

### The National Academy of Sciences, India (NASI)

### 5, Lajpatrai Road, Prayagraj-211002, India

### Monthly Summary for the month of September 2021

- A National Webinar was organised to make the students and general masses aware about the conservation issues regarding the natural resources and also its management, under the auspices of the NASI (Bhopal Chapter- please see Annex. 1 for more details) on Sept. 1-6, 2021. The topics covered were -National Parks, Tiger Reserves, Wildlife Sanctuaries and Botanical, Zoological Gardens of India- Identification, Conservation and Management. Another Webinar-cum-Panel Discussion (please see Annex. 2 for more details) was organised by the NASI-Mumbai Chapter on Nutritional Products, Formulation Strategies – Emerging Trends and Societal Implications on 18<sup>th</sup> Sept. 2021.
- A National Webinar (*Jagrukta Abhiyan* against COVID-19) was organised (please see Annex. 3 for more details) under '*Azadi ka Amrut Mahotsav*' programme, earlier announced by the Hon'ble Prime Minister of India. The programme was jointly hosted by the NASI-HQ & its Pune Chapter on Sept. 7, 2021; and several eminent scientists including medical doctors addressed the webinar.
- 3. A Popular Science Lecture on 'Metabolic Engineering of Plant Secondary Metabolites for Value Addition with reference to Economically Important Crops and Champion Algal Forms' was organised also on 18<sup>th</sup> Sept. 2021 (please see Annex. 4 for more details) by the Kerala Chapter of the NASI to enthuse young scientists to take interest in sustainable utilization of our natural resources. Similarly a Google Meet was also organised by the NASI-Rajasthan Chapter on Preparedness to handle/manage COVID (please see Annex. 5 for more details); an illustrative talk was delivered by Prof. V. M. Katoch, former Director General, ICMR, New Delhi.
- 4. NASI-HQ, Prayagraj & NIN, Hyderabad, organised a National Webinar on 'Food-based Remedies to Nutritional Maladies', under the '*POSHAN MAH*', on Sept 23, 2021; a wide range of topics related to malnutrition and its remedies (please see Annex. 6 for more details) were discussed in detail. The Director, NIN, former Director, CCMB, and several other distinguished scientists participated under the leadership of Prof. Mahtab Bamji and Prof. Manju Sharma, Coordinators of the programme.
- 5. The Academy also celebrated the 101 birth anniversary of Padma vibhushan Prof. Satish Dhawan, former Chaiman, Space Commission on Sept 25, 2021 in joint collaboration with the IISc and ISRO, Bangalore. Several stalwarts of Space Science, as Prof. K. Kasturirangan, Prof. K. Radhakrishnan, Prof. K. Sivan, Prof. A. S. Kiran kumar, Prof. N. Balakrishnan, Dr Jyotsana Dhawan (daughter of Prof. Satish Dhawan), Prof. Ashok Misra and others addressed the gathering (please see Annex. 7 for more details). The programme was coordinated by Prof. Manju Sharma, Past President, NASI.

Several other NASI Chapters also organized online scientific activities.

Annex. 1



### Govt. Madhav Sadashivrao Golvalkar College, Rewa(M.P.)

Accredited by NAAC with 'B' Grade



### NATIONAL WEBINAR

(SERIES - SECOND)

### ON

### NATIONAL PARKS, TIGER RESERVES, WILDLIFE SANCTUARIES AND BOTANICAL, ZOOLOGICAL GARDENS OF INDIA- IDENTIFICATION, CONSERVATION AND MANAGEMENT.

Date: 1<sup>st</sup> to 6<sup>th</sup> September, 2021, Time: 012:30 PM – 04:30 PM

-: Organized by : -

Department of Botany in Collaboration with IQAC

&

In Association with the National Academy of Sciences India- BHOPAL CHAPTER



Eminent Speaker Shri H.S. Pabla (IFS) Former PCCF& CWLW Madhya Pradesh



Eminent Speaker Dr. N.P. Singh Former Director, Botanical Survey of India (BSI) Kolkata



Eminent Speaker Dr. P.S. Easa Chairman Aranyamak Nature Foundation & Ex- Director KFRI Kerala



Eminent Speaker Shri P.K. Singh IFS APCCF & Additional MD, MPMFP Federation Bhopal MP



Eminent Speaker Shri Prashant Kumar Pandit, IFS Formerly CCF West Bengal



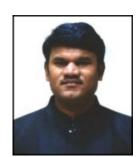
Eminent Speaker Shri Vincent Rahim IFS CCF & Field Director Bandhvgarh National Park MP



Eminent Speaker Shri T.C. Verma IFS CCF & Field Director Ranthambhore Tiger Reserve Rajasthan



Eminent Speaker Shri Y.P. Singh IFS CCF & Field Director Sanjay Tiger Reserve Sidhi



Eminent Speaker Mr. Jegadeeshan IFS CCF & Field Director Achanakmar Tiger Reserve Bilaspur Chhattisgarh





Eminent Speaker **Prof. Dinesh Chandra Bhatt** Emeritus Professor Zoology Gurukul Kangri University Haridwar Uttarakhand



Eminent Speaker Mr.Laltlanhlua Zathang IFS DFO Aizawl , Mizoram



Eminent Speaker **Prof. S.K. Chaturvedi** Former Head Botany Department, Nagaland University Lumami, Nagaland India



Eminent Speaker Mr. Selvam IFS DFO Rajahmundry Andhra Pradesh



Eminent Speaker Shri R.N. Meena IFS CF & Field Director Sariska Tiger Reserve Rajasthan



Eminent Speaker Dr. N. Mohanan Former Senior Principal Scientist JNTBGRI Kerala



Eminent Speaker Dr. Sanjeet Kumar IFS Deputy Director, Nandankanan Zoological Park Bhubaneswar, Odisha



Eminent Speaker Dr. Sanjeev Kumar Joint Director & Scientist E & OiC ZSI Jodhpur Rajasthan



Eminent Speaker Dr. Mrs. Neelu Sood Professor of Botany Kurukshetra University Kurukshetra, Haryana



Eminent Speaker Dr.Rajkumar V. Jadhav Director, Rajiv Gandhi Zoological Park & Wildlife Research Center Pune



Eminent Speaker Dr. Bhaskar Choudhury Office in-charge CWRC Kaziranga TR, Assam



Eminent Speaker Mr. A.Shankaran Former OSD Wildlife Govt. of Telangana



Eminent Speaker Dr. R.K. Pandey Former Head Forest Ecology & Environment Division SFRI Jabalpur MP



Eminent Speaker Shri K.L. Purohit Formerly Deputy Conservator of Forest, Bhubaneswar Odisha



Eminent Speaker Dr. H.N. Kumara Principal Scientist SACON Coimbatore TN



Eminent Speaker Dr. Mrs. Avinash Nagpal Professor of Botany Guru Nanak Dev University Amritsar Punjab



**Eminent Speaker** Dr. G. Rajkumar Principal Scientist, JNTBGRI Kerala



**Eminent Speaker** Dr. Anil Mohapatra Scientist E & OiC ZSI, Ganjam Odhisa



Dr. Yash Veer Bhatnagar Senior Scientist, Nature Conservation Foundation, Mysore Karnataka



**Eminent Speaker** Dr. Aditi Sharma Senior Veterinary Officer Rajaji National Park Uttarakhand



**Eminent Speaker** Prof. M.C. Sathyanarayana AssociateProfessor(Retd.) Zoology & Wildlife Biology AVC College Mayiladuturi TN



**Eminent Speaker Dr.Ajay Kumar Jha** Senior Manager (Environment) Teesta VI HE Project Balutar, East Sikkim



**Eminent Speaker** Dr. K. Karthigeyan Scientist E, Botanical Survey of India Howrah WB



**Eminent Speaker** Dr. P.P. Ghosal Scientist, Botanical Survey of India (BSI) Howrah, WB



**Eminent Speaker Dr. Satya Prakash** Mehra Environmental cum Development Professional, Advisor RSNH, Rajasthan



**Eminent Speaker** Dr. Aniruddha Majumdar Scientist, Madhya Pradesh State Forest Research Institute Jabalpur MP



**Eminent Speaker** Shri Arvind Mishra Founder Mandar Nature Club Bhagalpur, Bihar



Patron Dr. S.M. Shukla Principal Govt. M.S. Golwalkar College Rewa Madhya Pradesh



Convener Prof. Skand Kumar Mishra Head Botany Department Govt. M.S. Golwalkar College Rewa (M. P.)

- \* Link for Registration :
- \* Link to join webinar :
- https://forms.gle/kSpNdxVZakvxFgQE7 https://meet.google.com/upj-bfim-oks \* Link to join webinar : Youtube <u>https://youtu.be/ZsSfziqXbx8</u>

\* WhatsApp Link\*

Group-1: https://chat.whatsapp.com/Db4HUoT13uv3Fyv50bZL1z Group-2: https://chat.whatsapp.com/LcMwtd7ntoq9TBh2WR4fVg



The National Academy of Sciences, India (Mumbai Chapter) in association with SVKM's Dr Bhanuben Nanavati College of Pharmacy, Mumbai

Annex. 2

(Mumbai Chapter)

### **Organizes** Webinar-cum-Panel Discussion **Nutritional Products Formulation Strategies -**

**Emerging Trends and** Societal Implications

### September 18, 2021 (Saturday) (09:00 - 15:30 hrs)

### **Speakers**

#### Dr. Alka Jadhav

Professor, Paediatrics & In-charge, Division of Pediatric Gastroenterology, Hepatology & Nutrition, LTM Medical College, Sion. Mumbai.

Title of Talk: RUTF in Malnourished children

### Dr. Mudra Saurabh Kapoor

Biomedical Engineer / Manager, TCS Mumbai, (Food fortification, Nutrition delivery related smart technology) Title of Talk: Skin: Novel route for Micronutrient delivery

### Prof. S. S. Lele

Emeritus Professor, Institute of Chemical Technology (ICT), Jalna Campus, (Formerly Professor, Department of Food Engineering and Technology, ICT Mumbai) Title of Talk: Bioavailability and bio accessibility of bioactive compounds in fruit and vegetable products

#### **Patrons**

Shri Amrishbhai Patel

Shri Javesh Choksi Chairman, Gufic Biosciences Ltd.& Mentor

President, Shri Vile Parle Kelavani Mandal

Convenors

Prof. P A Hassan Secretary, NASI-MC

Dr. Munira Momin Principal & Professor (BNCP)

**Chief Coordinator Dr. Tabassum Khan** Professor & HoD, Pharm Chem

#### Coordinators

**Dr. Prabha Singh** Assistant Professor, Pharmaceutics

Dr. Radhika Raheja Assistant Professor, Pharm Chem

### **Prof. Narendra Shah**

Professor, Centre for Technology Alternatives for Rural Areas, IIT Bombay, Mumbai (Food Process Engineering, Food Nutrition Connect, Agro-based Industrial Development) Title of Talk : Food formulations for Children in SAM and MAM category and how to sustain the growth rates

### Mr. G. Venkateshwarlu

Joint Director & Functional Foods Expert ICAR-National Academy of Agricultural Research Management, Hyderabad Title of Talk: Emerging trends in delivery of omega-3 fatty acids

> **Registration link:** https://forms.gle/122B5cEDiAeRCJkw9

Scan the QR code for registration



Last date for registration: 16th September 2021





### About SVKM's Dr. Bhanuben Nanavati College of Pharmacy

Located at Vile Parle (West) Mumbai, SVKM's Dr. Bhanuben Nanavati College of Pharmacy is one of the premier Pharmacy Institutes in the State of Maharashtra. The college conducts B. Pharm., M. Pharm. (with specializations in Pharmaceutics, Quality Assurance and Pharmacology) and Ph.D. programmes. The B. Pharm. programme of the college is NBA-accredited for 5 years (2017-2022). The college has received AICTE-CII award for "Best Industry-linked Pharmacy Institute" for the year 2015 & 2017 and Platinum Category in 2016, and is also ranked 30<sup>th</sup> in All India Pharmacy Colleges by NIRF ranking 2020.

### About The National Academy of Sciences, India (Mumbai Chapter)

Established in the year 1930, the National Academy of Sciences,, India (NASI), is the oldest science academy in India. Headquartered in Prayagraj (U.P.), the NASI envisions cultivation and promotion of S&T in all its branches through – Promoting scientific and technological research related to the problems of societal welfare; Publication of proceedings, journals, memoirs, transactions and other works as may be considered desirable; Organising meetings and hold discussions on scientific and technological problems; Undertaking, through properly constituted committees and bodies, the scientific work(s) of technological or public importance; Cooperating with other organizations in India and abroad, having similar objects, and to Appoint representatives of the Academy to act on national and international bodies; Securing and managing funds and endowments for the promotion of science and technology; Organising a Science Library; Performing all other acts, matters and things that may assist in, conduce to, or be necessary for the fulfilment of the above mentioned aims and objects of the Academy; Creating an adequate impact of the Academy all over the country, by opening Chapters of the Academy in other cities in the country, where reasonable number of Fellows and Members are available. Mumbai Chapter (NASI-MC) is one such chapter of the NASI. In sync with the vision and mission of the Academy, the NASI-MC organizes a number of activities throughout the year in different parts and institutions in Mumbai and adjoining areas. (For further details of the Academy, please browse through the official website of the Academy: http://www.nasi.org.in)

### About the program

India celebrates National Nutrition Month every year during September to spread awareness about nutritional needs and health supplements to the common public. Nutritional deficiencies and malnutrition are prevalent among all sections of the Indian population. Nutrition (Poshan) programme is also an important activity of NASI and in that context many programmes have been organized under the leadership of Hon'ble Prof. Manju Sharma, Chairperson- New Initiatives, NASI, distinguished Woman Scientist Chair, NASI and former Secretary, DBT, Gol. Keeping in view the COVID-19 pandemic and the general nutritional deficiencies and malnutrition prevalent among our society, a webinarcum-panel discussion on "Nutritional Products Formulation Strategies - Emerging Trends and Societal Implications" is being organized to create awareness among researchers about the recent developments in the area of nutritional supplements and also awareness among the society. It aims to bring together leading academics, scientists, doctors, researchers, and civil society members for exchanging and sharing their experiences on various aspects of nutrition.

- Registration: Free, but mandatory
- E-certificate: E-certificate will be issued to the registered participants within one-week from the date of event after successfully attending the webinar and submission of feedback.
- Event Details: The sessions will be conducted through MS Teams online platform. Event details and meeting link will be sent to the registered participants through email.

### **Contact Details**

SVKM's Dr. Bhanuben Nanavati College of Pharmacy, SVKM Campus, V.M. Road, Vile Parle (W), Mumbai- 400 056 **E-mail your queries at:** bncp.conference@gmail.com **Mobile**, 9820245653 | 9082020839





### JAGRUKTA ABHIYAN FOR COVID-19 PANDEMIC/ AZADI KA AMRUT MAHOTSAV Jointly organized by NASI HQs & Pune Chapter

Date: Sep 7,2021

Time: 10:30 am-1:30 pm

10.30-10.35am Welcome Address



Prof. G C Mishra Chairman, NASI Pune Chapter; Former Director, National Centre for Cell Science, Pune

10.35-10.50am Genesis of the programme – Jagrukta Abhiyan for Covid-19



Prof. (Mrs.) Manju Sharma Former Secretary to the Govt. of India, Chairperson, NASI New Initiatives



Prof. V. P. Kamboi NASI Hony. Scientist, Former Director, CDRI, Lucknow;

10.50-11.00am Inaugural Address - 'SARS-2 Variants: What does it mean to the virus?' 12.40- 1.05pm Lecture-5 'COVID-19: the way ahead?'



Prof. G. Padmanaban Former Director, Indian Institute of Science, Bangalore; Past President, NASI



Lecture-1 'New Normal Etiquettes have come to stay"



Dr. Priya Abraham Director, National Institute of Virology, Pune

11.25-11.50 am Lecture-2 'COVID-19 Vaccine – Research and Development'



**Dr. Sanjay Singh** CEO, Gennova Biopharmaceuticals Ltd, Pune





**Dr. Sanjeev Sinha** Professor, Department of Medicine, AIIMS, New Delhi

Past President, NASI Department of Biotechnology, New Delhi;

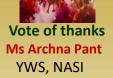
> Dr. Arvind Sahu Scientist 'G'. National Centre for Cell Science, Pune

1.05-1.30pm Lecture-6 'COVID-19 and Children: current situation and way forward'



Dr. Sanghmitra Pati Director, ICMR-RMRC, Bhubaneswar







Meeting link: https://nasi.webex.com/nasi/j.php?MTID=m1e169cdb5750c99566f0297a2a8016e4



The National Academy of Sciences India Prayagraj, Kerala Chapter

> In Association With Department of Biosciences, Union Christian College, Aluva

### **Lecture** on

Metabolic Engineering of Plant Secondary Metabolites for Value Addition with reference to Economically Important Crops and Champion Algal Forms

### **Register Now**

(Click here to Register)

# Dr. G.A. Rovishonkor

FNASC., FNAAS, FAFST, FBS, FSAB, FISAB, FAMI, FIAFoST(Canada),FIFT(USA),CFS(USA). Vice President & Professor of Biotechnology, Dayananda Sagar Institutions, Bengaluru.

## Saturday, 18th of September At 09.30 AM IST

zoom

## Advisor

Dr. Susan Eapen, Adjunct Faculty, UCC Member, NASI 090044 28381 Convener

Dr. Edathil Vijayan,

**FNASc** 

**Co-ordinator** 

YouTube

Dr. Sareen Sarah John, Asst. Professor Dept. of Biosciences 094475 02758

# Abstract

Secondary metabolites from plants have tremendous economic value for varied applications in food, medicines, and chemicals of multiple utilities. In recent years there has been a tremendous increase in understanding of the secondary metabolite pathways and the functional genomics.Moreover, the advent of modern tools of molecular biology has enhanced our ability to engineer the pathway in a desired manner to obtain new and novel compounds in native plants and also in newer hosts. Some of our studies done in higher plants and also in algal forms will be presented highlighting the importance of the techniques used to specifically engineer the pathways to alter the production of secondary metabolites in a desired manner.

We were able to engineer the pathway of caffeine in coffee plants through antisense gene or RNAi technology towards the objective of lowered caffeine in Coffea canephora. This technology provides an alternative to solvent mediated decaffeination process. In a study dealing with the mobilization of cyanobacterial gene to higher plants, we could achieve the expression of  $\Delta$ -6-desaturase from cyanobacterium -Spirulina into soybean which resulted in the formation of y linolenic acid in this crop, enhancing the nutritional value of the soybean oil. Our studies on the pathway engineering of carotenoids in microalgal forms led to induction of astaxanthin in Dunaliella,which is otherwise a popular organism for

the commercial production of  $\beta$ carotene. Astaxanthin is a potent antioxidant, anticancer agent and also exhibits anti-ulcer properties, hence molecule of high demand.

We have also studied the pathway of capsaicin (a pungent principle of green pepper) and identified the gene for vanillylamine- aminotransferase. Alterations in the pathway of capsaicin in favour of vanillyl alcohol formation is reported to produce capsinoids, which are non-pungent and potent anti -obesity molecules. Similarly, synthetic biology approach to produce high value metabolites in yeast has been demonstrated to produce metabolites such as artemisinin in industrial scale.

The technologies that are adopted for pathway engineering for achieving desired metabolite production in situ will be discussed for commercial applications based on our studies, and from published literature to provide global perspectives.

## Saturday, 18th of September At 09.30 AM IST







RAJASTHAN/JAIPUR CHAPTER OF THE NATIONAL ACADEMY OF SCIENCES, INDIA

### SCHOOL OF LIFE SCIENCES is organizing a Webinar on



### Getting Ready to Face the Emerging Scenario of COVID-19

SPEAKER:

### Dr. V. M. Katoch

MD, FNASc, FASc, FAMS, FNA NASI-ICMR Chair on Public Health Research at Rajasthan University of Health Sciences (RUHS), Jaipur Former Secretary, Department of Health Research, Govt. of India and Director-General, Indian Council of Medical Research (ICMR)

Mode: ONLINE Google Meet



SATURDAY, 11:00 AM TO 12:00 noon



### **NASI-NIN Webinar**

Annex. 6

### on



**'Food-based Remedies to Nutritional Maladies'** 

-Commemorating the Rashtriya POSHAN Maah - September 2021





September 23, 2021 @11:00 am











One Nutrition, One Nation

Join us on: https://nasi.webex.com/nasi/j.php?MTID=m71b711edd3ac61e851c1b15e746911a3



### Webinar on **'Food-based Remedies to Nutritional Maladies'** jointly organised by NASI & ICMR-NIN, Hyderabad Date: September 23, 2021 Time: 11:00 am



**Programme** 

| Introductory Remarks | Dr. (Mrs.) Manju Sharma<br>Former Secretary to the Govt. of India, DBT; Past President, NASI;<br>NASI-DST Distinguished Woman Scientist Chair                              |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lecture-1            | Policy implications of Nutrient Requirements- the RDA and EAR                                                                                                              |
| Speaker              | Dr. R Hemalatha<br>Director, ICMR- National Institute of Nutrition, Hyderabad                                                                                              |
| Lecture-2            | Biochemical and functional evidence of micronutrient deficiencies                                                                                                          |
| Speaker              | Dr. G Bhanuprakash Reddy<br>Scientist G, ICMR- National Institute of Nutrition, Hyderabad                                                                                  |
| Lecture-3            | Nutritionally sensitive and environmentally sustainable agriculture for household food security                                                                            |
| Speaker              | Dr. Mahtab S Bamji<br>INSA Emeritus Scientist, Dangoria Charitable Trust, Hyderabad;<br>Director Grade Scientist (Retd.), ICMR- National Institute of Nutrition, Hyderabad |
| Lecture-4            | Nutritional importance of Millets                                                                                                                                          |
| Speaker              | Dr. B Dayakar Rao<br>Principal Scientist, ICAR- Indian Institute of Millets Research, Hyderabad                                                                            |
|                      |                                                                                                                                                                            |
| Lecture-5<br>Speaker | Food synergy as a public health strategy to improve bioavailability of micronutrients<br>Dr K Madhavan Nair                                                                |
| Speaker              | Scientist F, Retd. ICMR-National Institute of Nutrition, Hyderabad;                                                                                                        |
|                      | Chairperson, Scientific Panel on Labelling & Claims/Advertisements, FSSAI                                                                                                  |
| Concluding Remarks   | Dr. Ch Monan Rao<br>Former Director, CSIR, Centre for Cellular and Molecular Biology, Hyderabad<br>General Discussion                                                      |
| Vote of thanks:      | Ms Archna Pant                                                                                                                                                             |
|                      | YWS. NASI                                                                                                                                                                  |

### Annex. 7 **The National Academy of Sciences, India (NASI)**



### **Celebrates (Virtually)**

### Birth Anniversary of Prof. Satish Dhawan

on



25<sup>th</sup> September, 2021 at 11.00 am to 6.00 pm Prof. Satish Dhawan 25.9.1920 - 03.01.2002

--- Programme ---

### You tube Live: https://www.youtube.com/c/nasiprayagraj/live

Inaugural Session : (11:00 am - 12:30 pm)

| Welcome                  | <b>Prof. Govindan Rangarajan</b><br>Director, Indian Institute of Science (IISc), Bengaluru                                                                      |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Genesis of the programme | <b>Prof. Manju Sharma</b><br>NASI-DST Distinguished Woman Scientist Chair; Past President, NASI<br>Former Secretary, Department of Biotechnology, Govt. of India |
| Remembrance              | <b>Prof. Ashok Misra</b><br>Former Director, IIT Bombay; Past President, NASI<br>Chairman, NASI-Bengaluru Chapter                                                |
| Remembrance              | <b>Dr. Jyotsna Dhawan</b><br>Emeritus Scientist, CSIR-CCMB, Hyderabad                                                                                            |
| Presidential<br>Address  | <b>Prof. Ajoy Ghatak</b><br>President, NASI;<br>Former Professor of Physics, IIT Delhi, New Delhi                                                                |
| Inaugural Address        | <b>Dr. K Kasturirangan</b><br>Past President, NASI;<br>Former Chairman, ISRO & Space Commission, Govt. of India                                                  |
| Vote of Thanks           | <b>Prof. Paramjit Khurana</b><br>General Secretary (OS), NASI;<br>Department of Plant Molecular Biology, South Campus, DU, New Delhi                             |

### Lunch Break (12.30 pm - 01.15 pm)

| Plenary Session-1: (01:15 pm-3:15 pm) |                                                                                                       |  |
|---------------------------------------|-------------------------------------------------------------------------------------------------------|--|
| Chairman                              | Dr. K.Sivan<br>Chairman, ISRO and Secretary, Department of Space, Govt. of India<br>(Special Remarks) |  |
| Co-Chair                              | <b>Dr. Jyotsna Dhawan</b><br>Emeritus Scientist, CSIR-CCMB, Hyderabad                                 |  |

| Speaker-1 | <b>Dr. K Radhakrishnan</b><br>Former Chairman, ISRO, Bangaluru                                       |
|-----------|------------------------------------------------------------------------------------------------------|
| Speaker-2 | <b>Prof. S Chandrashekhar</b><br>Professor, IIM, Bengaluru ; and Visiting Professor, NIAS, Bengaluru |
| Speaker-3 | <b>Dr. A S Kiran Kumar</b><br>Former Chairman, ISRO, Bengaluru                                       |
| Speaker-4 | Dr. Pramod Kale<br>Former Director, Vikram Sarabhai Space Centre (VSSC),<br>ISRO,Thiruvananthapuram  |

### Tea Break (3.15 pm - 3.45 pm)

| Plenary Session-2: (3:45 pm – onwards) |                                                                                                       |  |
|----------------------------------------|-------------------------------------------------------------------------------------------------------|--|
| Chairman                               | <b>Shri S Somanath</b><br>Director, Vikram Sarabhai Space Centre (VSSC),ISRO, Thiruvananthapuram      |  |
| Co-chair                               | <b>Dr. V Narayanan</b><br>Director, Liquid Propulsion Systems Centre (LPSC), ISRO, Thiruvananthapuram |  |
| Speaker                                | <b>Shri D Sam Dayala Dev</b><br>Director, ISRO Inertial Systems Unit (IISU), Thiruvananthapuram       |  |

### Concluding Session: (5.15 pm – onwards)

| Chairman              | Dr. K Kasturirangan<br>Past President, NASI<br>Former Chairman, ISRO & Space Commission, Govt. of India       |
|-----------------------|---------------------------------------------------------------------------------------------------------------|
| Co-chair              | <b>Prof. Satya Deo</b><br>General Secretary (HQ), NASI<br>Former Vice-Chancellor, APS University, Rewa (MP)   |
| Address               | <b>Dr. N Balakrishnan</b><br>Former Professor, IISc, Bengaluru                                                |
| Concluding<br>Remarks | <b>Prof. G. Padmanaban</b><br>Past President, NASI<br>Former Director, Indian Institute of Science, Bengaluru |
| Vote of thanks        | Dr.Niraj Kumar<br>Executive Secretary, NASI                                                                   |

\*\*\*\*\*\*\*





Memorable photographs of Prof. Satish Dhawan: courtesy internet