

No. Misc.1/20/2018-CDN (Vol-II)
Government of India
Ministry of Science and Technology
Department of Science & Technology
(CDN Section)

Technology Bhawan,
New Mehrauli Road,
New Delhi – 110 016

Dated: 10.10.2019

OFFICE MEMORANDUM

Subject: Monthly Summary to the Cabinet for the month of September, 2019.

The undersigned is directed to enclose a copy of the Monthly Summary of Important policy decisions taken and major achievements of the Department of Science & Technology for the month ending 30.09.2019 for information.

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



(P. K. Srivastava)

Deputy Secretary to the Govt. of India

To,

All Members of the Council of Ministers

Copy with enclosures, forwarded to:-

1. The Principal Scientific Adviser to the Government of India
2. Secretary to the President of India
3. Secretary to the Vice-President of India
4. The Principal Secretary to the Prime Minister, Prime Minister Office, South Block, New Delhi – 110 011.
5. Chairman, NITI Aayog, NITI Bhawan, New Delhi.
6. Vice Chairman, NITI Aayog, NITI Bhawan, New Delhi.
7. Chief Executive Officer, NITI Aayog, NITI Bhawan, New Delhi.
8. All Members of NITI Aayog, NITI Bhawan, New Delhi.
9. The Chairman, Union Public Service Commission
10. Secretaries to the Government of India (as per list)
11. The Principal Director General, Press Information Bureau, Ministry of Information & Broadcasting
12. The Director, Cabinet Secretariat, New Delhi - 4.
13. Shri Sanjay Kumar Mishra, Sc. 'G', DST for uploading the monthly summary on DST's website.
14. Sr. PPS to Secretary, DST.

Department of Science & Technology

Monthly Report

September, 2019

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

A. Science for Society

1. A cost effective **nano-carrier based treatment of psoriasis was developed by ISF College of Pharmacy**, Moga, Punjab under Technological Intervention for addressing Societal Needs (TIASN) programme of SEED Division. The treatment developed is better in terms of substantial reduction in cost and treatment time (50%).
2. 28 women led rural enterprise for the **promotion of improved cook stoves, safe drinking water**, and food crop based value addition units have been established through Women's Technology Program (WTP) at Sonoabori Village, Morigaon Dist., Assam.
3. Three **workshops (500 participants) on popular Science writing** were conducted under AWSAR programme at IISc Bangalore, Institute of Seismological Research (ISR), Gandhinagar and CSIR- NBRI Lucknow in September 2019.
4. Technology Information Forecasting and Assessment Council (TIFAC) organised a consultative **workshop on Framing Policy Document on Scientific Social Responsibility (SSR)** at Indian Institute of Technology, Guwahati on September 18, 2019.
5. A new Dialysis Unit with 2 dialysis machines was established with funds from Bharat Petroleum Corporation Limited (BPCL) at Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram.
6. A panel discussion on **"Technology Interventions for Restoration of Land to Sustainable Livelihoods in Partnership with Community"** was organized by SEED Division, DST in 14th Conference of Parties to the United Nations Convention to Combat Desertification (UNCCD-COP-14) held from 2-13 September 2019. It explored the possibilities of scaling up of field models to address emerging challenges of restoring land for sustainable life and livelihoods in partnership with

community in different land forms i.e. mountains, deserts, grasslands, floods and water-logged areas were also showcased.

B. National Technology Mission

1. A meeting was held on 5th September 2019 at Central Mine Planning and Design Institute Limited (CMPDI) at Ranchi. DST has provided the inputs on Overheads, IPR provisions and disposal of capital assets for modification of S&T **Guidelines for implementing Coal research projects.**
2. DST and IISc. Bangalore has organised an event on 16th September 2019 at IISC. Bangalore, where in Hon'ble Union Minister for Science & Technology, Earth Sciences and Health & Family Welfare Dr. Harsh Vardhan has **dedicated the Interdisciplinary Centre for Energy Research (ICER) to the nation** and also inaugurated the National Clean Coal Research & Development Centre (NCCRD).
3. Department of Science & Technology (DST) has participated and Co-sponsored the 6th Indian Water Week (IWW)-2019 organized by Ministry of Jal Shakti, which was held on 24th-28th September 2019 at Vigyan Bhawan, New Delhi to **showcase the technologies developed with support from DST under the Water Technology Initiative (WTI) programme.**
4. The 1st Meeting of Mission Governing Body (MGB) on NM-ICPS was held on 11th September, 2019 at New Delhi under the Chairmanship of Dr. Kris Gopalakrishanan, to initiate six Technology Innovation Hubs (TIH) immediately. **The following six technologies were identified for establishment of 6 Hubs:**
 - i. Artificial Intelligence & Machine Learning
 - ii. Technology for Internet of Things & Everything (IOT & IOE), Sensors, Activators & Control.
 - iii. Databanks & Data Services, Data Analysis.
 - iv. Advanced Communication Systems
 - v. Robotics & Autonomous Systems.
 - vi. Cyber Security and Cyber Security for Physical Infrastructure.

C. Technology Development

1. DST has Organised a meeting with BRPL and IIT Delhi at DST on 26th September 2019 regarding the project **entitled “Demonstration of grid supportive EV charger and charging infrastructure at LT level (D-EVCI)”** for collaboration of

BRPL and deployment of EV charger which is being developed in this project by BRPL.

2. Loan Agreement signed on 20th September, 2019 with M/s Agatsa Software Private Limited, Noida (UP) for loan assistance of Rs. 391.00 lakh against the total project cost of Rs. 1148.00 **lakh for implementation of project “Commercialization of Cardiac Care platform – SanketLife”.**

D. International Cooperation

1. DST and Rocky Mountain Institute (RMI) has jointly called for **proposals on Global Cooling Prize (GCP)**. In this context, a technical review committee meeting was held from 22-23 September 2019 at New York. A total of 139 applications have received and out of which 45 are from India. A total of 10 applications have been selected.
2. Department of Science and Technology participated in the **Regional Workshop on Green and Low Carbon Hydrogen Energy** during 26 – 27 September 2019 at Shanghai, China. The objective of the workshop is **to improve knowledge and understanding of hydrogen technologies, markets, solutions**, transportation & storage, safety & environment guidelines for hydrogen production and use.
3. DST has supported one Indo-Dutch consortia titled **“Water for Change-Integrative and Fit-for-Purpose Water Sensitive Design Framework for Fast Growing Livable Cities”** that was evolved through the extensive Sandpit mechanism in the area of Urban Water Systems against the DST-Netherlands Organization for Scientific Research (NWO) Call on bilateral consortia.
4. An Agreement on Science & Technology Cooperation between the Government of India and the Government of the United States of America was concluded on 23rd September 2019 in New Delhi, superseding the earlier inter-governmental agreement on Science & Technology Cooperation concluded in October 2005. The **Agreement would provide an opportunity to promote ‘high quality’ and ‘high impact’ research and innovation** partnerships as well as broadening and expanding relationships between the extensive scientific and technological communities.
5. 9th Joint Science and Technology Committee meeting of Australia India Strategic Research Fund (AISRF) was held at Canberra on 6th September 2019. Ongoing programs were reviewed, and **it was agreed to enhance the allocation of Australia India Strategic Research Fund (AISRF), invite new proposals in**

- Climate change-** Mitigation & Adaptation, Food processing & Storage and Mine Safety & Efficiency.
6. 6th Joint Committee Meeting (JCM) on Science and Technology between India and Myanmar was held on September 17, 2019 at New Delhi. Both sides agreed to **strengthen cooperation in the area of Food Safety, Material Science, Bamboo Technologies and Information Technology** through focused R & D joint projects. India and Myanmar will also work together for human capacity building by training and fellowships; and to develop mechanisms to deploy affordable technologies to improve the life of their societies.
 7. First Joint Committee Meeting (JCM) on Science and Technology between India and Oman held on September 24, 2019 at New Delhi. **India-Oman explored the roots to strengthen the cooperation in the area of Human capacity building in Science, Technology, Engineering, Mathematics and Medicine (STEMM), Fellowship, Information Technology, Cyber Security, Smart Cities and Oil & Petroleum research.**
 8. India-Singapore Business and Innovation Summit held during September 9 - 12, 2019 **for bilateral discussion on renewal of S&T Cooperation with Singapore** and participation in Business and Innovation Summit organized by the High Commission of India in Singapore.
 9. The Department of Science and Technology (**DST**) **supported participation of ten Start-ups representing the country in emerging technology domains like Artificial Intelligence, cybersecurity, fintech, healthcare, Innovation and Social Impact (Energy) amongst others in the Business and Innovation Summit organized by the High Commission of India in Singapore. The Exhibition was inaugurated by Dr. S. Jaishankar, External Affairs Minister, India and Dr. Vivian Balakrishnan, Minister for Foreign Affairs, Singapore followed by walkthrough and an interaction with exhibitors who were representing start-ups from India and Singapore. The DST delegation also participated in Business and Innovation Summit and facilitated discussion of DST supported start-ups as well as Singapore Start-ups with Scientists, officials, investors.**
 10. As part of the ICSTI 70th CPR meeting, an International conference on Digital Economy: The Space for Science and Technology Information was also organized during September 19-20, 2019 in partnership with National Institute of Science Communications and Information Recourses (NISCAIR). During the meeting over 20 speakers delivered **talk on themes such as (i) Science and Technology**

Information in the Digital Age: A Global View (ii) Information Literacy and Information Revolution (iii) Regulating Information Flow (iv) Scientific Journals in the Open Digital Environment (v) Scientific Ethics and Open Access (vi) Infrastructure for the Digital Economy (vii) S&T Information Literacy: The Role of Intermediaries.

11. **The Indo-German Science & Technology Centre (IGSTC) Scientific Council** was held during 12-13 September 2019 at DLR, Bonn office, Germany for further review and evaluation jointly by Indian and German members of the Scientific Council.

IGSTC launched broad themes on **i) Sustainable production; Sustainable Chemical Process Technologies and ii) Clean & Green Technologies:** Technologies to reduce/mitigate water and air pollution; Solid waste management technologies etc. A total of 45 proposals were received against the projects "Sustainable Production" and "Clean and Green Technologies". On internal scrutiny, 33 projects eligible for further evaluation. The Scientific Council also recommended six new proposals for further support.

12. **India BRICS S&T cooperation:** The 7th Meeting of the BRICS Science, Technology and Innovation Ministers, 9th Meeting of the BRICS STI SOM and 5th Meeting of the BRICS STI Funding Agencies were held in Campinas, Brazil during 16-20 September 2019. A four member Indian delegation was led by Hon'ble Minister of Science & Technology. **The Campinas Declaration of BRICS STI Ministers was adopted which contains inter-alia-**

- a) A total 33 collaborative projects were selected for funding under BRICS STI Cooperation framework. Out of these 33 selected project, Indian collaboration features in 24 projects.
- b) The BRICS Action Plan 2019-2022 was finalised and adopted.
- c) The BRICS Calendar of Activities 2019-2020 was finalised and adopted.
- d) The new BRICS STI Architecture was adopted for effective coordination and management of BRICS STI cooperation.
- e) The Enabling Framework for innovation BRICS Network was finalised and adopted.
- f) India is to host 2 BRICS events during 2020 (Meeting of BRICS WG on Nano-Technology and Advance Materials and BRICS WG on Polar Science).

13. **India ASEAN S&T Collaboration:** A total of 21 ASEAN-India Collaborative R&D projects were sanctioned for support under ASEAN India S&T Development Fund (AISTDF) with a total budget of Rs. 75 Lakh. A total of 47 Fellowships were awarded to ASEAN researchers for carrying out research training at Indian Institutes for a period of 2-6 months.
14. **The eleventh Meeting of the India-Nepal Survey Official's Committee (SoC)** was held at Dehradun, India from 24th September to 26th September, 2019. Both side emphasized on the necessity of proper planning in order to complete the task within stipulated time frame set during the Sixth meeting of India-Nepal Boundary Working Group (BWG) held during 28th to 30th August, 2019. SOC agreed that the fieldwork for Large Scale Mapping using UAV will be conducted in the region on a mutually convenient date after seeking necessary clearance from the respective governments of India and Nepal for pilot project. The SoC also agreed for preparation of No-man's Land Encroachment and Cross Border Occupation (CBO) map using High Resolution Satellite Imagery (HRSI) as pilot project.

E. Human Capacity Building

1. Vigyan Samagam, a multi-venue mega science exhibition, jointly organized by Department of Atomic Energy and Department of Science & Technology concluded its journey at Visvesvaraya Industrial & Technological Museum (VITM), Bengaluru with footfall of about 1.23 lakh visitors.

2. INSPIRE Internship:

One meeting of the Expert Committee for considering the INSPIRE Internship Proposals under the INSPIRE Program was organized. In this meeting, The Committee considered 32 INSPIRE Internship proposals for organizing the INSPIRE Internship camps from all across the country. Out of 32 proposals, only 10 proposals covering 1670 INSPIRE interns were recommended for support.

3. Scholarship For Higher Education (SHE):

- 2625 SHE scholars received their scholarship for pursuing B.Sc./M.Sc. Degree course in basic and natural sciences.
- 84 INSPIRE Scholars/visitor's queries were responded.

4. **INSPIRE Fellowship:**

- 950 INSPIRE Fellows received their fellowship for pursuing their doctoral degree program.
- One INSPIRE Fellowship Review meeting was organized at Chandigarh in which 125 INSPIRE Fellows research progress was monitored by the respective subject experts.
- 83 INSPIRE Fellows have been up-graded from JRF to SRF.

5. **INSPIRE Faculty Fellowship:**

- 179 INSPIRE Faculty Fellows received their research grant.

6. The fifth meeting of **expert committee on Bibliometrics** was held during 12-13 September, 2019 at CEPT University, Ahmedabad.

F. Scientific Infrastructure Building

1. The design and development of in-kind items for Facility for Antiproton and Ion Research (FAIR) and Thirty Meter Telescope (TMT) projects is in progress. For TMT project, 20 Actuators sent to Project Office, TMT at USA continued undergoing life tests at Jet Propulsion Laboratory, USA.
2. DST has also supported WTI Urban Water Systems (UWS) consortia led by IIT Kharagpur titled "Fast forward to SDG6: Acceptable and affordable water in secondary Indian cities - 4WARD". The other collaborative partners of the consortia are Tata Institute of Social Sciences (TISS), Mumbai; Amrita Vishwa Vidyapeetham, Kochi; Indian Institute of Sciences, Bangalore; Indian Institute of Technology Bombay.
3. DST also supported 14 R&D and technology development projects in the area Carbon Capture Utilisation and Storage (CCUS) under the umbrella of Mission Innovation – Innovation Challenge #3. The objective of this Call was to undertake **joint Research & Development with member MI countries to identify and prioritize breakthrough technologies in the field of CO₂ capture, separation, storage and CO₂ value addition.** It is expected to evolve technologies and develop methodologies that address issues related to high capital costs, safety, logistics, high auxiliary power consumption and non-existence of commercial scale CCS projects.

4. Under the India-Belarus S&T Cooperation, a joint Seminar on **'Nanomaterials and Advanced Materials'** was held at OV Roman Powder Metallurgy Institute, Minsk, Belarus during September 25 – 27, 2019. Eight member Indian expert team was led by Dr. G Padmanabhan, Director, International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad. During the Seminar experts made **presentation covering areas such as (i) Additive Manufacturing (AM) (ii) Powder production for AM and Powder Metallurgy Components (iii) Nanostructured Materials** (iv) Ceramic Materials (v) Functional coatings and thin films for various applications (vi) Sputtering targets.
5. "Fund for Improvement of S&T Infrastructure in Universities and Higher Educational Institutions (FIST)" meeting in Engineering Sciences, Physical Sciences, Chemical Sciences and PG Colleges area were held in September, 2019. The Subject Expert Committee evaluated the presentations and recommended few proposals for support under FIST for Scientific Infrastructure Building.
6. "Sophisticated Analytical and Technical Help Institutes" (SATHI): **The terms and conditions pertaining to SATHI has been finalized in consultation with Finance and Secretary-DST**, after wider consultation with members of high level Expert committee and stakeholders. Under the new initiative for Scientific Infrastructure Building, support to SATHI centers at IIT Delhi, IIT Khargpur and BHU – Varanasi.