

Government of India
Ministry of Science and Technology
Department of Biotechnology

Monthly Cabinet Summary, July, 2018

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

- i. **Approval of Union Cabinet on “The DNA Technology (Use and Application) Regulation Bill, 2018”:** The Union Cabinet in its meeting held on July 4, 2018 has approved “The DNA Technology (Use and Application) Regulation Bill, 2018”. The Bill has been formulated to provide for the regulation of the use and application of Deoxyribonucleic Acid (DNA) technology with the aim to establish the identity of certain category of persons including the victims, offenders, suspects, under trials, missing persons and unknown deceased persons and for the said purpose and also to establish a DNA Regulatory Board (DRB) to carry out the functions and exercise the power assigned to it under the proposed Bill.
- ii. **Scientific Sub-Committee of ‘National Technical Board on Nutrition’ (SSC-NTBN)** was constituted by NITI Aayog with Secretary, DBT and Secretary DHR as Co-chairs. The mandate of this committee is to provide technical recommendations to NTBN (National Technical Board on Nutrition) on policy related issues and also to evolve strategies for mitigation of anaemia, micronutrient and protein malnutrition. A Programme Secretariat is being set up at BIRAC for management of this programme. The first meeting of the sub-committee is scheduled for 2nd August 2018.
- iii. In response to the meeting held in the NITI Aayog on "**Commercialization of Indigenously developed technologies**", the Department organized a meeting of Heads of National Research Development Corporation (NRDC), Biotechnology Industry Research Assistance Council (BIRAC) and Technology Development Board (TDB) on 9th July, 2018. Mechanisms for bringing synergy among the organizations like BIRAC, NRDC and TDB for Commercialization of Indigenously Developed Technologies were discussed.
- iv. First meeting of the ‘**Data Monitoring Committee**’ was held on 25th July 2018 to discuss the policy and processes for ‘Data’ sharing under the ‘Accelerator program for Discovery in Brain disorders using Stem cells’: a component of Indo-Japan project titled “Accelerating the application of Stem Cell Technology in human disease”. The Committee deliberated upon formulation of guidelines/SOPs for acquisition, anonymization, dissemination, storage, sharing of data and resources generated under this study with the collaborators and other national and international researchers. It was suggested that a draft document may be prepared following existing national and international best practices which shall be finalized in the follow-up meeting.
- v. To initiate a **Mission program on Artificial Intelligence for Affordable and Accessible Healthcare- Big Data and Genomics**, a stakeholders meeting was held on 12th July 2018, to define the roadmap for the mission. Issues related to data acquisition, storage and sharing, and mapping existing resources created by DBT such as omics data for various diseases, bio-bank facilities, disease cohorts and computational tools and bioinformatics centres which can be leveraged to develop AI based health care solution were discussed. It was decided to begin with the focus on Cancer, Tuberculosis and Genetic Disorders. Another meeting was organized on 25th July, 2018 with NITI Aayog Team for collaboration in Artificial Intelligence for Affordable and Accessible Healthcare. It was decided that DBT and NITI Aayog could partner in promoting core and applied research, grand challenges and CERN for AI,

decentralized training mechanisms, and three pronged market place approach for data, annotation and deployable models.

- vi. DBT under the **National Bio-Pharma Mission** has launched the request for proposal on Industry-Academia Collaborative Mission for Accelerating Discovery Research to Early Development For Biopharmaceuticals-“Innovate in India (i3) Empowering biotech entrepreneurs & accelerating inclusive innovation.” The proposals for Good Clinical Laboratory Practice (GCLP) lab and Translation Research Consortium (TRC) will be considered for funding. The call will be co-funded through the World Bank Loan Assistance.
- vii. The 3rd annual review meeting of the **DBT-ADMaC programme for the North East Region of India, the Advanced Animal Disease Diagnosis and Management Consortia** was held on 13th July 2018 at ICAR, Umiam, Meghalaya. This was followed by the Scientific Advisory Committee (SAC) meeting. During the meeting suggestions were made on effective implementation of the programme.
- viii. An independent expert committee to review the progress of **DBT- AAU Centre at Assam Agriculture University Jorhat, Assam** (Phase-I) and also to consider Phase-II of the Centre as DBT-North East Centre for Agricultural Biotechnology (DBT-NECAB) was held on 23.07.2018. The progress made under Phase-I was appreciated and continuation for Phase-II with focus on scientific programmes targeting local crops and traits that will have socio-economic impact on the North East Region was recommended.

ix. **International Collaborations of the Department of Biotechnology:**

- a. **Indo-UK collaboration:** The 6th India-UK Science & Innovation Council (SIC) meeting was held in New Delhi on 26th July 2018. Dr. Harsh Vardhan, Hon’ble Minister of Science & Technology, Earth Sciences and Environment, Forests and Climate Change, India and Mr. Sam Gyimah, Hon’ble Minister for Universities, Science, Research and Innovation, UK led the Indian and UK delegations, respectively and co-chaired the deliberations. Both ministers also reviewed bilateral S&T cooperation between the two countries and expressed satisfaction on progress made since the last SIC meeting held in London on 15th June, 2016.
- b. **Indo-Korea Collaboration in the area of Biotechnology and Bioeconomy:** The Department of Biotechnology, Govt. of India and the Ministry of Science and ICT, Govt. of the Republic of Korea signed an MoU in the area of Biotechnology and Bioeconomy on 9th July, 2018 at New Delhi. The MoU for **Indo-South Korean Biotech Innovation Ecosystem Collaboration** is focused on promoting joint R&D research projects in identified priority areas of mutual interest, boosting visits and exchanges among scientists, hosting joint seminars and workshops, information exchanges and sharing on policies, regulations and experiences, providing mutual support to startups and making efforts for commercialization of joint technological development, promoting human resource development activities such as educational and training programs, fostering cooperation among related institutes, universities and businesses and other bio-related activities mutually agreed areas.
- c. **Indo-Japan Collaboration:** A collaborative research centre called DAICENTER, an expansion of joint DBT-AIST International lab (DAILAB) at AIST, Tsukuba was formally launched at AIST, Tsukuba, Japan. Also, the SISTER DAILAB at Osaka Centre (South Japan) was inaugurated.
- d. **Indo-US collaboration on Genome Engineering/ Editing:** Acknowledging importance of strategies and techniques in genome modification, as modern day essential tool for research and development, DBT along with Indo U.S. Science & Technology Forum,

IUSSTF announced fellowship program between Indian institutes and premier U.S. Universities, in significant areas of Genome Engineering/Editing Technology (*GETin*). The programme provides opportunity to brightest Indian students and scientists to gain exposure and access to world class research facilities in leading U.S. institutions through students internship, overseas fellowship and visiting professorship programmes.

- e. **Mission Innovation in Clean Energy:** Under Mission Innovation (MI), a global initiative of 23 countries and the European Union to accelerate the global clean energy innovation, eight Innovation challenges have been identified for joint collaboration in R&D and Demonstration. India leads three innovation challenges while actively participates in all innovation Challenges. Accordingly, DBT made the Funding Opportunity Announcements for three Innovation Challenges (i) Sustainable Biofuels Innovation Challenge; (ii) and (iii) Converting Sunlight to Storable Fuels, Energy-rich Chemicals & Biochemicals. The purpose of these calls is to provide collaboration opportunities for Indian investigators with member countries participating in respective challenges to promote scientist and student exchange.
- f. **Indo-EUREKA Collaboration on One Health:** The Department announced a “Global Stars Call for Proposals for joint R&D Projects between the Republic of India and the EUREKA member countries (the Netherlands, Belgium, UK and Spain)” on 20th July, 2018. The call focuses on “One Health: Affordable, innovative solutions for prevention and control, point of care diagnostics and treatment of infectious and chronic diseases, to improve prevention, treatment outcomes and efficient utilization of health resources”.
- g. **Indo-EU Collaboration on Influenza Vaccine:** The Department in collaboration with European Union (EU) announced the EU-India call on “Next Generation Influenza Vaccine to protect citizens worldwide” on 26th July, 2018. Both The European Commission (EC) through the EU funding programme for research and innovation under 'Horizon 2020' programme and DBT have committed equal contribution of EUR 15 million under the said call. This call aims at further advancing the next generation influenza vaccine candidate(s) with improved efficacy and safety, duration of immunity, and reactivity against an increased breadth of influenza strains.
- h. **Indo-Spain Collaboration on Food and Agri biotechnology:** Under the joint programme for co-operation, DBT and the Centre for the Development of Industrial Technology (CDTI E.P.E.), Spain jointly announced 5th call for Technological Cooperation in Biotechnology, aiming for research proposals in the field of Food Biotechnology and Agri Biotechnology on 25th July, 2018.
- i. **Indo-Philippines collaboration on training of women farmers:** In an endeavour to empower women farmers, the Department in partnership with International Rice Research Institute (IRRI), Phillipines under the International Component of the Biotech-KISAN program conducted a two phase training program on “Advance in Rice Production for Women farmers” across India. In the Phase-I training was held in Bhubaneswar, India, 26th June-1st July, 2018, 35 Women farmers from 7 states attended the training program in the Phase-I. Four women farmers were from the Aspirational Districts of Karnataka (Raipur) and Assam (Darrang). In the Phase II, eight women farmers out of 35 farmers will undergo advanced training at Los Banos, Philippines.
- j. **Indo-US Programme on Vision Research Programme:** A meeting of the Expert Committee of Indo-US Programme on Vision Research was held on 9th July, 2018 to evaluate new proposals and also to review the progress of the ongoing projects implemented by the Department under this initiative.

- x. The 166th meeting of Review Committee of Genetic Manipulation (RCGM) was conducted on 3rd July, 2018 and appropriate decisions were taken on 116 applications. The Department has constituted 5 Institutional Biosafety Committees during the period under report.
- xi. The Department has recommended **2 patent applications** for prior art search and 8 patents for maintenance, to the empanelled patent attorneys.
- xii. Under the **Dr. Jagdish Chandra Bose Hindi Granth Lekhan Puraskar Yojna** the Department has invited published books written originally in Hindi on the subjects related to Biotechnology under the scheme. The selected books authors will be awarded cash prizes.

vii. **Autonomous Institutions of the Department of Biotechnology:**

a. **Centre for DNA Fingerprinting and Diagnostics (CDFD), Hyderabad**-Achievements of the month :

- During the month, CDFD received 8 cases for DNA Fingerprinting services, 298 samples for genetic diagnostic services and 9 Basmati Rice samples for adulteration analysis.
- Two papers were published in peer reviewed journals.
- The institute organised following lectures/meeting/ symposia:
 - 20th Transcription Assembly Meeting 2018 , on 25-27 July 2018.
 - A talk by Dr Vidya Vedham, Program Officer, Center for Global Health, NCI, NIH, USA titled “Enhancing NCI’s Mission to Reduce the Global Burden of Cancer: An Overview of Research and Training Programs at the Center for Global Health” on 02.07.2018.
 - A scientific lecture on “Actin based epithelial projections in zebrafish: regulation of their formation, patterns and function” by Dr Mahendra Sonawane, TIFR, Mumbai on 03.07.2018.
 - A popular lecture on “Diseases and the robust genome” by Prof. Animesh Ray, KECK Graduate Institute, California, USA on 09.07.2018.
- A PhD student was awarded with Perkins Travel award to attend the Neurospora Information Conference at Asilomar in October 2018.

b. **Center of Innovative and Applied Bioprocessing (CIAB), Mohali** -Achievements of the month :

- A patent for economically viable process for the extraction/isolation of biologically active compound "1,5-dihydroxy-3,8-dimethoxyxanthone" from aerial parts of a high altitude plant, *Swertia paniculata* was filed.
- A research paper on isolation of a new flavonoid from *Aegle marmelos* for use in commercially available food products such as jam, jelly, candy, squash etc. was published.
- CIAB presented its processes / products / technologies on secondary agriculture / bioprocessing during an ‘Industry-Academia Interactive Session’ on 14th July, 2018 at CSIR-IMTech, Chandigarh.

c. **National Agri-Food Biotechnology Institute (NABI), Mohali** -Achievements of the month :

- A research on identification of *MaPIN1* gene that could serve as a potential marker for the embryogenicity in banana cv. Grand Naine (AAA), the commercial variety of banana has been accepted for publication.

- Multiple wheat yellow strip-like transporters that has potential to remobilize iron in developing grains are been identified, characterized and is being overexpressed in crop plants. This work has also been accepted for publication.

d. **National Institute of Immunology, New Delhi**-Achievements of the month :

- Governing Body of the Institute in its meeting held on 23/07/18 approved a new Flagship Research programme named as Immuno-Engineering. This program will help in carrying out cutting edge research in the area of Immunology.
- The Institute's efforts to do high-quality basic research have yielded 5 publications in reputed journals during the reporting period.
- Institute has admitted 21 Ph.D students for the academic year 2018-2019.
- NII have provided opportunities to 6 students for one year project training programme in different laboratories.
- The institute organised following seminars/ symposia:
 - The seminar on "Bio entrepreneurship: Opportunities and Options" by speakers from BCIL and SIDBI Innovation and Incubation Center, IIT-Kanpur on 23/07/18.
 - One day symposium under NCR Biotech Cluster Seminar Series based on "Approaches to Drug Discovery and Vaccine Delivery" on 26/07/18 in which all the associated institutes participated.

e. **National Brain Research Institute, Manesar** - Achievements of the month :

- An article providing the mechanistic in site on how the Zika Virus-E protein alters properties of human fetal neural stem cells by modulating microRNA was published. These discoveries are of great clinical significance as they provide several novel insights into understanding how Zika virus causes disease pathology and possible drug targets.

f. **National Institute of Plant Genome Research, New Delhi** - Achievements of the month :

- The NIPGR scientists have published nine research articles in the reputed journals during this period. A comprehensive review on the role of miRNAs in plant development was also published.
- Institute conducted the 'First Conclave of the National Postdoctoral Fellowship Awardees' (1st Conclave of NPFD) on 25th July, 2018. This conclave was attended by more than 100 NPFDs of the NCRT region. The conclave was presided over by Secretary, DST who also gave away prizes to selected NPFDs for their exemplary work.
- Institute organized two scientific lectures on
 - i. Multi-omics approaches to reveal the importance of various pathways in soybean resistance against the pathogen *Sclerotinia sclerotiorum*,
 - ii. Recombination - a molecular tool to generate genetic diversity, by expert scientists from abroad.
- Institute has admitted 24 Ph.D students for the academic year 2018-2019. One candidate has started his training at post-graduate level, under NIPGR Short-Term Training Programme.

g. **National Institute of Biomedical Genomics, Kalyani** - Achievements of the month :

- The Governing Body (GB) meeting and the Finance Committee (FC) meeting of the Institute was held on 5th July, 2018.

- A research article was published on identifying variants at the interferon lambda locus associated with decreased clearance of hepatitis C virus (HCV) infection.
- NIBMG Summer School on System's Biology was held on 17th -23th July, 2018. The workshop was conducted by instructors from India and abroad and was attended by 49 participants from all over India.
- Third Advanced NER Research Training Workshop on "Understanding Human Disease and improving Human Health Using Genomics-Driven Approaches" was held in NIBMG from 23th-31th July 2018. The participants of this Workshop were from various organizations located in NER.

h. National Centre for Cell Science (NCCS), Pune - Achievements of the month :

- A Memorandum of Understanding was signed between NCCS and Central Public Works Department (CPWD), Government of India, on 27th July, 2018, for the construction of buildings for animal house and BSL III laboratory facility.
- Three research articles were published on draft genome of *Pseudomonas sediminis*; systems genomics of deciphering efflux pumps involved in antimicrobial resistance and detection of autophagy in aged hematopoietic stem cells.

i. Regional Centre for Biotechnology (RCB), Faridabad – Achievements of the month :

RCB entered into a MoU with GSK Pharmaceuticals with the objective to collaborate with one another and using their respective expertise, knowledge and resources for initiating doctoral degree programs in Biostatistics and Bioinformatics to impart high-end expertise to the students that may be useful for drug discovery process.

j. National Institute of Animal Biotechnology (NIAB), Hyderabad - Achievements of the month :

- Shifting from temporary facility at Miyapur to the new NIAB campus near Gachibowli was completed.
- The institute scientists participated in international conference entitled
 - a. "Elucidation of the mechanism involved in promotion of viral growth kinetics by V protein of new castle disease virus" at the American Society of Virology Conference in USA
 - b. "Axiom bovine genotyping workshop" organized by Imperial Life Sciences at Gurugram.
 - c. Under NIAB outreach program, Meeting of Indian Livestock farmers and Agriculturists with NIAB scientists (MILAN) was organized at following places-
 - Golpara (Aspirational district), Assam on 2nd July 2018
 - Shilong (ICAR RC NEH, Shilong), Meghalaya on 4th July 2018
 - Bikaner (RAJUVAS, Bikaner), Rajasthan on 12th July 2018
 - Mamuthy (KAVSU), Kerala on 30th July 2018
 - Dr. Sonu Gandhi joined NIAB as Scientist D

k. **Rajiv Gandhi Centre for Biotechnology (RGCB), Thiruvananthapuram-**
Achievements of the month :

Three research articles were published in reputed journals. These articles focused on the evaluation of the anti-inflammatory activity of *Tinospora cordifolia*; strategies to overcome chemoresistance in triple negative breast cancer and genetic analysis of antipsychotic treatment in Schizophrenia.

1. **Translational Health Science and Technology Institute (THSTI), Faridabad -**
Achievements of the month :

- A Patent with Application no.:PCT/IN2018/050475, was filed for the invention: “A cyclic peptide and pharmaceutical composition comprising the same for inhibiting proliferation of HEV”.
- Five research articles were published in reputed journals during the month. Three of these articles focused on human gut microbiome research; one article on structural integrity of HIV-1 envelop and one on immunogenic studies in patients with steroid-dependent nephrotic syndrome.
- A position paper on road map for RNA virus research in India was published.
- Under the Science setu event, students of the Faculty of Applied Sciences, Manav Rachna International University visited THSTI on 25th July 2018. The students interacted with PhD students and technical staff during their visit to the laboratories and facilities in the institute.

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
1862	152

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	75

- 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. 49,810/- was made through GeM portal.
