

Government of India
Ministry of Science and Technology
Department of Biotechnology

Monthly Cabinet Summary, September - 2018

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

- i. As a prelude to **India International Science Festival-2018, outreach programmes** was organised in 77 institutions across the country. **Four curtain raiser programmes** were held. First and second were held in Kolkata on 14th September 2018, and in Delhi on 24th September 2018, in the presence of the Hon'ble Union Minister of Science & Technology, Earth Sciences, and Environment, Forest & Climate Change, Dr. Harsh Vardhan. Third was held in Chennai on 25th September 2018 and the fourth was held in TIFR Mumbai 29th September 2018. Large number of students and young scientists experienced interaction with scientists and exposure to cutting edge technology.
- ii. On 18th September 2018, the Hon'ble Union Minister of Science & Technology, Earth Sciences, and Environment, Forest & Climate Change, Dr. Harsh Vardhan visited the project site of the Indo-Dutch project "Local Treatment of Urban Sewage Streams for Healthy Reuse", at the Barapullah Drain near the Sun Dial Park, Sarai Kale Khan, New Delhi. Under the project that has been running since April 2017, a plant that has capacity to convert 10 lakh litres of sewage to 3 tonnes of bio-fuel per day has been installed.

As part of this project, two new initiatives were launched by the Hon'ble Union Minister of Science & Technology, Earth Sciences, and Environment, Forest & Climate Change, Dr. Harsh Vardhan. As a contribution of the Department to "Swachhta Hi Sewa" campaign launched by Hon'ble Prime Minister, **two Eram toilets using the bio-digester technology, supported by DBT-BIRAC and the Bill and Melinda Gates Foundation installed near Barapullah Drain, Sun Dial Park were inaugurated by Dr Harsh Vardhan on 18th September 2018.**

The Tiny Forest, another initiative of DBT was also inaugurated near the Barapullah Drain at the Sundial Park. Under this initiative, DBT has initiated **Afforestation of marshy flood plains**, degraded and unusable land and planted 2281 plant and tree species. These plants and trees which belong to 44 indigenous species will not only clean the area, and mitigate mosquito breeding but also purify the air and soil.

- iii. **The Hon'ble Minister Dr Harsh Vardhan, on 18th September 2018, announced the DBT-ICT Centre for Energy Biosciences, Mumbai's new project on Next Generation Waste Treatment Technology platform** comprising three novel technologies. The present project aims at building 1MLD capacity sewage water processing to showcase the Next Generation Treatment Technology in an integrated manner. There would be a state of the art facility created to showcase and validate the novel technology. The developed combination of advanced and simple technologies effectively captures all pollutants from contaminated water bodies and channelizes these to efficient energy production.
- iv. The meeting of Reconstituted Task Force on Human Genetics and Genome Analysis (HGGA) was held on 5th September 2018 and proposals on **Training of Clinicians and Creation of Genetic Diagnostic Units** were reviewed. It was recommended that each Training center will take four in-service clinicians as trainees per year for a comprehensive training in Biochemical Genetics, Cytogenetics, Molecular Genetics and Clinical Genetics. The proposals for NIDAN Kendra were recommended. The committee also decided on centres which would take up outreach activities

including extensive genetic screening and counseling at identified aspirational district for societal benefit.

- v. Under the **Indo-U.S. Collaborative Vision Research Program** a call for proposal was announced focusing on the basic biology and/or genetics of ophthalmic diseases such as diabetic retinopathy, glaucoma, age-related macular degeneration, retinitis pigmentosa, including rare and genetic diseases such as congenital cataracts, as well as other eye conditions such as ocular inflammation/uveitis, refractive error, low vision, and corneal injury.
- vi. The **Department in partnership with Indo-U.S. Science and Technology Forum (IUSSTF) and WINStep announced the prestigious Khorana Program**. The Khorana Program will provide opportunities to Indian students to undertake research at University of Wisconsin-Madison (UW) and partner universities in Summer 2019 for a period of 10-12 weeks.
- vii. The Department has constituted **20 Institutional Biosafety Committees** during the period under report.
- viii. Comments were communicated to DSIR on 6 applications received for recognition of their R&D units.
- ix. The Department has recommended **one patent application for prior art search and one patent for maintenance**, to the empanelled patent attorneys.

xvi. Autonomous Institutions of the Department of Biotechnology:

a. Centre for DNA Fingerprinting and Diagnostics (CDFD), Hyderabad:

- Open Day Celebrations in connection with IISF-2018 were carried out on 25.09.2018
- Ms Pratyusha Bala was selected for the NGBT YUVA Scholarship award from SciGenome Research Foundation. Dr R Nagender Rao was awarded with HUPO travel stipend and GP Talwar Travel Bursary award to attend the HUPO 2018 in Orlando, Florida. Dr. Rajendra CVE was awarded the First prize in the poster presentation at the 7th Innovators Conclave of BIRAC.
- CDFD received 5 cases for DNA Fingerprinting services and 208 samples for genetic diagnostic services.
- Four papers were published in peer reviewed journals.

b. Center of Innovative and Applied Bioprocessing (CIAB), Mohali :

- Center of Innovative and Applied Bioprocessing (CIAB) has been recognized by Regional Centre of Biotechnology (RCB), Faridabad as their Academic Regional Centre for providing PhD degree in Biotechnology. Under this program, PhDs students of first batch for the session 2018-19 were registered.
- Dr. Vinod Kumar, Technical Officer (Microbial Technology), CIAB Mohali received first prize in product development entitled “Efficient detoxification of corn cob hydrolysate with ion-exchange resins for enhanced xylitol production by *Candida tropicalis* MTCC 6197” at the National Conference cum Industry at CSIR- Indian Institute of Integrative Medicine, Jammu.
- Institute has filed a patent on “A novel method for D-allulose production from D-fructose containing feedstock, and uses thereof” (Patent File No. 201811023113).
- CIAB organized a Open Day on the theme ‘*Innovate for entrepreneurs*’ on 17-09-2018 under outreach programme of Indian International Science Festival (IISF) and VIBHA-2018 to

showcase the research facility and achievements of the institute to school/college students and general public. In total more than 300 participants including students, teachers and eminent scientists' attended the event.

c. Institute for Stem Cell Science and Regenerative Medicine (inStem):

- inStem, along with NCBS, Bangalore, Max Planck Institute of Molecular Cell Biology and Genetics, Max-Planck-Institute for the Physics of Complex Systems and Weizmann Institute of Science co-organized an EMBO workshop: 'Size and Shape' between the 4th and 8th Sept, 2018. This workshop saw several renowned international speakers giving talks on the theme. The conference saw a total of 75 participants in all.

d. Regional Centre for Biotechnology, Faridabad:

- RCB, Faridabad conducted its Open Day on 24 September, 2018 as an Outreach Programme under the India International Science Festival (IISF-2018). The programme attracted over 250 students from schools and colleges, including 40 students from aspirational district of Mewat, Haryana.

e. National Agri-Food Biotechnology Institute (NABI), Mohali:

- National Agri-Food Biotechnology Institute (NABI) and Center of Innovative and Applied Bioprocessing (CIAB), Mohali jointly organized one day national meet of science oriented Social Organizations on September 14, 2018. Meeting was organized by the Vibha-Vani Chapter of Haryana, Punjab, Himachal Pradesh and Chandigarh under one of the programs of Indian International Science festival (IISF) and VIBHA-2018. The event was attended by about 100 NGOs from Haryana, Punjab & Himachal Pradesh.
- An Open Day has been organized by NABI on the theme '*Biotechnology for Agriculture*' on September 17, 2018 under the outreach programme of Indian International Science festival (IISF) and VIBHA-2018. During this event, in total more than 300 students and teachers participated from more than 20 colleges from the tri-city and from neighbouring states.

f. National Institute of Immunology, New Delhi:

- The Institute's efforts to do high quality basic research have yielded 9 publications in reputed journals.
- An Indian patent on "A formulation for modulating immune response with Provisional Indian Patent Application No: 201811036025 was filed.
- A 'Material Transfer Agreement' was signed with the 'National Institute of Genetics' to procure biological material for carrying out research experiments.
- An MoU has been signed with the Indian Spinal Injuries Centre, New Delhi for collaborative R&D and facilitating student exchange.
- An Open Day as a pre-event of 4th India International Science Festival was celebrated in the Institute on 28.09.18. Students from various schools and colleges participated in this event.
- Following seminars by faculty of various scientific organizations were organised:
 - Prof. Sitabhra Sinha, Institute of Mathematical Science, Chennai delivered a lecture on "Learning and memory in the eukaryotic cell: Evidence from computational modeling of the MAPK pathway" on 14.09.18

- Prof. Dominique Soldati-Favre, University of Geneva, Switzerland delivered a lecture on "A conserved apicomplexan signaling platform governs natural and induced egress in *Toxoplasma gondii*" on 17.09.18
- Dr. Umesh S Deshmukh, Oklahoma Medical Research Foundation, Oklahoma City, USA delivered a lecture on "Modulation of an Autoimmune Disorder by the activation of Innate Immunity" on 19.09.18.

g. National Brain Research Institute, Manesar:

- A team lead by Dr Dipanjan Roy, has developed tools based on machine learning techniques to understand changes in the hidden brain states that regulate Cognitive performance. The study has been published in the journal Neuroimage.
- NBRC organized an open day to engage with general public on Sept 20th, 2018 under the aegis of India International Science Festival 2018 (IISF). More than 200 students and teachers visited NBRC from schools. Real-time EEG demo, exhibition of preserved human brain, neural stem cells demo and tour of MRI facility excited young minds to ask insightful questions on neurobiology of cognition.

h. National Institute of Plant Genome Research, New Delhi:

- Five significant research findings from NIPGR were published during this month. These included publications on regulation of stress signals in plants, development of root meristem development, identification of over 2000 SNPs in desi and kabuli chickpea accessions, and 40 dehydration-responsive proteins in plants.
- Institute organized a Public Outreach Day on September 28, 2018, in association with Translational Health Science and Technology Institute, Faridabad, Haryana (THSTI), as a precursor event of 4th India International Science Festival (IISF-2018), with a view to popularize the science and showcase research & developments to young innovators, teachers, students and individuals working in the field of science.

i. National Centre for Cell Science (NCCS), Pune:

- The Institute published 5 articles during the period including articles on understanding the mechanism of tumor suppression in breast cancer, isolation of a novel strain of Rhodobacteralkalitolerans, Onychomycosis due to *Achaetomium strumarium* and Genetic studies of probiotic property in *Enterococcus faecium* strains.

j. National Institute of Animal Biotechnology (NIAB), Hyderabad:

- An Open day as part of NIAB outreach programme under the banner of IISF-2018, was organized on 10th September 2018 at NIAB, Hyderabad.
- MILAN a NIAB outreach program for farmers was organised at Chennai.
- Two research articles were published on Newcastle disease viruses isolated from vaccinated flocks and structural insights of resveratrol with its binding partners in the toll like receptor 4 pathway.
- The institute has organized following seminars/lectures/ workshop:
 - Dr. Madhuri Subbiah attended and presented a poster at the 15th Avian Immunology Research Group meeting held at Oxford University, UK from 5-7 September, 2018 and the funding was supported by Global Challenges Research Fund, UK.

- Dr. Subeer S. Majumdar delivered a lecture in the South Asia Biosafety Conference (SABC 2018) held from 15-17 September 2018 at Dhaka, Bangladesh.
- Lecture by Dr. Sampath Kumar, Sr. Principal Scientist, CSIR-IICT, Hyderabad on “Towards rational design of vaccine adjuvants: Harnessing innate immunity for new generation vaccine development” was organised at NIAB.

k. Rajiv Gandhi Centre for Biotechnology (RGCB), Thiruvananthapuram:

- Six research articles were published on deciphering the molecular mechanisms that regulate cardiac hypertrophy in the heart, enhanced production of poly (3-hydroxybutyrate) in recombinant *Escherichia coli*, studies on BRCA1 defective breast cancer cells, drug development for *Mycobacterium tuberculosis*, biotech Innovations for Food and Nutrition Security, and breast-to-bone metastasis of ER α -positive breast cancer cells.

l. Translational Health Science and Technology Institute :

- Following strategic MOUs were signed by the institute:
 - Agreement between SRL Lab and THSTI for the supply of dengue positive samples.
 - Collaborative Research Agreement was signed between THSTI and Penam Labs for validation of process for the preparation of Sorafenib.
 - Agreement between THSTI and MAMC, Delhi for deploying an instrument at MAMC under the project titled A "Bench to Bedside" model for clinical and translational science between academic research institutes and hospitals focussed on fetal growth restriction and preterm birth”.
- Following Patent applications were filed during the month:
 - A Patent Application with no: PCT/IN2018/050581 was filed for “Aptamer against M.tb MPT51 and uses thereof” with THSTI, AIIMS, M/s Aptabharat Innovation Pvt. Ltd. as partners.
 - A Patent Application with no: PCT/IN2018/050575, was filed for the invention titled “A pharmaceutical composition for the treatment of IL9 mediated autoimmune inflammatory diseases and uses thereof” was filed.
 - A patent Patent Application with no: 201811032275 and title “A Pharmaceutical Composition for the treatment of TH17 cells mediated autoimmune inflammatory diseases and uses thereof” was filed.
- A research article was published on the regulation of hypertrophic cardiomyopathy.
- THSTI organized its second open day on September 28, 2018 as a pre-event to the 4th India International Science Festival. The highlights of the Open Day were laboratory visits by school and college students, a popular lecture and poster session.
- Under the Science Setu Program the faculty from the Drug discovery group at THSTI visited Shaheed Rajguru College of Applied Sciences for Women, University of Delhi on September 14, 2018 and delivered lectures.

2. Important policy matters held up on account of prolonged inter- ministerial consultations: NIL

3. Compliance of Cabinet/Cabinet Committee decision:

No. of COS decisions pending for compliance	Proposed action plan/time lines for compliance of COS decisions	Remarks
NIL	NA	NA

4. No. of cases of ‘sanction for prosecution’ pending for more than three months: NIL

5. Particulars of cases in which there has been a departure from the Transaction of Business Rules or established policy of the Government: NIL

6. Status of implementation of e-Governance:

Total No. of files	Total No. of e-files
2618	321

7. Status of Public Grievances:

No. of Public Grievances redressed during the month	No. of Public Grievances pending at the end of the month
29	77

8. Information on the specific steps taken by the Ministry/ Department for utilization of the Space, Technology based tools and application in Governance and Development: NIL

9. (i) Confirmation that the incumbency details of all posts in the Ministry/Department and its organizations falling under the purview of the ACC have been updated on AVMS: It is confirmed that the incumbency details of the posts in the Ministry/ Department and its organizations following under the purview of the ACC have been updated on AVMS and are placed at Annexure-1.

(ii) Status regarding compliance of the directions of ACC: It is also confirmed that the directions of ACC are complied with.

(iii) Status of cases where recommendations from PESB have been received but the proposals are yet to be submitted to the ACC Secretariat: Nil

(iv) Status of Government e-Marketplace (GeM) usage: A procurement incurring expenditure of Rs. 2,76,485/- was made through GeM portal.
