for the mode of presentation would be final.

The Academy would pay, on production of the xerox copy of railway tickets, III AC class rail fare, by shortest route (both ways) only, to the author who would present the paper provided his/her travel has not been subsidized by any other agency.

Publication of full length Papers

In case it is desired that a paper presented at the Annual Session be considered for publication in the journals of the Academy, viz. Proceedings of the National Academy of Sciences, India- Part A (Physical Sciences) or Part B (Biological Sciences)/National Academy Science Letters, it must be submitted on line as per the prescribed procedure of submission. **(For details please see the website of the Academy)**. These manuscripts will undergo the usual processing and refereeing as per rules of the Academy. **Papers sent for the Session will not be automatically considered for publication in the journals of NASI.**

Signing of the Fellows' Register

The Fellows who have not signed the Fellows' register so far, can sign the register in the Fellows' meeting, to be held during the 89th Annual Session.

We once again extend a very cordial invitation to you to participate in the **89th Annual Session of the National Academy of Sciences, India and Symposium on 'Science and Technology based Entrepreneurship Development'**, to be held during **December 21-23, 2019** at **NAARM, Hyderabad**

Yours truly

Sd/ Satya Deo
Sd/ Paramjit Khurana
General Secretaries, NASI, Prayagraj

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The host city:

The Pearl City, Hyderabad, located on the banks of the Musi River, is the capital of southern India's Telangana state. A major center for the technology industry, it's home to many upscale restaurants and shops. Its historic sites include Golconda Fort, a former diamond-trading center that was once the Qutb Shahi dynastic capital. The Charminar, a 16th-century mosque whose 4 arches support towering minarets, is an old city landmark near the long-standing Laad Bazaar. From historical monuments to natural getaways to mouth-watering world famous cuisine to appealing shopping places and thrilling entertainment parks, this city has it all to keep anyone glued.

This city is a place worth visiting at least once in a lifetime. In fact, it is impossible for anyone to soak in the multifarious charms which the city has to offer in a limited time span. It is also a hub of modern temples of state of art institutions of science & technology, as CCMB, CDFD, NGRI, ICT, NIN, NAARM and many more.



The host institution:

ICAR-National Academy of Agricultural Research Management (NAARM), Rajendranagar, Hyderabad, India, was established by the Indian Council of Agricultural Research in 1976, to address issues related to agricultural research and education management, in India. It is a vibrant Academy which manages/organizes several programmes to train the Agricultural Scientists for sustainable development of agricultural practices.

Local Organising Secretary for the 89th Annual Session of NASI at Hyderabad is -

Dr. Ch. Srinivasa Rao, FNAAS, FISSS, FTAS
Director, NAARM, Hyderabad, India; and
Phone: 091-40-24581322; Fax: 091-40-24581484;
Email: chsrao_director@naarm.org.in

The following officials are also rendering their helping hand as the members of the LOC-

1. **Dr S.K. Soam**, Joint Director, ICAR-NAARM; Landline: 040-24581348, Mobile: 9440945340
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