

**No. DSIR/MS/2019/02**  
Government of India  
Ministry of Science & Technology  
Department of Scientific & Industrial Research  
**MONTHLY SUMMARY FOR THE CABINET**  
(For the month of **February, 2019**)  
(Part-I Unclassified)

**Ministry / Department : Department of Scientific and Industrial Research (DSIR)**

**MAJOR ACHIEVEMENTS DURING THE MONTH OF FEBRUARY, 2019:**

**DEPARTMENTAL ACTIVITIES**

**1. Industrial R&D Promotion Programme**

**Recognition/ Registration and renewal of In-house R&D in Industry**

- 21 in-house R&D units of industries were granted recognition as well as registration certificates.

**Scientific and Industrial Research Organization (SIROs)**

**Recognition/ Registration and Renewal of SIROs**

- 10 SIROs were granted recognition certificates.
- 84 SIROs were granted renewal of recognition certificates.

**Public Funded Research Institution (PFRIs)**

**Registration and Renewal of PFRIs**

- 04 PFRIs were granted renewal of registration.

**AUTONOMOUS BODY**

**1. Council of Scientific & Industrial Research (CSIR)**

**1.1 Hon'ble Prime Minister Confers Shanti Swarup Bhatnagar Prizes For Science and Technology**

Shri Narendra Modi, Hon'ble Prime Minister and President CSIR Society conferred Shanti Swarup Bhatnagar (SSB) Prizes to 34 scientists in 7 disciplines, viz Biological Sciences; Chemical Sciences; Earth, Atmosphere Ocean and Planetary Sciences; Engineering Sciences; Mathematical Sciences; Medical Sciences and Physical Sciences for the year 2016, 2017 and 2018 at a special function organized by CSIR at Vigyan Bhawan on the occasion of National Science Day, celebrated on 28<sup>th</sup> of February. He said the theme for this year's National Science Day, which is, 'Science for Society and Society for Science' is very relevant.

Congratulating the award winners, the Prime Minister said that science, technology and innovation should relate to the aspirations and requirements of the society and try to find solutions for local problems. He asked the scientific community to take advantage of the Fourth Industrial Revolution

and develop technologies that will make India a global hub for manufacturing, knowledge and technology-based industries. Talking about the need to think beyond silos, he said that scientists and researchers should have an inter-disciplinary approach. Such an approach will help in finding faster and better solutions for the various scientific questions.

The Prime Minister said, currently, Indian manufactured medicines are being exported to over 200 countries, there is need to promote Pharma and Biotechnology sector. He also stressed that scientists can rise above limited resources with will power and gave the example of India's space programme and Mangalyaan.

Speaking at the award ceremony, Dr. Harsh Vardhan Union Science & Technology Minister, said that today it is because of the efforts of our scientific community that out of 1207 institutions of the world, CSIR has achieved ninth place in the international ranking. He also mentioned about the various Government initiatives to foster innovation and strengthen the Science and Technology space in India.

## **1.2 International Conference and Exhibition on 'Energy and Environment' Inaugurated By President of India**

Shri Ram Nath Kovind, Hon'ble President of India inaugurated the International Conference and Exhibition on 'Energy and Environment' in New Delhi. The three-day conference organized by CSIR-CIMFR, Dhanbad deliberated and identified R&D needs to innovate new techniques, technologies and applications for clean, safe, symbiotic sustenance of society, environment, energy and industries in post 2020 era. The President said that India is committed to provide power to all citizens at affordable cost as well as boost the national economy through an industrial revolution in tune with Industry 4.0. In today's era of rapid technological advance, energy and environment are major concerns not only for developing countries but also for developed countries, said the President and urged participants of the Conference to come up with actionable ideas on environmental issues related to use of fossil fuels and viable alternatives.

During the three-day Conference, an industrial exhibition was also organized in the Vigyan Bhawan lawn which was inaugurated by Union Minister of Science & Technology , Dr. Harsh Vardhan. He said that today the world recognizes India's achievement, initiatives and visionary approach in the area of clean energy.

Around 1000 delegates from India and abroad participated in the conference representing policy makers, regulators, thought leaders, managers, entrepreneurs, administrators, practicing engineers, Environmentalist, geo-environmentalists, researchers, academicians and technocrats.

Shri Suresh Prabhu, Hon'ble the Minister of Commerce & Industry and Civil Aviation was the Chief Guest in the concluding session of the conference.

### **1.3 CSIR-CCMB: Device Developed to Simultaneously Detect Total Cholesterol, HDL, LDL and Triglycerides**

CSIR-CCMB, Hyderabad has developed a portable, cheap, POINT-OF-CARE diagnostics for rapid determination of total cholesterol, HDL, LDL and triglycerides in a single run through fabricating a paper-based microfluidic device. The flower-shaped device with five arms is printed on a filter paper to simultaneously detect total cholesterol, HDL, LDL and triglycerides; the fifth arm acts as a control. Cholesterol and triglycerides can be detected in less than eight minutes using the microfluidic device. Only 10 microlitre of serum sample is needed to monitor four parameters.

### **1.4 CSIR-CFTRI: Development of Traditional Products with Long Shelf-Life**

CSIR-CFTRI, Mysuru has developed two new traditional products that have long shelf-life. The first food is “Godhi Huggi” is a kheer-like preparation from wheat made available in canned form that lasts for around a year on the store shelves. The second food is the ‘prasadam’ made by the Avadhootaha Data Peetham, Mysuru which is made from wheat flour jiggery, ghee, coconut and dry fruits. The ‘prasadam’ in future will be available packaged in tin-free steel cans and has a minimum shelf-life of three months with the help of CSIR-CFTRI process.

### **1.5 CSIR-CECRI : Device Developed to Produce Hydrogen Using Solar Energy**

CSIR-CECRI, Karaikudi developed a process which combines solar panels to electrolysis equipment so as to produce hydrogen from sunshine. The device is basically a cathode and an anode separated by a membrane (proton exchange membrane or PEM), the whole thing held in position by titanium plates in a bath of water. When electricity is passed through the titanium plates, hydrogen emerges at the membrane. It roughly the reverse of a fuel cell in a car. The process is most suited for onsite production of hydrogen, because of its simplicity of operation and maintenance, compactness, absence of corrosive liquids and purity of hydrogen.

### **1.6 CSIR-NAL @ AERO-INDIA 2019**

CSIR –NAL, Bengaluru participated Aero –India Show 2019 organized by the Ministry of Defence and the Ministry of Civil Aviation at Bengaluru by showcasing its technologies and products in its pavilion. Further, 14 seater SARAS and HANSA aircraft of CSIR-NAL made a successful display of their flight during the four-day event.

### **1.7 CSIO-NIO to Study ‘Impact on Biodiversity’**

CSIR-NIO, Goa has been appointed by BMC, Mumbai to develop a marine biodiversity conservation plan for the Coastal Road project. CSIR-NIO will also study the impact of the project on sea groundwater levels and tidal patterns.

## 1.8 CSIR Intellectual Property

The Patent position for this month is given below:

| Patents Filed |        | Patents Granted |        |
|---------------|--------|-----------------|--------|
| India         | Abroad | India           | Abroad |
| 16            | 11     | 17              | 33     |

## 1.9 Honors & Awards

### (i) Dr. Shanti Swarup Bhatnagar Prizes for Science & Technology for the year 2016, 2017 and 2018

The Hon'ble Prime Minister of India gave the said awards to the following awardees during the award function:

| AREA   | YEAR        | NAME OF THE AWARDEES   |
|--|-------------|--|
| Biological Sciences                            | <b>2016</b> | Dr. Rishikesh Narayanan, Indian Institute of Science, Bengaluru and<br>Dr. Suvendra Nath Bhattacharyya of CSIR-IICB, Kolkata                   |
|  | <b>2017</b> | Dr. Deepak Thankappan Nair, Regional Centre of Biotechnology, Faridabad and Dr. Sanjeev Das, National Institute of Immunology, New Delhi.      |
|  | <b>2018</b> | Dr. Ganesh Nagaraju, Indian Institute of Science, Bengaluru and Dr. Thomas Pucadyil, Indian Institute of Science Education and Research, Pune. |
| Chemical Sciences                              | <b>2016</b> | Dr. Partha Sarathi Mukherjee, Indian Institute of Science Bengaluru  |
|  | <b>2017</b> | Dr. G. Naresh Patwari, Indian Institute of Technology, Mumbai  |
|  | <b>2018</b> | Dr. Rahul Banerjee and Dr. Swadhin Kumar Mandal, Indian Institute of Science Education and Research, Kolkata.                                  |
| Earth, Atmosphere Ocean and Planetary Sciences | <b>2016</b> | Dr. Sunil Kumar Singh, Physical Research Laboratory, Ahmedabad   |
|  | <b>2017</b> | Dr. S. Suresh Babu, Vikram Sarabhai Space Centre (ISRO), Thiruvananthapuram  |

|                       |             |  |
|-----------------------|-------------|--|
|                       | <b>2018</b> | Dr. Madineni Venkat Ratnam, National Atmospheric Research Laboratory, Triupati and Dr. Parthasarathi Chakraborty, CSIR-NIO, Goa                  |
| Engineering Sciences  | <b>2016</b> | Dr. Avinash Kumar Agarwal, IIT, Kanpur and Dr. Venkata Narayana Padmanabhan, Microsoft Research India, Bengaluru                                 |
|                       | <b>2017</b> | Dr. Alope Paul, and Dr. Neelesh B Mehta, Indian Institute of Science, Bengaluru  |
|                       | <b>2018</b> | Dr. Amit Agrawal, and Dr. Ashwin Anil Gumaste, Indian Institute of Technology Mumbai.  |
| Mathematical Sciences | <b>2016</b> | Dr. Amalendu Krishna, Tata Institute of Fundamental Research, Mumbai and Dr. Naveen Garg, Indian Institute of Technology, New Delhi              |
|                       | <b>2017</b> | No Award   |
|                       | <b>2018</b> | Dr. Amit Kumar, Indian Institute of Technology, Mumbai, and Dr. Nitin Saxena, Indian Institute of Technology, Kanpur,                            |
| Medical Sciences      | <b>2016</b> | Dr. Niyaz Ahmed AS, University of Hyderabad, Hyderabad.  |
|                       | <b>2017</b> | Dr. Amit Dutt, ACTREC Tata Memorial Centre, Mumbai and Dr. Deepak Gaur, Jawaharlal Nehru University, New Delhi                                   |
|                       | <b>2018</b> | Dr. Ganesan Venkatasubramanian, National Institute of Mental Health and Neurosciences, Bengaluru   |
| Physical Sciences     | <b>2016</b> | Dr. Subramaniam Anantha Ramakrishna, Indian Institute of Technology, Kanpur and Dr. Sudhir Kumar Vempati, Indian Institute of Science Bengaluru. |
|                       | <b>2017</b> | Dr. Nissim Kanekar, National Centre for Radio Astrophysics, TIFR, Pune and Dr. Vinay Gupta, CSIR-NPL, New Delhi.                                 |
|                       | <b>2018</b> | Dr. Adit Sen De, Harish Chandra Research Institute, Allahabad and .Dr. Ambarish Ghosh, Indian Institute of Science, Bengaluru.                   |

- (ii) Dr. Shekhar C. Mande, Director General, CSIR has received 'Bharat Asmita Tantra-Vidnyan Shrestha Award' instated by Bharat Asmita National Awards Foundation
- (iii) Dr. Sanjit Kanjilal, Principal Scientist, CSIR-IICT, Hyderabad bestowed with "FASSAI-AFST AWARD" for his research contributions in the field of Food Safety, at the International Food Convention (IFCoN 2018) held at CSIR-CFTRI, Mysuru and Dr. KV Padmaja, Principal Scientist was awarded "Dr. SD Tirumala Rao Memorial Award" for her contributions in the field of in Oil Chemistry and Technology, Surface Coatings and allied subjects., at the 73<sup>rd</sup> OTAI Annual Convention (2018) at IIT (BHU), Varanasi.
- (iv) Dr. Prabhu Patil and Dr. Ashwani Kumar, Scientists, CSIR-IMTECH, Chandigarh received National Bioscience Award from Dr. Harsh Vardhan, Hon'ble Minister for Science and Technology and Earth Sciences during 33rd DBT Foundation day program in New Delhi.
- (v) Prof. Dr. Syed Wajih Ahmad Naqvi, CSIR Distinguished Scientist and Former Director, CSIR-NIO, Goa selected for the National Geoscience Award of Excellence — 2018 by the Ministry of Mines in recognition of your significant and eminent contributions in the field of Geosciences.

#### **1.10 Significant Events**

##### **(a) CSIR in News**

CSIR and its constituent laboratories have celebrated National Science Day on 28<sup>th</sup> February by organizing Open Day, Expert lectures, seminars, workshops, exhibitions etc.

##### **(b) Conferences, Workshops Organized**

- (i) CSIR-AMPRI, Bhopal and Rain Forest Research Institute, Jorhat jointly organized a workshop cum training programme on 'Bamboo and Bamboo-based Composites for Engineering Applications'. The focus was on the engineering applications of bamboo and bamboo composites.
- (ii) CSIR-CSMCRI, Bhavnagar in collaboration with Indo-German Science & Technology Centre (IGSTC) organized a three-day Indo-German bilateral workshop on 'Membranes for Water and Energy'.
- (iii) CSIR-CIMAP, Lucknow, India organized a three-day national conference on 'Mints – Prospects, Challenges and Threats'.
- (iv) CSIR-IITR, Lucknow organized a three-day National workshop on 'Characterization of Nanomaterials'.
- (v) CSIR-NCL, Pune in collaboration with Humboldt Academy organized a three day an inter- disciplinary conference on the theme entitled Innovation and Entrepreneurship; Role of Science and Technology
- (vi) CSIR-NPL, New Delhi organized the 10<sup>th</sup> International Conference on 'Advances in Metrology (Ad Met-2019)'.

## **PUBLIC SECTOR ENTERPRISES**

### **1. National Research Development Corporation (NRDC)**

- NRDC has licensed two technologies-(i) 'Non-invasive quantitative estimation of Billirubin & oxygen content in human body' to M/s Ezerx Health Tech Pvt Ltd. and (ii) 'Evaporative cooling apparatus resistant to vector breeding' to M/s S.M. Industries.
- NRDC has collected a premia of Rs.15.20 Lakh and a royalty of Rs. 147.62 Lakh for licensing of technology during February, 2019.

### **2. Central Electronics Limited (CEL)**

- Central Electronics Limited continued its activities in the area of solar photovoltaic systems, electronic gadgets for Railway and other electronic equipment/components etc. The company manufactured electronic components/systems/ SPV products worth Rs. 4312.40 Lakhs and realized sale of such items worth Rs.4427.04 Lakhs during February, 2019. Company has received an order of Rs.156.00 Crores approx for solar LED street lighting system a major achievement reported during February, 2019.

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