

Brief Activity Report of NASI for the month of December 2023

1. 93rd Annual Session of the Academy

NASI organized its 93rd Annual Session jointly with the Bhabha Atomic Research Centre (BARC), Mumbai and a symposium on “**India Secure @75**” during December 3-5, 2023 with an endeavor to celebrate and support ‘*Atma Nirbhar Bharat*’.

The programme was inaugurated by the Chief Guest Dr. R. Chidambaram, Chairman, School for Advanced Studies in Nuclear Science & Technology, BARC; Former PSA to Govt. of India & Former Chairman, AEC. The other dignitaries present on the occasion include Sri Somanath, Chairman ISRO; Shri Vivek Bhasin, Director, BARC, Mumbai; Dr. Ajit Kumar Mohanty, Secretary, Department of Atomic Energy & Chairman, AEC, Govt. of India. The programme was presided over by Prof. Balram Bhargava, Hon’ble President, NASI & Former DG, ICMR and Secretary to the Govt. of India. Dr. S. M. Yusuf, Director, Physics Group, BARC, Mumbai was the Convener of the programme.

Eminent scientists addressed different session of the programme and delivered their talks on topics of national relevance such as Agriculture & Food Security, Drug-pharmacy & Bio-application, Forest, Climate & Environment, Energy, Electronics & Cyber Security, Space, and Medical & Health. They discussed the achievements of India in last 75 years and also the challenges ahead.

The Foundation Day of NASI was also commemorated on Dec 4, 2023. It was Chaired by Prof. Balram Bhargava, Hon’ble President, NASI and Co-Chaired by Prof. Ashok Misra, Past President, NASI.

The young researchers/scientists presented their papers in their respective research areas during the Annual Session; and 20 young researchers were selected for Certificate to be given for excellent presentation. A few photographs of the event are pasted below; also a copy of programme is enclosed herewith as Ann.1)



2. Celebration of National Mathematics Day

NASI and Prof. B.L. Sharma Higher Mathematics Trust jointly celebrated the National Mathematics Day 2023 on the theme “Mathematics in Day to Day Life” on December 21-22, 2023 to commemorate the birth anniversary of Srinivasa Ramanujan, the giant personality in Indian Mathematics. Students of +2/UG/PG level and teachers & faculty members of different schools /colleges and University of Allahabad attended the programme. The event was coordinated by Prof. S. S. Khare, Former Pro-Vice Chancellor NEHU, Shillong & the President, Prof. B. L. Sharma, Higher Mathematics Trust. Prof. Kalyan Chakraborty of Harish Chandra Research Institute, Prayagraj was the Chief Guest. The eminent speakers included Prof. U C Srivastava, Former Professor in Department of Zoology, University of Allahabad, Prof. S. S. Khare, Prof. Kalyan Chakraborty, Prof. Vipul Kakkar, Department of Mathematics, Central University of Rajasthan, Prof. Narendra Kumar Singh, Department of Mathematics MBPG College, Haldwani, Kumaun University and Prof. Swapnil Srivastava Department of Mathematics, Ewing Christian College, Prayagraj. A few photographs of the event are pasted below; also a copy of programme is enclosed herewith as Ann.2)



3. NASI Publications

The **Publications of the Academy** are also regular; and achieving the desired milestones with good impact factor. A Special Issue on “Advances in Memory Materials” also was published by NASI.



'India Secure @75'
93rd Annual Session of National Academy of Sciences (NASI)
An endeavour to celebrate and support 'Atma Nirbhar Bharat'



being jointly organized by
The National Academy of Sciences, India (NASI)
 &
Bhabha Atomic Research Centre (BARC)

on

3-5 December, 2023

at

DAE Convention Centre, Anushaktinagar, Mumbai

--- Tentative Programme ---

Day 1: December 3, 2023

✚ Inaugural Session (9:30 am – 11:00 am) to begin with the Lighting of Lamp

➤ Welcome (5 min)	Dr. S. M. Yusuf, Convener, 93rd A. S. NASI Director, Physics Group, Bhabha Atomic Research Centre, Trombay smyusuf1@yahoo.com
➤ About NASI (10 min)	Prof. Manju Sharma Past President, NASI; Former Secretary to the Govt. of India, New Delhi manjuvps@gmail.com
➤ Genesis of Symposium (5 min)	Prof. Jayesh R. Bellare General Secretary (OS), NASI; Department of Chemical Engineering, IIT Mumbai jb@iitb.ac.in
➤ Address by the Director, BARC (10 min)	Shri Vivek Bhasin Director, BARC, Mumbai director@barc.gov.in
➤ Secretary, DoS	Shri S. Somanath Chairman, ISRO
➤ Address by the Secretary, DAE (15 min)	Dr. Ajit Kumar Mohanty Secretary, Department of Atomic Energy; Chairman, AEC, Govt. of India chairman@dae.gov.in
➤ Inaugural Address by the Chief Guest (20 min)	Dr. R. Chidambaram Chairman, School for Advanced Studies in Nuclear Science & Technology, BARC; Former PSA to Govt. of India & Former Chairman, AEC rc@barc.gov.in
➤ Presidential Address (10 min)	Prof. Balram Bhargava President, NASI; Former Secretary to the Govt. of India; Chief Cardiothoracic Centre, AIIMS, New Delhi balrambhargava@yahoo.com
➤ (5 min)	Felicitation of the Dignitaries on the dais
➤ Vote of thanks (02 min)	Dr. Niraj Kumar Executive Secretary, NASI nasi.allahabad1@gmail.com

National Anthem; Tea Break (11:00 - 11:30 am)

Session-1: Agriculture & Food Security@75

(11:30 am-12:30 pm)

➤ Chairman	Prof. Manju Sharma Former Secretary, DBT, Govt. of India
➤ Co-Chair	Prof. Akhilesh K. Tyagi Dept. of Plant Molecular Biology, University of Delhi, South Campus; Former Director, NIPGR, New Delhi; Past President, NASI akhilesh@genomeindia.org
➤ Speaker -1 (20 min)	Dr. T. Mohapatra Former DG, ICAR; Secretary, DARE, Govt. of India, New Delhi chairperson-ppvfra@nic.in Title: India's Food and Nutrition Security: Current Status and Future Strategies
➤ Speaker-2 (20 min)	Dr. Ashish Srivastava Nuclear Agriculture & Biotech Division, BARC, Mumbai Title:
➤ Speaker-3 (20 min)	Dr. Himanshu Pathak Secretary, Department of Agriculture Research and Education (DARE); Director General, ICAR, Govt. of India email: dg.icar@nic.in Title:

Session-2: Drug-Pharmacy & Bio-applications for Security@75

(12:30-1:30 pm)

➤ Chairman	Prof. V. M. Katoch Former DG, ICMR & Secretary to the Govt. of India, New Delhi vishwamohan_katoch@yahoo.co.in
➤ Co-Chair	Dr. Madhu Dixit Former Director, CDRI, Lucknow madhudikshit@yahoo.com
➤ Speaker -1 (20 min)	Dr. Jitendra N. Verma Founder & Managing Director, Life Care Innovations Pvt. Ltd., Gurgaon, Haryana drjnverma@lifecareinnovations.com Title: Bharat offers to the World the only drug to treat MDR Candida auris – Liposomal Amphotericin B in Saline Suspension
➤ Speaker-2 (20 min)	TBD
➤ Speaker-3 (20 min)	Dr. T. Rajamannar Executive Vice President & Advisor to MD Head, High Impact Innovations - Sustainable Health Solutions (HISHS)Sun Pharmaceutical Industries Ltd. rajamannarthennati@yahoo.com Title: Discovery of A Novel, Long Acting GLP-1 Receptor Agonist - GL0034

Lunch Break & Poster Display (1:30 - 2:30 pm)**Session 3: Forest, Climate & Environmental Security@75**

(2:30 - 3:30 pm)

➤ Chairman	Dr. Subhra Chakraborty Director, NIPGR, New Delhi schakraborty@nipgr.ac.in
➤ Co-Chair	TBD
➤ Speaker -1 (15 min)	Dr. Rakesh Kadaverugu Principal Scientist, CSIR- NEERI, Nagpur, Maharashtra r_kadaverugu@neeri.res.in Title:

➤ Speaker-2 (15 min)	Dr. Rajendra Dobhal Vice Chancellor, Swami Rama Himalayan University (SRHU), Jolly Grant Swami Ram Nagar, Dehradun, Uttarakhand drdobhal@gmail.com Title:
➤ Speaker-3 (15 min)	Dr. S. Suresh Babu Head & Scientist, SG Aerosols Trace gases and Radiative Forcing (ATRF) Branch, Space Physics Laboratory, Vikram Sarabhai Space Centre (ISRO), Thiruvananthapuram s_sureshbabu@vssc.gov.in Title: Aerosol Radiative Forcing over India and Regional Climate
➤ Speaker-4 (15 min)	Prof. T.G. Sitharam Chairman, AICTE; Former Director, IIT, Guwahati tgs@iitg.ac.in Title: Water Scarcity to Security: Technology, Innovation, and Ideas

Tea Break and Poster Visit for all (3:30 - 4:00 pm)

Session 4: Energy Security@75 (4.00 - 5:00 pm)

➤ Chairman	TBD
➤ Co-Chair	Dr. Pratibha Jolly Former Principal, Miranda House, Delhi University, New Delhi pratibha.jolly@icloud.com
➤ Speaker -1 (20 min)	Dr. Anil Kakodkar Former Secretary, DAE; Past President, NASI kakodkaranil@gmail.com Title: Role of Nuclear energy in India's clean energy future
➤ Speaker-2 (20 min)	Dr. S. S. V. Ramakumar Director, R&D, Indian Oil Corporation Ltd., Faridabad ramakumarssv@gmail.com Title: Decarbonization Strategies for Oil & Gas Sector
➤ Speaker-3 (20 min)	Mr. Vipul Tuli CEO & Managing Director Sembcorp India Private Limited, Gurgaon tulivipul@gmail.com Title: Energy security in times of transition

Tea Break

- ✦ **Council Meeting :** 5:30-6:30 pm
- ✦ **Fellows' Meeting:** 6:30-7:30 pm
- ✦ **AGM :** 7:30-8:00 pm

Dinner (8.00 pm onwards)

Day 2: December 4, 2023

Session 5: Electronics & Cyber Security @75 (9:30 - 10:30 am)

➤ Chairman	Prof. Ajoy K. Ghatak Past President, NASI & Formerly Professor , IIT, New Delhi ajoyghatak5@gmail.com
➤ Co-Chair	Prof. Rudra Pratap Vice Chancellor, Plaksha University, Mohali, Punjab Former Deputy Director , Indian Institute of Science, Bangalore pratap@iisc.ac.in
➤ Speaker -1 (15 min)	Prof. Ranjan Bose Director, IIIT Delhi, New Delhi bose@iiitd.ac.in Title: E-securing the Future

➤ Speaker -2 (15 min)	Prof. Anurag Sharma IIT Delhi, New Delhi anurag.sharma@physics.iitd.ac.in Title: "Optics & Photonics: Science & Technology for the Present and the Future"
➤ Speaker-3 (15 min)	Dr. Manindra Agrawal Professor, IIT Kanpur manindra@iitk.ac.in Title: Cyber security of Critical Infrastructures
➤ Speaker-4 (15 min)	Prof. R.K. Shyam Sundar JC Bose National Fellow & Distinguished V. Professor, IIT Bombay rkss@cse.iitb.ac.in,shyam@acm.org, shyamasundar@gmail.com Title:

Session 6: Space Security @75 (10:30 - 11:30 am)

➤ Chairman	TBD
➤ Co-Chair	Dr. Anil Bhardwaj Director, PRL, Ahmedabad director@prl.res.in; abhardwaj@prl@res@in
➤ Speaker-1 (20 min)	Dr. K Radhakrishnan Former Chairman, ISRO radhokr272@gmail.com Title: Space Around Earth; Space Transportation
➤ Speaker -2 (20 min)	Dr. Tessy Thomas Director General of Aeronautical Systems; Former Project Director for Agni-IV missile DRDO dgaero.hqr@gov.in Title:
➤ Speaker-3 (20 min)	Dr. A.S. Kiran Kumar Former Chairman, ISRO kiran_seelin@yahoo.co.in Title:

Tea Break (11:30 am – 12:00 noon)

Panel/Session-7: Medical & Health Security @75 (12:00 - 1:30 pm)

➤ Chairman	TBD
➤ Co-Chair	TBD
➤ Speaker-1 (15 min)	Dr. Rajendra A Badwe TMC, Mumbai badwera@tmc.gov.in Title: Health in India & How can it be secured?
➤ Speaker-2 (15 min)	Prof. Nikhil Tandon Head, Department of Endocrinology & Metabolism, AIIMS, New Delhi nikhil_tandon@hotmail.com Title: Digital Transformation for Health Security @75
➤ Speaker-3 (15 min)	TBD
➤ Speaker-4 (15 min)	Dr. Prabhdeep Kaur Professor, Isaac Centre for Public Health, Indian Institute of Science, Bengaluru pkaur@iisc.ac.in Title: Saving Lives from Heart Attacks for Healthy and Secure India - Lessons from Hypertension Management in Primary Care at Scale

➡ **Speaker-5**
(15 min)

Dr. C. Padmapriyadarsini

Director, ICMR-National Institute for Research in Tuberculosis (NIRT), Chennai

nirtdirector.ps@icmr.gov.in

Title:

Lunch Break & Poster Display: (1:30 – 2:30 pm)

✚ **NASI-Foundation Day Lecture** (2:30 – 4:00 pm)

Chair: Prof. Balram Bhargava, President, NASI

Co-Chair: Prof. Ashok Misra, Past President, NASI

– **Speaker: Dr. R. Ravi Kannan**

Director of the Cachar Cancer Hospital and Research Centre (CCHRC), Meherpur, Assam

admin@cacharcancerhospital.org

Title:

– **Special Address: Shri Adil Zainulbhai**

Chairman, Capacity Building Commission (CBC) of India, New Delhi

Title: **Making the civil services ready for India@2047**

– **Special Address: Prof. Arun K. Grover**

Former Vice chancellor, Panjab University, Chandigarh

Title: **A reflection back on Meghnad Saha at the conclusion of Aazadi Ka Amrut Mahotsava**

– **Felicitation & Thanks by Prof. Jayesh R. Bellare, GS (OS), NASI**

Tea & Poster Visit for all

(VISIT TO BARC LABS: For the Council Members & Distinguished Guests only)

**Cultural Programme- A dulcet evening with Padma Vibhusan Pandit Hari Prasad Chaurasia: 6:00 pm;
followed by Dinner**

Day 3: December 5, 2023

✚ **Addresses by the Sectional Presidents** (9:30-10:30 am)

– **Prof. Jitendra Kr. Bera, Sectional President (Physical Sciences)**

Department of Chemistry, IIT, Kanpur

– **Dr. G. Taru Sharma, Sectional President (Biological Sciences)**

Director, NIAB, Hyderabad

✚ **Addresses by the Invited Speakers of the Scientific Sessions** (10:30 am -12:00 noon)

Physical Sciences

– **Dr. Bedangadas Mohanty**

Professor, School of Physical Sciences, NISER, Bhubaneswar, Odisha

Title: **Quark Gluon Plasma: the perfect and most vortical fluid**

– **Prof. Nibir Mandal**

Department of Geological Sciences, Jadavpur University, Kolkata

Title:

Biological Sciences

– **Dr. Chandrakant Lahariya**

Executive Director, Foundation for People-centric Health Systems, New Delhi

Title:

– **Dr. Rahul Purwar**

Associate Professor, IIT Mumbai

Title:

Tea Break (12:00-12:30 pm)

(VISIT TO BARC LABS: For the Council Members & Distinguished Guests only)

✚ **Parallel Activities** (12:30 – 1:30 pm)

- **Posters Evaluation by the Sectional Presidents & their team** (12:30 -1:30 pm)
- **Summing-up (with focus on *Atma-Nirbharar Bharat*)** (12:30 – 1:30 pm)

Chairman	Prof. Balram Bhargava , President, NASI
Co-Chairman	Prof. A. K. Singh , Chairman, NASI-Mumbai Chapter
Speaker-1	Dr. V. K. Paul , Member, NITI Ayog; Professor, AIIMS, New Delhi Title: India's COVID-19 Vaccine Journey
Speaker-2	Dr. R. Chidambaram , Former Chairman, AEC – Chief Guest
Remarks by the Chairs and Co-Chairs of the Scientific Sessions	
Concluding Remarks by the Past Presidents, NASI <ul style="list-style-type: none">– Prof. Ashok Misra– Prof. Manju Sharma– Prof. J.P.Mittal– Prof. Ajoy Ghatak– Prof. Akhilesh K. Tyagi	
Vote of thanks	

Lunch Break: (1:30-2:30 pm)

✚ **Valedictory & Award Presentation** (2:30 – 3:30 pm)

- **To be presided over by the President, NASI (Prof. Balram Bhargava)**
- **Remarks by the Sectional Presidents**
- **Remarks by the Convener: Dr. S. M. Yusuf, Convener, Director, Physics Group, BARC, Mumbai**
- **Presentation of the Awards/Prizes (by the Past Presidents) to:**
 - **NASI-Reliance Awardees**
 - Dr. R.K. Ravikumar, NIF, Gandhinagar
 - Dr.Mihir Kumar Purkait,IIT, Guwahati
 - Dr.Jagadis Gupta Kapuganti, NIPGR, New Delhi
 - Dr.Jayant Kumar Singh, IIT Kanpur
 - Dr. Bhavuk Garg, AIIMS, New Delhi
 - **Best Poster Awardees**
- **Vote of Thanks by Dr. P. A. Hassan, Secretary, NASI-Mumbai Chapter**

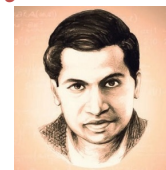
High Tea



Celebration of the **National Mathematics Day**

Remembering the Mathematician **Srinivasa Ramanujan** on his Birthday

jointly organized by



The National Academy of Sciences, India (NASI)

&

Prof. B.L. Sharma Higher Mathematics Trust

Theme: Mathematics in Day to Day Life

Date: 21st December, 2023

Timing: 10:00 am

Inaugural Session (10:00am- 11:00 am)

Welcome	Shri A. K. Srivastava Accounts Officer & Acting ES, NASI
Address by the Chief Guest	Prof. Kalyan Chakraborty Harish Chandra Research Institute, Prayagraj
Brief Introduction	Prof. S. S. Khare Former Pro-Vice Chancellor NEHU, Shillong, President, B. L. Sharma, Higher Mathematics Trust
Concluding Remarks	Prof. U. C. Srivastava National Coordinator, Science Communication Programmes, NASI
Vote of Thanks	Prof. Swapnil Srivastava Department of Mathematics, ECC; Secretary, B. L. Sharma, Higher Mathematics Trust
National Anthem & Tea Break	

Technical Session-1 (11:30am- 02:00 pm)

Speaker I	Prof. Kalyan Chakraborty Harish Chandra Research Institute, Prayagraj <i>Title: "Numbers in Day to Day Life"</i>
Speaker II	Prof. S. S. Khare Former Pro-Vice Chancellor NEHU, Shillong; President, B. L. Sharma, Higher Mathematics Trust <i>Title: "Fibonacci Numbers in Nature and in Day to Day Life".</i>

Lunch Break (02:00pm-03:00pm)

Technical Session-2 (3:00pm- 04:30 pm)

Speaker III	Prof. Vipul Kakkar Department of Mathematics, Central University of Rajasthan <i>Title: "Applications of Fields in Cryptography".</i>
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Day -2 (22nd December,2023)

Technical Session-3 (10:00am- 11:30 am)

Speaker IV	Prof. Narendra Kumar Singh Department of Mathematics MBPG College, Haldwani, Kumaun University <i>Title: " Applications of Real Analysis in Life"</i>
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Tea Break (11.30-12.00 noon)

Technical Session-4 (12:00 noon- 1:30 pm)

Speaker V	Prof. Swapnil Srivastava Department of Mathematics, ECC; Secretary, B. L. Sharma, Higher Mathematics Trust <i>Title: "Matrices in Day to Day Life".</i>
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Lunch Break (01:30pm-02:30pm)

Technical/ Interactive Session (2:30pm- 04:00 pm)

Above mentioned Speakers with the participants

Vote of Thanks & Tea