



The National Academy of Sciences, India

5, Lajpatrai Road, Prayagraj-211002, India

Monthly Summary for the month of December 2021

1. The 91st Annual Session of the NASI and Symposium on Interface between Biological and Physical Sciences towards Atmanirbhar Bharat', was started with the Foundation Day of the Academy on 4th Dec. 2021. The 3 days programme (enclosed herewith-**Annex. 1**) was packed with several illustrative, informative and conceptual lectures delivered by the world famous scientists. It was attended by a large number of Fellows/Members and other scientists and the students. The 'Concept Report' is being prepared which will serve the purpose of a 'Guide-Map' for the development of Bio-physical approach in science generating synergy of coherent disciplines of science for ensuring good growth of interdisciplinary science in general and the country, in particular.
2. World Soil Day is held annually on **5 December** as a means to focus attention on the importance of healthy soil and to advocate for the sustainable management of soil resources. It was celebrated this year on a theme "Halt soil salinization, boost soil productivity". The NASI Kerala Chapter organized a Webinar on "Soil Nutrient Dynamics of Kasaragod -Mitigation Strategies" on December 4, 2021. Dr. Binitha N.K., Scientist of Kerala Agricultural University, with vast experience in soils of Kasaragod district, Kerala, their problems and management, delivered the talk.
3. A meeting was held at NASI to sensitise and generate awareness among the employees about their Rights and duties, regardless of their sexual orientation (Please see **Annex-2**, for the details)
4. An interesting & interactive lecture session was organized by the NASI-Lucknow Chapter and the Regional Science City, Lucknow on Dec. 17, 2021. Dr. Manvendra Tripathi, Senior Entomologist, O/O Addl. Director, Medical Health and Family Welfare, Lucknow Division, Urban Community Centre, Aliganj, Lucknow, delivered the illustrative lecture on 'Denuer Fever Control & Prevention. The lecture was attended by about 200 students and other participants.
5. The National Academy of Sciences, India Jharkhand Chapter in association with The Aryabhata Science Club, Ranka organised Quiz Competition and Lecture Series on Covid Protection & Vaccination in mid-December 2021 (**Annex. 3**).
6. Azadi ka Amrut Mahotsav and the National Mathematics Day was celebrated at NASI on 22nd Dec. 2021 in a hybrid mode. Several eminent mathematicians delivered interesting and illustrative lectures on Mathematics and also introduced different Maths Societies (please see a copy of the detailed programme – **Annex. 4**). Inaugural Address was delivered by Prof. Ajoy Ghatak, President, NASI, while the Key-note Address was on Maths Society, by Prof. Satya Deo, GS, NASI.
7. Delhi Chapter of The National Academy of Sciences, India (NASI) is organising a Webinar on Invention of Transistor from Dec. 23-30, 2021. Internationally known scientists are delivering lectures on different scientific aspects of the transistor.

Several other NASI Chapters also organized online scientific activities.



The National Academy of Sciences, India (NASI)
cordially invites you to join the

91st Annual Session & Symposium (online)

on

**'Interface between Biological and Physical Sciences towards
Atmanirbhar Bharat'**

(Celebrating 75 years of India's independence-'Azadi ka Amrit Mahotsav')

December 4 - 6, 2021



Hosted by

**The National Academy of Sciences, India (NASI) HQ
5, Lajpatrai Road, Prayagraj-211002, India**



The National Academy of Sciences, India (NASI)

91st Annual Session & Symposium

on

'Interface between Biological and Physical Sciences towards Atmanirbhar Bharat'

(Celebrating 75 years of India's independence-Azadi ka Amrit Mahotsav)

Dates: December 4 - 6, 2021

Programme

Symposium Programme- Dec 4 & 5, 2021

Day 1: December 4, 2021

WebEx Link: <https://nasi.webex.com/nasi/j.php?MTID=m90a6532fa07695658bcc9b2507157edb>

YouTube Live Link: <https://www.youtube.com/c/nasiprayagraj/live>

Inaugural Session (10:30 am - 12:00 noon)

Welcome	Prof. Satya Deo General Secretary (HQ), NASI; Formerly Vice-Chancellor, APS University, Rewa, MP Email: sdeo94@gmail.com
Genesis of Symposium	Prof. Manju Sharma NASI-DST Distinguished Woman Scientist Chair; Former Secretary, Department of Biotechnology, Govt. of India Email : manjuvps@gmail.com & Prof. Ashok Misra NASI Distinguished Professor, Indian Institute of Science, Bangalore Email : ashokmisra47@gmail.com (Former Presidents, NASI)
Theme Address-1	Prof. R Chidambaram Former Chairman, Atomic Energy Com., Govt. of India; DAE Homi Bhaba Chair Professor, BARC, Mumbai Email : rajachid@gov.in , rajachid@nic.in
Title	Interdisciplinary Research: Physical Sciences & Biological Sciences
Theme Address-2	Prof. G Padmanaban NASI Hon Scientist; Former Director, Indian Institute of Science, Bangalore; Former President, NASI Email: geepee@alumni.iisc.ac.in
Title	Covid-19: Meeting ground for all sciences

Presidential Address	Prof. Ajoy Ghatak President, NASI Email: ajoyghatak5@gmail.com , ajoykghatak@gmail.com
Inaugural Address	Dr. Kiran Majumdar Shaw Executive Chairperson and Founder, Biocon Limited, Bangalore Email: kiran.mazumdar@biocon.com
Vote of thanks	Prof. Paramjit Khurana General Secretary (OS), NASI; Department of Plant Molecular Biology, University of Delhi, South Campus Email: param@genomeindia.org

Tea Break: 12:00 - 12:30 pm

Session 1: Agriculture and Allied Areas (12:30 - 2:30 pm)

Chairman	Prof. Manju Sharma NASI-DST Distinguished Woman Scientist Chair; Former Secretary, Department of Biotechnology, Govt. of India Email: manjuvps@gmail.com
Co-Chair	Prof. Paramjit Khurana General Secretary (OS), NASI; Department of Plant Molecular Biology, South Campus, DU, New Delhi Email: param@genomeindia.org
Speaker -1	Dr. T Mohapatra DG, ICAR; Secretary, DARE , Govt. of India, New Delhi Email: dg.icar@nic.in
Title	Mainstreaming Smart Agriculture for Atmanirbhar Bharat
Speaker-2	Prof. Akhilesh Tyagi Department of Plant Molecular Biology, University of Delhi, South Campus; Former President, NASI Email: akhilesh@genomeindia.org
Title	Diversifying plant genomes
Speaker-3	Dr. Subeer Majumdar Distinguished professor; Former Director, National Institute of Animal Biotechnology, Hyderabad Email: subeer@niab.org.in
Title	Animal-human interface : Biotechnological interventions for Conserving each other
Speaker-4	Dr. C R Mehta Director, Central Institute of Agricultural Engineering, Bhopal Email: crmehta65@yahoo.co.in ; cr.mehta@icar.gov.in
Title	Trend in Farm Mechanization for Atmanirbhar Bharat

Lunch Break: 2:30 - 3:00 pm

Session 2: Medical Biotechnology and Healthcare (3:00- 5:00 pm)

Chairman	Prof. G Padmanaban NASI Hon Scientist; Former Director, Indian Institute of Science, Bangalore; Former President, NASI Email: geepee@alumni.iisc.ac.in
Co-Chair	Dr. Sanjeev Sinha Professor, Department of Medicine, AIIMS, New Delhi Email: drsanjeevsinha@gmail.com
Speaker -1	Prof. P Balaram Former Director, IISc Bangalore; Chair Professor, National Centre of Biological Sciences, Bangalore Email: pb@iisc.ac.in
Title	Protein Sequence Variation by Random Mutation and Natural Selection. The Case of the SARS CoV-2 Spike Protein
Speaker-2	Dr. Rakesh K Mishra Director, Tata Institute for Genetics and Society, Bengaluru; Former Director, Centre for Cellular & Molecular Biology, Hyderabad Email: mishra@ccmb.res.in
Title	Pandemic triggered realization of need and capability of self-reliance in healthcare: from the experiences @CSIR-CCMB
Speaker-3	Prof. N R Jagannathan Professor of Eminence of Radiology, Chettinad Academy of Research & Education, Kelambakkam Email: nrjgj@yahoo.co.in
Title	Study of Breast Cancer Metabolism by MRI and MR Spectroscopy
Speaker-4	Prof. R K Dhiman Director, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow Email: rkpsdhiran@hotmail.com
Title	Remote Patient Monitoring and Telementoring using Telehealth Technology in improving patient outcomes

Tea Break: 5:00 - 5:30 pm

Session 3: Entrepreneurship/Atmanirbhar Bharat (5:30 - 6:30 pm)

Chairman	Dr. Renu Swarup Former Secretary, Department of Biotechnology, Govt. of India Email: swarup@dbt.nic.in , swarup.dbt@nic.in
Co-Chair	Dr. V P Kamboj NASI Senior Scientist; Formerly Director, CDRI; Chairman, Board of Directors, BCIL, Delhi; Former President, NASI Email: kambojvpk1511@gmail.com , kambojvp@yahoo.com
Speaker -1	Dr. K Satish Reddy Chairman, Dr. Reddy's Laboratories Ltd., Hyderabad Email: satish@drreddys.com
Title	Indian pharmaceutical industry - Journey to Self Reliance

Speaker-2	Dr. Ritu Trivedi Principal Scientist, CSIR-Central Drug Research Institute, Lucknow Email: ritu_trivedi@cdri.res.in
Title	Herbal remedies to modern Phytopharmaceuticals: New segment in the opening of entrepreneurship
Speaker-3	Dr. Rajiv I Modi Chairman & MD, Cadila Pharmaceuticals Ltd., Ahmedabad Email: rimodi@cadilapharma.co.in , raji.modi@cii.in
Title	

NASI Foundation Day Lecture

6:30- 7:00 pm

Chairman	Prof. Vinod K Paul Member, NITI Ayog, Govt. of India Email: vinodk.paul@gov.in
Speaker	Prof. Balram Bhargava DG, ICMR; Secretary, DHR, Govt. of India Email: secy-dg@icmr.gov.in ; balrambhargava@gmail.com
Vote of thanks	Prof. U C Srivastava Formerly Professor, University of Allahabad; Treasurer, NASI Email: ucsrivastava@rediffmail.com

Day 2: December 5, 2021 (Physical Sciences)

WebEx Link: <https://nasi.webex.com/nasi/j.php?MTID=m38b94b789954c1ac3e392f200b3196fd>

YouTube Live Link: <https://www.youtube.com/c/nasiprayagraj/live>

Session-4: Engineering (10:00 - 11:30 am)

Chairman	Prof. Ashok Misra NASI Distinguished Professor, Indian Institute of Science, Bangalore; Former President, NASI Email: ashokmisra47@gmail.com
Co-Chair	Prof. Indranil Manna President of Indian National Academy of Engineering; Vice Chancellor, Birla Institute of Technology, Mesra Email: imanna@metal.iitkgp.ac.in
Speaker -1	Prof. R K Shevgaonkar Electrical Engineering Department, Indian Institute of Technology Bombay Email: rks@ee.iitb.ac.in
Title	Information and Communication Technology for Atmanirbhar Bharat

Speaker-2	Prof. Navakanta Bhat Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore Email: navakant@iisc.ac.in
Title	Lab on Palm - The Future of Diagnostics in Healthcare
Speaker-3	Prof. Anup Kumar Ghosh Department of Materials Science & Engineering (Formerly, Centre for Polymer Science & Engineering) Indian Institute of Technology Delhi, India Email: anupkghosh@gmail.com
Title	Translational Research with Polymers for High-end Applications Development

Tea Break: 11:30 -11:45 am

Session-5: Physics (11:45am-1:15 pm)

Chairman	Prof. K Kasturirangan Chancellor, Central University of Rajasthan; Former Chairman, Indian Space Research Organization Email: k.rangan@nic.in , k.rangan@gov.in
Co-Chair	Prof. Anurag Sharma Department of Physics, Indian Institute of Technology, Delhi Email: asharma@physics.iitd.ac.in , asharma@iitd.ac.in
Speaker -1	Prof. K S Narayan Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangalore Email: narayan@jncasr.ac.in
Title	Features of Light Controlled Signalling initiated by Organic Semiconductors interfaced to Blind Retina
Speaker-2	Prof. Gautam I Menon Departments of Physics & Biology, Ashoka University, Sonipat Email: gautam.menon@ashoka.edu.in
Title	The Physics of Bacterial Colonies
Speaker-3	Dr. S Seetha Former Director, Space Science Programme Office, Indian Space Research Organization, Bengaluru; Emeritus Scientist, Raman Research Institute, Bengaluru Email: venseetha@gmail.com
Title	Advancement of Space Astronomy in India

Lunch Break: (1:15-2:00 pm)

Session-6: Chemistry (2:00-3:00 pm)

Chairman	Prof. J P Mittal DAE Raja Rammana Fellow, BARC; Former President, NASI Email: mittaljp2003@yahoo.co.in
Co-Chair	Prof. A K Singh Former Professor, Department of Chemistry, Indian Institute of Technology, Bombay Email: retinal@chem.iitb.ac.in
Speaker -1	Dr. Virendra Kr Gupta Head, R&D Polymer; Senior Vice President, Reliance Industries Ltd., Mumbai Email: Virendrakumar.Gupta@ril.com Reliance RELCAT™ Catalyst Technology for Polyolefin REPOL™ and RELENE™ Materials: Idea to Market
Speaker-2	Prof. Anil Kumar Indian Institute of Technology, Bombay Email: anilkumar@iitb.ac.in Continuous Flow Processes: A step towards Atmanirbhar Bharat in Chemicals Manufacturing

Tea Break: 3:00-3.15 pm

Concluding Session (3:15-4:15 pm)

Chairman	Dr. Anil Kakodkar Former Secretary, Department of Atomic Energy, Govt. of India; Former President, NASI Email: kakodkaranil@gmail.com
Concluding Remarks (Biological Sc.)	Prof. Manju Sharma NASI-DST Distinguished Woman Scientist Chair; Former Secretary, Department of Biotechnology, Govt. of India; Former President, NASI Email: manjuvps@gmail.com
Concluding Remarks (Physical Sc.)	Prof. Ashok Misra NASI Distinguished Professor, Indian Institute of Science, Bangalore; Former President, NASI Email: ashokmisra47@gmail.com
Closing Remarks	Prof. Ajoy Ghatak President, NASI Email: ajoykghatak@gmail.com , ajoyghatak5@gmail.com

Tea Break: 4:15-4:30 pm

***Fellows' Meeting: 5.30 - 6.30 pm**

***Annual General Body Meeting: 6.30 - 7.30 pm**

The information/notice (with *Agenda and the *meeting links) has been sent separately to all concerned, by NASI HQ

N.B.: The 3rd Day (Dec 6, 2021) Programme is specific for the Presenters/ Invited Speakers; who have been informed through separate mails.

THE NATIONAL ACADEMY OF SCIENCES, INDIA

(5 Lajpatrai Road, Prayagraj- 211002)

Report on Activities held at NASI on December 9, 2021 on the 8th Anniversary of notification of Sexual Harassment (SH) Act, 2013

As per direction of DST, New Delhi regarding D.O. letter (D.No.13016/2/2017-WW-Part(1) dated 25.11.2021) from the Secretary, Ministry of Women & Child Development, Govt. of India, the National Academy of Sciences, India organized a one day programme on December 9, 2021 on the 8th anniversary of notification of Sexual Harassment (SH) of Women at Workplace Act, 2013.

Accordingly, a meeting was held at NASI to sensitise and generate awareness among the employees about their Rights and duties, regardless of their sexual orientation (Please see Annex-1 for list of attendees).



Meeting at NASI on SH ACT 2013 on December9, 2021

Prof. U.C. Srivastava, Member of Gender Sensitization Committee of NASI, delivered a lecture on SH ACT, 2013; and discussed different ways to generate awareness about the Act and equip employees with knowledge on the subject to prevent sexual harassment and competencies to implement the Act in effective manner. Shri A.K. Srivastava, Dy.Executive Secretary, Shri B.P. Singh & Dr. SantoshShukla, AES(s) of NASI also expressed their views to create working environment safe for the women to work without any apprehension and subsequently make it possible for them to move towards

their own economic empowerment as well as make important contributions to the development of the Country. Dr. Pavira Tandon, Member of Gender Sensitization Committee, & AES, NASI proposed the vote of thanks.



Prof. U.C. Srivastava while delivering the Lecture

An Essay Completion was also organised on this occasion on the topic “Harassment of Women at Workplace” among the employees of NASI.

Outcomes of the Activities:

1. Every citizen of India must be aware about this Act.
2. Women must be respected as was practised in our ancient Indian culture.
3. Compliance of the provisions of the Act must be ensured.
4. Safe and secure environment must be provided to the Women in the Society and at work place.
5. Women should be given due freedom to participate in economic activities by providing them safe environment in terms of equality, dignity and business/profession.

Annex-1

The National Academy of Sciences, India
5, Lajpatrai Road, Prayagraj-211002

A meeting on the 8th Anniversary of notification
of Sexual Harassment of Women at workplace
Act, 2013 was held on December 9, 2021.

The following were present —

Shrivastava

अनिल

नीरजा शर्मा

मा. श. सिंह

रुद्रिका

विवेक

जोषी

शशि

अशुतोष

हर्षिता

वृद्धि निगम

कल्पित

दीप

गौराशुक्ला

शक्ति मिश्रा

भोलानाथ कुशवाहा

अनिल शर्मा

राजेश शर्मा

सुनील कुमार

सुरज कुमार

मुन्ना लाल

अकिशेक

सुदीप



2ND NATIONAL QUIZ COMPETITION 2021

Organized by

Aryabhata Science Club, Rank

(A gold category awarded & Affiliated club by Vigyan Prasar, Department of Science & Technology, Govt. of India)

The National Academy of Sciences India, Jharkhand Chapter

APJ Abdul Kalam National Council of Young Scientist, Jharkhand Chapter

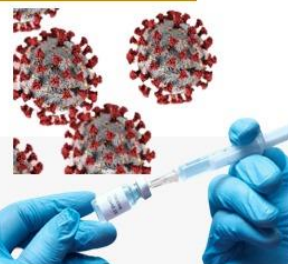
Theme of Quiz: Covid Protection by Vaccination

- **Registration start date:** 12 Dec 2021 (Universal Health Recovery Day)
- **Quiz Registration Last Date:** 22 Dec 2021 (National Mathematics Day)
- **Quiz Date:** 22 Dec 2021 (National Mathematics Day)

Prize: Participation certification to everyone

- Rank 1-5: Gold Medal and merit certificate
- Rank 6 to 15: Silver Medal and merit certificate
- Rank 16 to 25: Bronze Medal and merit certificate

Free
Participation



How to participate: Online Quiz (For More detail go to <https://www.aryabhatscienceinfo.com>)

Note: Two special Lecture will be organized under this initiative of Covid vaccination awareness by National Quiz Competition

Contact Information: Alok Kumar Chaudhary, Coordinator Aryabhata Science Club, Rank (Email Id: ascranka@gmail.com)



राष्ट्रीय विज्ञान अकादमी, भारत

The National Academy of Sciences, India

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Annex. 4



'Azadi Ka Amrut Mahotsav'

&

National Mathematics Day Celebration

(offline & online mode)

Theme: Mathematical Societies in India & Mathematics for School children

on

Date: December 22nd, 2021

Time: 11.00 am to 3.00 pm

Web link: <https://nasi.webex.com/nasi/j.php?MTID=md81f939f4f61f865f504bd55f1fbffda>

YouTube live: <https://www.youtube.com/c/nasi.prayagraj/live>

-- Programme --

- ❖ **Welcome** : Dr. Niraj Kumar, Executive Secretary, NASI
- ❖ **Inaugural Address:** Prof. Ajoy Ghatak, President, NASI
Title: Ten beautiful experiments in Physics
- ❖ **Key-note Address:** Prof. Satya Deo, General Secretary (HQ) & Chief Editor, NASL
Title: 'Indian Math Society'
- ❖ **Lectures:**
(to be coordinated by Dr. Santosh Shukla, AES, NASI)
 - **Speaker 1** : Prof. S. S. Khare, Former Pro-Vice Chancellor, NEHU, Shilong
Title: "Calcutta Math Society"
 - **Speaker 2** : Prof. Ramji Lal, Former Professor, IIT Allahabad
Title: "Ramanujan Math Society"
 - **Speaker 3** : Prof. B. Tripathi, Head Dept. of Mathematics, CMPPG, College, Prayagraj
Title: "Applications of Mathematics"
- ❖ **Felicitation:** (by the NASI-Executives)
- ❖ **Vote of thanks:** Prof. U. C. Srivastava, Treasurer, NASI

(Lunch pack will be served in between the programme)

Note: The programme will be organized following all safety measures to combat the COVID pandemic.