birac i3

Ignite • Innovate • Incubate


Microfluidics based diagnostics, Achira Labs


Oxygen Enrichment Unit, Genrich Membranes

Plant Vaccines, Swasti Agro


Maxio, Perfint Healthcare

ExoEnrich, Exocan Healthcare Technologies

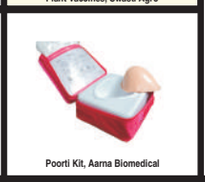

Hearing loss screening device for newborns, Sohum Innovation Lab


Pilot plant for lignocellulosic ethanol, India Glycol


Righbiotic, Xcellence in Bioinnovations

Ricela cattle feed supplement, A P Organics

Osteo 3D, DF3D Creations


Poorti Kit, Aarna Biomedical


Single Use Safety Syringe, Alfa Corpuscles


100+Onco panel for NGS, SciGenom Labs


Vibrioshield, Aristogene Biosciences


Noxeno, Innaccel Acceleration Services


Solar Conduction Dryer, Science for Society

Vigyan se Vikas
विज्ञान से विकास


Sync Glucometer, Biosense Technologies


TJay, Terrablue


Trypsin Clearance Assay Kit, Affigenix Biosolutions

Human Albumin and Human immunoglobulin, Celestial Biologicals


miRHYTHM, Cardea Biomedical Technologies


VAPCare, Coeo Labs


Fabca, ELISTA, Auto Urine, Robonik

Dextrasol, Varuna Biocell


Scintiglo, Cutting Edge


ShishuNethra, Forus Health


Neobreathe, Windmill Healthcare


Oral Cancer Screening Camera, Sascan Meditech


Touch-Hb, Biosense Technologies


Molecular Beacon based "Chlamy & Nes" kit, DSS Imagetech


Silvo Clean, Weinnovate Biosolutions


AnuPath, Pathshodh

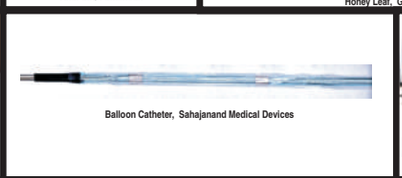
Honey Leaf, GVS Biotech


eToilets, ERAM Scientific Solutions


Anaerobic Membrane bioreactor , Thermax

Malaria Rapid Card Test, Genomix Molecular Diagnostics


FlexiOH, Orthoheal


Balloon Catheter, Sahajanand Medical Devices


MAMRIT, Tuscano Equipments

Fibroheal, Healthline

birac
Ignite Innovate Incubate
Biotechnology Industry Research Assistance Council
(A Government of India Enterprise)

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In this issue

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Leader's Message

Vigyan se Vikas

Science and Technology (S&T) are key drivers to the development of a society leading to its economic advances, improvement in health systems, education and infrastructure. Products and technologies from different sectors of S&T are transforming business practices across the Indian economy, as well as the lives of those that it is meant for. With a US$ 1.86 trillion economy in FY17 and per capita income of over INR 1,11,782 (US$ 1,734.40) in 2017-2018, India presents a unique opportunity for companies to tap the huge consumer base demanding technologically advanced products. The Indian government is continuously framing and improving policies that are specifically aimed at projecting India as S&T powerhouse. Initiatives such as the Science, Technology, Innovation and Creation of Knowledge (STICK) framework is a proof of Indian government's support for innovation. As of March 2017, World Intellectual Property Organisation (WIPO) stated that India is emerging as a leader in frugal and demand driven innovation among various countries across the globe.

The Indian biotechnology sector is one of the fastest growing knowledge-based sectors, Considered as the sunrise sector and is expected to play a key role in shaping India's rapidly developing economy. DBT and BIRAC are constantly making efforts to improve this Bio-innovation ecosystem. The Government aims to scale-up the number of start-ups in biotechnology sector to 2,000 over next two years. 4 new bio-clusters and 31 bio-incubators have also been set up across India enabling the development in innovation landscape of the country.

Technological convergence should be of utmost priority for bringing the most remarkable breakthroughs in this sector. Doing business in India has never been as easy as it is today with continuous improvement being made in both policy and ecosystem. With numerous comparative advantages in terms of R&D facilities, knowledge, skills, and cost effectiveness, the biotechnology industry in India has immense potential to emerge as a global key player and contribute to the development of society as a whole.

We are today poised to bring about a truly transformational revolution of "Vigyan Se Vikas".

Dr. Renu Swarup

Secretary DBT & Chairperson BIRAC

Chief Editor's Take

The Indian Biotech Sector has acquired global visibility and is today seen as a major investment opportunity. BIRAC is committed to work towards fulfilment of this vision and the goals of nurturing and promoting the growth of Indian Biotech Sector. BIRAC's key strategies are aligned such that the attention stays focused on "Innovation Research for Affordable Product Development". We aim to bring together like-minded organisations, co-create a network and provide the necessary synergies needed for product development partnerships. While attention stays focused on affordable and social innovation, efforts continue to create capacity and strengths to build a globally competitive Indian 'Biotech Enterprise'.

BIRAC, in partnership with DBT, has played an important role in the flagship programs of Government of India, 'Make in India', 'Startup India' and 'Swachh Bharat'. Programs of BIRAC such as BIG, SBIRI, BIPP, PACE, and BioNEST are responsible for tapping the entrepreneurial energy within the country. The impact of BIRAC is such that it, in its true sense has been able to contribute to the development of Indian bio-economy.

As we look forward, we intend to amplify our engagement with the community, understand the gaps that still exist and design new paradigms for impact. BIRAC is poised to catalyse the transformation of the country by infusing energy in innovation, through our rigour and our commitment to excellence.

Dr. Mohd. Aslam
Advisor (Scientist 'G'), DBT & MD BIRAC

Congratulations to Dr. Renu Swarup

BIRAC congratulates Dr. Renu Swarup on her appointment as the 6th Secretary of the Department of Biotechnology, Ministry of Science and Technology, Government of India & Chairperson BIRAC

That Dr. Swarup has been integral, in fact key, in the growth and development of BIRAC is an understatement. She has been instrumental in the setting up of the organisation in 2012, and even before that, when it was still BIRAP, and it has been with her continuous encouragement and drive that the organization has reached where it has today.

In addition to Dr. Swarup's impressive academic and professional credentials, to us in BIRAC, she is also a mentor. Her work ethic and her principles have been an inspiration to everyone who has the opportunity to work with her.

It is therefore only natural that each one of us in BIRAC feels immensely and personally proud on Dr. Swarup's achievements and would like to wish her the very best on her appointment as Secretary DBT. & Chairperson BIRAC We also look forward to continuing to work with her to fulfil our vision for BIRAC.

From the BIRAC family

BIRAC 6th Foundation Day

Sustaining Innovation: A Market Driven Pathway

BIRAC's 6th Foundation Day was inaugurated by Hon'ble Union Minister for Science & Technology, Earth Sciences and Environment, Forest & Climate Change, Dr. Harsh Vardhan and attended by Guest of Honour, Prof Vinod K Paul, Hon'ble Member Health, NITI Aayog, Govt. of India, Eminent Scientist Prof. G Padmanaban along with Prof Ashutosh Sharma, Secretary, DST and Dr. Renu Swarup, Secretary DBT & Chairperson BIRAC.

The event brought together nearly 400 entrepreneurs and startups, scientists from industry and academia, public and private sector, policy makers, and national & international organizations.

The inaugural session started with the welcome address by Dr. Renu Swarup where she mentioned about launch pads provided by BIRAC for all the enthusiastic entrepreneurs across the country. "BIRAC has over the years facilitated the creation of vibrant start-up ecosystem. We are pleased to see the impact of this ecosystem in not only providing affordable solutions for societal problems but also enhancing innovation competence. It is now important to develop robust pathways to sustain these innovations", said Dr Renu Swarup.

BIRAC celebrated its 6th Foundation Day on March 20th, 2018 at India Habitat Center, New Delhi by organizing a knowledge and networking event with the theme "Sustaining Innovation: A Market Driven Pathway". The event was attended by a large number of dignitaries from scientific & industry sectors both from within the country and overseas including an active participation of around 400 start-ups, entrepreneurs & researchers from industry and biotech organization.


Lighting of the lamp by Dr. Harsh Vardhan

The Chief Guest, Hon'ble Union Minister for Science & Technology, Earth Sciences and Environment, Forest & Climate Change, Dr. Harsh Vardhan, said, "BIRAC has played a critical role in supporting the entrepreneurial aspirations of brightest minds in the country through its programs and mentor support networks in keeping with the Government's mandate. It is through these efforts that we are able to develop affordable products and technologies that will improve the lives of our people. I commend the work of BIRAC and am convinced that this is only the beginning of success." The Guest of Honor Dr. Vinod Paul, Hon'ble Member Health, NITI Aayog, Govt. of India commended BIRAC saying that the role that BIRAC has played in bringing together healthcare, entrepreneurship and science has been pivotal. From affordable devices or diagnostics, to treatments, BIRAC supported innovators and technologies are on their way to changing healthcare in India and beyond. Dr. Ashutosh Sharma, Secretary DST, in his address said that a 6th Foundation Day is a testament to the commitment of the organization to its mandate, in this case, bringing together innovators and entrepreneurs, mentors and peer-networks with the goal to harness the power of biotechnology to do good for society. The event also saw the felicitation of Prof. G Padmanabhan, Former Director and current Honorary Professor of the Indian Institute of Science, Bengaluru, on the occasion of his 80th birthday and the release of the second volume of his memoirs, titled 'Doing science in India: My second innings'.

Later during the day, two panel discussions were conducted:

1. The Market Pathway: An Exciting Journey- The panel discussion was moderated by Ms. Deepanwita Chattopadhyay and co-moderated by Mr. Arun Venkatesan, Villgro. Panel members included Dr. S. Eswara Reddy, DCGI; Mr. Varun Balachandran, Catamaran Ventures; Dr. Navin Khanna, ICGEB; Dr. Srinivas Reddy, Senior General Manager, Sun Pharma; and Dr. Steven Buchsbaum, Discovery & Translational Science, Bill & Melinda Gates Foundation. The innovators who participated in the panel discussion were Mr. Pranav Chopra, Crimson Healthcare Private Limited; Dr. Bharat Tandon, Healthline; and Dr. Ashish Gawade, Jeevtronics Private Limited.

The Panel wanted to sensitize the innovators / start-ups to the fact that besides funds and mentorship, a successful venture demands to move with intelligence and speed having a fast track insight to rapidly innovate and outpace the competition.

The innovators through their experiences shared certain key concepts for a successful innovation:

- Market driven learning can be through end users and other stakeholders like distributors and dealers
- Clarity for product development can be gained by defining the needs of the end users and the innovation can be modified accordingly

Key recommendations of the panel:

- Innovators and Entrepreneurs should approach Public Relations Office Cell established by DCGI to understand the regulatory requirements for the product being developed. Help can be sought at the concept stage to understand the regulatory landscape
- The DCGI cell is also formulating FAQs for start-ups as per the new regulatory guidelines
- Institute and company partnerships are very crucial for taking the academic leads forward


Felicitation of Prof. G. Padmanaban

- Both the end-user and upstream partner (Industry) are important for the successful translation of the academic leads
- Start-ups should start focussing on marketing strategy/ distribution channels from early stages of product development
- Affordability and accessibility of the products are two important criterion to attract funding from impact investors
- The three major funding resources for start-ups in the present scenario are Government Agencies, Philanthropic Organization and Monopoly Industries

Panelists and innovators for session "The Market Pathway: An Exciting Journey"

2. Sustaining Innovation: Realizing the Goal- The panel discussion was moderated by Ms. Syna Dehnugara, CNBC-TV18. Panel members included Dr. Jitendra Kumar Sharma, Advisor, Health & Medical Technology, Govt of AP & Managing Director and CEO, AMTZ; Ms. Teesta Soman, Director of Innovation Marketplace, Grand Challenges Canada; Dr. Arjun Surya, Chief Scientific Officer, Curadev Pharma; Ms. Padmaja Ruparel, IAN; and Mr. Arpit Agarwal, Blume Ventures. The innovators who participated in the panel discussion were Dr. Dhananjaya Dendukuri, CEO & Co-founder, Achira Labs; Mr. Nitin Sisodia, Founder & Director, Sohum Innovation; and Dr. Avijit Bansal, Co-founder, Windmill Health.

Key recommendations of the panel:

- Start-ups and entrepreneurs should be supported for Health Technology Assessment. KIHT can help in technology assessment
- A mechanism should be developed to provide Green Card to start-ups from Clinicians or Practitioners. This will help in easy adoption.
- The Government should think of providing a package of services to start-ups instead of individual services like certification, Testing, Health Technology Assessment, adoption by NHM etc.
- The start-ups may target corporate money available from various large company funds.
- The entrepreneurs should have a platform wherein they can learn from each other's experiences.

Concluding the event Dr. Renu Swarup stated that BIRAC will continue to be the enabler of Biotech Entrepreneurial ecosystem and will leverage its strength and capacity to bring in transformational change through supporting and sustaining cutting edge and disruptive technologies that would provide solutions in healthcare, agriculture, sanitation and other areas, not just for the country but for the rest of the world.

BIRAC TEAM

Panellists for session "Sustaining Innovation: Realizing the Goal"

Biotechnology Industry Research Assistance Council

(A Govt. of India Enterprise)

National Biopharma Mission

INDUSTRY – ACADEMIA COLLABORATIVE MISSION FOR
ACCELERATING EARLY DEVELOPMENT FOR BIO-PHARMACEUTICALS

Innovate in India (i3)

INVITES PROPOSALS FOR

Good Clinical Laboratory Practice (GCLP) Lab. | **Translational Research Consortia (TRC)**

An Industry-Academia Collaborative Mission of **Department of Biotechnology (DBT)** for Accelerating Early Development for Biopharmaceuticals; to be implemented by Biotechnology Industry Research Assistance Council (BIRAC)-a Public Sector Undertaking of DBT.

The National Biopharma Mission was approved by the Cabinet for implementation in May 2017 with a total cost US$ 250 million which is 50% co-funded with World Bank assistance.

FOCUS OF THE CALL

This RFP is to seek applications on either of the following:

1. **Good Clinical Laboratory Practice (GCLP) lab. for vaccine clinical immunogenicity evaluation:**

   Institutes/ companies/ organizations having NABL accredited (ISO 15189 and/or ISO 17025) laboratory(s). This lab. shall address the demands of vaccine developers in assessing the clinical immunogenicity of vaccine candidates tested in human clinical trials.

2. **Translational Research Consortia (TRC):**

   Institutes/ companies/ organizations to apply as consortium (multi-disciplinary) for establishment of a Partnership Platform. This TRC would ensure a translation ecosystem to improve, standardize and provide support for development and evaluation of vaccines and monoclonal antibodies for Dengue, Influenza, Chikungunya and Respiratory Syncytial Virus.

Last date of Submission

Good Clinical Laboratory Practice (GCLP) Lab
15th August, 2018

Translational Research Consortia (TRC)
31st August, 2018

How to Apply : Proposals to be submitted online only. Please log on to www.birac.nic.in

For RFP details and mission document, log on to : www.birac.nic.in/nationalbiopharmamission.php

For queries please contact: Mission Director, PMU-NBM: technical.birac@gov.in
Program Manager, PMU-NBM: nbm2.birac@nic.in

National Technology Day, 2018

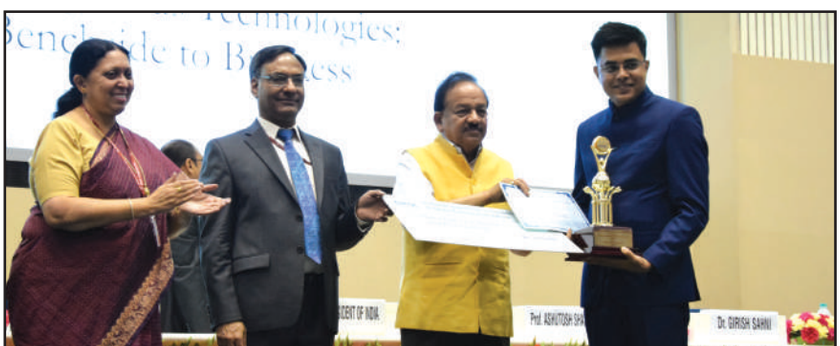
20th National Technology Day was celebrated on 11th May, 2018 at Vigyan Bhawan, New Delhi to commemorate the success of Pokhran Nuclear test and to celebrate India's success in technology advancement. The theme was "Science and Technology for A Sustainable Future". Shri Ramnath Kovind, Hon'ble President of India, was the Chief Guest for the event. Hon'ble President inaugurated the event in the esteemed presence of Hon'ble Union Minister for Science & Technology, Earth Sciences and Environment, Forest & Climate Change Dr. Harsh Vardhan and Earth Sciences and Hon'ble Secretaries of DST, DBT and CSIR. In his inaugural address Hon'ble President emphasised that technology is the country's destiny and iterated that technology must also be equity and that its fruits must be accessible to all.

The National Technology Day also celebrated the achievements of some of the country's best scientists and innovators, and their success in shaping technology into usable, commercial products and processes that change the lives of people.

Hon'ble President of India presented National Awards for Commercialization of Indigenous Technology to 11 Awardees. The National Awardees of 2018 includes Bharat Biotech Pvt. Ltd. (RotaVac-Rotaviral Vaccine), Agappe Diagnostics Pvt. Ltd. (Mispa 13-Automated protein Analyzer), Synkromax Biotech Pvt. Ltd. (Synkroscaff-Bovine scaffold for tissue engineering), CycaOnco solutions Pvt. Ltd. (CyPlatin and CyGlo for Cisplatin Delivery), xBITS Pvt. Ltd. (RightBiotic- PoC device for quick AMR detection) etc. BIRAC National Award for Indigenous Product Commercialization, 2018 was presented by Hon'ble Union Minister for Science & Technology, Earth Sciences and Environment, Forest & Climate Change, Dr. Harsh Vardhan to Sohum Innovation Lab for developing a Novel Tech & system to screen newborns for hearing loss.

Dr. Harsh Vardhan in his address complimented Indian Scientists for their efforts and said that Vigyan provides muscle to Jawans & Kisans and informed the audience about the several initiatives taken by the Ministry of Science & Technology to strengthen it further. Prof. Ashutosh Sharma, Secretary, DST pointed out that new programmes taken by the Ministry had resulted in a surge in entrepreneurship. Dr. Renu Swarup, Secretary, DBT, while proposing vote of thanks stressed on the vibrant innovation ecosystem that the country has developed and thanked Hon'ble President of India for encouraging entrepreneurs to work on technologies that benefit the people.

As part of the National Technology Day Celebration, Department of Science and Technology setup an exhibition at Vigyan Bhawan on "Technology and Swachh Bharat" which was inaugurated by Hon'ble Union Minister for Science & Technology, Earth Sciences and Environment, Forest & Climate Change, Dr. Harsh Vardhan. The exhibition showcased indigenous technologies developed to combat pollution, conserve energy, convert waste to value and protect environment. BIRAC exhibited posters on eight successful technologies, supported through its different schemes, aligning to the Swachh Bharat mandate of Govt.of India. The exhibition attracted many students, scientists and policy makers and the technologies under development were very well received and appreciated by all.



Sohum Innovation receiving the "National Award for Indigenous Product Commercialization" from from Dr. Harsh Vardhan, Hon'ble Union Minister for Science & Technology, Environment, Forest and Climate Change and Earth Sciences

Innovator Speak: Sohum Innovations

STORY OF SOHUM: SCREENING NEWBORNS FOR HEARING LOSS

Finding the Nail with Systematic Innovation

Dr. A PJ Kalam said once "Do we realize that self-respect comes with self-reliance". The thought is very relevant in today's context of India. India is progressing with the will of young generations and in the process of defining a framework for innovation and becoming self-reliant. In my journey in healthcare innovation and entrepreneurship, I understood many facets of innovation. Indian education and employment scenario is oriented towards developing and nurturing skills but rarely on finding and defining focused problems. In other word, it is a hammer and a nail problem, we focus on the strength of hammer than finding the right nail. With systematic innovation training process, we can effectively find the right nail first. Finding the right problem to solve is important as it will ensure that we invest our energy and time on problems which are well thought of, to create relevant social & economic impact. Stanford India Biodesign (now School of International Biodesign), a fellowship program of Department of Biotechnology (DBT) which focuses on the process of finding unmet clinical needs in healthcare system and solving them. I did this fellowship program in 2010 and since then could find several unmet clinical needs in Indian healthcare system and could solve few of them, reducing the burden of disease and generating livelihood. Our initiative 'Sohum' for Newborn Hearing Screening is a product and system solution to screen newborn for hearing loss to save their speech while providing early intervention. The project focused on designing a novel technology which works in resource poor setting and a sustainable implementation model which incentivize all stakeholders.

The Need

After learning the biodesign process at Stanford, what followed is an immersive research of medical facilities in resource poor settings of India. I started my immersions with AIIMS New Delhi in the child development clinic. One day, a parent walked in with his son, who was little over five years, saying that his son was unable to speak. After a few medical tests, the doctor revealed that the real problem was that the child couldn't hear and it is already too late to do any intervention and save the speech of the child. Had the child been screened for hearing loss at the time of birth and provided timely intervention in the early years, we could have saved his speech and critical mental development. Unfortunately, in this case that was missing, and the child would neither be able to speak nor hear for life and things like education and employment would be inaccessible which we at times take for granted.

800,000 hearing impaired babies are born every year all over the world, of which 100,000 are in India and 90% are in developing countries. Besides India, 40 low income and 53 low middle-income countries do not have an affordable solution for early screening of hearing impairment. I felt strongly about this situation and believed that it needed to be remedied and started my journey of creating the newborn hearing screening solution for the resource constrained settings of India and similar developing countries.

About the company & the intervention

Sohum Innovation Lab got established in 2012 and focuses on developing market-driven solutions to improve the health and incomes of people living in resource-poor settings. Our indigenously developed Brainstem Evoked Response Audiometry (BERA) based hearing screening device was created keeping in mind infrastructural challenges, inadequacy of healthcare workers, low accuracy and high costs of current technologies in the field. The portable and compact battery-based device does away with the need of a noise proof room and thus, reduces infrastructural costs and brings the test to the bedside of

the child. The device has a high sensitivity and specificity, eliminating the need for multiple screenings. The algorithm's selective artifact rejection helps with result accuracy even in noisy environments and eliminated the need for sedation of the baby. In addition to automated results and the graphic recordings, the device has a telemedicine portal, through which all the test results are shared with and corroborated by a certified audiologist. The telemedicine portal not only improves specificity but also provides accessibility of hearing screening in remote areas. The simple design and procedure of the test make its operation possible in settings with no skilled healthcare workers; it can be performed by a nurse or a non-professional healthcare worker with a day's training. With reduced costs, improved accessibility and accuracy Sohum device is a step towards universal hearing screening in India that would lead to timely intervention and eventual social and academic incorporation of the hearing impaired. Sohum is a non-invasive, safe medical device and a system solution to do mass screening of newborns for hearing loss. Sohum uses brainstem auditory evoked response (BAER or ABR) technology which is the gold standard in auditory testing and is recommended as the test of choice by the American Association of Pediatrics (US), Center for disease control and preventionand the National Health Services (NHS-UK). It involves measuring brain signals with the help of three electrodes placed on the scalp in response to a series of stimuli sounds in the ear for few minutes. These brain signals are then analyzed to determine whether the newborn can hear adequately

Beneficiary & care cycle

We are targeting all newborns in resource-poor settings, starting with India. In India, 26 million babies born every year, need to be screened for hearing impairment. We aim to start with institutional births (urban), which addresses more than 50% of these births (12.2 million) through maternity homes, pediatric clinics, privately owned local and chain hospitals. With the support of government run programs & local entrepreneurs we target non-institutional births (rural) staring first year of our operations. We will expand this program to other low and lower middle-income countries to create a global impact in subsequent years with the help of partnerships. We have installations in Guatemala & Uganda and we are exploring partnerships in South East Asian countries & Africa.

Sohum care cycle will fit the existing context and build on it to ensure that the screening is done timely, and no time is lost for the child between the screening and further after-care. Maternity homes/ NICU and pediatricians will be most likely to identify the hearing- impaired child born in institutional settings. The local entrepreneur/ audiologists are likely to identify the HI child born in a non-institutional setting. If the child goes undetected, or has late onset of hearing loss, she will be identified by general physicians or pediatricians. At both instances, the health care worker screens the child with the Sohum device. If the child screens positive she is referred to the audiologist or the ENT specialist for a diagnosis and further intervention.

Measuring impact

Our device is enabled to send data to a centralized server for re-confirmation. In this way we can track impact and ensure that babies that are screened positive are ensured follow-ups and get appropriate aftercare.

Partnership with State government

We are working with state governments to become part of their mother and child care initiatives. We are working with the State Government of Tripura, Punjab, Andhra Pradesh, Tamilnadu & Rajasthan at present and will be expanding to other states.

Team & Support

As we understand every innovation require a competent team behind it. Sohum has an experienced team from prestigious colleges of India, leading the hardware, algorithm and data systems, we are adding new specialties in our team. The expertise of the internal team is hardware design, signal processing, algorithm design, industrial design, clinical evaluation& business implementation. We have established key partnerships in the area of technology, clinical and business implementation. Since establishment we got financial support from BIRAC, Grand Challenges Canada, Center for Innovation in Global health, Stanford University, Indian Merchant Chambers, NASSCOM foundation & other partners and we know the importance of this timely support for the technology development. The trust that BIRAC has shown in nurturing early stage enterprises is really commendable.

In conclusion, I am optimistic about the sensitivity that Indian innovators and policy makers are bringing in to solve problems of the world. India can truly be a provider of relevant healthcare solutions for global healthcare issues. We could also set an example for the advanced healthcare systems to bring down the cost of care globally with affordable innovation and democratic implementation models.

We have the right ingredient for doing meaningful innovation. I resonate to what Archimedes said on invention of lever 'Give me a lever long enough and a fulcrum on which to place it, and I shall move the world.' Similarly, Innovators in India need the right direction, platform and support through which they can enable and improve the global healthcare using local talent and resources. I wish all entrepreneurs, all the very best in their journey.

International Visits

Bio Korea, 2018

Bio Korea 2018 was held in Seoul, South Korea at COEX International convention Centre from 9-11th May. The event was organized by Korea Health Industry Development Institute, KHIDI, a Government (Ministry of Health and Welfare)-affiliated organization, in Health Technology (HT) R&D and to strengthen the global competitiveness in various sectors of Korean health industry.

The Bio-Korea 2018, featured more than 1500 exhibitors including more than 15 international, regional & province pavilions. The participants included leading biotech and pharma companies, CROs, Academic Institutions, Government Agencies, patent advocacy firms and Venture Philanthropy Organizations. In addition, more than 1000 partnering meetings areas.

The Bio Korea 2018 & Medical Korea was inaugurated by Hon'ble President of South Korea - Mr. Lee Nak – Yeaon along with a group of Ministers.

BIRAC was represented by Dr. Manish Diwan, Head, SPED, BIRAC and Mr. Utkarsh Mathur, BD Manager, BIRAC. Few Indian start-ups and companies also participated in this event. There were lot of interactions with the potential companies, health technology transfer centers, Bio Hubs, business & Science Accelerators & various centers involved in commercialization of the cutting-edge medical products innovations.

The conference had a wide range of discussions related to Biotechnology & Pharmaceutical area. More than 19 sessions were planned in the following areas:

- Digital Health Care & 3D Printing
- Artificial Intelligence & BIG data
- Biosimilar , Neurosciences and Cell & Gene Therapy

- Immuno-oncology & Medical Devices

Important Session Scheduled at Bio Korea 2018:

- Future Prospects of Bio- 3D Printing Technology for Medical Innovation :

  In this session, it was discussed how 3D printing technologies & research trends in medical field & prospects the direction of future medical Innovation.

- Medical Device Commercialization Strategy for Overseas Market :

  In this session, provision of information on company accelerating global trends and overseas commercialization strategies for additional growth and expansion of export of mainly small or medium scale medical companies was put forward.

- Business Forums: One to one Business Meetings

  Hundreds of companies showcased their advance technology in the exhibition hall.

Several co –events were planned such as Bio Job fair, Invest Fair, K- Pharma fair, Medical devices seminar, Bio- Health Cluster forum & medical Korea.

During the 3 days of exhibition, BIRAC booth was visited by several attendees. They were impressed by the impact that BIRAC had created in a short span of 6 years.

Bio US, 2018

The annual BIO International Convention, hosted by the Biotechnology International Organization was held from 4th-7th June at Boston Convention and Exhibition Centre (BCEC), Boston. BIO Boston 2018 gathered over 18,000 attendees from 67 countries. BIO also hosted nearly 47,000 BIO One-on-One Partnering between more than 7,900 delegates from 3,900 companies.

BIRAC participated in BIO Boston 2018 by putting up an exhibit in the India Pavilion. Exhibition at the India Pavilion was inaugurated by Dr. Kiran Mazumdar Shaw, CMD, Biocon. BIRAC booth witnessed an excellent response and attracted several visitors from different countries. The visitors included officials from Technology Transfer Offices; Biotech Clusters willing to help Indian startups in setting up their units in other parts of the world and raising funds for

the same; NRIs/OCIs willing to set up their companies in India and technology providers willing to set up their manufacturing units in India.

One on one partnering sessions were conducted with likeminded organizations across the globe and possibility of collaboration with them was explored. BIRAC also created awareness about the funding schemes, other support services, Start Up India, Make In India schemes of the GoI amongst the potential community.

Delegation for Cuba

The delegation from India visited Cuba from 20th - 22nd June, 2018 to explore collaboration opportunities between two countries in the area of biotechnology. The delegation was led by BIRAC along with Kalam Institute of Health Technology (KIHT).

The delegation was represented by start-ups supported by BIRAC who are working in the areas of vaccines, cell-based therapies and devices & diagnostics. These were Seagull Biosolutions, Regrow Biosciences, Accuster Technologies, Biosense Technologies, Windmill Health Technologies and Renalyx. The technologies developed by these start-ups ranged from platform technology for developing safer & efficacious vaccines, stem-cell based product for urethra regeneration in male patients, world's first mobile lab in a suitcase & lab on a bike, affordable point care of diagnostics for glucose monitoring, world's first foot powered resuscitator and indigenously manufactured affordable kidney dialysis machine with remote monitoring were also showcased.


Hon'ble President of India along with delegates from BIRAC and KIHT

The delegation visited the Centre for Genetic Engineering and Biotechnology, Centre for Molecular Immunology, Centre for Research and development of medicines, FINLAY institute, Centre for Immunoassay and Central Institute for Digital research working in the areas of vaccines, cancer research, auto-immune diseases and devices & diagnostics.

It was noted that there are tremendous opportunities for collaboration in the area of biotechnology particularly in healthcare between the two countries. A Letter of Intent (LoI) between BioCuba Farma, BIRAC & KIHT has been signed with focus on) exchange of technologies, products & innovations and) transfer of technologies and commercialization of innovative healthcare products of interest to both the countries.

A report on the visit by delegation was presented to Honourable President of India during his visit to Centre for Genetic Engineering and Biotechnology, Havana.


birac
Ignite Innovate Incubate
Biotechnology Industry Research Assistance Council
(A Govt. of India Enterprise)
BIG
Kick Starting Entrepreneurship
BIG
13th Call
BIOTECNOLOGY IGNITION GRANT
For Igniting New Ideas
UP TO INR 50 LAKHS AS GRANT-IN-AID
INNOVATIVE IDEA WITH POTENTIAL FOR COMMERCIALIZATION
More than 300 ideas supported so far
Eligible Innovators:
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- Individual Entrepreneur including Scientist, Faculty, Research Scholar, Graduate in any discipline.
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AWARENESS WORKSHOP ON INTELLECTUAL PROPERTY & TECHNOLOGY MANAGEMENT IN LIFE SCIENCES

BIRAC organized a one day workshop on "Intellectual Property & Technology Management in Life Sciences" in association with KIIT-TBI, Bhubaneswar on 10th May, 2018. The program was designed for start-ups, Academia and SMEs to make them aware on the aspects and importance of Intellectual Property, Technology Transfer and Commercialization process.

The workshop was well represented by about 50 participants from academic institutes, medical colleges, start-ups and aspiring entrepreneurs engaged in life science sector. The workshop was focused on imparting the IP & Technology Management related knowledge to the audience. The workshop covered the topics such as role and importance of IP for start-ups, Patentable subject matters in Biotech in India, Patent searches, Strategic patent filing and an overview of Technology Transfer & Commercialization. Last session was focused on the regulatory requirements associated with the utilization of the National Biodiversity resources for research and commercialization purposes.

BIRAC's 1st Intellectual Property Law Clinic

BIRAC conducted its first IP Law Clinic at KIIT-TBI, Bhubaneswar on 20th June, 2018 where BIRAC supported grantees got an opportunity to have one-to-one interaction and solution based approach on IP and Technology Management related matters. BIRAC team also explained the support available for BIRAC grantees for Patenting and Technology Transfer for securing the Intellectual Property emerging from the BIRAC supported projects.

NATIONAL BIOPHARMA MISSION

Industry-Academia Collaborative Mission For Accelerating Early Development For Biopharmaceuticals - "Innovate in India (I3) Empowering biotech entrepreneurs & accelerating inclusive innovation"

Innovate in India for Inclusiveness Project

A Loan Agreement for IBRD credit of US$ 125 (equivalent) for the "Innovate in India for Inclusiveness Project" was signed with the World Bank on 24th April, 2018 in New Delhi. The Loan Agreement was signed by Mr. Sameer Kumar Khare, Joint Secretary, Department of Economic Affairs on behalf of Government of India and Mr. Hisham Abdo, Acting Country Director, World Bank (India) on behalf of the World Bank. The Project agreement was signed by Dr. Mohd. Aslam, Advisor (Scientist 'G'), DBT & MD BIRAC and Mr. Hisham Abdo, Acting Country Director, World Bank (India) on behalf of the World Bank.

Loan and Project agreement of the World Bank assisted "Innovate in India Mission Programme" signed on 24th April 2018, between DEA, World Bank and BIRAC

One week course on "Principles and Practice of Clinical Research"

In support of its objective to train the next generation of clinician-scientists and health professionals involved in clinical research, the Department of Biotechnology (DBT), Indian Council of Medical Research (ICMR), Biotechnology Industry Research Assistance Council (BIRAC) and Clinical Development Services Agency (CDSA) organised a one-week course on the "Principles and Practice of Clinical Research" under the aegis of Indo-US Vaccine Action Programme (VAP) from April 16-21, 2018 at Sheraton Hyderabad Hotel, Hyderabad.

The objective of the workshop was to provide comprehensive training on conduct of clinical research touching topics like Epidemiologic Methods Study Design, Clinical trial Protocol Preparation, Patient Monitoring, Ethical Considerations, Quality Assurance & Data Management. In addition participants were informed of potential funding opportunities by Dr. Jyoti Logani, Scientist E, DBT: Dr. Kavita Singh, Mission Director, National Biopharma Mission, PMU-BIRAC and Dr. N. C. Jain, ICMR.

This workshop was attended by 100 participants from various organisations. There were 19 faculty members which included 7 International faculties from NIH & 12 esteemed faculties from various organizations of repute like CDSCO, ICMR, DBT, BIRAC, AIIMS, Public Health Foundation of India (PHFI), CHRD Society for Applied Studies & Translational Health Science and Technology Institute (THSTI). The participants were from various areas including Clinical & Biomedical researchers (Academia & Industry), personnel involved in clinical research – Data management, Biostatistics, Quality assurance, Monitoring, Medical writing etc.

This workshop was inaugurated with a welcome address by Dr. Alka Sharma, Adviser DBT and Dr. NC Jain, ICMR. Opening remarks were delivered by Counsellor US Embassy, Hyderabad.

The workshop concluded with summarizing the key learnings, seeking feedback from participants and a vote of thanks by Prof. Gagandeep Kang, Executive Director, THSTI,

SWACHHATA PAKHWADA

Swachhata Pakhwada was observed in BIRAC from 1st May to 15th May 2018. A series of activities were organised as part of the event and all employees actively participated and contributed towards the mission. Swachhata pledge was administered by Dr. Mohd. Aslam, Advisor (Scientist 'G'), DBT & MD BIRAC to all employees. 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' was shared among all the employees and each one was called upon to be a proud part of the Swachh Bharat Mission and contribute towards success of the initiatives.

All departments were requested to weed out the old files/ records, publications and other documents for maintaining cleanliness, sprucing of space and maintaining conducive working conditions. All

employees were requested to devote few hours towards cleaning their respective workplaces for which best workplace in terms of cleanliness was awarded. Technical Forum was organised to discuss on initiatives on Bio Toilets, Waste to Energy, Bioremediation for Cleaning Environment, and Clean Water Technology.

As an initiative to promote green environment and clean environment under Swachhata Abhiyan, BIRAC employees planted saplings in the presence of Dr. Renu Swarup, Secretary DBT, & Chairperson BIRAC and Dr. Mohd. Aslam, Advisor (Scientist 'G'), DBT & MD BIRAC .To create awareness about importance of cleanliness, an interactive session was conducted with the housekeeping personnel & office boys. They were educated on safety measures to be taken while cleaning office premises. An e-forum was made live on individual MIS for putting up innovative ideas on ways to keep our environment clean.

A Quiz Competition on Swachh Bharat Abhiyan and a Poster Making Competition under the theme "Save Environment" has been organised for generating awareness on cleanliness. These competitions witnessed enthusiastic participation from all employees.

The Pakhwada concluded with the prize distribution and message from Dr. Renu Swarup, Secretary DBT, & Chairperson BIRAC and Dr. Mohd. Aslam, Advisor (Scientist 'G'), DBT & MD BIRAC regarding the need for observing cleanliness.

Biotechnology Industry Research Assistance Council (BIRAC)

(A Govt. of India Enterprise)

birac
Ignite Innovate Incubate

Invites Proposals for Supporting Affordable Product Development
(Discovery to Pre-commercialization)

under

Promoting Academic Research Conversion to Enterprise (PACE)

Supports academia to develop technologies/ products (up to PoC stage) of national importance and their subsequent validation towards commercialization through:

- **Academic Innovation Research (AIR)** Development of PoC by academia with/without the involvement of industry
- **Contract Research Scheme (CRS)** Aims at validation of prototype/ technology by the industrial partner

Small Business Innovation Research Initiative (SBIRI)

Supports industry for development of proof-of-concept and early stage validation of products/ technologies of high societal relevance

- Encourages and strengthens R&D capabilities and capacity of smaller businesses
- Funding in the form of Grant-in-aid is provided to start-ups, SMEs and other Biotech companies on cost sharing basis

Biotechnology Industry Partnership Programme (BIPP)

Supports industry for high risk, transformational technology/ process development from proof-of-concept to late stage validation leading to product commercialization

- Supports development of new and futuristic technologies with major social bearing but uncertain market driven demand
- Biotech companies receiving financial support are required to contribute at least 50% of the total project cost

Who can apply?

For PACE

Academic institute, University, NGO, or Research Foundation, having proper registration/accreditation from a government body are eligible to apply either alone, or in partnership with academia or industry (while involvement of industry is optional for AIR scheme, it is mandatory to have an industrial partner for CRS)

For SBIRI & BIPP

A single or consortia of Indian company (ies) registered under ***"The Indian Companies Act 2013"*** with minimum 51% Indian ownership, and in-house R&D unit, are eligible to apply either alone, or in collaboration with another Company/Institute /University

How to apply?

Proposals for all the Schemes are required to be submitted **online only**. For scheme details and submission of proposal, please log on to BIRAC website (**www.birac.nic.in**).

Last date for submission of proposals

31st July, 2018

For queries, please contact:

Head - Investment, BIRAC. Email: investment.birac@gov.in

Grand Challenges India

The National Expert Group Technical Consultation on Prevention and Treatment of Iron Deficiency Anemia- at All India Institute of Medical Sciences, New Delhi- supported by PMU-BIRAC under the KnIT platform.

23rd – 24th April 2018

Anemia, essentially defined as the condition in which red blood cells (RBCs) or their oxygen carrying capacity is insufficient to carry out the physiological functions of the body. It is a widespread public health concern and approximately a third of the global population is affected.

As iron deficiency is identified as the most prominent etiology, accounting for 50% of the global anemia cases, a "National Expert Group Technical Consultation on Prevention and Treatment of Iron Deficiency Anemia" was held from 23rd to 24th April 2018 at All India Institute of Medical Sciences (AIIMS), New Delhi. The consultation was aimed at discussing the existing scientific and epidemiological evidence, with respect to the current WHO recommendations, on benefits and safety of administration of iron to vulnerable groups i.e. infants, preschool children, school children (aged 5-10 years) adolescent boys and girls (aged 10-19 years) women of reproductive age, and pregnant and lactating women in the Indian context. In principle the consultation intended to provide evidence-based guidelines to the Ministry of Health and Family Welfare, Government of India, with respect to the National Iron Plus Initiative (NIPI) for prevention and control of Anemia.

Conducted under the aegis of the Ministry of Health and Family Welfare, Government of India, the other co-organizers of this consultation were Departments of Human Nutrition and Hematology, AIIMS, New Delhi; Program Management Unit-Biotechnology Industry Research Assistance Council (PMU-BIRAC) supporting Knowledge Integration and Translational (KnIT) platform, Sitaram Bhartia Institute of Science and Research (SBISR), New Delhi; Public Health Foundation of India (PHFI), Nutrition Society of India (NSI), Indian Association of Preventive and Social Medicine (IAPSM), Indian Academy of Pediatrics (IAP) Nutrition Sub-specialty Chapter , Federation of Obstetric and Gynecological Societies of India (FOGSI), Indian Public Health Association (IPHA), Indian Society of Haematology and Blood Transfusion (ISHBT), International Epidemiological Association - South East Asia Region (IEA-SEA), and World Health Organization (WHO).

The meeting comprised of several sessions that were dedicated to framing recommendations for doses of iron for aforementioned vulnerable groups. Following a participative and transparent approach, various distinguished speakers gave /make presentation of relevant scientific evidence. Subsequent to remarks by lead discussant, each session was followed by an open house discussion that concluded with various recommendations with respect to doses of iron for prevention and treatment of anemia in various age groups and vulnerable population.

The extensive consultation/discussion led to development of consensus in the following specific areas:

a. Iron doses for prophylaxis and treatment of anemia in pregnant women and other age groups

b. Use of Enteric coated tablets

c. Use of Hemoglobin estimation techniques

d. The benefits and risks of fortification

Grand Challenges Learning and Evaluation Meeting 20th- 23th May, Naivasha, Kenya

The Grand Challenges 2018 Learning & Evaluation Meeting held in Naivasha, Kenya was hosted by Bill & Melinda Gates

Foundation in collaboration with African Academy of Science and Grand Challenges Africa/South Africa.

This meeting, held every year, in different Grand Challenges partner countries, is an opportunity for the partners to come together and discuss lessons and learnings from their programs as well as learn from experiences of partner Grand Challenges across the world. This is also an important opportunity for new and old partners to meet and network and also explore the future of Grand Challenges as part of the broader innovation ecosystem.

A two-member GC India team comprising Dr.Shirshendu Mukherjee, Mission Director, and Ms. Arshi Mehboob were nominated to attend the three-day meeting.

The L&E meeting kicked off with a global meet of all 11 Grand Challenges partners across the globe, discussing their scope of work and their programs. The PMU-BIRAC team also explained the various programs that are already underway and the new upcoming programs in Grand Challenges India.

The next two days included parallel sessions that allowed the attendees to choose the sessions that would best suit their interests and priorities.

The opening session on Day 2 began with a talk by Ali Okhowat from the World Health Organization who briefed on the WHO Innovation Hub priorities as a case study. He detailed the innovation hubs objectives as it identifies new or improved health policies, systems, products and technologies, and services and delivery methods that improve people's health and wellbeing.

The PMU Team also attended the Every Woman Every Child Innovation Marketplace- Building a Pipeline and Catalysing investments for impact in Women, Children and adolescent health session where they presented Neobreathe, the first foot operated resuscitation device by Windmill Health. The organizer Karlee Silver, Grand Challenges Canada gave a brief progress update on the EWEC- IMP and shared approaches of implementation tactics. EWEC Innovation Marketplace intends to facilitate 20 investments by 2020 and by 2030 to see at least 10 of these innovations widely available and having significant impact on women, children and adolescents.

A second parallel breakout session discussed the measuring and evaluating impact of grants made.The organizer Dr. Steven Buchsbaum, Bill & Melinda Gates Foundation shared a brief background on measuring and evaluation to yield positive and productive social impact. The session brought together the innovation practitioners sharing interesting and novel approaches with different partners can complement one another.

Communications and Advocacy was also discussed as part of a session which explored ways to enhance advocacy and communications for their programs and Grand Challenges broadly. During the session, partners shared lessons to explore best practices and provide a platform for partners to share their diverse advocacy and communications approaches, assets and activities for the coming year.

Day three consisted of a session that introduced the IDIA Innovation Management Training The session organisers gave brief overview about the International Development Innovation Alliance (IDIA). The Rockefeller Foundation intends to develop a training course for GC staff and peers in innovation management which comprises a range of skills required by GC staff and others around. The highly interactive and dynamic session engaged participants to share challenges and solicit their prioritized areas to co-create approaches for delivering the training support in innovative ways.

Interspersed through the agenda were Spotlight talks from a variety of researchers who shared their work from Africa.

On behalf of Secretary Department of Biotechnology, Government of India, Dr.Shirshendu Mukherjee, Mission Director, PMU-BIRAC invited the Global Grand Challenges community for the 2019 Learning and Evaluation Meeting to India and requested to save the dates for 17-19th March for L&E Meeting which will precede BIRAC's Foundation Day on 20th March, 2018.

Secretary, Department of Science and Technology, Government of India, Dr. Ashutosh Sharma, launched Prof. M Jagadesh Kumar, Vice-Chancellor, JNU, Shubhra Priyadarshini, Chief Editor Nature India and Dr.Shirshendu Mukherjee, Mission Director, PMU-BIRAC launching the Nature India Grand Challenges Special Issue.

Nature India- Grand Challenges Special Issue Launched

Nature India, in collaboration with BIRAC launched a Nature India Special Issue on Grand Challenges as a part of its 10th Year anniversary event. This special issue,

developed in collaboration with BIRAC through the Grand Challenges India program, focused on the Grand Challenges in India through a series of articles by eminent scientists and thought leaders from the country. This 60 -page issue also contained articles on Nature Research's Global Grand Challenges Program and pictures from the Nature India Photo Contest.

This special issue was launched at the Nature India 10th Year Anniversary event held at Jawaharlal Nehru University on 16th April 2018. This event was inaugurated by Secretary, Department of Science and Technology, Government of India, Dr. Ashutosh Sharma who also launched the Nature India Photo Exhibition. The Nature India 10th Annual Compendium was launched by Prof. M Jagadesh Kumar, Vice-Chancellor, JNU and Dr. Shirshendu Mukherjee launched the Nature India Special Issue on Grand Challenges. This was followed by a panel discussion on India's Science Policy: Ready for 2020?

The Special issue is available on the Nature India website at https://www.natureasia.com/en/nindia

Grand Challenges India: Immunization Data: Innovating for Action (GCI IDIA)

Grand Challenges India launched its 4th call titled 'Immunization Data: Innovating for Action' (IDIA), on 15th November 2017 and was directed at addressing challenges that are faced in collecting, analyzing and using data on immunization and health in technical partnership with the Ministry of Health and Family Welfare, Government of India, the Indian Council of Medical Research (ICMR) and the Department of Health Research (DHR).

The call received 70 applications which were then triaged for eligibility and assigned to expert reviewers. The scores assigned by these reviewers were then normalized and successful applicants were then invited to present their proposal to the Technical Advisory Group (TAG) for the IDIA call which will be held in May 2018.

Behavior Change Workshop

March 21 & 22, 2018, New Delhi

Organizers: Bill and Melinda Gates Foundation supported by the PMU-BIRAC

Maternal, neonatal and child health (MNCH) programmes are of high national importance in India. In India a large number of MNCH programmes have been initiated, targeting both rural and urban poor populations. In order to meet the Sustainable Development Goals set for 2030, mortality reduction must accelerate. We are challenged to lower annual global neonatal deaths from 2.7 million to 1.2 million, and annual global maternal deaths from 303,000 to 97,000.

The two-day workshop described the skills and tools to apply a behavioural approach to designing maternal and child health programs. The goals of the training were to provide a greater understanding of how to put users at the core and what that means for enabling behaviour change and to teach easy to use behaviour change framework with specific strategies they can employ to overcome behavioural barriers to the participants. The participants of this workshop included global GCE award winners, members of PMU-BIRAC and other funding agencies.

The barriers for behavior change are numerous and span motivation, ability (skills and knowledge), and environment. For example, some barriers to KMC practice include women's discomfort in performing typical household tasks while their fragile newborn is on their chest, limited knowledge of the benefits of KMC, and lack of social support. Behaviour change techniques, or an understanding of the kind of behaviour barriers would be useful for entrepreneurs and researchers to design and implement their product or technique better.

Major topics discussed were kangaroo mother care (KMC), clean cord care, neonatal resuscitation, diagnosis and treatment of infection, prophylactic uterotonics and antenatal care.

By the end of the training, participants learned were able to analyse different components of the Designing for Behaviour Change framework and practiced completing each of these components

The workshop participants

based on real or sample data. They also assessed data from a barrier analysis or a survey to identify key factors effecting behaviour change in a specific priority or influencing group.

Participants were also encouraged to apply these Behaviour Change frameworks to their own projects or to a case study to develop strategies informed by formative research results. They also self-critiqued, received feedback from peers and facilitators, and improved their frameworks to improve the quality and increase the potential success of their behaviour change strategies.

The workshop received positive feedback from all the applicants and the organisers.

Sentinels program

The Sentinels Experiment intends to source innovation in India to address global health challenges by working with sentinels for excellence and innovation, who can identify new ideas and scientists in their institutions, networks, and regions.

The initiative engages with explicit innovation practitioners, new partners, new ideas and new opportunities focused on creating and fostering delivery of more appropriate (affordable, deliverable and scalable) versions of extant interventions, the contribution could be by way of a new product, service or process.

Towards this, a series of meetings were held at Centers of Excellence namely, IISc, NCBS Bangalore and CMC Vellore in April, 2018 to socialize the "Sentinels" experiment and find people who ideally are not working on global health problems but have relevant skills, technologies and potential passion.

Two pager proposal has been invited from a closed list of innovators/companies, academicians from the prestigious institution like IISc, NCBS and other Institutes in Bangalore. The last date for submission of applications is 10th July, 2018.

Grand Challenges India call on Antimicrobial Resistance

Grand Challenges India announced a new initiative on Antimicrobial Resistance (AMR) in 2018. This call was run in alignment with Grand Challenges South Africa, Grand Challenges Africa and Grand Challenges Brazil and will fund projects from across these geographies which will be managed by the respective country partners.

The mandate for the Grand Challenges India-AMR call is in the space of surveillance and analytical tools, low-cost products and technologies for infection prevention and control and low-cost technologies for removal of antibiotics from effluents under the wider umbrella of antimicrobial resistance.

The call was launched on 11th April 2018 and was open online for a period of 45 days. An overwhelming response was received with a total of 293 applications submitted by the call deadline of 25th May 2018.

An active outreach strategy was followed, which included newspaper advertisements, mass emailers, website outreach and social media. Details of the call were also disseminated at events in and around the country. Two outreach events were also conducted at Centre for Cellular and Molecular biology, Hyderabad and C-CAMP, Bangalore, with the help of the hosting organisations.

PMU-team has successfully completed the initial triage for these applications where eligibility check as per the mandate is complete and all the eligible applications are under online review by a group of external experts assigned for this call specially, the ARP (Area review panel).

Dr. Arpita Gupta and Anjana Seshadri conducted outreach events at Bangalore and Hyderabad to socialise the call.

GCI call on "ki data challenge for Maternal and Child Health"

Data Science Approaches to Improve Maternal and Child Health in India

The knowledge integration (ki) Data Challenge call is the sixth call under Grand Challenges India. This call seeks research proposals that address key knowledge gaps in understanding of how nutrition, prenatal and antenatal care, maternal support, and environmental and social factors contribute to an elevated risk of poor maternal and childhood health outcomes. This program aims at innovative data analytics solutions by analyzing existing data arising from multiple sources in India such as publicly available data, clinical research, cohort and survey studies and other related data sources.

This call has been launched on 3rd July, 2018 and will be open till 17th August, 2018.

To reinforce the thinking of researchers on this novel call mandate, 2 outreach sessions were conducted in April in Delhi. The PMU-BIRAC team interacted with clinical researchers and data scientists, as well as software engineers form various institutes such as IIT-Delhi, THSTI, SAS, ICGEB, Delhi School of Economics and AIIMS. Our team aided this effort by forming an online discussion forum in consultation with Gates Foundation.

Through this call, we would like to support innovative collaborations between Indian research scientists, healthcare experts, and data scientists.

BIRAC Regional Bio-innovation Centre (BRBC)

A formal kick off meeting for the BIRAC's 3rd Regional Centre – BIRAC Regional Bio-Innovation Centre (BRBC), Venture Centre, Pune was held on 19th June, 2018 at BIRAC Office, New Delhi. BRBC is mandated to be a high quality national resource center to support and promote Entrepreneurship in Life Sciences. The centre will provide following services:

- Venture Mentoring Service: High level mentor pool creation for networking and match making with prospective and experienced entrepreneurs.
- Venture Base Camps: Focused theme based camps to orient entrepreneurs to relevant activities facilitating product commercialization processes.
- Regulatory Information and Facilitation Center: Facilitate seamless, personalized approach for entrepreneurs in understanding the regulatory approval process for biotech products in India.
- Bio-Incubation Practice School for western regions: Provide comprehensive hands on experiential learning required for setting up/running of bio-Incubators in Tier II & Tier III cities nearby Pune.

Dr. Manish Diwan, Head SPED BIRAC, emphasized that BRBC would greatly complement the other two BIRAC Regional Centres, BRIC & BREC. Dr. Priya Nagaraj, Project Lead, BRBC presented the update and annual plan for BRBC. Dr. Premnath Venugopalan, Coordinator BRBC, Head Entrepreneurship Development Centre, Venture Centre mentioned that Bioincubator Practice School will provide a boost to the regional entrepreneurship ecosystem.

Dr. Renu Swarup, Secretary DBT and Chairperson BIRAC appreciated the team's efforts and expressed confidence in BRBC's potential. She advised that BRBC could emerge as a regulatory nodal centre in close association with BIRAC to facilitate Biotech start-ups. Dr. Mohd. Aslam, Advisor (Scientist 'G'), DBT & MD BIRAC added that Tier II and III cities along with north-eastern regions need boost and should be preferably considered for boot camps and Bioincubation Practice School sessions.

LAUNCH OF SECONDARY AGRICULTURE ENTREPRENEURIAL NETWORK (SAEN)

SAEN is led by The Punjab State Council & Technology (PSCST) and other partners are National Agri Food Biotechnology Institution (NABI), Centre for Innovative and Applied Bioprocessing (CIAB) and BioNest–Panjab University (BioNEST-PU). The project aims at promoting new enterprises and to support existing industry in the secondary agriculture sector.

The Network focusses on:

i. Assessment of Unmet Needs of Agri/ Food Industry & Development of Technological Solutions to Address the Same.

ii. Technology Mapping & IP Landscape of Research Leads from R&D Institutions/Organization.

iii. Pre-Commercial Validation/Scale Up/ Demonstration/ Commercialization of R & D Leads through Setting-up of Early Translation Accelerators

iv. Creating the Pipeline of Incubates and Entrepreneurs.

v. Capacity Building for Entrepreneurship Development

The Network will be established in two Phases. The first phase will be for 2 years and the second phase for 3 years. In the first two years, the unmet technological needs of two industrial sectors — 'Fruit & vegetable processing industry' and 'Cereal & grain processing industry' of Punjab will be identified and addressed by using technical infrastructure and expertise of NABI, CIAB and other relevant institutions.

The Network was launched by Dr.RenuSwarup, Secretary, Department of Biotechnology (DBT), Govt. of India and Sh. Karan Avtar Singh, IAS, Chief Secretary, Govt. of Punjab at Mohali, Punjab on 29th June, 2018.

BIRAC PROGRAMMES

SITARE (Students Innovations for Advancement of Research Explorations)

BIRAC SRISTI GYTI AWARDS: Aimed at supporting the innovations and creativity at grass root level among the university students, including individual innovators.

eYUVA (Encouraging Youth for Undertaking Innovative Research through Vibrant Acceleration)

- ***University Innovation Clusters (UIC):*** UIC initiative seeks to create an entrepreneurial culture in the Universities and help students to take their novel ideas to proof of concept.
- ***SIIP (Social Innovation Immersion Fellowship):*** A fellowship programme that builds the next generation of social entrepreneurs by helping them 'immerse' and interface with communities to identify gaps and then work on bridging the gaps through an innovative product or service offering.

Discovery, Early and Late Stage Funding

- ***BIG (Biotechnology Ignition Grant):*** Biotechnology ignition Grant (BIG) is available to scientists, entrepreneurs from research institutes, academia and startups, to stimulate commercialization of research discoveries by providing very early stage grants to help bridge the gap between discovery and invention.
- ***SPARSH (Social Innovation Programme for Products Affordable & Relevant to Societal Health):*** SPARSH combines social innovation and biotechnology for the well-being of the society by helping, identify and support cutting edge innovations towards affordable product development with potentially significant social impact. SPARSH provides support in the form of impact funding and fellowships.
- ***SBIRI (Small Business Innovation Research Initiative):*** It is the early stage, innovation focussed PPP initiative to support incremental R&D in the area of Biotechnology to facilitate innovation and risk taking by SMEs
- ***BIPP (Biotechnology Industry Partnership Programme):*** BIPP seeks to provide support for early to late stage high risk biotech R&D by industry and/or accelerate commercialization of new indigenous technologies.
- ***CRS (Contract Research Scheme):*** CRS scheme supports academic institutes to take forward research leads through a validation and translation cycle by the industry. Funding is in the form of grant given to both the academic as well as the industrial partner.

BIRAC BioNEST (BIRAC – Bioincubation: Nurturing Entrepreneurs for Scaling up Technology)

- BIRAC's Flagship programme which has created 25 world-class bio-incubators to provide incubation space, mentor networks, instrumentation facilities, IP and technology management support.

Collaborative Funding

- ***Indo-French Centre for the Promotion of Advanced Research (CEFIPRA):*** Support high quality bilateral research, encourage and enable Indo-French collaboration between public, private research groups, industry, clinicians and end-users in the domain of red biotechnology.
- ***Wellcome Trust, UK:*** Support innovations in translational medicine in the domain of diagnostics for infectious diseases.
- ***Grand Challenges India (GCI):*** A consortium of DBT, Bill & Melinda Gates Foundation, Wellcome Trust, USAID, and BIRAC, focussing on supporting innovations in the areas of maternal and child health, agriculture and nutrition, sanitation and infectious diseases.
- ***USAID and IKP Knowledge Park:*** Support for new diagnostic tools for TB, with funding commitment of INR 5 crores for 3 years.
- ***NESTA, UK:*** BIRAC partnership with Nesta, a charity organization in UK, is aimed at supporting Discovery Awards Programme for innovators working for innovative diagnostics for anti-microbial resistance (AMR).
- ***Industry Innovation programme on Medical Electronics (IIPME):*** BIRAC in partnership with DeitY (Department of Electronics and Information technology) launched IIPME for supporting innovations in medical electronics and med devices sector.

Equity Funding

- ***SEED (Sustaining Enterprise and Entrepreneurship Development) Fund:*** Financial equity based support to start ups and enterprises through bio-incubators for scaling enterprises.
- ***AcE (Accelerating Enterprises) Fund:*** A Fund of Funds to scale-up R&D and innovation in biotechnology domains of sectors such as healthcare, pharma, medical devices, agriculture, sanitation and many more.

For further information please contact:
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