Department of Science & Technology
Monthly Report
April, 2019

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

I. **Indo-Swiss Joint Committee on Science and Technology:** Prof. Ashutosh Sharma, Secretary, DST co-chaired the Indo-Swiss joint committee on science and technology(S&T) during April 29-30, 2019. The JCM discussed and reviewed the ongoing S&T activities between the two countries and proposed new themes for next joint S&T call such as water splitting for energy, soft matter etc. Prof. Sharma visited Zurich University, the Swiss Federal Institution of Technology, ETH Zurich, University of Applied Sciences and held discussion with their Presidents for enhancement of S&T cooperation among both the countries.

II. **Artificial Intelligence Workshop:** Mr. Amitabh Kanth, CEO Niti Aayog and Prof. Ashutosh Sharma, Secretary, DST addressed the participants in the Indo-Sweden workshop on 'Artificial Intelligence for society' in Delhi on 11th April. Nearly 200 participants from industry, government, academia and researchers attended the meeting. During this workshop, an industrial R&D program between both the countries was also launched in **Smart Cities and Clean Technologies, Digitalization and Internet of Things.**

III. **Launch of India-Netherland Tech Summit Logo:** The logo of 25th the DST-CII Tech Summit with partner country Netherlands was showcased during birthday celebrations of the King of Netherland on April 30, 2019 at New Delhi. The event was hosted by H.E. Mr Marten van den Berg, the Ambassador of Netherlands. Secretary West, MEA and Head, IBCD, DST were present on this occasion.

IV. **India-Czech Joint Call for Proposals:** An India-Czech joint call was announced to invite joint R&D proposals during March 15, 2019 to July 31, 2019 under S&T collaboration between the Department of Science and Technology (DST), Govt. of India and the Ministry of Education, Youth and Sports (MEYS) of the Republic of Czech. The priority areas for this call are information and communication technologies; natural sciences and biotechnology; new materials and nanotechnology; medical sciences (including pharmaceutical sciences) and food safety; research of climate change, environment and energy.

V. A Brainstorming Meeting on "Alternative fuels and associated automotive technologies" was organized to develop R&D roadmap for Indian context at IIT-Delhi on 29.04.2019. About 30 Experts consisting of Academic Experts, Industry Experts, Industry Associations, Ministry of Petroleum, Department of Biotechnology, Bureau of Indian Standards participated in the discussion.

VI. IIT Roorkee and Delft University led Indo-Dutch research consortia for Urban Water Systems has been approved for support to work on development of Integrative and Fit-for-Purpose Water Sensitive Design Framework for Fast Growing Livable Cities.

VII. Against Mission Innovation-India call on Carbon Capture Utilisation and Storage, 18 projects in various domains have been approved for support.

VIII. Interesting research leads have been obtained in the area of microbial desalination process for salt removal and integrated domestic wastewater treatment system with multi species and dual media constructed wetland. 23 Ongoing/completed water projects were reviewed on 25th-26th April 2019.

IX. Project on development of flexible super capacitors demonstrated good development and good progress was noted both in thermal and electrochemical storage.

X. 5-Day National Training Programme for Trainers was organized during 9-13, April 2019 in Madurai Kamaraj University to inculcate Scientific Temper in the areas of Eco Media, Eco-Design and Eco-Innovation for Young Change Makers, during 9-13, April 2019. A total of 24 Young Change Makers participated and experts in the field of E-3 (Eco Media Eco design, & Eco Innovation) centric S&T Communication shared their knowledge and imparted skills to young change makers.

- Eco-Media engagement to get accurate information of ecological resources including water bodies with GPS equipment was part of the programme.

- Eco-Design and Eco enterprise are the main components of knowledge and skill transfer of the training programme.

- Traditional Technology Design - Young Change Makers were also exposed to traditional technology of producing water leak proof palmyra leaves vessels.

XI. Team India consisting of 25 children, who were awarded the national IRIS award were given a warm send off on 5th April, 2019. Team India would represent India at International Science & Engineering Fair (ISEF) in Phoenix, USA during 13th -17th May, 2019. The Principal Scientific Advisor to the Govt. of India, Prof K. Vijay Raghavan was the Chief Guest of the event at Hotel Taj Mansingh, New Delhi. The event was also attended by members of Scientific Review Committee who have selected the students' projects and have mentored them.

XII. The CHORD Division held group project review meeting for the sponsored research projects/studies at CSIR-CSIO, Chandigarh and Punjab State Council for S&T (PSCST), Chandigarh namely on "Directory of Scientific Equipments and Components manufactured in India", "Information and Communication Technology Adoption by MSMes in Punjab", and "Importance of S&T in the development of States-Empirical Investigation of Vidhan Sabha Questions". The outcome/findings of the projects would bring out interesting insights useful for policy planners, industrialists, researchers and other stakeholders in the S&T sector.

XIII. Start-up Research Grant (SRG) scheme: Call is made open from 1st April 2019. The Scheme, that aims to assist researchers to initiate their research career in a new institution, enables researchers working in frontier areas of science and engineering to establish themselves and move on to take up challenging problems in future.

XIV. Empowerment and Equity Opportunities for Excellence in Science (EMEQ): Call is open from 10th April 2019. The Scheme provides research support to researchers belonging to the Scheduled Caste and Scheduled Tribe in undertaking research in frontier areas of science and engineering.

XV. Teachers Associateship for Research Excellence (TARE): Call is made open from 15th April 2019. TARE scheme aims to facilitate mobility of faculty members working in a regular capacity in State Universities / Colleges and in private Academic Institutions to carryout research work in an established public funded institution such as IITs, IISc, IISERS, National Institutions (NITs, CSIR, ICAR, ICMR labs and other central institutions) and Central Universities,

located preferably nearer to the institution where the faculty member is working. Research work will be carried out in such a manner to ensure that the Principal Investigator (PI) continue to work in the host institute as well as his / her parent institute on mutually agreed terms between the PI and Mentor.

XVI.   Project Advisory and Monitoring committee meeting to evaluate 20 projects funded under Network Programme on Climate Change and Human Health was held at IIT Delhi, New Delhi during 4-5th April, 2019.

XVII.   Dr. Akhilesh Gupta, Head PCPM accompanied with Dr. B K Shukla, Head AI, Dr. Parveen Arora, Head CHORD and Dr. Akhilesh Mishra, Sc. D, PCPM made a presentation before Chief Economic Adviser on "***Science, Technology and Innovation transforming Lives – role of DST***" on 16th April 2019.

XVIII. The design and development of in-kind items for Facility for Antiproton and Ion Research (FAIR) and Thirty Meter Telescope projects is in full swing. Vigyan Samagam, a multi-venue mega science exhibition will be organized at Mumbai from 8th May, 2019 to 7th July, 2019.

XIX.   During the month, a cluster project proposal entitled "Developing a Public Health Informatics Platform in India for a Systems View of Health and Disease" processed and released for implementation at a total cost of Rs. 8,38,94,000/- for the duration of 36 months. Prof. Anurag Aggarwal, Director, CSIR-IGIB is the Co-ordinator of this EDA (Epidemiology Data Analytics) Cluster project. This is a research programme for epidemiological data analytics & Disease burden, Vector, water, Air communicable diseases. The project has scope to extend to other diseases as well. Disease burden, disease forecast, alert generation, evidence based interventions for health policy etc. are some of the areas where the resultant outputs could be utilised.

The overall objective of this EDA proposal is to create scalable data-oriented open platforms for public health epidemiology in India and to gain a systems view of the spectrum of population health challenges. The general plan is to identify, collate, clean and analyze diverse data that reflect the health of a larger rural or urban population in varied locations across India, while creating the digital platforms and tools that enable such work. The proposal will lead to creation of an open public health data platform with built in tools for epidemiology such as visualization and analysis. The set of data that will be

used while building and testing the platform has tremendous potential to inform.

XX. Two Core Support Groups (CSGs), Vigyan Ashram and Appropriate Rural Technology Institute (ARTI), Pune funded under Technological Advancement through Rural Areas (TARA) programme were assessed for their performance through on the spot field assessment by DST's Expert Group during 24-26th April, 2019.

Expert team interacted with users of Fab Lab developed by Vigyan Ashram. Community, school children and potential entrepreneurs are utilizing this facility for digital fabrication and rapid prototyping thus leading to development of bio-composter, incinerator; design of rice-dehusking machine & egg incubator for use in rural areas.

Biomass based technologies (biogas system based on food waste) developed by ARTI, Pune for clean energy solutions for domestic and institutional use were also evaluated during the visit. Such interventions/initiatives could lead to creation of rural starts-up by individuals for the benefit of potential users.

Three tweets were generated on this field visit @IndiaDST on 25-26 April 2019.

XXI. Second National Consultative Brainstorming Workshop involving different stakeholders to identify potential S&T thrust areas, interventions and challenges to be undertaken for future R&D strategy under Technology Interventions for Disabled and Elderly (TIDE) Programme was held on April 9, 2019 at India International Centre (IIC), New Delhi.

XXII. **INSPIRE Internship**: One meeting of the Expert Committee for considering the INSPIRE Internship Proposals under the INSPIRE Program was organized. In this meeting, Committee considered 21 INSPIRE Internship proposals for organizing the INSPIRE Internship camps from all across the country. Out of 21 proposals, only 6 proposals covering 900 INSPIRE interns were recommended for support.

XXIII. **Scholarship For Higher Education (SHE)**:

- SHE scholarship was released to three INSPIRE - SHE scholars for pursing B.Sc./M.Sc. Degree course in basic and natural sciences.

- 91 INSPIRE Scholars/visitor's queries were responded.

XXIV.	**INSPIRE Fellowship:** Nine INSPIRE Fellow's Fellowship was released for pursing their doctoral degree program.
XXV.	The roof top solar power plant in Technology Bhavan premises of 350 KWp was commissioned on 07 January, 2019 and from 07 January to 10 April, 2019 the power generation was 74,670 KWp and the corresponding saving was 5,97,360/- (Excluding Applicable taxes).
XXVI.	The Department has replaced a total of 1500 numbers of 2 x 36 Watts Tube lights with 2 x 18 Watts LED tube lights. This has resulted in wattage saving of 54000 watts (1500Nos. x 36 Watts).
	Besides above, replacement of 715 numbers of 2 x 36 Watts CFL Ceiling lights with 36 Watts LED ceiling lights. This has resulted in wattage saving of 25, 740 watts (715 Nos. x 36 Watts).
XXVII.	This Department has successfully got the Fixed Demand Charges reduced by 200 KVAh, which has reduced the electricity bill by Rs. 50,000/- (200 KVAh x 250/- per KVAh) per month.
XXVIII.	On the initiative of Hindi section, a workshop was organized in the department on 12-04-2019. This workshop was organized to apprise the officials of the fact that recently, Department of Official Language has made it compulsory to attach along with the quarterly progress report, a certificate authenticating the accuracy of the figures being given in the Quarterly Progress Report. Hence, in the workshop, officials were made to practice filling up the Quarterly Progress Report correctly. About 35 people participated in this workshop.
XXIX.	On the initiative of Hindi section, a Kavi Sammelan was organized in the department on 25th April, 2019. Although, Poetry recitation (Kavya Path) is organized during the celebration of Rajbhasha Pakhwada, this was an independent Kavi Sammelan in which 10 officers/officials who are interested in composing poetry, participated with zeal. The Sammelan was dedicated to "Voters' awareness". The poets presented their original compositions on subjects like importance of casting vote.

*****