

Government of India
Ministry of Science and Technology
Department of Science and Technology
(CDN Section)

Technology Bhawan,
New Mehrauli Road
New Delhi-110016
Dated: 13.07.2022

OFFICE MEMORANDUM

Subject: Monthly Summary to the Cabinet for the month of June, 2022.

The undersigned is directed to enclose herewith a copy of the Monthly Summary of important policy decisions taken and major achievements of the Department of Science & Technology for the month ending 30.06.2022 for information.

2. This has already been approved by Secretary, DST.

(Pulok Sen Gupta)
Under Secretary to the Govt. of India

To,

All Members of the Council of Ministers (as per Annexure-I)

Copy with enclosures, forwarded to:-

- i. Vice Chairman, NITI Aayog, NITI Bhawan, New Delhi. (vch-niti@gov.in)
- ii. The Chairman, Union Public Service Commission (chairman-upsc@gov.in)
- iii. Chief Executive Officer, NITIAayog, NITI Bhawan, New Delhi (ceo-niti@gov.in)
- iv. The Principal Secretary to the Prime Minister, Prime Minister Office, South Block, ND (pkmishra.pmo@gov.in)
- v. All members of NITI Aayog, NITI Bhawan, New Delhi. (vk.saraswat@nic.in, rc.niti@gov.in, vinodk.paul@gov.in)
- vi. Secretary to the President of India. (secy.president@rb.nic.in)
- vii. Secretary to the Vice-President of India. (secyvp@nic.in)
- viii. Principal Scientific Advisor to the Govt. of India. (vijayraghavan@gov.in)
- ix. All Secretaries to the Government of India (secy-goi@lsmgr.nic.in)
- x. The Principal Director General, Press Information Bureau, Ministry of Information and Broadcasting. (pdg-pib@nic.in)
- xi. The Director, Cabinet Secretariat, New Delhi. (cabinet@nic.in)
- xii. Dr. Rabindra Kumar Panigrahy, Sc. 'E', DST for uploading the Monthly Summary on DST's website. (rabindra.p@gov.in)
- xiii. PSO to Secretary, DST. (anuj.tripathi@nic.in)
- xiv. AD (OL), DST for Hindi Translation (kn.singh65@gov.in)

Department of Science & Technology
Monthly Report
June, 2022

I. Important policy decisions taken and major achievements during the month:

A. Science for Society

1. Centre for Nano and Soft Matter Sciences (CeNS), Bengaluru has started a ‘Skill Development Program (SDPC)’. Through this specially organized initiative, CeNS intends to share scientific skills and capabilities with the research community to carry out meaningful science for the benefit of the country and contribute to social scientific responsibilities. To enhance the job opportunities for students with a science background, SDPC has invited applications for Certificate Course in ‘Hands-on Training on Scientific Instruments’.

B. Technology Development

1. ARCI’s Easy-to-clean coating technology has been deployed successfully at a PV plant with 600KW capacity located at BHEL, Trichy.

C. International Cooperation

1. **13th Meeting of the ASEAN-India Working Group on Science and Technology (AIWGST):** Dr. Srivari Chandrasekhar, Secretary, Department of Science and Technology (Govt. of India) Co-Chaired the 13th Meeting of the ASEAN-India Working Group on Science and Technology (AIWGST) along with his ASEAN counterpart H.E. Mr Bui The Duy, Deputy Minister of Science and Technology of Vietnam. The main agenda of the meeting was to review and monitor various S&T activities under ASEAN-India Science and Technology Cooperation under the aegis of the ASEAN-India Summit and to finalize newer areas of cooperation, mode and modalities and the Calendar of S&T events and activities for organizing during 2022.

D. Human Capacity Building

1. Under the project “**Simulation the Indian Summer Monsoon Climate Variability and its teleconnections during the Holocene**” implemented by University Centre for Earth and Space Science (UCESS), University of Hyderabad, a study on the role of orbital parameter changes for high rainfall during the MH was brought out. This study also points out that the ENSO impact can only be expected to change when such astronomical changes are seen. The outcome of the project in terms of S & T is as follows:

Manpower trained : 02

Paper published in cited for publication : 03

2. **Celebration of 8th International Day of Yoga (IDY), 2022:**

DST had organized multiple activities to celebrate IDY, 2022. A lecture was organized on 'Yoga and Health' and also conducted demonstration of yoga in virtual mode under the banner 'Yoga @Home and Yoga with Family' on 18 June, 2022. DST has also organized yoga session on 21 June, 2022 wherein DST officials led by Secretary, DST performed yoga. Under SATYM programme, a webinar where Prof Vivek Sharma, Head, Department of Physiology, AIIMS, Rajkot delivered a lecture on 'Yogic Lifestyle: Scientific Tool for Conscious Living' has been conducted. Secretary, DST has presided over this webinar and gave his opening remarks. More than 300 participants have attended this webinar which was streamed on YouTube as well.

3. **Vigyan Jyoti:**

- **EY-STEM App:** The EY-STEM App has been introduced to Vigyan Jyoti students for exploring STEM phenomena during the summer holidays which has around 450 activities focusing on STEM, social and emotional learning.

4. **Innovation in Science Pursuit for Inspired Research (INSPIRE) Scheme:**

INSPIRE Scholarship:

- **1253 SHE Scholars** received their scholarship amounting to **₹10,80,60,000/-** for pursuing **B.Sc./M.Sc. Degree course in basic and natural sciences.**
- **826 Letters have been sent to different Boards and Applicants w.r.t. Abeyance Cases against SHE-2021 call.**

INSPIRE Fellowship:

- Total **35** INSPIRE Fellows were upgraded from **Junior Research Fellow (JRF) to Senior Research Fellow (SRF).**
- **18** INSPIRE Fellows received INSPIRE Fellowship (Total Amount **₹83,28,240/-**) **upon final selection**
- **124** INSPIRE Fellows received INSPIRE Fellowship (Total Amount **₹5,65,95,296/-**) for **continuing their doctoral degree program.**

INSPIRE Faculty Fellowship:

- **Total 116** Applicants were **recommended from all the 8 subjects** based on the criteria fixed by the respective subject expert committees.

5. The Fifth Virtual pre-event to Second UN-WGIC (United Nation World Geospatial Information Congress to be held in October 2022) to make the stakeholders of Indian Geospatial fraternity aware about the Congress and for Content building for highlighting the Indian Geospatial

Ecosystem for Congress at National, State and regional levels was successfully organized by DST and Department of Geography, Gauhati University, Guwahati, Assam on 23rd June, 2022.

6. Eight Meeting of the National Organizing Committee for Second United Nations World Geospatial Information Congress (UNW-GIC) was held on 15 June 2022. Meeting aimed to discuss the framework for highlighting the Indian Geospatial Ecosystem during the exhibition.

E. Scientific Research

1. An international team of researchers involving an Aryabhata Research Institute of Observational Sciences (ARIES), Nainital scientist discovered a binary super massive black hole in a system which will be a strong candidate for future detection of gravitational waves (GWs). A team of Indian team of researchers involving an ARIES scientist has found a possible origin of core radio emissions in black hole sources.
2. Centre for Nano and Soft Matter Sciences (CeNS), Bengaluru researchers have developed a unique smart window with a toggle option between opaque (T~5%) and transparent states (T~ 85%) in select areas. The window consists of microfluidic cavities filled with a liquid optically matched with the glass substrate, thus rendering specular light transmission through the cavity. When devoid of the liquid, the cavities become translucent due to light scattering from the roughened internal wall surfaces. Importantly, the device consumes no energy while being in any of the two states. A patent was granted based on this invention.
3. A team of scientist from IACS has discovered a new target for killing cancer cells, opening the door for potential new therapy. The new pathway is utilized by cancer cells to repair DNA double-stranded break repair.

F. Scientific Infrastructure Building

1. MoU between Survey of India and Scanpoint Geomatics Limited (SGL) an Indigenous forum was signed on 07-06-2022 for carrying out Proof of concept (PoC) as a part of collaboration under indigenously end to end data management including data hosting, data managing, data processing, data dissemination and data monetization with no profit no cost basis.
2. Visit of Shri Giriraj Singh, Hon'ble Minister, Rural Development & Panchyati Raj, Govt. of India, Shri Satpal Maharaj, Hon'ble Minister Panchyati Raj and Department of Tourism, Govt. of Uttarakhand, Shri Ganesh Joshi, Hon'ble Minister, Rural Development, Govt. of Uttarakhand, Secretary, Joint Secretary of MoPR, Govt. of India along with DG Revenue, Govt. of India, Secretary, Additional Secretary and other officials of Secretariat, Govt. of Uttarakhand, on 20.06.2022 to Surveyor General Office, Dehradun and G&RB Directorate. SGI, and officials of SoI briefed Hon'ble Minister about legacy mandates and other ongoing projects in SoI for the development of Nation. SGI and officials also explained in details the SVAMITVA project.

3. **Fund for Improvement of S&T Infrastructure in Universities and Higher Educational Institutions (FIST) Program**

Researchers at Amity University, Haryana have developed a reusable, recyclable, washable, odorless, non-allergic and anti-microbial N95 mask by using 3D printing technology by using the Zetasizer Nano ZS, a facility supported by 'Fund for Improvement of Science & Technology Infrastructure' (FIST) project of the Department of Science & Technology (DST). This is a high performance, versatile system for measuring particle size, zeta potential, molecular weight, particle mobility and micro-rheology.

4. **Sophisticated Analytical Instrument Facilities (SAIF):** Governor of Uttar Pradesh, Smt. Anandiben Patel inaugurated three high-end sophisticated DST sponsored analytical facilities, TGA/DTA/DSC, BET analyzer and Zeta Potential & Nano-sizer at DST-SAIF Centre at Panjab University Chandigarh. A delegation of 11 Vice-Chancellors of various universities of Uttar Pradesh also visited the centre and explored the possibilities of utilizing these facilities for the benefit of academia and industries in UP.

5. **Synergistic Training program Utilizing the Scientific and Technological Infrastructure (STUTI):** Four STUTI PMUs have identified several Department/Institutes which have conducted 08 training programs across the country that imparted training to over 230 researchers/students.
