The National Academy of Sciences, India

5, Lajpatrai Road, Prayagraj-211002, India

Summary of the Activities, held in the month of October 2024

1. A two-day event on 'S&T Interventions for the development of Bioresources of the Region (Kerala)with special focus on the involvement of Women Scientists & Technologists'

The event was organized by NASI in joint collaboration with the Kerala Chapter and Rajiv Gandhi Centre for Biotechnology (RGCB), Thiruvananthapuram, Kerala on 30th Sept. & 1st Oct.. 2024 at RGCB, Thiruvananthapuram. A large no. of participants including the women researchers, faculty members from the nearby areas as well as the scientists of RGCB, the Past Presidents, Members and Fellows and NASI officials joined the event. The event was inaugurated by Prof. G. Padmanaban, Indian Institute of Sciences, Bangalore and Past President of NASI and also graced by the eminent scientists and speakers from all across the country who shared their expertise on the subjects of relevance such as Bioresources, Medicinal & aromatic plants, Animal Sciences, Microbial Resources. Dr. Chandrabhas Narayana, Director, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram welcomed all the dignitaries. Dr. Manju Sharma, Chairperson, NASI-New Initiatives, Former Secretary to the Govt. of India, DBT; Former President, NASI, briefed about the NASI & Genesis of Programme. A Special Lecture on 'Women Empowerment 'was delivered by Prof. Achuth Sankar S Nair, Former Professor, Department of Computational Biology & Bioinformatics, University of Kerala, India. Prof. K.P. Sudheer, Principal Secretary, S&T Department and Executive and the Vice President KSCSTE delivered the Keynote Address. Dr. Soniya E. V. Scientist-'G', Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram the local coordinator of the event proposed a Vote of thanks (Annexure-1).

2. Observation of Poshan Maah

A **Special Lecture on Nutrition** was delivered by Dr. SubbaRao M Gavaravarapu, Scientist 'F' & Head, Nutrition Information, Communication & Health Education (NICHE) Division, ICMR-National Institute of Nutrition; & Professor, Academy for Scientific and Innovative Research. He gave a very comprehensive talk including the concept of nutrition, its need and role for obtaining good health, macro and micro nutrients in human body, healthy eating and also the concept of hidden hunger. He also elucidated on **Malnutrition**, 'Undernutrition' Vs. 'Malnutrition', its symptoms, diseases related with malnutrition etc.

3. Concluding Event of Hindi Pakhwara

An event was organized by the NASI HQ in the last week of the month to conclude the 15 days of celebrating *Hindi Pakhwara* (as per schedule and guidelines provided by the RAJBHASHA/DST, New Delhi) for promoting the language, its usage and spreading more and more awareness. The event was attended by the large number of participants including students, scientists and faculty members of the local academic and scientific institutions. The NASI HQ organizes various contests every year during 'Hindi Pakhwara' to inculcate interest among the staff members for promoting the adoption of Hindi as one of the official languages and using it in their routine work, if possible. The NASI HQ celebrated the *Concluding/Valedictory Function* of Hindi Pakhwara during which the staff members enthusiastically participated in various contests including the 'Hindi Story Writing based on real life incident', 'Poetry writing', 'Debate', 'Synonyms for various Hindi Vocabulary words', 'Oration',' 'Essay Writing on a given topic' etc. The event was attended by the officials and staff of the NASI. The staff members, who were also the winners of the various contests, were appreciated for their participation and good work done in Hindi language and also given awards on this occasion.

4. Observing the Special Campaign 4.0 (Implementation Phase-Oct 02 - Oct 31, 2024)

NASI actively participated in the Special Campaign 4.0 launched by the Govt. of India for institutionalizing Swachchata and minimizing pendency in Govt. Offices by taking a few initiatives during the implementation phase of 'Special Campaign 4.0'. The key initiatives included the following:

- Meeting of Disposal/ Auction Committee (Oct 23, 2024).
- Auction and disposal of scrap/ obsolete items including equipments etc. (Oct 28, 2024).
- The office files in physical and e-forms were reviewed; and those not in use, were disposed of/ weeded out.
- The status of Awareness Campaign and Cleanliness Activities such as site cleaning was uploaded on 'Google forms' on daily basis (Annexure-2).

5. National Learning Week (NLW) – 19.10.2024 - 25.10.2024

The HQ observed the National Learning Week during 19.10.2024 - 25.10.2024 as per the guidelines received from Training Cell, DST. All the employees/ staff members completed a few hours of learning on **iGOT Karmayogi Portal** and completed some essential digital courses recommended by the DST, GoI.

- 6. Several discussion meetings were organized by the HQ to develop and finalize the Programme Schedule as well as strategy/ guideline towards organizing its 94th Annual Session and Symposium on 'Accelerated R&D towards Viksit Bharat scheduled on Dec 2-4, 2024 at IISER, Bhopal (Annexure-3).
- 7. The Publications of the Academy achieved the desired milestones with good impact factor.
- **8.** Most of the Local Chapters also organized their regular scientific activities in pursuit of 'Science and Society' mandate of NASI.





'S&T Interventions for the development of Bioresources of the Region (Kerala) with special focus on the involvement of Women scientists & Technologists'

to be jointly organized by

The National Academy of Sciences, India (NASI)

8

Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram, Kerala

(in hybrid mode)

Dates: 30th Sept. & 1st Oct., 2024

Venue: Rajiv Gandhi Centre for Biotechnology



DAY-1 30th SEPTEMBER 2024

INAUGURAL SESSION (9:30-11:00 AM)

Welcome : Dr. Chandrabhas Narayana

Director, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram

About NASI & Genesis of

Programme : Dr. Manju Sharma

Chairperson, NASI-New Initiatives Former Secretary to the Govt. of India,

DBT, Former President, NASI

Keynote Address : Prof. K.P Sudheer

Principal Secretary, S&T Department and

Executive Vice President, KSCSTE

Inaugural Address: Prof. G. Padmanaban

Indian Institute of Sciences, Bangalore

Vote of Thanks : Dr. Soniya E. V.

Scientist-'G', Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram

Tea Break (11:00-11:30 am)

SESSION-1: BIORESOURCES (11:30 AM -1:30 PM)

Chairperson : Prof. Asis Datta

Former Vice Chancellor, Jawahar Lal Nehru

University, New Delhi

Co-Chair : Dr. Bindu Dey,

Director Research, Research &

Development Cell, Swami Rama Himalayan

University, Dehradun, Uttarakhand

SPEAKERS:

- Dr. M. Sabu, Professor Emeritus, Malabar Botanical Garden, Kozhikode.
- Dr. Girija Devaki, ICAR Emeritus Professor, Kerala Agricultural University, Thrissur
- Dr Bright Singh, Professor Emeritus, National Centre for Aquatic Animal Health, Cochin University of Science & Technology

Lunch Break (1:30 - 2:15 pm)

SESSION- 2: MEDICINAL & AROMATIC PLANTS (2:15 - 3:45 PM)

Chairperson : Dr. Alok Dhawan

Director, Centre of Biomedical

Research, Lucknow

Co-Chair : Prof. Paramjit Khurana

South Campus, Delhi University, New Delhi

SPEAKERS:

- Dr G N Hariharan, Executive Director, M.S. Swaminathan Research Foundation, Chennai
- Dr. Hariom Gupta, Sr. Scientist, CIMAP, Lucknow
- Dr. Manjula, Scientist, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram

SESSION- 3: ANIMAL SCIENCES (3:45 -5:15 PM)

Chairperson : Dr. G. Taru Sharma,

Director, NIAB, Hyderabad

Co-Chair : Prof. U.C Srivastava,

Former Professor, University of Allahabad,

Prayagraj

SPEAKERS:

- Dr. Radhika G, Professor, Centre for Advanced studies in Animals Genetics & Breeding, CVAS, Mannuthy
- Prof. Bijoy Nandan, Vice Chancellor, Kannur University, Kannur
- Dr. Debasree Dutta, Scientist EII, Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram

Special Lecture : Prof. Achuth Sankar S Nair,

Retd. Professor, Dept. of Computational

Biology & Bioinformatics,

University of Kerala, India on "Science and Technology for Women Empowerment"

Tea Break - 5:15 pm

DAY-2: 1st OCTOBER, 2024

SESSION- 4: MICROBIAL RESOURCES (10:00-11:30 AM)

Chairperson : Dr. Subeer Suhash Majumdar

Former Director, NIAB, Hyderabad

Co-Chair : Prof. Edathil Vijayan,

Former ICMR Emeritus Medical Scientist,

Kochi

SPEAKERS

- Dr. Prabavathy V.R., Director, MS Swaminathan Research Foundation, Chennai
- Dr. Jeeva, Principal Scientist, Central Tuber Crops Research Institute
- Dr. Deepu Mathew, Professor, Centre for Plant Biotechnology & Molecular Biology (CPBMB), College of Agriculture, Vellanikkara

Tea Break (11:30 -12:00 noon)

SPECIAL LECTURE ON NUTRITION (12:00-12:30 PM)

 Dr. Santasabuj Das, Director, ICMR-National Institute of Nutrition, Hyderabad

CONCLUDING SESSION & RECOMMENDATIONS (12:30-1:30 PM)

Chairperson : Dr. Manju Sharma

Co-Chair : Prof. Asis Datta

Former Vice Chancellor,

Jawahar Lal Nehru University, New Delhi

Brief remarks by the Chairs and Co-Chairs of each session

Vote of thanks : Ms. Archna Pant

Young Women Scientist, NASI, Prayagraj

Cleanliness Activities under Special Campaign 4.0 Before After



Store Room Basement



Building Roof



Singhania Library Hall











94th Annual Session of NASI and Symposium on Accelerated R & D Towards a Viksit Bharat jointly organized by

The National Academy of Sciences, India (NASI)

Indian Institute of Science Education & Research Bhopal (IISERB)

dedicated to the Past President of the NASI, Bharat Ratna, Prof M. S. Swaminathan

on 1-3 December 2024

at

IISERB, Bhopal Bypass Road, Bhauri, Bhopal, Madhya Pradesh, INDIA

---Tentative Programme ---

December 1, 2024 (Sunday)

Children Science Meet (10:30 am - 12:00 pm) Venue: L-5

Local Coordinator: Prof Abhijit Patra, IISER Bhopal

Chairman	Prof Ajoy K Ghatak Past President, NASI; Former Professor of Physics, IIT Delhi
Co-Chair	Prof Snigdha Thakur Dept of Physics, IISER Bhopal

Resource Person

- 1. Prof Ajoy K Ghatak, Formerly Professor of Physics, IIT Delhi (25 + 5 min) Title: Einstein, E = mc² & The Atom Bomb
- 2. Padma Shri Prof H.C. Verma, Formerly Professor of Physics, IIT Kanpur (50 + 10 min) Title: Learning Physics from Nature and Scoring in Exams

Lunch (12:45 - 2:00 PM) Venue: Dining Hall, VH

December 1, 2024 (Sunday)

Inaugural Session (2:00 pm - 03:15 pm) Venue: L- 5 in LHC

Coordinator: Prof Chandan Sahi, IISER Bhopal

♣ To begin with the lighting of the lamp

Welcome	Prof Vinod K Singh, IIT Kanpur
(4 min)	Convenor
	Prof Souray Datta, IISER Bhopal
	Local Co-convenor
Introductory Remarks	Dr Manju Sharma
(5 min)	Chairperson, NASI-New Initiative
Genesis of Symposium	Prof Jayesh R. Bellare, IIT Bombay
(5 min)	General Secretary (OS), NASI
About IISER Bhopal	Prof Gobardhan Das
(5 min)	Director, IISER Bhopal
Guest of Honor	Dr Ajai Chowdhry
(10 min)	Founder, HCL; Chairman, EPIC Foundation
Guest of Honor	Prof Abhay Karandikar
(10 min)	Secretary, DST, Govt. of India
President	Prof Balram Bhargava
(10 Min)	President, NASI
Chief Guest	Dr Jitendra Singh
(18 Min)	Hon'ble Union Minister of State (Independent Charge) for Science & Technology, Govt of India
Vote of thanks	Prof Daya Shankar Pandey, BHU Varanasi
	General Secretary (HQ), NASI,
(4 min)	
	Prof Abhijit Patra, IISER Bhopal
	Local Co-convenor

Tea/Coffee 3:15 PM - 3:45 PM (Foyer of LHC)

Council Meeting (3:30 - 5:15 PM)

Venue: VH Boardroom 3

December 1, 2024 (Sunday) Venue: VH Auditorium

Session 1: Climate Resilience & Sustainability (5:30 - 6:45 PM)

Coordinator: Dhanyalekshmi Pillai, IISER Bhopal

Chairperson	Amit Roy, Vice President, NASI
Co-Chair	Pankaj Kumar, IISER Bhopal
Talk 1 (20 + 4 min)	Shailesh Nayak, NIAS Bangalore Climate Implications and Action: A Policy Perspective
Talk 2 (20 + 4 min)	Ramya Sunder Raman, IISER Bhopal Atmospheric Aerosol Management to Advance Sustainable Development Goals: Opportunities and Strategies
Talk 3 (20 + 4 min)	Suruchi Bhadwal, TERI New Delhi Understanding Climate Change and its Responses

Dinner 7.30 PM onwards Venue: VH Lawn

December 2, 2024 (Monday) Venue: VH Auditorium

Coordinator: Manmohan Kapur, IISER Bhopal

Session 2: Quantum Research & Futuristic Applications (9:00 AM - 9:50 PM)

Chairman	Anurag Sharma, IIT Delhi
Co-Chair	Akshay Modi, IISER Bhopal
Talk 1	Ankur Raina, IISER Bhopal
(20 + 4 min)	Bits to Qubits: Revolutionizing Computing with Quantum Mechanics
Talk 2	Kasturi Saha, IIT Bombay
(20 + 4 min)	Quantum Sensing with Nitrogen Vacancy Centers in Diamond

NASI Foundation Day Lecture (9:50 - 10:30 PM)

Venue: VH Auditorium

Preside over by Prof Balram Bhargava, President, NASI

❖ Chairperson: Prof Ashok Misra, JNCASR Bangalore

❖ Speaker: Dr Ajai Chowdhry, Founder HCL

Tea Break and Poster Visit (10:30 am - 11:00 AM)

December 2, 2024 (Monday) Venue: VH Auditorium

Session 3: Cyber Security & Data Sovereignty (11:00 AM - 12:15 PM)

Coordinator: Prof Rahul Garg, IISER Bhopal

Chairperson	J.P. Mittal, BARC Mumbai Past President, NASI
Co-Chair	Vishal Rai, IISER Bhopal
Talk 1 (20 + 4 min)	Manindra Agrawal, IIT Kanpur Securing Critical Infrastructure of India
Talk 2 (20 + 4 min)	Jayant Haritsa, IISc Bangalore Light on Malicious Database Queries
Talk 3 (20 + 4 min)	Shweta Agrawal, IIT Madras Post Quantum Cryptography: The Road Ahead

Session 4: Health and Disease: Prevention, Control & Treatment (12:15 -1:05 PM)

Coordinator: Prof Ram Kumar Mishra, IISER Bhopal Venue: VH Auditorium

Chairperson	Madhu Dikshit, CDRI Lucknow
Co-Chair	Paramjit Khurana, University of Delhi
Talk 1	Sanjay Behari, SCTIMST Trivandrum
(20 + 4 min)	Biomedical device development in contributing to health care in the country: the road map, the successes, and the travails
Talk 2	Amit Prakash Sharma, ICGEB New Delhi
(20 + 4 min)	Malaria: traversing the tracks between structural biology and epidemiology

Lunch Break (1:10 - 2:10 PM)

December 2, 2024 (Monday) Venue: VH Auditorium

Session 4: Artificial Intelligence & Machine Learning (2:15 PM - 3:30 PM)

Venue: VH Auditorium

Coordinator: Aasheesh Srivastava, IISER Bhopal

Chairperson	R.S. Verma, MNNIT Allahabad
Co-Chair	Mitradeep Bhattacharjee, IISER Bhopal
Talk 1 (20 + 4 min)	Manish Gupta, Google India Research & IIIT Bangalore Transformative Power of AI and Open Challenges
Talk 2 (20 + 4 min)	Nitin Saxena, IIT Kanpur (Artificial) Intelligence in Society
Talk 3 (20 + 4 min)	Manik Varma, Microsoft Research & IIT Delhi Foundation Retrieval Models: The Next Paradigm Shift in Search, Recommendation & Chat

Tea Break and Poster Visit (3:30 - 4:10 PM)

December 2, 2024 (Monday)

Session 6 (Sectional Presidents' Session): (4.10 - 5:00 PM)

Venue: VH Auditorium

Coordinator: Prof Surajit Saha, IISER Bhopal

Chairperson	S.M. Yusuf, BARC Mumbai
Co-Chair	Sangit Kumar, IISER Bhopal
Talk 1	S Natarajan, IISc Bangalore
(20 + 4 min)	Sectional President, Physical Sciences
	Designing new white light emitting materials for low-cost LEDs
Talk 2	Dr Ch Srinivasa Rao, ICAR-NAARM, Hyderabad
(20 + 4 min)	Sectional President, Biological Sciences
	Net Zero Emission Target by 2070: Agriculture Sector Contributions

Fellows Meeting (Induction of Newly Elected Fellows; 5:15 -6:30 PM)

Venue: VH Auditorium

♣ Annual General Body Meeting (6:30 - 7:15 PM)

Venue: VH Auditorium

Dinner (7:30 PM onward)

December 3, 2024 (Tuesday)

Session 7a (Parallel Session: Physical Sciences): (9.00 AM - 9.55 AM)

Venue: VH Auditorium

Coordinator: Nitin Patil, IISER Bhopal

Chairperson	Natarajan, IISc Bangalore	
	Sectional President (Physical Sciences)	
Co-Chair	Sanjit Konar, IISER Bhopal	
Speaker 1	Arindam Ghosh, IISc Bangalore	
(20 + 4 min)	Designing emergent physics and technology with interfaces	
Speaker 2	Joyanta Chaudhury, IISER Bhopal	
(20 + 4 min)	Toward a Carbon-Neutral Energy Economy via Recycling CO ₂	

Session 7b (Parallel Session: Biological Sciences): (9.00-9.55 AM)

Venue: Seminar Hall 1 in VH

Coordinator: Apurba L. Koner, IISER Bhopal

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Chairperson	Ch Srinivasa Rao, ICAR-NAARM, Hyderabad
	Sectional President (Biological Sciences); Director
Co-Chair	Prof Sourav Datta
	Professor of Biological Sciences, IISER Bhopal
Speaker 1	C.R. Mehta, Central Institute of Agricultural Engineering Bhopal
(20 + 4 min)	Food Security in India and Farm Mechanization
Speaker 2	M. Sundaram, ICAR, IIRR Hyderabad
(20 + 4 min)	Gene Editing. Research and Development in Rice

Tea Break (10:00 - 10:30 AM)

♣Discussion, Recommendations and Valedictory (10:30 - 12:00 PM)

Venue: VH Auditorium

Chairperson: Saptarshi Mukherjee, IISER Bhopal

Remark by Convenor (3 min)	Vinod K Singh, IIT Kanpur	
Speakers from Council (3 min each)	Manju Sharma, Ashok Misra, J P Mittal, Ajoy K Ghatak, A.K. Tyagi, Madhu Dikshit, Amit Roy, Jayesh B. Bellare, Daya Shankar Pandey, etc.	
Speakers (3 min each)	Session Chairs/Co-Chairs/Sectional Presidents	
Concluding Remark (5 min)	Balram Bhargava, President, NASI	
Felicitations and 'Outstanding Paper Presenters' receive their certificates. (30 min)		
Vote of Thanks (3 min)	Dr Santosh Shukla Acting Exec Secretary, NASI	

Lunch (12.30- 2.00 pm)
