



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

*(The Oldest Science Academy of India)*



**88<sup>TH</sup> ANNUAL SESSION OF NASI AND SYMPOSIUM**

**ON**

**‘SCIENCE, TECHNOLOGY AND ECOSYSTEM FOR SUSTAINABLE  
RURAL DEVELOPMENT’,**

**(6-8 DECEMBER, 2018)**

**AT**

**M. G. CHITRAKOOT GRAMODAYA VISHWAVIDYALAYA,  
CHITRAKOOT, SATNA, M. P**

*(in collaboration with M.G.C.G.V. & D.R.I., Chitrakoot, Satna, M.P., India)*

**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. Anil Kakodkar, President of the Academy, and former Chairman, Atomic Energy Commission. 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 and Prof. Akhilesh K. Tyagi 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.; and (10) establishing river galleries.

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 and Pune. 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 18 Chapters all across the country to organize scientific activities in and around their respective regions.

### ***Symposium on 'Science, Technology and Ecosystem for Sustainable Rural Development' -***

The need for sustainable rural development with S&T interventions has long been recognized by the scientists as well as administrators. The research community needs to complement its historic role in identifying problems of sustainability with a greater willingness to join with the development and other communities to work on practical solutions to those problems. This means bringing our S&T to bear on the highest-priority goals of a sustainability transition, with those goals defined not by scientists alone but rather through a dialogue between scientists and the people engaged in the practice of meeting human needs while conserving the earth's life support systems and reducing hunger and poverty.

For the people in rural areas, particularly the marginalized communities, healthy ecosystems support sustainable agriculture-based livelihoods and essential services such as drinking water, sanitation and health care. Investing in natural resources also strengthens adaptation and resilience of communities towards climate change and natural disasters. The rationale for sustainable rural development emerges from the Twelfth Five Year Plan (2012-17) strategy of faster, sustainable and inclusive growth for poverty alleviation.

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 Safe Drinking Water & Sanitation, Entrepreneurship Development, Technological Sensitization of Women, Chaupals on Nutrition & Health for Rural India, 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 problem in a pragmatic way. The symposium on 'Science, Technology and Ecosystem for Sustainable Rural Development' is a step forward in this direction, which is specially being organized in the rural area itself to directly interact with the rural people, as well as the scientists working in the area to discuss, deliberate and devise the scientific strategies in more meaningful manner, so that the heart of our nation (*Gramin Bharat*) could become '*Swacch, Swasth and Samarth*'.

The academy this year is celebrating 125<sup>th</sup> Anniversary of Prof. Meghnad Saha and also 150<sup>th</sup> Anniversary of Ba & Bapu with the full involvement of its Fellows and Members and the rest of the scientific community. All the Local Chapters of NASI are involved.

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 having experience of working for the rural development have given their kind consent to make it a fruitful brain storming. **Prof. Anil Kakodkar**, President, NASI has also taken keen interest to ensure the involvement of the expertise from all relevant areas directly concerned with the rural development; and the **Vice-Chancellor, M. G. Gramodaya Vishwavidyalaya**, and **Director, D. R. I., Chitrakoot (host institutions)** 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,  
Allahabad – 211 002, India

05.08.2018

Dear Sir/Madam,

We are happy to inform you that the **88th Annual Session of the National Academy of Sciences, India and Symposium on ‘Science, Technology and Ecosystem for Sustainable Rural Development’**, will be held during **December 6-8, 2018** at **M. G. Gramodaya Vishwavidyalaya, Chitrakoot, Satna, M. P.**

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. Pradeep Kumar Gupta, Visiting Professor, IIT Delhi, New Delhi**; and Section of Biological Sciences- **Sectional President Prof. Madhoolika Agrawal, Department of Botany, B.H.U., Varanasi.**

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 1.1.2019) 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, Technology and Ecosystem for Sustainable Rural 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 (M. G. Gramodaya Vishwavidyalaya, and D. R. I., Chitrakoot) 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

The abstract(s) of paper(s) (**not exceeding 200 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, Allahabad - 211 002, India, **latest by October 15, 2018**. **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.annuals88@gmail.com](mailto:nasi.annuals88@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 88th Annual Session.

**We once again extend a very cordial invitation to you to participate in the 88th Annual Session of the National Academy of Sciences, India and Symposium on 'Science, Technology and Ecosystem for Sustainable Rural Development', to be held during December 6-8, 2018 at M. G. Gramodaya Vishwavidyalaya, Chitrakoot, Satna, M. P.**

Yours truly

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

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## The host city & institutions:

**Chitrakoot**, nestled in Bundelkhand region of India, is a charismatic land of cultural, spiritual and historical significance to the folks traveling from every nook and corner of the world. It is a town where the past is pleasingly treasured in its colorful divine centers, while the serene rivers, peaceful woods and miraculous sights together make it a highly visited place in Madhya Pradesh, India. An illustrious place of superb fairy-tale significance, Chitrakoot imitates the quintessence of Hindu lifestyle. Fiestas and fairs in this holy town have a spiritual façade and it is geared up to eulogize the charm of Lord Rama with its different fairs.

**Mahatma Gandhi Chitrakoot Gramodaya Vishwavidhyalaya** was established by the Government of Madhya Pradesh through legislature by an Act (9, 1991) on February 12, 1991. The University is located on the bank of Holy River Mandakni near Sphatikshila at Chitrakoot. The University mandate is to develop human resource for the economic and social development of rural people, and to develop and disseminate rural technology.

**Deendayal Research Institute (DRI)**, setup on March 8, 1968 under the inspirational guidance of Padam Vibhushan Shri Nanaji Deshmukh is currently working on the models for development such as providing services for health, hygiene, basic education, training for self employment etc. to achieve overall socio-economic development and reconstruction of Indian Society.

**Contact Persons** for the 88th Annual Session of NASI at Chitrakoot, Satna, M.P. - Prof. I. P. Tripathi, Dean, M G Gramodaya Vishwavidyalaya, and Dr Manoj Tripathi, Scientist, DRI, Chitrakoot (Coordinators- 88<sup>th</sup> Annual Session of NASI); and Prof. Shivesh Pratap Singh, Secretary, NASI-BER Chapter.



Photographs of Chitrakoot Dham



Photographs of M G Gramodaya Vishwavidyalaya & D. R. I., Chitrakoot