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Ignite • Innovate • Incubate

Biotech Start-up Expo 2022

(9-10 June 2022)

birac®
Ignite Innovate Incubate

Biotechnology Industry Research Assistance Council
(A Government of India Enterprise)

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CONTENT

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From the Leaders Desk

(Dr Rajesh S Gokhale)
Secretary DBT
& Chairperson BIRAC

India is among the top 12 destinations for Biotechnology in the world and by 2025, it is expected that India's bio-economy would grow >2X from $70.2 billion in 2020 to $150 billion. The startup ecosystem is poised to scale to 10,000 biotech startups propelling the innovation and knowledge translation into products that are Made in India – for India and for the world.

India's biotech sector has drawn global recognition, especially during the pandemic period. The COVID phase was a learning phase for the biotech community and what a year it has been for the sunrise sector. It has been a silver lining in terms of how we have worked under strict deadlines and this has completely changed the trajectory of human lives. The vaccination program has saved millions of lives.

In the relatively short 10 years of BIRAC's existence, the impact on the Biotech Innovation landscape is commendable. We have come a long way in nurturing the talent pool, and providing opportunities to startups to Seed, Succeed and Scale. The startups have received not only funding support but access to mentors and expertise for regulatory, go-to-market strategy development, fundraising, and commercialization which has been facilitated by BIRAC. The number of Biotech Startups in the country has increased from 50 to over 5,300 in the last 10 years, because of the growing enabling ecosystem and prioritization by the Government of India.

To showcase the strength and potential of India's Biotech sector to the national and international community, DBT-BIRAC organized the first-of-its-kind Biotech Startup Expo on 9th -10th June 2022. This event was a part of 10 years celebrations of BIRAC's enabling efforts towards progressing India's Biotech Sector. The two-day event was a congregation of biotech stakeholders across the country. Hon'ble Prime Minister Narendra Modi Ji's presence at the 1st National Biotech Startup Expo 2022 is a testimony of the growth potential in the biotech sector and the innovation talent pool of our Startup ecosystem. The two-day event was an amalgamation of conversations with policy leaders, CEOs, startup pitches, and talks by luminaries of the Indian biotechnology industry.

I once again congratulate BIRAC on completing this wonderful 10-year journey and for the impact made on the innovation ecosystem of the country in such a short span of time.

Chief Editor's Take

Dr. Alka Sharma
Senior Advisor, DBT &
Managing Director-BIRAC

The biotechnology industry in India has experienced exponential growth in recent decades. The contribution of the Indian Biotechnology Industry to the global biotechnology market is expected to grow by 2025 and the current growth targets gives us the confidence of achieving this target. The startups and companies under the biotech sector are getting recognized because of their efforts towards better diagnostics, medicines and medical facilities for the betterment of the society.

DBT along with BIRAC is playing a crucial role in the implementation of flagship initiatives like 'Make in India', 'Start-up India' and 'Skill India' which aimed to boost the biotechnology and bio-manufacturing in the country and provide the solutions for all the challenges in health, agriculture, waste to wealth and environment.

To celebrate 10 years of Biotechnology Industry Research Assistance Council (BIRAC) efforts towards progressing India's Biotech Sector, DBT-BIRAC has organized the first-of-its-kind Biotech Startup Expo-2022 on 9-10th June 2022. The two days event was based on the theme 'Biotech Start-up Innovations: Towards AatmaNirbhar Bharat'. The inaugural event was live streamed to 75 universities across the country who were conducting satellite events on the same day.

The event was comprised of Biotech Start-up Expo which has showcased 75 Successful Start-ups supported by BIRAC, 75 Specialized Biotech Incubation Centres supported by BIRAC, 21 IITs/ universities, 50 Successful Start-ups supported by DPIIT, Infrastructure created by BIRAC, helpdesks and various national and international programs of BIRAC. Hon'ble Prime Minister Shri Narendra Modi Ji inaugurated the event. The inaugural event was also attended by Union Minister for Commerce Shri Piyush Goyal, Union Minister for Education Shri Dharmendra Pradhan, Union Minister of State (Independent Charge) Science and Technology. This event served as a mega platform for B2B Meetings, Interaction of Startups along with peer to peer learning via renowned universities, research institutions and Investors, Manufacturers, Vendors, Industry, Scientists, Research Institutions of DBT, CSIR, ICAR, DST, IIT, NIPER, NISER, IISER and others including private academic institutions. A pool of 2500+ BIRAC supported projects has interacted with 50-75 Investors and Business/ Academic Mentors during the event. The event witnessed exhibitors/startups showcasing their products and technologies and drawing the attention of potential investors. This two-day event showcased the strength and opportunities of India's biotechnology sector at the national level.

Biotechnology is a multi-faceted domain encompassing application in agriculture, pharmaceuticals, scientific discoveries etc. The employment of the best minds and their contribution to the development of generic and affordable medicines is India's pioneering achievements in the biotechnology sector. Especially during the COVID-19 pandemic, the Indian biotech sector has drawn global recognition as Indian scientists, entrepreneurs, and innovators turned up with the best solutions to deal with the situation and gave a boost to the Indian economy as a whole.

DBT-BIRAC has taken rapid strides in promoting and building the biotech Innovation ecosystem in the country, especially providing funding to all stages of Innovations, Startups, SMEs, and creating several platforms for startups and SMEs to interface since its foundation in 2012. I am confident that BIRAC will continue to strive to foster and nurture the biotech Innovation ecosystem.

Biotech Start-up Expo-2022

Biotech Start-up Innovations - Towards Atma Nirbhar Bharat

The Department of Biotechnology (DBT), Ministry of Science & Technology, Government of India with its Public Sector Undertaking, Biotechnology Industry Research Assistance Council (BIRAC) organized the Biotech Startup Expo from 9th -10th June 2022. This event was a part of 10 years celebrations of BIRAC's enabling efforts towards progressing India's Biotech Sector.

The associated partners were the Department of Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry, Department of Science and Technology and the Ministry of Education, Government of India.

The Hon'ble Prime Minister Shri Narendra Modi inaugurated the two-day Biotech Startup Expo at Pragati Maidan in New Delhi. The event was attended by Union Ministers Shri Piyush Goyal, Shri Dharmendra Pradhan, Dr Jitendra Singh, as well as biotech industry stakeholders, specialists, SMEs, and investors.

The two-day event was a congregation of biotech stakeholders across the country. The theme for the event was "Biotech Start-up Innovations: Towards AtmaNirbhar Bharat".

The event was inaugurated by Hon'ble Prime Minister Shri Narendra Modi. In his keynote address, Hon'ble Prime Minister spoke about the importance of the biotech start-up ecosystem and stated that India's bio-economy had risen eight times in the last eight years and that it is inspiring that India has grown from $10 billion to $80 billion bio- economy. He also asserted that India is not too far from reaching the league of Top-10 countries in the Global Ecosystem of Biotechnology. He also expressed immense faith in the

biotech sector of the country and lauded the efforts of BIRAC in enabling and empowering the biotech start-up ecosystem while inaugurating the Biotech e-portal of 750 Biotech Products. The inaugural event was live streamed to 75 universities across the country.

Day 1 of the Expo featured a high-level panel discussion which explored the future trajectory of Bio-economy in the Biotech sector and action plan for vision @2047. The session was moderated by Dr. Rajesh S Gokhale, Secretary, Department of Biotechnology who outlined the action plan for vision @2047. The session had participation of key policy makers and eminent researchers who provided views on the future trajectory of Bio-economy in the biotech sector.

The session also featured talks by Prof. G. Padmanabhan, Emeritus Professor, IISC Bangalore, Dr. Renu Swarup, Former Secretary, DBT, Mr. Girish Krishnamurthy, Chief Executive Officer and Managing Director, Tata Medical and Diagnostics Private Limited, Dr. Anand Deshpande, Founder, Chairman & Managing Director, Persistent Systems, Lt. Ge Madhuri Kanitkar (Retd.), Vice-Chancellor, Maharashtra University of Health Sciences, Dr. Krishna M. Ella, Chairman and Managing Director, Bharat Biotech, Hyderabad, Dr. Vijay Chauthaiwale, Advisor & Consultant, Dr. Pramod Chaudhari, Executive Chairman, Praj Industries Ltd., Mr. Rajiv Gandhi, Chairman & Managing Director, Hester Biosciences Ltd., Dr. Usha Zehr Barwale, Executive Director, Mahyco Pvt. Ltd., Mr. Sanjay Singh, Chief Executive Officer, Gennova Biopharmaceutical Limited.

The two-day program also exhibited the Biotech Startups and Bio-incubators and was open to the general public to explore the products and infrastructure being created by the country, for the country. The audience

consisted of leaders from biotech industry, start- ups, students, entrepreneurs, researchers, stakeholders, specialists, SMEs, and investors.

The luncheon CEO stakeholders' roundtable meeting event was by invite only. The meeting was chaired by Secretary, DBT to contemplate the major bottlenecks faced by the industry and identify the possible solutions to facilitate the growth of the Indian bio-economy.

The event served as a mega platform for B2B Meetings, Interaction of Start-up's along with peer-to-peer learning via renowned universities, research institutions and Investors, Manufacturers, Vendors, Industry, Scientists, Research Institutions of DBT, CSIR, ICAR, DST, IIT, NIPER, NISER, IISER and others including private academic institutions.

The second day of expo saw B2B meetings along with the Startup pitching sessions. The innovators pitched in front of eminent panellists and corporate leaders, manufacturers, investors, business mentors, Industry representatives from ABLE, CII, FICCI, FSII, AiMed, Academic directors & professors and business mentors (TiE) were also a part of the pitching session.

The event concluded with a session "The Way Forward" which was chaired by the Hon'ble Minister of State (Independent Charge), for the Ministry of Science and Technology, Dr Jitendra Singh. The Minister released two publications, **"75 Biotech products developed during 75th year of independence" along with the "Compendium of 75 Women Biotech Entrepreneurs".**

Hon'ble Minister Dr. Jitendra Singh added, "India is moving from women-specific to women-led projects. Today, India is looking at a growth of the Biotech sector from USD 70 billion to USD 150 billion in the next four years and this cannot be accomplished without the active participation of women."

The event concluded with the session on the experience shared by unicorns. The session was aimed at guiding and motivating the start-ups on their product development and commercialization journey.

Dr. Rajesh S Gokhale, Secretary, DBT congratulated Team BIRAC on completing this wonderful 10-year journey and making an impact on the innovation ecosystem of the country in such a short span of time while fuelling the growth of Indian bio economy.

Launch of BioAngels Platform – Unique Partnership between BIRAC and Indian Angels Network (IAN)

BioAngels Platform was launched on 4th May 2022 virtually in the presence of Dr. Alka Sharma, MD BIRAC, panellist, officials from BIRAC and IAN, startups and other stakeholders. The program consists of curtain raiser ceremony by Dr Alka Sharma, MD BIRAC and Panel discussion. The panellist were Dr. Manish Diwan, Ms. Padmaja Ruparel, Mr. Saurabh Srivastava, and Mr. Srikant Sastri.

BioAngels program is a unique association of BIRAC and Indian Angels Network (IAN). This is expected to be India's single largest horizontal platform for seed and early-stage investing. It is focused on supporting Biotech, Medtech, Healthtech, Pharma, Agritech & Cleantech startups — to raise their angel round from Angel Investors who also bring deep domain expertise. It aims to fuel the ecosystem through interactions with high-quality investors and industry leaders.

BioAngels initiative would encourage and mobilize Private Equity into the ecosystem especially the early-stage investments. This platform will lead to the creation of a consortium of Angels, HNIs, early-stage VCs. It is expected that about 145 startups would receive equity investment of about INR 350 Cr over the period of 3 Years.

BioAngels is a unique partnership between BIRAC and Indian Angel Network (IAN). BioAngels is an inclusive platform that engages early-stage investors from India and overseas from different angel investor groups, to fund and nurture high-quality startups, with both money and mentoring backed with critical sectoral expertise. The vision of BioAngels is to become the platform of choice for Investors and innovative startups to build globally competitive companies.

It aims to be the single largest national platform for biotech angel investing. This will create an ecosystem for biotech start-ups primarily supporting affordable and accessible innovative products that meet societal needs. Through BioAngels BIRAC will be able to catalyze mobilization of around INR 350 Cr private equity for Biotech Startups in about 145 Startups over the period of 3 Years.

BIO International Convention & Exhibition 2022

The BIO International Convention & Exhibition 2022 was held from June 13-16 at San Diego, USA after a gap of 3 years. The BIO International Convention was four exciting days of networking, programming, and partnering opportunities that shape the future of the Bio-pharma industry and celebrate the scientific discoveries transforming our world. This year's theme was to explore 'LIMITLESS' possibilities alongside thousands of global biotechnology and pharma leaders to dive into topics such as business development, healthcare innovations, and the future of biotechnology. Bangalore Bio Centre (BBC) through the support of DBT-BIRAC, GoI booked 800 sq. feet of space for the INDIA pavilion and coordinated the pavilion and activities related to India's participation at the BIO Convention and Exhibition. The companies like Syngene, Archeron, Pandorum, Lupin, Kemwell, Bioneeds etc. participated in the event. BIRAC made a presentation at the global platform highlighting the unlimited opportunities to invest, research, develop, scale up and market biotech innovations in India.

The Indian reception for BIO-US received a huge response. Special thanks to Dr Peter for joining virtually and sharing his thoughts. We were honoured by his presence. The panel discussions were moderated by Dr Steve and Dr Dinkar.

Several start-ups supported by state governments & other organizations were exhibited at the INDIA pavilion. BIRAC already had participated in many exhibitions of BIO-US before. This year also, BIRAC has participated in the BIO US meet to showcase the strength of the Indian biotech industry on the global platform. The event witnessed over 10,000+ international and domestic participants from across the biotech industry.

BioNEST-Association for Bio-inspired Leaders & Entrepreneurs at SASTRA-TBI

About the BioNEST:

Association for Bio-inspired Leaders & Entrepreneurs at SASTRA-TBI (ABLEST) is a section 8 company that is housed in SASTRA Campus, Thanjavur, India. ABLEST is jointly supported by the Biotechnology Industry Research Assistance Council (BIRAC), Department of Biotechnology, Government of India and SASTRA Deemed-to-be University, Thanjavur, Tamilnadu. ABLEST focuses on supporting start-ups in the areas of therapeutics, diagnostics, pre–clinical evaluation and smart health care solutions. This bioincubator serves as a unique BIONEST to cater to the needs and requirements of potential entrepreneurs making way to develop products of commercial as well as societal values. At ABLEST, in addition to providing bench space for research and development, we provide mentorship and access to business advisory and financial services. We also leverage on the existing intense multidimensional research facilities and programmes at SASTRA. With the advantage of being located in a University campus, we have access to the student and faculty resources who are interested in incubating, establishing start-ups and growing their business. Incubatees can be residential or work remotely depending on their requirements. We provide space, access to resources and flexibility to ensure your business growth at every stage.

In short, we provide a collaborative and stimulating ecosystem for people with ideas, technologists and entrepreneurs who have new & interesting products and business ideas that they want to commercialize.

Location: SASTRA Deemed-to-Be University, Thirumalaisamudram, Thanjavur – 613 401; TamilNadu

ASSOCIATION FOR BIO-INSPIRED LEADERS & ENTREPRENEURS AT SASTRA TBI (ABLEST) @ SHRI

• **Total space** (Incubation, Lab space, Common area, etc)	–	5692 Sqft
• **No. of Incubatees supported till now**	–	21
• **Total IPs facilitated**	–	4
• **Rentals**	–	Rs.3000/Work Bench space

Facilities offered and unique features- ABLEST understand the gaps of every incubatee on case-to-case basis through periodic one-on-one mentoring and mentor feedbacks using dedicated online Incubatee maping portal. Regular maping of incubatees with 6 identified critical success parameters is being done to provide exact support that the incubator need then and there.ABLEST offers the following technical and business supports to the Bio-Startups.

General Infrastructural Services

Bioinnovation Space

- 10 individual Work space (Include separate Mini spin, Magnetic Stirrer, Vortex, Pipette set, etc)
- Water Bath
- Weighing Balance
- pH Meter
- Centrifuge
- Refrigerators
- Ice Flaker
- walk In cold room
- Autoclave
- Fume hood

BSL-3 Laboratory

- BSL 2 Room
- (Include Weighing Balance,vortex mixer,Mini Spin ,Pipette Set, ect)
- Dynamic Pass Box
- Garment Cabinet
- Class II Type B2 cabinet (Esco)
- Cell culture / CO2 incubator (NUAIRE)
- Inverted Microscope (Nikon)
- Centrifuge (Sigma)
- Deep Freezer (-20 & -80 degree)
- Refrigerator
- Double door Autoclave

Cell Culture Facility

- Class II Type A2 cabinet (ESCO)
- CO2 incubator (NUAIRE)
- Inverted Microscope (Nikon)
- Centrifuge (Sigma)
- Water Bath
- Deep Freezer (-20 & -80 degree)
- Refrigerator
- Double Distillation Unit
- Weighing Balance
- pH Meter
- Liquid Nitrogen Storage

Instrumentation Lab:

- Next generation sequencer-Miseq Illumina
- RT-PCR Quantstudio5 (Applied Biosystems)
- Thermo mixer
- Thermal Cycler
- Multimode Plate Reader (TECAN)
- Fluorescent Microscope

	• Chemi Doc • Electrophoresis Apparatus • Western Blot Apparatus • QAxcel Bio-Analyzer • Qubit
Scientific support services	• Pre-incubation platform for nurturing Technology driven innovations among students • Biomedical safety management training • Virology, Cell culture and Molecular biology techniques including Next generation sequencing • Technical mentoring • Ethical & regulatory guidance • Product development, Testing & Validation • Consulting in Pharma products
Advisory and mentoring services	• Developing Business Growth Strategy & Market Feasibility Assessment, Conducting Marketing Trials, Branding & Marketing support. • Facilitating startups to raise public and private funds • Conducting training on marketing skills, finance, accounting, etc. • Conducting IP planning sessions and assistance in IP filing by experts, IP attorneys at nominal charges • Assistance to conduct clinical trials and validation studies • Connecting startups with State and Central Govt. facilitators and enablers. • Networking with national and international investors and mentors through various programs. • Connecting research institutions, academia, industry and corporates towards the creation of a Hub & Spoke Model, actively facilitating innovation and knowledge creation.
Information services	IT services- Uninterrupted Wi-fi support for 24/7 Library & Database Access High-performance computing platform and cloud facilities

About the Team

The ABLEST has 9 dedicated full time BioNEST members to manage Bioincubation facility and its associated operations that are aligned with the vision and mission of the ABLEST.

Standing From Left to Right: K. TamilSelvi - Office Assistant, S. Senthamilselvi - Office Assistant, C. Ananiya - Technical Assistant, E. Monalisha - Lab Manager
Centre: Dr. S. Anuradha - Chief Executive Officer
Standing From Right to Left: C. Boominathan - Office Assistant, T. Ellavarasan - Office Assistant, J. Arumugham - Accounts & Admin, S.R. Pattabiraman - Incubation Manager

Star Incubatees of the Incubator

Logo & Picture	Description about the startup &technology/product
Skinnovate	Development of synthetic nanofibrous scaffolds for skin wounds
	Electrochemical sensor for pre-diabetics and Cardiac biomarkers
SWASTH	Development of cost-effective healthcare solutions including UV sterilization towers, 3D printed ventilator splits, Hand casts and diabetic foot wears
Krisha Healthcare	Point of care devices for Glycated Hemoglobin and Oxidative stress
CT CROBOT	Development of Telepresence robot for healthcare applications
ONEOMICS	Development of saliva collection kit and Gene panel for oral cancer
genix.ai	Developed artificial intelligence-based tools to detect molecular signatures in early diagnosis using NGS and imaging data.

BioNEST Bioriddl

About the BioNEST:

Bioriidl is an extension of riidl which encourages research and innovation in the biological sciences. It supports the growing Biotechnological, global social movement Do-It-Yourself Biology in which individuals, communities and small organizations study Biology and Life Sciences using the same methods as traditional research institutions.

Bioriidl has set up India's first and only Do-It-Yourself Biolab, and a Bio-Incubator, an incubation cell for Biotechnology startups; a space where Biologists can come, execute their ideas and innovate. Bioriidl has specialised lab facilities like Molecular Biology Lab, Cell Culture Lab, Fermentation Lab, Analytical Lab and Common Instrument Lab for members and startups to access. Students, academicians and researchers have access to mentoring from scientists and investors as well as a chance to become a part of a global discussion biologist group.

Bioriidl received a grant from the Department of Biotechnology-BIRAC, Government of India in December 2017 to setup the Bio-Incubator along with BIRAC SEED Fund to invest and support startups in the field of Lifesciences.

- **Location-**

  Somaiya Vidavihar, Mumbai

- **Total space (Incubation, Lab space, common area etc)-**

  Total Area: 8550 sq ft **Common Area:** 700 sq ft

  Lab Space: 4200 sq ft **Office Area:** 3650 sq ft

- **No. of Incubatees supported till now** - 37
- Total Products/technologies commercialized-
  1. Number of products commercialized = 19
- **Total IPs facilitated-** 16
- **Rentals -**

Rental Model: 2500 INR for students per seat / month, 4500 INR for others

Cabin rent- 27,500 INR per cabin/monthEquity Model: 3% equity

Membership Model: 2500 INR / Month; 7000 INR / Quarter; 15000 INR / Year

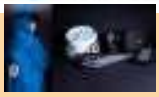
- **Facilities offered and unique features-**

General infrastructural services	Meeting rooms, Conference rooms, Wifi, Pantry/Cafeteria, AC, Startup cabins, startup desk, Recreational sports, Access to clinical facility through K J Somaiya Hospital and agriculture beds for agri startups.
Scientific support services	Lab facilities (Cell culture lab, Molecular biology Lab, Fermenter lab, Analytical lab, Common instrumentation lab), Guidance for ethical approval process for testing of medical devices, Licensing and regulatory support, IP support,
Advisory and mentoring services	Mentoring- Scientific/technical, Business, Minimum viable product development support, Grant / External Fundraising, Strategic planning and business development
	Human Resource services (interns / recommended co founders & core team building) from Somaiya Vidyavihar University & community events
	Intellectual Property services
	Cloud credits, SMAC equipments access (Smart phones, NAS servers, etc)
	Infrastructure (rental office space, Seminar Halls, Library Access, University resources etc)
	Business Networking & partner collaboration opportunities
	International partners exposure / immersion program (eg: MIT media lab, Austrian embassy exposure program)
	Virtual incubation & partner labs access + acceleration support
	Early customer access support
	Startup training, New venture investment training, Bootcamp & Acceleration, Code adventure, Maker Mela and Darwin pitch sessions, Startup School India and Digital fabrication training programs

- **About the Team (Pictures of members- Group picture)**

Bioriidl Team

Star Incubatees of Incubator

Logo & Picture	Description about the startup &technology/product
INDRA 	**Inphlox Water Systems Pvt Ltd:** **Product:** Modular, decentralized wastewater treatment systems. **Nature:** Biotechnology / Environment
	**Savemom Pvt Ltd:** **Product:** AlloTricoder is a highly portable medical device which can collect more than 10 vital information including ECG blood pressure blood glucose in less than 2 to 3 minutes time. These vitals are collected digitally through our AlloLab mobile application and directly send to our AlloDoc doctor portal. **Technology:** IoT medical device AI based risk identification. **Nature:** Healthcare
Altinbio 	**Altinbio:** **Product:** Manufacturing company for biosurfactants. **Nature:** Biotechnology
ORGANIC RIOT 	**Mayashanti Naturals:** **Product:** Creating an uncompromisingly safe range of skincare products that one can trust & use. **Nature:** Healthcare
WATT 	**Watt Technovations:** **Product:** CovTech Ventilation System - One of the world's most economical PPE KIT ventilation systems. **Nature:** Hardware material product innovation
ROHA 	**Roha Biotech** **Product:** Mycelium based packaging as replacement of the plastics **Nature:** Biotechnology

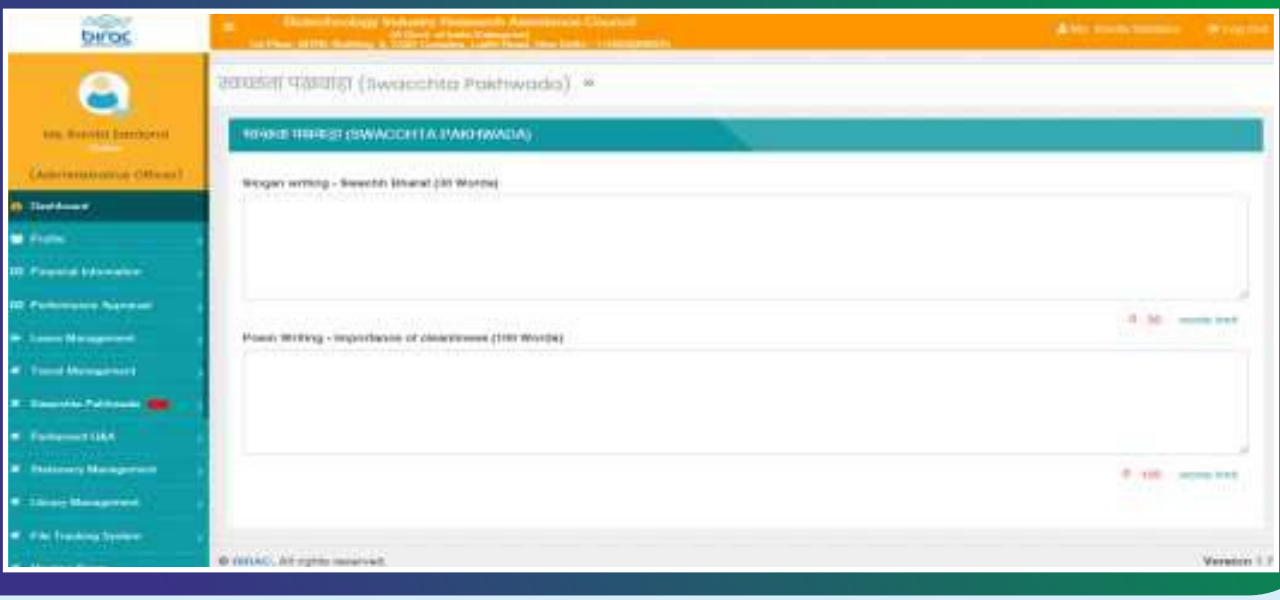
Swachhata Pakhwada 2022

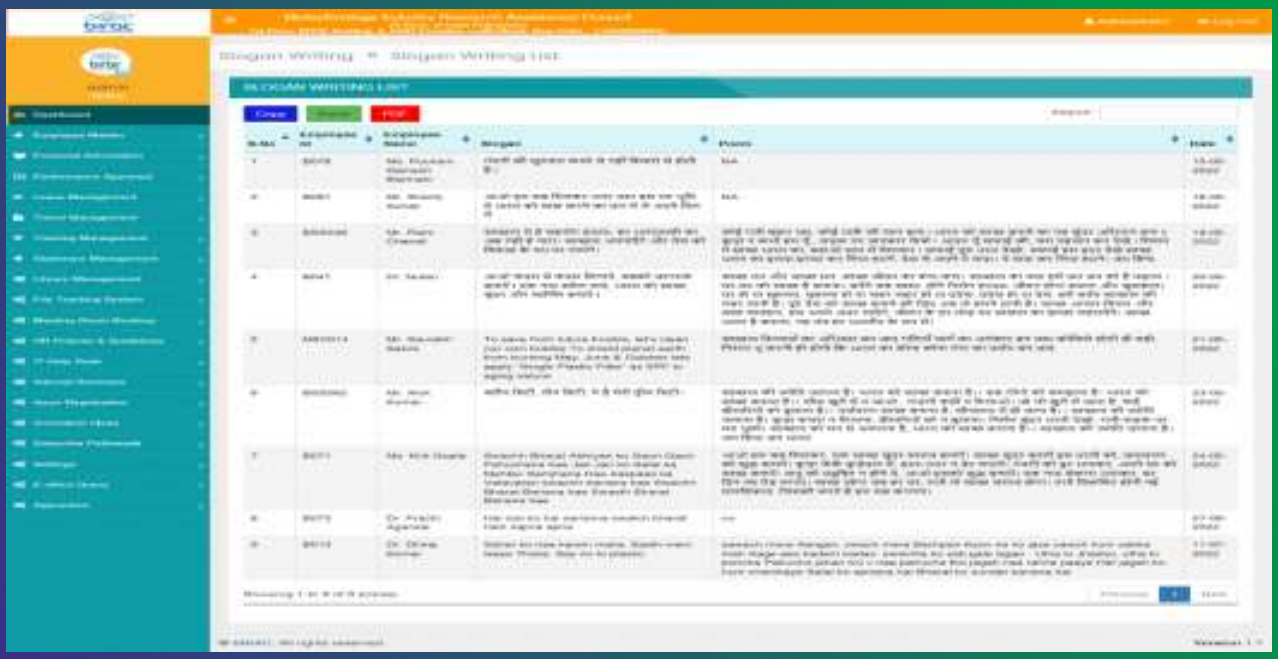
BIRAC observed Swachhata Pakhwada from 1st May to 15th May 2022. Swachhata pledge was administered by Director - Operations. All employees have taken a pledge to devote 100 hours in a year as 'Shramadaan' to ensure cleanliness of the work area & surroundings. The message and the objectives of 'Swachh Bharat Mission' were shared among all the employees.

Safeguarding the health of employees is BIRAC's top priority, therefore, sanitization of the entire office premises is being carried out on weekly basis. Also, routine cleaning and disinfection of office premises especially high-touch surfaces are being carried out in timely manner in BIRAC.

To promote and propagate the Swachh Bharat Abhiyan, the Slogan writing and Poem writing competitions were also organized online.

All employees participated with great enthusiasm in this event.





Training on fostering productive work environment and culture

BIRAC understands the importance of keeping everyone in the organization engaged in continuous improvement, cross learning as well as innovative and motivating activities.

In order to help employees understand dimensions of productivity, work culture and building positive attitude, in-house training on Fostering Productive Work Environment and Culture has been organised for BIRAC employees on 20th & 21st June 2022.

The training helped employees inculcating empathy and interpersonal skills, have effective and transparent communication though various case studies.

International Yoga Day 2022

International Yoga Day is observed every year on June 21 to raise awareness about this ancient practice and to celebrate the physical and spiritual prowess that yoga has brought to the world. Yoga is a physical, mental and spiritual practice. It plays an important role in relaxing the mind and body and boosting people's immune system.

Biotechnology Industry Research Assistance Council (BIRAC) celebrated 8th edition of the International Day of Yoga on the theme "Yoga for Humanity" on 21st June 2022.

Yoga Day Programme was organised at Lodhi Garden, New Delhi. Officials from BIRAC and DBT gatherd early in the morning and practiced guided yoga with enthusiasm alongwith Secretary DBT & Chairman BIRAC and Managing Director BIRAC. Yoga instructor, who alongwith guiding through the series of yogasans enriched the emoloyees with the value and benefits of this ancient and modern practice.

Few glimpses of the Yoga day at BIRAC 2022 is given below:


INTERNATIONAL YOGA DAY 2022 | अंतर्राष्ट्रीय योग दिवस 2022


INTERNATIONAL YOGA DAY 2022 | अंतर्राष्ट्रीय योग दिवस 2022

Hindi Workshop

A Hindi Workshop was organized on 30-06-2022 at Biotechnology Industry Research Assistance Council (BIRAC), Department of Biotechnology, A Public Sector Undertaking of Government of India, New Delhi. Dr. Srinivas Tyagi, Professor, Gargi College, University of Delhi was present as the keynote speaker in the Hindi workshop. During his lecture, he emphasized on the importance of Hindi language, including the rules, regulations and acts of the Official Language Act, and stressed on linking it with science. He explained the Official Language of the Union in detail. The program was presided over by Ms. Kavita Anandani, Company Secretary, BIRAC. The facilitator of the program was Mr. Nitin Singh Tomar, Consultant-Hindi.

The training helped employees inculcating empathy and interpersonal skills, have effective and transparent communication though various case studies.

Renewal of Memorandum of Understanding

The Department of Biotechnology (DBT) and the Bill & Melinda Gates Foundation have renewed the Memorandum of Understanding (MoU), originally signed in 2012, to support innovative approaches for developing new preventions, therapies and interventions needed to solve health (human and animal), food and nutritional inequities on 7th June 2022 in New Delhi.

DBT and the Gates Foundation had previously signed a Memorandum of Understanding (MoU) on cooperation in the field of health and development issues on July 18, 2012, for five years, which was further renewed for 5 years till 17th July, 2022. Under this joint partnership, in the last 10 years, programs

in diverse areas under maternal and child health, nutrition, sanitation, infectious disease, data science approaches have been undertaken. The program has also brought together and leveraged the best of the nation's researchers and innovators with international best-practices to address some of the grand challenges that society faces.

Through the renewed MoU, the partnership will articulate and implement new strategic direction and to continue awarding and administering a suite of programs in the larger field of public health, tailored to fulfill the strategic needs and requirements of the country and then the rest of the world.

Present on the occasion also was Mark Suzman, CEO, Bill & Melinda Gates Foundation. He said, "The Gates Foundation values our longstanding relationship with the Indian government's Department of Biotechnology, and we are honored to continue to support the ministry's efforts to promote innovative research and enhance domestic biotechnology capacity in India. India's health and agricultural systems are already strong, but together we can make them even more resilient. I am excited about the potential of this collaboration to address health and food inequities in India and around the world."

The renewed MoU the partnership pledged a combined USD 50 million investment to the joint initiative, to continue to explore and expand funding arenas and mechanisms to support innovators, focused on early-mid stage research and product development to tackle health and developmental issues.

Dr. Rajesh S. Gokhale, Secretary, Department of Biotechnology, Ministry of Science and Technology, Govt. of India stated "Such partnerships bring together the best and the brightest by sharing and leveraging each partners strength and resources. The Grand Challenges India partnership exemplifies this, where the partners focus on identifying and funding affordable and innovative solutions to public health challenges not only within India but also for the developing world. The Covid-19 pandemic has demonstrated what can be achieved with the concerted efforts of Government and Private Sector. The GCI partnership will look to further unleashing this new power, resilience and capabilities in Indian innovation ecosystem in alignment with the goals of the Government of India priorities in health innovation and science and technology."

The event also saw announcement of the latest open call for funding on Diagnostics for Neglected Tropical Disease (NTD)- Lymphatic Filariasis (LF). The call focuses on developing point-of-care, novel cost-effective diagnostics for lymphatic filariasis for use in national Lymphatic Filariasis elimination programs. The goal of this challenge is to have a reasonably inexpensive, durable and accurate point of care testing method(s) that can be used in developing/remote geographies. Successful diagnostics/novel approaches set through this call would then be supported for further validation and development to understand that they would be used in public programmes for LF elimination.

Grand Challenges India
NTD Call Launch
Diagnostics for Lymphatic Filariasis (LF)

Grand Challenges India have announced, its seventh open call to solicit proposals on "Diagnostics for Lymphatic Filariasis (LF)". The main aim of the call is to address an urgent need for the development of novel diagnostics for LF. The program will support diagnostics development in alignment with the Target Product Profiles developed by the WHO Diagnostic Technical Advisory Group and, are intended for field use in the National LF Elimination Programme, primarily in India and globally.

The goal of the challenge is to have a reasonably inexpensive, durable, and accurate point of care testing method(s) that can be used in developing/remote geographies. Successful diagnostics/novel approaches developed through this call would then be supported for further validation and development to understand whether they would be used in public programmes for LF elimination.

Application process is open till 5.00 pm IST 21 July 2022.

National Biopharma Mission
Skill Development
Hands-on Training Programme on Bioprocessing
20th - 24th June 2022

A five days training on Bioprocessing was organized by the DBT Centre for Biopharmaceutical Technology under the aegis of National Biopharma Mission, BIRAC at IIT Delhi during 20th to 24th June 2022.

The workshop provided hands-on training in various relevant techniques required for biopharmaceutical product development in the areas: Upstream Processing for Biopharmaceuticals, Harvest Technologies for Biopharmaceuticals, Downstream Processing for Biopharmaceuticals and Analytical Characterization for Biopharmaceuticals. A total of 58 Participants were trained in this programme including 29 female Participants. BCIL is training coordinator for this programme.

Key Speakers: PROF. Anurag S. Rathore Coordinator, DBT COE-CBT IIT Delhi; PROF. James Gomes, Professor, IIT Delhi; PROF. Manidipa Banerjee, Professor, IIT Delhi; Dr. Rahul Bhambure, Senior Scientist, NCL Pune; Dr. Ravi. P. N. Mishra, CSIRIMTECH, Mr. Neeraj Narayanan, Associate Scientific Manager, Biocon Limited; PROF. Sumit Kumar Singh Assistant Professor IIT BHU; PROF. Kali Kishore Reddy Tetala, Assistant Professor, VIT, Vellore;

The Hands-on Training Programme on Bioprocessing comprise of the following four modules.

- **Module 1** Upstream Processing for Biopharmaceuticals
- **Module 2** Harvest Technologies for Biopharmaceuticals
- **Module 3** Downstream Processing for Biopharmaceuticals
- **Module 4** Analytical Characterization for Biopharmaceuticals










Glimpses of Hands-on Training Programme on Bioprocessing at IIT Delhi

Call Launch for i4 and PACE inviting proposals from Industry and Academia

Regular call under i4 (BIPP & SBIRI) and PACE (AIR & CRS) was launched on 15th June 2022 and will close on 31st July 2022 at 5:30 pm. The call invites online proposals under various areas of Biotechnology namely: Devices & Diagnostics, Bioinformatics, Drug & Drug Delivery, Biotherapeutics, Biosimilars & Regenerative Medicine (including Stem Cells), Vaccines & Clinical Trials, Environment, Energy & Secondary Agriculture, Agriculture (including Veterinary Sciences and Aquaculture).

i4 (Intensifying the Impact of Industrial Innovation) programme has been initiated to support biotechnological product/ technology development by strengthening R&D capabilities of start-ups/companies/ LLPs.

The programme provides impetus for pulling the translational ideas past PoC and taking them further along the innovation chain for validation, scale-up, demonstration and pre-commercialization of products and technologies. It is operated through two schemes:

- **SBIRI (Small Business Innovation Research Initiative):** The scheme supports development and initial validation of new products and technologies. The end point of proposed study should be TRL6 and below.
- **BIPP (Biotechnology Industry Partnership Programme):** The scheme supports validation, demonstration and pre-commercialization of product and technologies. The end point of proposed study should be TRL7 or above.

PACE (Promoting Academic Research Conversion to Enterprise) programme has been launched to encourage/support academia to develop technology/product (up to PoC stage) of societal/ national importance and its subsequent validation by an industrial partner. It is operated through two schemes:

- **AIR (Academic Innovation Research):** The objective of the scheme is to promote development of Proof-of-concept (PoC) for a process/product by academia with or without the involvement of industry/LLP
- **CRS (Contract Research Scheme):** The scheme aims at validation of a process or prototype (developed by the academia) by the industrial partner/LLP

BIOTECHNOLOGY INDUSTRY RESEARCH ASSISTANCE COUNCIL

(A Govt. of India Enterprise)

INVITES PROPOSALS

for

Development, validation & pre-commercialization of products/technologies

in the areas of

- Healthcare
- Energy and Environment
- Veterinary Sciences and Aquaculture
- Agriculture and Secondary Agriculture

under

i4 (Intensifying the Impact of Industrial Innovation)

Supports industry through:

- **SBIRI** (Small Business Innovation Research Initiative)
- **BIPP** (Biotechnology Industry Partnership Programme)

PACE (Promoting Academic Research Conversion to Enterprise)

Supports academia through:

- **AIR** (Academic Innovation Research)
- **CRS** (Contract Research Scheme)

For online application, scheme details and eligibility criteria, please log on to BIRAC website (www.birac.nic.in)

Last date for submission of proposals: 31st July, 2022 (up to 5:30 pm)

For queries, please contact: GM & Head - Investment, BIRAC. Email: investment.birac@gov.in

For further information please contact:

Biotechnology Industry Research Assistance Council (BIRAC)

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