

Input for National celebration

of 75th year of India's Independence – Aazadi Ka Amrut Mahotsava

Proposed Programmes in a Nut-shell

The Academy (NASI) organizes various activities under the guidance of its President (**Prof. Ajoy K. Ghatak**) and the Past Presidents, namely, **Professor M.S. Swaminathan, Professor (Mrs.) Manju Sharma, Professor Ashok Misra, Professor Asis Datta, Dr V. P. Kamboj, Professor J.P. Mittal, Dr. K. Kasturirangan, Professor Akhilesh K. Tyagi, Prof. Anil Kakodkar** and **Prof. G. Padmanaban**, who take keen interest in the dissemination of science in general and the development of the Academy, in particular. The mandate of the Academy as coined by its Founder President, **Prof. Meghnad Saha**, is- '**Science & Society**'. Every year, the Academy undertakes hundreds of such programmes; accordingly, the major programmes to be organized to celebrate '*Amrut Mahotsav*' are as follows –

Further, we wish to mention that several other components/persons will be added/included in these programmes in future, as there is a vast network of Fellows & Members under the NASI's umbrella.

- a) List of Thought Leaders/eminant scientists who can be invited to deliver talks at the National Lecture Series

The Academy consists of the Fellows/Foreign Fellows & Members (presently about 3600 in total) from all across the world. All these scientists represent different fields of science & technology; and they use to deliver the scientific lectures based on high quality research. **Their names, affiliation, etc. are given in the Year Book of NASI; and also available on the website- <http://nasi.nic.in/fellows.asp>**

We are proposing a few names (several other Fellows may also be included later on) to be considered for the 'List of Thought Leaders/eminant scientists who can be invited to deliver talks at the National Lecture Series' –

1. Prof. Anil Kakodkar
2. Prof. K. Kasturirangan
3. Prof. G. Padmanaban
4. Prof. Manju Sharma
5. Prof. Akhilesh K. Tyagi
6. Prof. V. P. Kamboj
7. Prof. Balram Bhargava
8. Prof. Ajoy K. Ghatak
9. Prof. Paramjit Khurana
10. Prof. Satya Deo
11. Prof. P. K. Seth
12. Prof. U. C. Srivastava
13. Prof. H. N. Verma
14. Prof. Amit Ghosh
15. Prof. J. P. Mittal
16. Prof. Amit P. Sharma
17. Prof. Anirban Pathak

b) List of titles of talks and names of scientists of the institutes to schools/colleges, etc in English, Hindi and regional languages

In last about 30 years, the Academy has carved a niche in the field of Science Communication/Education, by continuously organizing awareness/education programmes for the school/college students, as per its mandate 'Science & Society'. The highlights of these activities held recently for the school/college students are –

- The main activities included **Children Science Meet, Summer & Winter Schools, Teachers' Training Workshops, Scientific Writing Contest, Vigyan, Jal & Health Chaupals, Seminars**, and celebration of the **National Technology Day**, the **National Science Day**, the **National Constitution Day**, the **National Mathematics Day** and the **World Environment Day** etc. The Academy also encouraged the teachers for out-of-the-class science activities by recognizing their talent and giving away **NASI-Science Teacher Awards** to them.
- **NASI's 21 Chapters** spread across India, organized hundreds of science communication activities in and around their respective regions throughout the year. **More than 50,000 students and teachers benefitted from these activities.**
- A series of **workshops on Scientific Paper Writing** are being organized by the Academy since 2012 to train the young researchers in the art and ethics of scientific writing. So far, 16 such workshops have been organized at BHU, Varanasi; SGPGI, Lucknow; NASI HQs, Allahabad; Udaipur; Mumbai;

Dehradun; Pune, Amrawati, Nainital, Rishikesh, and Haryana, out of which 2 events were organized during the year 2019-20 at Lucknow and Mahendragarh.

The details are available in the Annual Reports of the NASI on its website-

www.nasi.nic.in

There is a large group of Fellows & Members who love to communicate science; here, we are mentioning the names of a few scientists who would deliver talks in the schools/colleges (many more would be added later on) -

1. Prof. Satya Deo on Application of Mathematics/Ramanujan
2. Prof. U. C. Srivastava on Nutrition/Antioxidants
3. Prof. P. K. Seth on Water Purity & Conservation
4. Prof. Krishna Misra on Application of Biotechnology
5. Prof. Suchitra Banerjee on Women's contributions in science
6. Prof. Purnima Sharma on Entrepreneurship development
7. Prof. R. N. Gohil on different topics of Plant science & ecology
8. Prof. Rajeev Srivastava on 3-D Printing/Mathematical modeling
9. Prof. Ravindra Dhar on Smart Material/Electronics
10. Prof. D. K. Chauhan on Biodiversity
11. Dr Md. Masood on Water, food and air pollution
12. Dr. Bhupesh Tripathi on Popular Maths
13. Dr Kartikeya Sharma on Neuro-disorders
14. Dr Ashish Tandon on Respiratory diseases/Sleep Apnea
15. Dr Manvendra Tripathi on Communicable diseases/Malaria
16. Dr Niraj Kumar on Human Evolution/Biogeogens

c) A list of proposed International Conferences on different areas –

NASI organizes several conferences every year on the current topics of socio-scientific concern. As it has a large base of Fellowship/Membership, therefore, the following topics may be considered for the above-

1. **Resilience in Health Services**- Resilient healthcare research focuses on everyday clinical work and a system's abilities to adopt or absorb disturbing conditions as opposed to risk management approaches, which are based on retrospective analyses of errors. **Resilience** fits the complexities of **healthcare** more effectively than principles of high reliability. In essence, **resilience** represents a shift from seeing humans as a pathological feature of a **healthcare** system to one where they contribute actively to "safe" work and greater patient safety.

NASI has just organized a National Symposium on '**Towards a New Healthcare regime for the Nation**'; another very important discussion meeting was held at Jaipur in 2019 to evolve the strategies for Health Research, Prevention and Control of major diseases. Also a group discussion/seminar was held at INSA in collaboration with the DBT, BCIL and other stake holder on developing a roadmap to combat several diseases; therefore, already a base for further discussion is ready.

2. Entrepreneurship development for Bio-economy - The bio-economy is the knowledge-based production and use of biological resources to provide products, processes and services in all economic sectors within the frame of a sustainable economic system. In elaborate sense, it refers to economic activity involving the use of biotechnology and biomass in the production of goods, services, or energy. It is well known that India is rich in its bio-resources; therefore, it is high time to discuss and devise a 'Road Map' for utilizing our resources sustainably for entrepreneurship development, then only, India would become '**Atmanirbhar**'. NASI has already organized several programmes, discussion and symposia on related issues in the recent past; therefore, the Academy is well equipped with the information/data base to correlate and collate many facets of the said issue for developing a pragmatic approach towards 'Entrepreneurship development for Bioeconomy'.

d) A list of proposed public awareness / science popularization programmes/ initiatives

As given in point b) above, the main activities include **Children Science Meet, Summer & Winter Schools, Teachers' Training Workshops, Scientific Writing Contest, Seminars**; and recognizing talent of the teachers, and giving away **NASI-Science Teacher Awards** to them.

In addition to that the **Vigyan Chaupals** will be organized extensively in the villages and remote areas all across the country with the help of NASI's 22 Chapters spread around different regions of India.

The '**Sensitization Programmes for Women**', which has been organized at 32 places in 17 states of India, will also be organized in other states involving thousands of women scientists to enthuse/encourage women to practice science for the upliftment of their socio-economic status. It is worth mentioning that a '**Mega Event**' was also organized by the Academy in 2018 on International Women's Day, which was graced by the Hon'ble Minister for Sc. & Tech., GoI; Prof. Ashutosh Sharma, Secretary, DST; Prof. M S Swaminathan, Prof. Anil Kakodkar and about 1000 women scientists. The programme is going on with full vigour.

Similarly the **awareness programmes for the tribal welfare through scientific intervention** will also be undertaken by several Chapters/Centres of NASI.

NASI is regularly organizing WEBINARS on '**Poshan** (Nutrition)', '**COVID Appropriate behavior** and **Entrepreneurship development for Atmanirbhar Bharat**' (in consonance with the recent national programmes announced by the **Hon'ble Prime Minister of India**). It is expected that more than

one lac students and teachers would be benefitted from these activities/webinars. A brief report on the activities organised so far/recently, has been submitted to the **Hon'ble Minister for Science & Technology, GoI. Awareness for Water conservation will also be given prime importance.**

e) List of popular science articles to be published in magazines/newspapers

The National Academy Science Letters published by the NASI is a journal of repute (indexed by Thomson Reuters), in which about two popular science articles are published every month; also the Fellows of the Academy regularly write such articles (some of them have already been communicated to the DST with the NASI's monthly reports; please visit - <http://nasi.nic.in/NASI-Report%20on%20Jan.%202021%20Activities-merged.pdf>; and others on nasi.nic.in). All these articles will be dedicated to 'Amrut Mahotsav'; and their copies will be sent to the DST, New Delhi.

NASI will also identify the **Popular Science Writers** to request them to contribute their articles in the National Dailies, like 'Hindu', 'Times of India' and 'Dainik Jagaran', etc.

f) List of proposed exhibitions on research outcome in the subject areas

NASI has already established magnificent Exhibitions/Galleries on three holy rivers of our beloved nation- Ganga, Brahmaputra and Cauvery, at Prayagraj, Guwahati and Mysuru, respectively. These river-galleries are not only the treasure of the tales on the evolution of the river biomes, but also multidimensional multimedia interactive electronic panels depicting the Socio-scientific, religious, cultural and ecological aspects of these river biomes. All these galleries are very popular and visited regularly by the students and general mass. 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 then Hon'ble Minister for Science & Technology, GoI, also visited the Ganga-gallery, and gave encouraging remarks. NASI was also invited by the Ministry of External Affairs, GoI to establish a Prototype of the Ganga-gallery in the Mela area of 'Pravasi Bharatiya Divas Samaroh', organized in 2019 at Varanasi. Hon'ble Prime Minister of India also visited the area.

Therefore, with such a vast experience & expertise, the Academy proposes to –

1. Establish the **4th River-gallery on Narmada** at Gujarat; and also
 2. To establish Replicas of the Ganga-gallery in other 4 states of the Ganga-basin.
 3. A small prototype of the Ganga-gallery may also be established at Varanasi.
 4. Also there is a possibility of establishing a proto-type of the Ganga-gallery at '**Kumbh Mela**', with a short video film on the gallery.
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g) List of proposed slogan writing/ essay/painting/debates/quiz competitions

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These are organized by the Academy as its routine activities from time to time. **The Academy's Chapter will also organize such activities.**

h) Inputs on E-Book on 75 years of journey of S&T in India and documentary on 75 Years of Science in India.

NASI has already published the History of Science in India (9 volumes) in 2014. Its copies were sent to the DST, GoI for kind information/reference. **The scanned copies of these books will be uploaded on NASI's website for further dissemination.**

A nice documentary on NASI's 90 years of successful achievements has already been prepared; **and shown on the public forum (by India Science).**

i) Various important days will be celebrated during 2021 - 2023. - DST's Foundation day (3rd May), Technology day, National Science Day, India Innovation Festival, India international Science Festival, International Women's Day, etc

All these are/being celebrated by NASI, as per programmes decided by the NASI Council from time to time. **These programmes are organized on their respective 'THEMES', as announced every year.** Several other important days as **World Water Days, World Ozone Day, World Environment Day**, etc. are also celebrated by the Academy, every year.