

# Sustaining & Accelerating Economic Growth





**birac**

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$$M_x = \frac{M(x)}{M(-)}$$

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# Leader's Message



**Dr. Rajesh S Gokhale**

Secretary, DBT & Chairperson, BIRAC

“

The biotech sector in India is rapidly expanding and is the driving force of significant transformation. The biotech sector's vigour and vibrance have undoubtedly kept the pace of expansion going. In recent years, the biotech sector has impacted mankind's well-being, created opportunities, and transformed many lives. BIRAC has been promoting the

entrepreneurial mindset and supporting the spirit of innovation by partnering with cutting-edge research domains to uncover commercial potential in India with the help of DBT and the Government of India. BIRAC's enormous contribution to the biotechnology ecosystem's growth is transformative.

BIRAC is dedicated not just to fostering innovations and facilitating their commercialization, but also to ensuring the global competitiveness of Indian enterprises. DBT- BIRAC has empowered and energized the emerging biotechnology ecosystem, which is projected to have an effect on the country's target of USD 5 trillion by 2024-25. BIRAC-supported innovations have come a long way and have profound impact in fields such as health, agriculture, and healthcare.

Since its inception, BIRAC has set up number of projects, programmes, events, and collaboration models aimed at fostering innovation and the startup's ecosystem. The close alignment of BIRAC with various mission programmes such as Swachh Bharat, Make in India, Startup India, and others is also assisting in the development and validation of indigenous solutions that solve the country's unmet needs. BIRAC aims to improve the capacities of biotech startups and SMEs by connecting them to local and global stakeholders and assisting them in achieving global excellence.

As BIRAC celebrated its tenth anniversary on March 20, 2022, nurturing the innovation ecosystem and facilitating the global competitiveness of Indian enterprises, I would want to take this opportunity to thank and congratulate everyone in the organization for their accomplishments over the years. Constantly growing number of new startups, patent filings, technology, and products are constantly increasing, indicating the expansion of Biotech Startups in the country. In the next few years, I'm confident that BIRAC will be well positioned to help revolutionize the biotech sector in new and unexpected ways, while continuing to make a difference in our communities and around the world.

”



## Dr. Alka Sharma

Senior Advisor, DBT &  
Managing Director-BIRAC

# Chief Editor's Take



In recent years, India's biotechnology sector has grown quickly, with the biopharmaceutical sector leading the way. Many breakthroughs in healthcare, medicines, food, energy, and conservation are being made today thanks to modern biotechnology.

DBT-BIRAC has made consistent efforts to support technology-driven innovations in various sectors in order to improve society's quality of life. BIRAC is envisioned towards a mission of

AtmaNirbhar Bharat and has served citizens during the pandemic by accelerating the performance of the biopharmaceutical and bio-service sector. Biotechnology has had a huge impact on health care over the last 30 years, and this will continue in the near future as DBT-BIRAC works to develop various convergence platforms that will streamline our needs as a country in terms of product resources and technology services for developing reagents, diagnostics, vaccines, and therapeutics.

The biotechnology industry has enormous potential to transform India's economy. Often referred to as one of India's "sunrise industries", the biotechnology industry has already made significant progress in providing a conducive environment for biotechnology innovation in the country. The vibrancy of the ecosystem for delivery of product needs a strong regulatory environment with key policy drivers and enablers. BIRAC provided the impetus and a mechanism for nurturing and supporting intellectual property rights, as well as collaboration with companies looking to commercialize ideas developed at academic institutions.

For BIRAC it has become the need of the hour to grant strategic importance to the Biotechnology Sector, which necessitates the ramping up of the production of health-related products and investments. Through support to 75 bio-incubators and four Regional Entrepreneurship Development Centers, BIRAC has nourished over 3500+ entrepreneurs, startups, and SMEs, 350 industrial relationships, and 713132 sq. ft. of incubation space in just ten years. 1250 IPs have been generated at BIRAC, along with 750 products and technologies created to far.

BIRAC is not only committed to promote innovations and enable their commercialization but also to ensure global competitiveness of Indian enterprises. BIRAC supported innovations have come a long way in resolving problems in the sector of agribusiness to health care and pharmaceuticals to energy and computing. The thriving ecosystem that BIRAC has offered to the innovators, SMEs, Startups has shown to be extremely beneficial in addressing major societal problems.





## SPARSH (Social innovation program for Products: Affordable and Relevant to Societal Health) Fellows - Graduation Day and Investors' Meet

The Biotechnology Industry Research Assistance Council (BIRAC) in collaboration with SPARSH Knowledge partner, TISS, had organized “Graduation Day and Investors’ Meet” at the SPARSH Centre, FITT’s Research Park facility at IIT-Delhi campus on 22<sup>nd</sup> and 23<sup>rd</sup> March 2022. The event was organized to commemorate the completion of immersion journey of SPARSH innovators. More than 100 participants comprising of SPARSH fellows, PIs and Managers of 14 SPARSH centres, TISS faculty, BIRAC experts& representatives, investors, and other dignitaries graced the event.







The fellows have been mentored by BIRAC, Subject experts, TISS and Sparshcentres over a period of 18 months and through the collective efforts the fellows have developed an alpha level prototype/technology to establish the proof the principle of the idea germinated through the Sparsh fellowship.



The experts, faculty and students of IIT Delhi visited the stalls, wherein the fellows displayed the posters and prototypes developed under the fellowship program. The cohort of 65 fellows developed around 60 prototypes and close to 30 IPs were filed. The subject experts appreciated the final outcome at the completion of the fellowship. The fellows received the completion certificates from the Managing Director, BIRAC and initiated the new chapter of their entrepreneurship journey.



The event also witnessed Sparsh fellow' sinteraction with the potential investors. 5 Investors shared the best practices of raising the grants and pitching to the investors with the fellows. The event provided the networking opportunities and the much-needed platform to showcase their products and technologies.



The new cohort of the Sparsh fellowship initiated from April 2022 onwards. 67 Sparsh fellows were recruited to begin their social innovation immersion journey in the thematic areas of Maternal & Child Health, Ageing & Health, Agri Tech, Waste to Value, Combatting environment pollution and Food & Nutrition.





# Intellectual Property & Technology Management

## Webinars to aware the Start-ups, Students, Scientists from the academic Institutions and IP & Tech Transfer Fraternity

BIRAC conducted a series of webinars to sensitize the Start-ups, Students, Scientists from the academic Institutions and IP & Tech Transfer Fraternity on different themes “Patent Process & Strategy”, “3D-Printing: The Challenges of Patents and Intellectual Property”, “Geographical Indications and its registration process” and “Primer on Bio-Property”. Webinars were attended by around 120 participants.



*Glimpses of BIRAC Webinar Series*





Dr. Shachindra Pandey



K & S  
PATENTS  
Intellectual Property Strategists

## WHAT IS A PATENT ?

- A patent is a set of **exclusive rights** (monopoly) granted by a (government authority) to an inventor or assignee for a limited period of time (20 years) in exchange for detailed public **disclosure** of an invention.
- Is a solution to a specific technological problem and is a '**product**' or a '**process**'.
- **Territorial right** - Separate applications to be filed in different countries
- A right to **exclude** others from: making, using, offering for sale, selling or importing the patented invention
- **Negative right** - Sole right to exclude others from making, using, or selling an invention



Mr. K. Vijayaraghavan



Dr. Vinita Jindal



Dr. Shishendu Mukherjee



Mr. Amit Katiyar



## PRIMER ON BIOPROPERTY

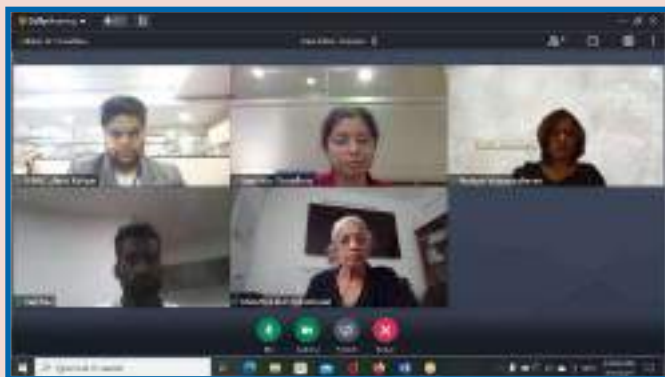
©K.VIJAYARAGHAVAN.RTPP





## BIRAC IP & Technology Management Law Clinic Connect

BIRAC conducted a virtual session of IP & Technology Management Law Clinic Connect on 11<sup>th</sup> February, 2022 which was joined by 6 start-ups and innovators to discuss the IP & Licensing matters with the domain experts.



*Glimpse of BIRAC IP & Tech Management Law Clinic Connect*





## BIG 20<sup>th</sup> Call

### Biotechnology Ignition Grant (BIG)

BIRAC's flagship program, Biotechnology Ignition Grant (BIG), Igniting New Ideas, 20th Call was launched on 1st Jan 2022. Under the BIG program, grant-in-aid support of up to INR 50 Lakhs is provided to individual entrepreneurs and start-ups for innovations in various areas such as Healthcare, Lifesciences, Diagnostics, Medical Devices, Drugs, vaccines, Drug formulations, and delivery systems, Industrial Biotechnology, waste management, Agriculture and secondary agriculture, Sanitation, Clean Energy etc.

Under the 20th call, 833 applications were received which are now being screened and evaluated.



**BIOTECHNOLOGY INDUSTRY RESEARCH ASSISTANCE COUNCIL** (A Govt. of India Enterprise)

**BIG 20<sup>th</sup> Call**

**BIOTECHNOLOGY IGNITION GRANT**  
*Igniting New Ideas*

Up to **50 Lakhs**

Innovative ideas having potential for commercialization  
About 700 ideas already supported

Innovations under Healthcare, Lifesciences, Diagnostics, Medical Devices, Drugs, Vaccines, Drug Formulations and delivery systems, Industrial Biotechnology, Agriculture, Secondary agriculture, Waste Management, Sanitation, Clean Energy and related areas.

**Eligible Entities Include**

- Individual Entrepreneur with Graduate degree in any discipline, Research Scholar, Scientist.
- Start-up having a registered company/ LLP incorporated on/after 1st January, 2017

**Seek Mentoring from BIRAC's BIG Partners & Nearby Associate BIG Partners**

**BIRAC's BIG Partners**

Apply Online: [www.birac.org.in](http://www.birac.org.in)

Apply Online: 15th February 2022, 05:00 PM

For additional info, please contact "Mr. Tarunjeet Kaur"  
Email: [menting@birac.in](mailto:menting@birac.in) ; [spe01@birac.in](mailto:spe01@birac.in)

### The final selection meeting for Biotech Ignition Grant (BIG) Call-19

**BIG-19 Selection:** The final selection meeting for Biotech Ignition Grant (BIG) Call-19, chaired by Secretary DBT & Chairperson-BIRAC was held in February 2022. A total of 48 innovative projects by startups were approved for support under the BIG program for which the applicants would receive funding support of up to INR 50 lakh each.



## Call for proposals under Amrit Grand Challenge “जनCARE” Program

Call for proposals under Amrit Grand Challenge “जनCARE”, Reimagining the Healthcare Delivery-Touching a billion lives was announced on 26<sup>th</sup> January 2022.

The program was announced on BIRAC’s 10<sup>th</sup> Innovators meet held on 28<sup>th</sup> September 2021 to identify and support 75 innovations in Digital Health, Telemedicine, mHealth in the presence of Dr. Jitendra Singh, Hon’ble Minister of Science and Technology.

Through this program, BIRAC, MeitY, NASSCOM, in collaboration with Grand Challenges India (GCI) and several other partners would support 75 Healthtech Innovations from start-ups and entrepreneurs in Telemedicine, Digital Healthtech, mHealth using Big Data, Blockchain, AI/ ML, and other technologies to strengthen the Healthcare ecosystem in India. The program is aligned with the National Digital Health Mission (NDHM) and will endeavor to support various verticals of managing digital health records and patient compliance standards mandated for Indian citizens. The program would provide extended support for funding, mentorship, and scaling up in several states, Medtech industries, hospitals, and corporates.

Funding will be provided under 3 categories:

1. Ideation and Testing: 60 early-stage Innovations would receive funding of INR 10 Lakhs Grant each
2. Pre-commercialization: 13 Late-stage innovations would receive funding of up to INR 20 lakhs each
3. Multi-centric Product Deployment: 2 Advanced stage innovations would receive funding of INR 50 lakhs each.

BIRAC supported BioNEST Bioincubator IKP Knowledge Park organized a series of 8 webinars on Amrit Grand Challenge जनCARE from 11<sup>th</sup> Feb to 10 March 2022.






**AMRIT GRAND CHALLENGE**

**जनCARE**

Reimagining the Healthcare Delivery - Touching a Billion Lives

75 Health Innovation from startups and entrepreneurs  
Innovations for Telemedicine, Digital Health, Artificial Intelligence, Big Data, AI/ML, Blockchain and other technologies  
Opportunities for Funding, Mentorship and Scaling up  
Several States, MedTech Industries, Hospitals and Corporates endorsed

**AREA OF FOCUS**

- Access to primary healthcare in tier-2, tier-3 cities and rural settings
- Solutions for enhanced patient compliance
- Health Data Collection, Predictive Analysis and Digital Learning in Medicine
- Data Privacy, Storage and Security Solutions
- Solutions for improved community outreach
- Data driven modeling to enable pharma/biopharma research, development and innovation

Solutions aligned with the Health Digital Mission and Ayushman Bharat, digital pathways

**Funding Support**

Identification and Testing	Pre-commercialization	Multi-centric Product Deployment
06 Early stage innovations	13 Late stage innovations	24 Advanced stage innovations
INR 10 Lakh each	INR 25 Lakh each	INR 30 Lakh each

**Apply online : [www.birac.nic.in](http://www.birac.nic.in) by 31 March 2022**



**AMRIT GRAND CHALLENGE**

**जनCARE**

REIMAGINING HEALTHCARE DELIVERY TOUCHING A BILLION LIVES

75 HEALTH INNOVATIONS

75th ANIVERSARY

60 EARLY-STAGE INNOVATIONS get INR 10 Lakh each for Research and Testing

13 LATE-STAGE INNOVATIONS get INR 25 Lakh each for Pre-commercialization

24 ADVANCED-STAGE INNOVATIONS get INR 30 Lakh each for Multi-centric Product Deployment

Preference for solutions aligned with National Digital Health Mission and Ayushman Bharat

For call overview and application, visit: [https://www.jncare.nic.in/birac\\_main.php?l=367](https://www.jncare.nic.in/birac_main.php?l=367)

**APPLY BY MARCH 31, 2022**

JOIN US TO LEARN MORE ABOUT THE GRAND CHALLENGE CALL

S.NO.	CALL TOPIC AREA & WORKSHOP TYPE	DATE
01	Health data collection, Predictive analysis and Digital learning in medicine-1	15 Feb
02	Access to primary healthcare in tier-2, tier-3 cities and rural settings-1	15 Feb
03	Health data collection, Predictive analysis and Digital learning in medicine-2	18 Feb
04	Solutions for improved community outreach	22 Feb
05	Access to primary healthcare in tier-2, tier-3 cities and rural settings-2	25 Feb
06	Solutions on health data privacy, storage and security	02 Mar
07	Solutions to enhance patient compliance	04 Mar
08	Data-driven modeling for Pharma/Biopharma R&D and Innovation	18 Mar

Register at: <https://www.jncare.nic.in>

For partnership opportunities & further enquiries, write to: [ajncare@iainnovationspark.com](mailto:ajncare@iainnovationspark.com)

Send your awards application to: [www.birac.nic.in](http://www.birac.nic.in) by March 31, 2022

**ICP**

Punjab State Council for Science and Technology jointly with DBT-BIRAC, NASSCOM Foundation, and AIIMS- Bhatinda launched pilot test-bed validation of two healthcare innovations of start-ups selected under the ongoing “जनCARE” Innovation Challenge. MoU has been signed for taking forward these innovations in low-resource real-time settings in Punjab on 18th January 2022 through virtual mode.



## First National Call for proposals under E-YUVA (Empowering Youth for Undertaking Value Added Innovative Translational Research)

First National Call for proposals under EYUVA (Empowering Youth for Undertaking Value Added Innovative Translational Research) was announced on 26<sup>th</sup> Jan 2022. EYUVA promotes student entrepreneurship by supporting students at the Undergraduate & Postgraduate level. BIRAC under EYUVA Scheme will provide fellowship support to 250 UG and 30 PGs/PhDs.



BIRAC has set up a network of 10 EYUVA Centers as pre-incubation facilities across the country. The centers offer more than 30,000 sq. ft of space with basic infrastructure for conducting innovative research by UG/PG/PhD students. Each of the 10 centers is supported by a mature BioNEST Bioincubator as Knowledge Partner.

More than 300 applications (in teams, from 700+ students) were received under the first calls which are now being screened and evaluated for support.



## SITARE BIOTECH INNOVATION IGNITION SCHOOL (BIIS-10)

SRISTI (Society for Research and Initiatives for Sustainable Technologies and Institutions) in collaboration with BIRAC organizes a three-week residential (virtual during Covid days) training program for UG students called Biotech Innovation Ignition School (BIIS). The school focuses on validation, value-addition and product development around grassroots innovations for varied applications. Under BIIS the selected students are assigned individual projects in primarily five action-research areas as Pharmacognosy/Phytochemistry, Soil Microbiology, Veterinary Medicine, Agriculture and Medical devices. A special focus is laid on selection of students from Tier 2/3 cities and from aspirational districts for BIIS.

During BIIS, students are encouraged to go through self-learning course material, reference readings, pursue home experiments, and develop a protocol for adding value to community knowledge/grassroots innovations.

BIIS sessions and lectures include talks by eminent personalities, case studies by startups, Bioincubator leaders, experts from BIRAC and industry leaders.

Two editions of BIIS were virtually organized:

**BIIS-10:** 15<sup>th</sup> February to 6<sup>th</sup> March 2022

**BIIS-11:** 7<sup>th</sup> March to 27<sup>th</sup> March

Dr. Renu Swarup, Former Secretary, Department of Biotechnology gave the inaugural address. Various eminent speakers including Dr. Shekhar C. Mande, Secretary, DSIR and Director General, Council of Scientific & Industrial Research also addressed the audience.

Out of the 50 students per workshop, 10 students will be selected and provided grant of up to INR 1 lakh each to encourage and nurture their scientific alacrity.





## Call under BIRAC Equity Funding Schemes (SEED FUND)

Sustainable Entrepreneurship and Enterprises Development (SEED) Fund provides equity-based financial support of up to INR 30 Lakhs per start-up with new and meritorious ideas through bio incubators for scaling-up enterprises.

BIRAC's SEED Fund Partners (BioNEST Incubators) from across the country announce calls for the SEED Fund throughout the year. Following partners announced calls during Jan-Mar 22:

- VIT-Technology Business Incubator, Vellore.
- Bangalore Bioinnovation Centre (BBC), Bangalore.
- a-IDEA, NAARM, Hyderabad.
- Venture Centre, Pune



**BIRAC SEED FUND**  
Call for Proposals open now  
Last date of submission: 07 March 2022

**FUNDING UPTO INR 30 LAKHS AS INVESTMENT**

Invited Application  
BIRAC SEED FUND  
For Consideration  
www.birac.org.in

For more details visit:  
The Senior Regional Manager  
a-IDEA, Technology Business Incubator (a-IDEA)  
National Institute of Technology  
Hyderabad 500074, Telangana  
Tel: 080-25000000, 080-25000001



**BIRAC-SEED FUND**  
upto 25 Lakhs

**DEADLINE: 15TH APRIL, 2022**

**"Foster your Business with our Fund"**

Apply for BIRAC Seed Fund: <https://bit.ly/3h01h20>

For Further Details:  
Contact Us:  
Mr. Ananya Mukherjee  
Mob: 9254896024  
E-Mail: [ananya@naarm.ac.in](mailto:ananya@naarm.ac.in)  
Landline: 08-2481427328

a-IDEA, TECHNOLOGY BUSINESS INCUBATOR, ICAR-NAARM  
Rajendranagar, Hyderabad, Telangana-500030 [www.aidea-naarm.org.in](http://www.aidea-naarm.org.in)



**BANGALORE BIOINNOVATION CENTRE Announces 4th CALL**  
Sustainable Entrepreneurship & Enterprise Development Fund

**SEED**  
Last date for proposal submission: 31st MARCH, 2022

**FUNDING UPTO ₹30 LAKHS**

Invited application with proposals to participate for submission of Seed Fund

[www.bbi-innovation.com](http://www.bbi-innovation.com)

SEED fund is an equity fund provided to start-ups with new and meritorious ideas, innovations and technologies in the life science sector

Bangalore Bioinnovation Centre, BBI Centre  
Electronic City Phase 1  
Bangalore-560091  
Tel: 080-26223040

[info@bbi-innovation.com](mailto:info@bbi-innovation.com)  
[www.bbi-innovation.com](http://www.bbi-innovation.com)





## Call under BIRAC Equity Funding Schemes (LEAP FUND)

LEAP (Launching Entrepreneurial Driven Affordable Products) Fund provides funding support of up to INR 100 lakh to potential start-ups to pilot/ commercialize their products/ technologies that have reached the pre-commercialization stage to reduce their gestation period. The call for proposals under BIRAC LEAP Fund was announced by BIRAC's LEAP FUND Partner (BioNEST Bioincubator) Venture Center, Pune.



## Follow on Funding & Recognitions for BIRAC supported startups

- AarogyaAI Innovations, BIRAC's Women in Entrepreneurial Research Awardee 2020 raised INR 5.2 crore from Info Edge backed Redstart Labs and Avaana Capital (Seed Program) for their AI & sequencing-based diagnostic platform for rapid detection of Multidrug-resistant tuberculosis (MDR-TB).
- Bugworks raised \$18Mn (134 Cr) in Series B1 funding from global investors led by Light rock India.
  - Bugworks has been supported through BIRAC's BIG scheme during the early stages of its journey.
- GPS Renewables raised 150 crores (20 Mn USD) capital in a Series B funding round from Neev Fund II, managed by SBICap Ventures.
- MedisimVR raised Rs 3.5 Cr in Pre-Series A led by Inflection Point Venture
- Following startups were recognized as National Start-up Awards 2021 winners by Department for Promotion of Industry and Internal Trade (DPIIT)
  - Bionic Hope Private Limited in the Health and Wellness sector under the Medical Devices category. The start-up develops lightweight, affordable prosthetic hands with touch & grip control.
  - Revy Environmental Solutions Private Limited in the Environment sector under the Industrial Biotechnology category. The start-up is solving waste management issues by microbial degradation of effluents to produce biogas.

The awards were announced on 16th January 2022.

- NIRAMAI Health Analytix Pvt. Ltd. and InnAccel Technologies Pvt. Ltd. received the World Bank Group Award and the Consumer Technology Association's Global Women's Health Tech Award which recognizes innovative start-ups that leverage tech to improve women's health and safety in emerging markets.
- Sea6 Energy, Pandorum & Bugworkswere featured in the Scispot blog as the top 20 innovative biotech companies.
- Huwel Lifesciences Pvt. Ltd. CEO Ms. Rachana Tripathi & Founder Director Mr. Shesheer received the CII SR business Entrepreneurship awards 2022.



## Outreach Activities

Outreach events such as awareness programs, expert talks, webinars, roadshows etc under specialized thematic events are regularly organized by BIRAC's partners such as BioNEST Incubators, EYUVA Centres, BIG Partners, and BIRAC Regional Centres. A List of some such events organized during Jan-Mar 2022 is as follows:

- BIG Sensitization sessions/ awareness talks were organized by the 8 BIG Partners



- BIRAC BioNEST Bio incubator IKP Knowledge Park organized the following events:
  - Roadshow showcasing COVID-focused health tech startup on 2nd March
  - Amrit Grand Challenge-जनCARE Startup Challenge - Digital Health on 5th March
  - Webinar on Amrit Grand Challenge-जनCARE Reimagining Healthcare Delivery on 26th March



- BIRAC's EYUVA Centers organized following events:
  - Vigyan se Vikas event was organized by Atmiya University, Rajkot on 25th Feb
  - Student Entrepreneurship Awareness program by Atmiya University, Rajkot on 22 March.
  - Student Entrepreneurship Awareness program by Career College, Bhopal on 25th March
  - Ideathon under the theme Healthcare & Wellness, Agriculture, Waste Management, Industrial Biotech, Clean Energy and Sanitation by Atmiya University on 28<sup>th</sup> March







## Inaugurations of BioNEST Bioincubator -E-YUVA Centre

- BIRAC's BioNEST Bioincubator -BSC Bio incubator at RCB, Faridabad was inaugurated by Hon'ble Minister Dr. Jitendra Singh on 26<sup>th</sup> February 2022. Dr. Rajesh Gokhale, Secretary DBT & Chairperson, BIRAC; Dr. Alka Sharma, Scientist-H, DBT & MD, BIRAC; Dr. Manish Diwan, Head-SPED, BIRAC joined the inaugural.
- BIRAC's E-YUVA Centre at Adamas University, West Bengal was inaugurated on 28<sup>th</sup> February 2022.





- BIRAC's Regional Centers organized following events:
  - BIRAC Regional Bio-Innovation Center (BRBC) organized the following workshops:
    - Mentor Clinics on Agritech & Food Regulations, Sales and marketing strategies, Business planning and regulations for medical devices
    - Venture Base Camp on Digital Marketing and Branding for Beginners
    - Online immersion program for managers of new incubation centers
    - Taking novel drugs from lab to clinic: Concepts and case studies
  - BIRAC Regional Techno-entrepreneurship centre for East & NE at KIIT, BioNEST organized a virtual capacity-building training program on Innovation & Entrepreneurship in collaboration with the Central University of South Bihar
- BIRAC Regional Entrepreneurship Centre (BREC) organized the following events:
  - Incubator Manager Immersion Program
  - Meet the Investors
  - National Life Science Entrepreneurship Awareness Programme in partnership with institutions like Sri Padmavati Mahila Visvavidyalayam, Tirupati, Andhra Pradesh; Amity University, Gwalior; DST-TEC, Mizoram University





विज्ञान से विकास-प्रौद्योगिकी से प्रगति

### Azadi ka Amrit Mahotsav Events

- IIT Madras Health Technology Innovation Centre MedTech BioNEST Incubator hosted HTIC Healthcare Conclave in collaboration with the Tamil Nadu Society of India-Tamil Nadu chapter on 27<sup>th</sup> January, 2022. The event included Panel discussions, Expert sessions, and Start-up demonstrations.
- Vigyan se Vikas event was organized by BIRAC's E-YUVA center at Atmiya University, Rajkot on February 25, 2022. Expert talks on "Potential, Journey and impact of Biotechnology on the society" were conducted through hybrid mode and Sustainable Art Competition was conducted through offline mode.
- Webinar on "Achieving Problem-Solution fit and Product-Market fit" was organized by BIRAC's BioNEST Sri Ramachandra Innovation Incubation Centre (SRIIC) on the 19<sup>th</sup> Feb 2022.
- Vigyan se Vikas & Prodyogiki se Pragati- A Healthcare Conclave was organized by BIRAC BioNEST Bio incubator IITM HTIC MedTech Incubator on 16<sup>th</sup> March 2022. The Conclave comprised panel discussions, expert sessions & start-ups demos in the area of imaging technology.







### Women's Day 2022

International Women's Day is celebrated on March 8 to spread the message of gender equality and work together in making a better society where there is no gender bias. To celebrate the event and to make the day fun filled for the women employees at BIRAC, few games were organized in the morning that included Quiz based on the women achievers and Musical chair competition. The competitions were executed successfully by following all the necessary Covid protocols.

The evening session was chaired by Dr. Rajesh Gokhale (Secretary DBT & Chairman BIRAC) in presence of Dr. Alka Sharma (Sr. Advisor DBT & MD BIRAC), Directors (Operations, Finance), Heads of all the departments of BIRAC and all the employees. The session was organized in hybrid mode. The evening session had a brief presentation on “Gender equality today for sustainable tomorrow” followed by a talent hunt program which consisted of poetry, painting and singing competitions for all the employees of BIRAC. The theme for the talent hunt was “Naari Shakti”. Prizes were distributed to the winners of all the competition categories. The program ended with concluding remarks from Dr. Rajesh Gokhale (Secretary DBT & Chairman BIRAC).





# Training on Decision Making, Problem Solving and Working in Adversity

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 dissecting the situation variables, setting priorities & decision making and also recognizing business reasons for creative problem solving in the workplace, in-house training on 'Decision Making, Problem Solving and Working in Adversity' has been organized for BIRAC employees on 25<sup>th</sup> March 2022.

The training helped employees valuing non-dominant preferences in the work place for synergistic co-ordination and assigning weights to objectives to arrive at the best possible decision through various case studies.



## Workshop on Official Language Act

In line with the implementation of Official Language Act, a virtual workshop was organized for BIRAC employees on 30<sup>th</sup> March 2022 to acquaint the employees with the importance and provisions of the Official Language. The workshop helped employees in understanding the constitutional provisions of Official Language Act and on implementing official language in day to day official correspondence.







## Grand Challenges India (GCI)

### 4<sup>TH</sup> SCIENTIFIC ADVISORY COMMITTEE MEETING NSA SAC, 10<sup>th</sup> February 2022

Food-based nutritional security for malnourished rural households through capacity building and establishment of Nutri-gardens being implemented by MSSRF, Chennai

This project is being implemented by the M.S. Swaminathan Research Foundation (MSSRF) in collaboration with four state agricultural universities and the participation of Krishi Vigyan Kendras (KVKs) at Palghar, Maharashtra; Thiruvallur, Tamil Nadu; Kanpur Dehat, Uttar Pradesh and Jeypore (MSSRF Campus), Odisha.

The project has established gardens of nutri-rich and biofortified plant species at Krishi Vigyan Kendras, that will address specific nutrient (vitamins and mineral) deficiencies in specific agro-ecological zones (highly malnourished districts). In addition, these gardens will also serve as resource centres for seeds and planting materials for farm families. This, in turn, will strengthen the on-farm agriculture - nutrition link and help create nutrition awareness among undernourished sections through community hunger fighters for eliminating malnutrition.

The Fourth Scientific Advisory Committee Meeting was held virtually on 10<sup>th</sup> February 2022 (Thursday). The meeting discussed and reviewed the project activities for end-term evaluation through detailed interactions between stakeholders, mentors and the grantee and, the project team. The recommendations, key action points were deliberated, and accordingly future activities were planned for effective implementation of the program to achieve the desired results.





## National Biopharma Mission

### MedTech IIT Kanpur facility certification

MedTech IIT Kanpur is a sophisticated facility for designing and fabricating medical devices and appliances with an internal quality control system to foster a local production center in North India equipped with medical-grade technology and solutions. This facility is accredited with the ISO13485:2016 certificate for Medical Devices. It was established in 2019 as a joint initiative between IIT Kanpur and National Biopharma Mission, BIRAC. The facility prototypes noninvasive medical devices at affordable prices. It helps to transform the ideas from the researchers, students, doctors, entrepreneurs to functional prototypes.

The facility offers the following services; Design Analysis, CAD Modeling, Reverse Engineering and PCB Design. The facility has produced prototypes that have been appreciated by the medical community namely Sanjeevani (Oxygen Concentrator), IV Fluid Warmer and Jaw opening Device.



*(Glimpses of the facility for MedTech IIT Kanpur)*

## Marathwada MedTech lab facility

Marathwada MedTech Lab (MMTL) situated in Aurangabad, Maharashtra; is a rapid prototyping facility (RPT) for medical devices. MMTL facility is ISO 13485:2016 certified. It is funded under National Bio-pharma Mission. It offers an immense advantage of connection to the researchers and mentors at national level.

MMTL offers RPT services with its state of art equipment in three major categories namely. Thermoplastics, Metal Machining and Electronics Prototyping. The facility aims to cater start-ups, researchers, academia and Industrial customers for rapid prototyping of Medical devices.









## A Robust Optimized Assay System for Measuring Dengue Neutralizing Antibody Responses – Developed by Dr Murali Kaja, Dr Anmol Chandele and Team - Supported by NBM BIRAC

Dengue is an important public health problem worldwide, with India contributing nearly a third of global dengue disease burden. Several vaccine candidates are at different stages of development and/or clinical trials in India and worldwide with the goal of eliciting a balanced immune response with broadly neutralizing antibodies against all four dengue serotypes. These efforts rely on measurement of neutralizing antibody responses against each of the four dengue virus serotypes in a large set of samples from dengue-exposed and/or vaccinated populations.

- As dengue vaccines continue to be evaluated in India, a robustly optimized assay system for measuring dengue neutralizing antibody responses is needed for facilitating these efforts. Considering the above, the ICGEB-Emory vaccine Center joint laboratory team at the ICGEB, New Delhi, with support through Dengue Translational Consortium (Dengue-TRC) funded by the National Biopharma Mission (NBM, Department of Biotechnology, Government of India), has recently optimized high throughput flow cytometry-based assays for measuring dengue neutralizing antibody responses in clinical samples from India. The article is published in the journal “Vaccines” *Sharma P, Nayak K, Reddy ES, Farooqi H, Murali-Krishna K, Chandele A. Optimization of Flow-Cytometry Based Assay for Measuring Neutralizing Antibody Responses against Each of the Four Dengue Virus Serotypes. Vaccines (Basel). 2021;9(11):1339. Published 2021. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8619405>*
- Interested parties may approach Dr Madhvi Rao, Senior Program Manager, NBM, BIRAC for facilitating their dengue candidate vaccine evaluation efforts using this optimized assay in coordination with dengue TRC researchers **at the ICGEB**.



For further information please contact:

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