

Department of Science & Technology

Monthly Report

January, 2019

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

- i. The Department has constituted a High-Level Committee (HLC) under the Chairmanship of Professor K Vijay Raghavan, the Principal Scientific Adviser to the Government of India (PSA to GOI) to assess the role and impact of a) The Indian Science Congress Association (ISCA), (b) TIFAC and (c) The Science and Engineering Academies (INSA, IASc, NASI and INAE) in connecting science with economy and society. HLC met on 21st January 2019 in New Delhi and had detailed discussions.
- ii. **Revision of Emoluments of Research Personnel (JRF/SRF/RA) working in R&D Programmes of Central Government Departments / Agencies:** The Department has enhanced fellowships of research scholars [Junior / Senior Research Fellows (JRF/SRF) and Research Associates (RA)] (Office Memorandum) engaged in R & D programme of the Central Government Departments/ Agencies as per following details:

Fellowship	Earlier Fellowship (w.e.f 01.10.2014) (Rs. per month)	Revised Fellowship (w.e.f 01.01.2019) (Rs. per month)
JRF	25,000	31,000
SRF	28,000	35,000
RA - I	36,000	47,000
RA - II	38,000	49,000
RA - III	40,000	54,000

The revision of fellowship is made with effect from 1st January, 2019. For the first time, the Government has also recommended a set of strong financial and academic incentives to enhance and recognize the performance of research fellows. This will be a performance-based addition to the fellowship.

- iii.** The 10th Meeting of the Governing Body of Indo-German Science and Technology Centre (IGSTC) was held in Aachen, Germany on 23rd January 2019.

The GB ratified the approval of all the seven (7) projects (in the 2+2 mode) recommended by the Indo-German Joint Scientific Committee and further approved by the Co-Chairs. These projects are partnered by academia and industry from both India and Germany in the overall thematic area Advanced Manufacturing and New Materials with subtopics 1) Industry 4.0 (New human-machine interaction processes & Digital and cloud manufacturing), 2) Machine building (Low cost sub-systems & Components for improved precision, reliability and productivity), 3) Process technologies for new materials including nanomaterials, 4) Light weight design and processes.

GB agreed to launch the new programme, Indo-German Industrial and Academia R&D Network Call. R&D Network will promote application oriented joint R&D activity by leveraging already existing infrastructure and funding available with the partners at both sides. It will encourage involvement of industry for pre-commercial R&D activities having potential towards applied research and product development.

- iv.** Two Indo-French projects were recommended under DST-INRIA-CNRS programme from the area of Information & Communications Technology (ICT). Six Indo-French projects from the areas of Biodiversity & Human Environment Interaction, Engineering & System Sciences and Detector & Particle Physics were recommended under DST-CNRS programme.

For the Raman-Charpak Fellowship programme, 25 Indian PhD students were recommended for support from the areas of Materials Science, Chemical Sciences, Physical Sciences, Biological Sciences, Life and Medical Sciences, Atmospheric Sciences, Earth Sciences and Environmental Sciences, Mathematical and Computational Sciences and Engineering Sciences.

- v.** India-Italy Collaborative Industrial R&D joint program was launched to grant the funding, focusing on clean tech, aerospace, advanced manufacturing, advanced materials and protection of cultural heritage.
- vi.** Call for India-Israel joint industrial R&D projects was announced under the India - Israel I4F programme (CFP -3), focusing on Agriculture, Energy,

Health, ICT, Electronics and Water. I4F is a 40 Mn USD fund aimed at promoting, facilitating supporting joint projects leading to co-development and commercialization of innovative technologies benefiting both the countries.

vii. An India-Egypt Bilateral workshop on “Nanomaterials” was organized at Indian Institute of Technology, Bombay during Jan 30-31, 2019 under the India Egypt programme of Cooperation in S&T. About 20 experts from various part of India and 6 experts from Egypt participated in the workshop. This workshop will provide platform for future Indo-Egypt collaborative research projects in the field of nanomaterials.

viii. Establishment of DST –IITM Solar Energy Harnessing Centre at Indian Institute of Technology, Madras: The objective of the centre is to focus on a wide range of technology development activities such as silicon solar cells that promise high efficiency and are suited for Indian conditions. In addition, the centre works to accelerate poly-generation and storage including refrigeration, steam utilization and potable water. The research activities also include development of novel cells based on Dye Sensitised and Perovskite materials that will further boost efficiency of solar devices. Another aspect of the centre research is on energy storage activities such as pursuit of flow battery-based storage and use of solar energy to produce fuels.

ix. A meeting was held on 21st January, 2019 at IUSSTF, New Delhi on Building Energy Efficiency Higher & Advanced Network (BHAVAN) Fellowship program to evaluate 28 applications received for Students Internships and 16 applications for Fellowships. 3 applications were shortlisted under Students Internships and 7 applications for Fellowship.

x. A review meeting was held on 30th & 31st January, 2019 at NTPC, Dadri to review the following projects:

- Advanced Ultra Supercritical Test Rig-Investigation of the long term operation behaviour (Fire Side Corrosion) of tubes made of Super 304H and Ni-based Super Alloy (Alloy 617) for future high efficiency Power Plants.
- Development of High Temperature Spin Test Rig and Accelerated Testing of Advanced Ultra Super Critical (AUSC) Steam Turbine Rotor Segments under Transient and Steady State Thermo-Mechanical conditions.



- xi.** The Union Minister for Science, Technology & Earth Sciences and Environment Forests & Climate Change and Earth Sciences Dr. Harsh Vardhan launched two technology mission centres in the area of water set up by Department of Science and Technology, Government of India which was nucleated at Indian Institute of Technology Madras in Chennai, Tamil Nadu on 25th January 2019. These centres, which have been established as the mission of providing state-of-art research led innovative technological solutions for prevalent and emerging water and energy challenges facing the country.
- xii.** On January 22nd 2019, Dr. Scott Smouse Senior Advisor, DOE's Office of Clean Coal and Carbon Management and DoE Attaché Dr. M.J. Jardaneh met with Head TMD (E,W&O) Dr. Sanjay Bajpai and Dr. Neelima Alam from the Department of Science and Technology (DST) to discuss ongoing collaboration and plans for additional engagements which includes collaboration with DOE on the identified three areas under the U.S.-India Partnership to Advance Clean Energy Research (PACE-R) Phase 2, in the area (1) Advanced Coal Technologies; (2) Carbon Capture, Utilization and Storage (CCUS); and (3) Supercritical CO₂.
- xiii.** A review meeting was held on 24th January, 2019 at CSIR-NIIST, Thiruvananthapuram to review the following MES projects:

- Design & processing of nanostructured hybrid composite materials for electrochemical energy storage.
 - Hybrid Energy Storage Devices based on Multifunctional Nanocomposite Materials.
 - Nano-engineered high power Li-ion battery materials and proto-type device fabrication to deliver a capacity of 500 mAh.
- xiv.** CHORD/NSTMIS Division of Department of Science & Technology (DST) has framed a Draft Policy Document: Scientific Research Infrastructure and Maintenance Networks (SRIMAN) in the S&T sector. Series of Stakeholders Workshop were organized in the southern and western region of the country at CCAMP Bangalore on 10.1.2019 and IIT(B) Mumbai on 25.1.2019 for incorporation of inputs towards finalization of the Policy Document.
- xv. **Rashtriya Kishore Vaigyanik Sammelan (RKVS):**** The Child Scientists from every state participated in Rashtriya Kishore Vaigyanik Sammelan (RKVS) which was held durin 4-6 January, 2019 along with Indian Science Congress in Lovely Professional University, Phagwara, Punjab. About 150 Child Scientists and 100 escort teachers participated. Over 10000 children from local schools also visited and interacted with the child scientists.
- xvi.** 12th Science Communicators' Meet, with an objective of communicating the basic concepts of science amongst the common people, was held as a part of 106th Indian Science Congress on January 5-6, 2019. The event was jointly hosted by Indian Science Congress Association and Lovely Professional University, Punjab. The meet was inaugurated by Shri Ravi Shankar Prasad, Union Minister for Electronics & Information Technology and for Law & Justice on January 5, 2019 and was attended by a huge gathering of more than 2500 scientists, science communicators, media personnel, faculty & students. 32 Science Communicators selected by Indian Science Congress Association from all over India made the presentations of their contemporary research work in four Technical Sessions spread over two days.

- xvii.** National Awards selection Committee for selecting the Awardees for National Awards for Science Communication and Popularizations met on January 28, 2019. 10 Awardees were selected for conferring the awards on National science Day, February 28, 2019.
- xviii.** New project entitled “***Impact of changing aerosol loading and urbanization on surface temperatures and rainfall over select cities over India***” under the Network Programme on Urban Climate was supported to IIT, Bhubneshwar for duration of three years.
- xix.** Special Call for proposals under Scheduled Castes (SC) and Scheduled Tribes (ST) Category has been launched on DST website for conducting the following activities:
- Conduction of national level Conferences/Workshops/Seminars/Brain storming sessions etc of three days duration.
 - Training programmes: In-house short term training/FDP Programmes for Faculty/UG/PG/Doctoral students of two weeks duration.
 - Building awareness at School level and at ITI, Polytechnic, Advanced Training Institutes (ATI).
- xx.** A revised Memorandum of Understanding (MoU) has been signed between National GLP Compliance Monitoring Authority and Quality of India for partnership between the two organizations regarding organization of GLP Inspections and Capacity Building Activities on GLP in the country.
- The MoU also covers conduct of a Study on Impact Analysis of National GLP Programme in the country and Digitization of the National GLP Programme.
- xxi.** **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 40 INSPIRE Internship proposals for organizing the INSPIRE Internship camps from all across the country. Out of 40 proposals, only 13 proposals covering 1900 INSPIRE Interns were recommended for support.
- xxii.** **Scholarship For Higher Education (SHE):** INSPIRE scholarship was released to 8214 SHE scholars for pursuing their under-graduation/post-graduation

academic career in basic sciences. Scholarship Standing Committee meeting was held on 3rd Jan 2019 at DST for reviewing the subjects for INSPIRE scholarship and to take up the other issues related to INSPIRE-SHE.

- xxiii. INSPIRE Fellowship:** INSPIRE Fellowship was released to 155 INSPIRE Fellows for pursuing their doctoral degree program.
- xxiv. INSPIRE Faculty Fellowship:** 59 candidates have been selected /offered INSPIRE Faculty Fellowship for pursuing their Post-doctoral program.
- xxv. Recommendations of Steering Committee, SAIF Program:** A meeting of the Steering Committee for SAIF Program was held on 22.01.2019 under the chairmanship of Secretary, DST. The meeting was organized to monitor the progress of all the SAIF Facilities and to consider their requirement for new instruments and accessories for the F.Y. 2019-20.
- xxvi. SFC for expansion of the DST SAIF Program:** A meeting of the Standing Finance Committee was held under the Chairmanship of Secretary, DST for Expansion of the SAIF Program. It was proposed to set up 4 new SAIF Centres in different regions of the country with an outlay of Rs 495.0 crores towards the same. The proposal has been approved.
- xxvii.** A Blood donation camp was organized by DST in its premises at Technology Bhawan on 24th January, 2019 in association with Indian Red Cross Society. An awareness session on organ donation was also organized on the same day in association with National Organ and Tissue Transplant Organisation (NOTTO), Safdarjung hospital, New Delhi. The event witnessed huge response and 41 units of blood were donated by the voluntary donors. 30 officers/officials of DST took pledge for donation of organ/tissue.