

BIRAC Innovators MEET 2014

Prioritizing Innovation Research for Affordable Product Development

BIRAC organized its 3rd Innovators Meet at Hotel Maple Emerald, New Delhi on 22nd-23rd September 2014. The theme of the meet was *‘Prioritizing Innovation Research for Affordable Product Development’*. The event witnessed the participation of around 200 delegates from Industry, Academia, SMEs and Start-ups. Many BIG grantees also participated in the event.

The event started with the Welcome Address and theme introduction by Dr Renu Swarup, MD, BIRAC and Senior Adviser, DBT. She emphasized on the need for directed and focused innovation research for addressing the most challenging problem our country is facing. This was followed by the Key Note Address by Dr M K Bhan, Former Secretary, DBT, whereby he stated the importance for having a performance matrix and making programmes focused on the development of the innovation ecosystem. Prof. Padmanaban, Senior Science and Innovation Advisor, BIRAC, highlighted the importance of BIRAC support to the bio-entrepreneurs while also mentioning the need of directed efforts towards the bio-manufacturing for a sustainable future. The gathering was also addressed by Prof K. VijayRaghavan, Secretary, DBT and Chairman, BIRAC, who emphasized that BIRAC should find out radical and innovative methods for funding and also that BIRAC should expand its reach to SAARC nations. This was followed by the presentation of prestigious **BIRAC Innovator Awards**.

- Best Innovation in the **Healthcare Sector** was awarded to **Healthline Private Limited**, Bangalore, in recognition of their significant contribution to innovative research towards the development of face mask for cosmaceutical application using sericin and other natural bio-active agent on non-woven silk sheet.
- Best Innovation in the **Biomedical Devices, Implants and Diagnostics Sector** was awarded to **Janacare Solutions Pvt. Ltd., Bangalore, All India Institute of Medical Sciences, New Delhi and Narayana Hrudayalaya Hospital, Bangalore**, in recognition of their significant contribution to innovative research towards the development of a ‘Software Platform - DXPhone’, a P-o-C diagnostic tool comprising of a novel hardware sensor which plugs into any smartphone and an array of proprietary dry-chemistry strips for testing six basic blood parameters – Blood Glucose, HbA1c, Lipids, Triglycerides Hemoglobin and Serum Creatinine.
- Best Innovation in the **Agriculture Sector** was Awarded to **Indo – American Hybrid Seeds Pvt Ltd.**, Bangalore, in recognition of their significant contribution to innovative research for the development of salt tolerant hybrids in rice (*Oryza sativa*) using marker assisted selection

- Best Innovation in the **Industrial Processes and Green Technology Sector** was awarded to **Rossari Biotech Ltd.**, Mumbai In recognition of their significant contribution to innovative research towards the production of viable Enzymes using Agro waste produce as raw material of industrial Feed and health care use with large viable market demand.

The evening also witnessed the official release of the BIRAC Innovators Compendium, by Prof. K VijayRaghavan, Prof. G. Padmanaban and Dr Renu Swarup.

A poster presentation and a formal session on the BIG innovations were organized. The poster session had 32 participants. The three were adjudged as best by the jury ó Codon BioSciences, Goa; Total Potential Cell, Vadodara and Jayant Karve, SIB. The BIG innovations session gave the opportunity to innovators to pitch their technology/product to the gathering and was judged by an expert jury panel. The winners were ó Dr. Sai Siva Gorthy and Dr. Sujoy Guha, SG ArtHeart Pvt Ltd. Prof. K VijayRaghavan felicitated the best posters and best Innovators pitch.

The inaugural day set the momentum for conclusive brain storming discussions on the following day.



Inaugural Session



Innovations Compendium Release



BIRAC Innovator Award in Healthcare 6 Healthline Pvt Ltd



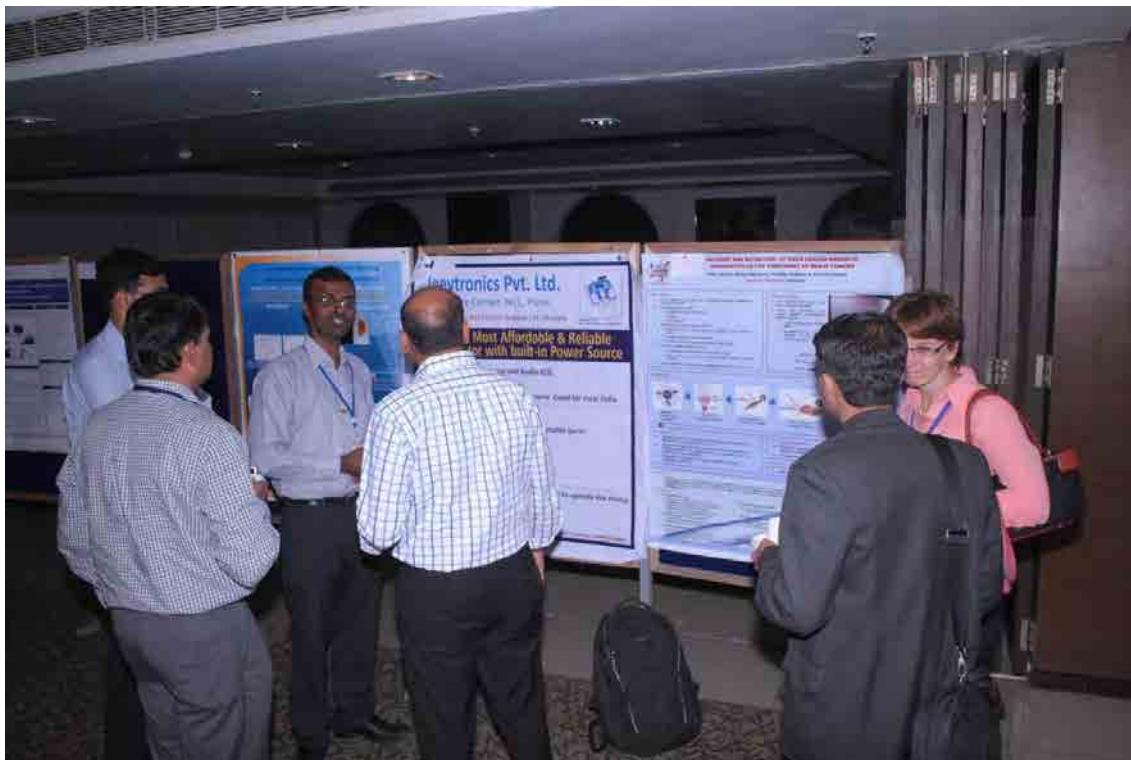
BIRAC Innovator Award in Biomedical Devices, Implants and Diagnostics Sector ó Janacare Solutions Pvt. Ltd, All India Institute of Medical Sciences and Narayana Hrudayalaya Hospital



BIRAC Innovator Award in Agriculture ó Indo-American Hybrid Seeds Pvt Ltd.



BIRAC Innovator Award in Industrial Processes and Green Technology Sector ó Rossari Biotech Ltd



Poster Session in Progress



The Complete Picture



Roundtable Discussions

Recommendations

Biopharmaceuticals – Drugs and Vaccines

The biopharma roundtable was chaired by Dr. Rajat Goyal of IAVI. The roundtable discussed various aspects for enhancing biopharma R&D in India.

The following recommendations emerged from the deliberations:

1. BIRAC should help understand the landscape of life science research in India especially identifying the existing capabilities the country has in biopharma R&D both within the boundaries of academia and industry.
2. BIRAC should lay down the process of acceleration to make India a global hub for biopharma R&D especially through industry-academia collaborations.
3. BIRAC should facilitate R&D in understanding of immunogenicity in humans in a non-competitive way such that it encourages participation of several industries. BIRAC should also help to develop technology platforms that would aid R&D in biopharma. Biopharma industries especially SMEs would benefit from the technology platforms as well as from R&D in immunogenicity.
4. BIRAC should establish facilities for translational research for product development through partnerships with THSTI and C-CAMP with the goal to serve and enhance R&D in SMEs including helping SMEs categorize their products and applied research within academia.
5. BIRAC should prioritize disease areas through extensive discussions with all stakeholders including medical fraternities, clinicians, health delivery providers and researchers.
6. The focus of BIRAC should also be to nurture and establish an *early stage manufacturing* unit such that it will lead to manufacturing of affordable biopharma products.

Dr Rajat Goyal emphasized that specific guidelines for a top-to-bottom approach is essential while establishing the priorities through engagement of clinicians and community. It was also suggested that establishment of niche area accelerators should be carried out after optimum mapping of potential organizations and prospective locations.

Medical Technologies – Diagnostics, Devices, Imaging

The discussion was moderated by Prof. Alok Ray, IIT Delhi. The experts in the roundtable discussed regarding the challenges and opportunities in the medical technology arena in India. The following recommendations emerged from the roundtable:

1. BIRAC should envision a web portal that could help plug the gap of accessing critical market data, lists of technologies available as well as experts in various verticals of med tech. The portal should be dynamic and also contain information regarding infrastructure available in the country for medical technology start-ups and SMEs.
2. BIRAC could facilitate networking between academia and industry for dissemination of information on standards and certification during product development.
3. BIRAC could help medical technology start-ups and SMEs in IP support
4. BIRAC could design special calls on medical technologies which could be calls anchored on the following:
 - Specification on specificity, sensitivity, efficacy compared to gold standard
 - Price point
 - Ability to be used by semi-trained people

It was also suggested that for the sector to grow it is imperative to integrate the industrial, Medtech and biopharma resources.

Agriculture

The bio-agri roundtable was chaired by Prof. Akhilesh Tyagi, Director NIPGR, while the recommendations were presented by Dr V Siva Reddy, ICGEB. The prime extracts of the recommendations are as follows:

The deliberations resulted in several succinct recommendations. The overall recommendations were that the important areas that need immediate focus are the following:

- a. Genomics assisted breeding of Quantitative loci traits
- b. Target gene transfer and pyramiding for target traits

In the Indian context, the crops that need support are both wherein the scientific community has sufficient information such as Rice, Maize, Oilseed Mustard as well as crops that are resource challenged such as vegetables, pulses and sunflower.

The roundtable recommended that the following crop traits should be the focus of future crop development.

The priority crop traits identified were:

- Water use efficiency
- Salinity tolerance
- Terminal Heat Tolerance

- Nitrogen use efficiency
- Virus resistance
- Nutritional enhancement
- Genomic hybrid breeding (Heterosis)
- Secondary agriculture
- Graphical user interface (OMICS platform) and Phenotyping Platforms
- High throughput production and testing of transgenics

The roundtable also urged development of hybrid crops as well as establishing a common product development platforms.

The roundtable also recommended that BIRAC should play a greater role in facilitating partnerships especially between industry-industry and industry-academia. Further, BIRAC could draw the modalities regarding the partnerships especially those that touch up on IP and resource acquisition and sharing. The role of BIRAC should also extend to be a facilitator for acquisition of technologies that can boost bio-agri sector.

The roundtable noted the pioneering steps that BIRAC has taken to kick start biotech entrepreneurship in India and recommended that part of the focus of bio-entrepreneurship should also be on encouraging start-ups in the bioagri arena. Additional recommendation was proposed by one of the participants to include PoC sensors that have agri-applications such as soil analysis within the scope of funding.

Industrial Products

The industrial products roundtable was moderated by Dr. K.J. Mukherjee, NII. The following recommendations emerged after the roundtable deliberations.

1. BIRAC needs to create a directory of resources through a dynamic web portal which should focus on providing information to industry. The web portal could include technologies that are available, variety of services being offered across the country, infrastructure and skills available.
2. BIRAC could establish or support a Centre for Process, Product Validation and Quality Control for technologies that are being developed in Indian academic institutes such that these technology become ready to be transferred to the industry.
3. BIRAC should design and conduct several workshops for product development in the bio-industrial areas especially for BIG grantees and SMEs. The workshop should involve leading experts from industry, academia and regulatory agencies.
4. BIRAC could envision and implement a special call in platform technologies for expression systems in the following areas:
 - a. Industrial enzymes and biotransformation
 - b. Chiral products
 - c. Enzymatic hydrolysis
 - d. Green technologies
 - e. Platform for conversion of biomass to sugar

Accessing and Optimizing the resources for supporting successful BioVentures

The panel discussion was moderated by Mr Utkarsh Palnitkar, KPMG. The following summarization points emerged after the discussions.

1. BIRAC has been playing a vital role in first stage funding/seed Funding, but now, it should plan for providing support in second stage funding also.
2. BIRAC has to play a role as a Developmental Agency not as a Funding Agency.
3. BIRAC should reach out to other ministries as well as Public & Private agencies to tap CSR funds and position itself to become a Knowledge & Technology Partner.
4. BIRAC should support more number of Incubators & Incubatees and frame effective means to monitor them.
5. Credible database should be created to identify the SMEs & Start Ups requiring support.
6. BIRAC should handhold entrepreneurs to help them to Invent, Incubate & Innovate.

The panel discussion highlighted that innovative methods of funding should be developed and implemented. One of the ways could be to hire the professional Fund Managers, who can manage the large quantum of funds parked with BIRAC. BIRAC should take help of the partners, and approach the Government in a consortia model to ask for the budgeted funds for the development and strengthening of incubators and promoting entrepreneurship in the biotechnology sector.

Dr Renu Swarup while summarizing the recommendations thanked all the panelists and the participants for their contributions towards framing further action plan for BIRAC to move ahead. She acknowledged that resources, change in ecosystem and demands of innovation are indeed the cardinal challenges for BIRAC, but, she also emphasized that BIRAC should grow exponentially by designing the next 5 year plan which will address the above challenges. Inclusion of SAARC nations as beneficiaries of BIRAC schemes, funding for bio-manufacturing, framing performance measurement matrix to encompass both tangible and intangible socio-economic impacts, to remain as an important and key partner along with others in the enabling ecosystem shall remain as the priority of BIRAC, as highlighted by Chairman, BIRAC, in his inaugural address. Dr Swarup also stated that in order to provide an effective mentor network, BIRAC will put its efforts to connect the dots of various DBT institutions and facilities on a virtual basis so as to form a mega national mentoring facility.

She highlighted that the BIRAC Innovators Meet could serve as an effective platform to bring the innovators and investors together. She concluded by stating that the recommendations that culminated from the innovators meet will be carried forward for appropriate actions.



The BIRAC Team

BIRAC Innovators Meet 2014

Prioritizing Innovation Research for Affordable Product Development

22nd – 23rd September, 2014

Hotel Mapple Emerald, New Delhi

Programme

Day I: 22nd September, 2014

12:00 002:00pm	Registration @ Regent and Lunch @ Crystal
02:00-03:30pm	<p>Inaugural Session @ Atlantis</p> <p>(i) Welcome Address and about the theme by Dr. Renu Swarup, Senior Adviser, DBT and MD, BIRAC</p> <p>(ii) Keynote Address: The Innovation Landscape in India ó Dr. M K Bhan, Former Secretary, DBT</p> <p>(iii) <i>Accolades</i>: Presentation of BIRAC Innovator Awards by Prof. K. VijayRaghavan, Secretary, DBT and Chairman, BIRAC</p> <p>(iv) Inaugural Address by Prof. K. VijayRaghavan, Secretary, DBT and Chairman, BIRAC</p> <p>(iv) Vote of Thanks: Mr. Ankur Gupta, Manager- Business Development</p>
03:30-04:00pm	<p>Showcasing Achievements: Presentation by BIRAC Innovator Awardees</p>
04:00-04:45pm	<p>Tea and Poster Session @ Conclave</p> <p>BIRAC Facilitator: Dr. Dhiraj Kumar, Mr. Rajneesh Kumar and Mr. Amit Katiyar</p>
04:45-06:30pm	<p>Innovation Centre Stage: Presentation By BIG Innovators</p> <p>BIRAC has been a pioneer in funding and nurturing innovative ideas through its Ignition Grant Programme (BIG). The programme has been instrumental in encouraging the innovative minds of young entrepreneurs to test their ideas and bring them to PoC stage. This session will highlight some noteworthy innovations that have been supported by BIG.</p> <p>These innovations would be presented to a high level expert panel, who will assess the technical and business potential of these innovations.</p> <p>Moderator: Dr. Taslimarif Saiyed, C-CAMP</p>

	<p>Panel:</p> <p>Prof. G.Padmanaban, IISc Dr. S. Ramaswamy, C-CAMP Dr. Goutam Das, ABLE Dr. Anil Gupta, IIM Ahmedabad Mr. Nitin Deshmukh, Kotak Private Equity Group Dr. Shirshendu Mukherjee, Wellcome Trust</p> <p>Followed by interaction with the private investors, Accelerators and other Key Players of the Ecosystem.</p> <p>BIRAC Facilitator: Ms. Kriti Taneja and Ms. Arshi</p>
06:30-07:00pm	Poster Session Continues
07:00-08:00pm	<i>Rendezvous with the Pacesetter:</i> Candid Talk and Interaction with Prof. K. VijayRaghavan, Secretary, DBT & Chairman, BIRAC @ Gardenia
08:00pm Onwards	<i>Celebrating the Spirit of Biopreneurship: Gala Dinner @ Carnation</i>

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Programme

Day II: 23rd September, 2014

09:30 ÷ 11:00am	<p><i>Parallel Round Table Sessions: Innovation Research and Product Development – Setting the Priorities</i></p> <p>BIRAC has over the last couple of years provided funding support for different stages of the Product Development Chain ó from Discovery to Pre-commercialization. The underlying focus is on Enabling the Ecosystem for Affordable Product Development. While a large number of Innovators have been supported and these are moving within the next phase, it is imperative that Strategic Research funding is promoted for a Targeted Product Development of National priority.</p> <p>Sectoral Round Table Discussions will focus on this and identify 1-2 major problems which can be taken up on a Mission Oriented Industry ó Academia Consortia Model.</p> <p>It is also important to identify upto 10 major challenges around the identified priority. These can be announced as BIRAC challenge under which Young Entrepreneurs can be encouraged to find innovative solutions to these problems. Each Round Table Discussion would have 15 ó 20 Panelists and expected output would be:</p> <ol style="list-style-type: none">Identification of 1-2 Major National Priorities for Product DevelopmentIdentification of upto 10 Major challenges for finding innovative solutions <p>(i) Biopharmaceuticals – Drugs and Vaccines @ Conclave I</p> <ul style="list-style-type: none">• Dr. Rajat Goyal, IAVI - Moderator• Dr. Anurag S. Rathore, IIT• Dr. Ajit Kamath, Pfizer• Dr. Janendra K Batra, NII• Dr. Kavitha Iyer Rodrigues, Theramyt• Dr. Manjul Joshipura, Cadila• Mr. Pankaj Sharma, LeadInvent
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	<ul style="list-style-type: none">• Dr.Radha Rangarajan, Vitas• Dr. Rita Mulherkar, Formerly ACTREC• Dr.Vijay Chauthaiwale, Torrent <p>BIRAC Facilitator:</p> <ul style="list-style-type: none">• Dr. Jyoti Shukla• Dr. Dhiraj Kumar <p>(ii) Medical Technologies – Diagnostics, Devices, Imaging @Conclave III</p> <ul style="list-style-type: none">• Dr. Alok Ray, IIT New Delhi, Moderator• Dr. Alka Sharma, DBT• Mr.G.V.Subrahmanyam, Panacea• Dr. Mohansankar Sivaprakasam, IIT Madras• Dr. Nitin Kale, Nanosniff• Dr. Robin Mukhopadhyaya, Formerly ACTREC• Dr. Rinti Banerjee, IIT Mumbai• Dr. Shinjini Bhatnagar, THSTI• Dr. Jonathan Pillai, THSTI <p>BIRAC Facilitator:</p> <ul style="list-style-type: none">• Mr. A P Netraranjan• Dr. Suraksha S Diwan <p>(iii) Agriculture @ Tea Lounge</p> <ul style="list-style-type: none">• Prof. Akhilesh K. Tyagi, NIPGR ó Moderator• Dr Ajay Parida, MSSRF• Mr Bharat Char, Mahyco• Prof Deepak Pental, DU• Dr Girish Kumar Krishna, CIMMYT• Dr.Nukala Padmanabha Sarma , Kaveri Seed• Dr Shelly Praveen, IARI• Dr T R Sharma, IARI• Dr V Siva Reddy, ICGEB <p>BIRAC Facilitator:</p> <ul style="list-style-type: none">• Dr. Amita Joshi• Dr. Vinita Jindal
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	<p>(iv) Industrial Products @ Royale</p> <ul style="list-style-type: none"> • Dr. K J Mukherjee, JNU, Moderator • Mr. Ajay Bhardwaj, Anthem • Dr. Benny Antony, Arjuna Natural Extracts • Dr. Banibrata Pandey, Nagarjuna Fertilizer • Dr. Rekha Singhal, ICT • Prof. Suneel Khanna, NIIT University • Mr. Sunil Chari, Rossari • Mr. Ravi Rao, Praj • Dr. Ramchandra Gadre, NCL <p>BIRAC Facilitator:</p> <ul style="list-style-type: none"> • Dr. Shilpi Gupta • Dr. Prachi Agarwal <p>Tea Break Parallel Round Table Sessions to Continue</p>
11:00am 11:30-01:00pm	Networking Lunch @ <i>Crystal</i>
01:00pm 02:00pm	<p>Technical Session: Accessing and Optimizing the resources for supporting successful BioVentures @ Atlantis</p> <p>Presently, BIRAC is nurturing, enabling and empowering the innovation ecosystem through its wide range of programmes such as BIG, SBIRI, BIPP and CRSS. BIRAC has also partnered with likeminded national and international organizations to support the Indian biotechnology sector. But, expansion and pervasive support to the sector is possible only by reaching out to other sources of funding. The session panellists will deliberate on the course of action to get access to the funds worth INR</p>

	<p>10,000 crores earmarked for promoting start-ups and INR 200 crores for establishing Technology Centre Networks as announced by the Government in the budget for 2014-2015. Other funding opportunities for attracting private investments would also be discussed.</p> <ul style="list-style-type: none"> • Mr. Utkarsh Palnitkar, KPMG ó Moderator • Prof. Ashok Jhunjhunwala, IIT Chennai • Dr. Deepanwita Chattopadhyay, IKP • Dr. Shrikumar Suryanarayan, Sea6 Energy • Mr. Nitin Deshmukh, Kotak Private Equity • Dr. Shirshendu Mukherjee, Wellcome Trust <p>BIRAC Facilitator:</p> <ul style="list-style-type: none"> • Ms. Bhawna Nagpal • Ms. Jaya Sitaram
03:30-04:00pm	Tea
04:00 ó 05:30pm	<p><i>Round Table of Recommendations, Panel Discussion @ Atlantis</i></p> <p>Moderator ó Dr. Renu Swarup, Senior Adviser, DBT and MD, BIRAC Panelists: Moderator of Each Round Table</p> <ul style="list-style-type: none"> • Dr. K J Mukherjee, JNU • Dr V Siva Reddy, ICGEB • Dr. Alok Ray, IIT New Delhi • Dr. Rajat Goyal, IAVI <p>BIRAC Facilitator:</p> <ul style="list-style-type: none"> • Dr. V. Banusri • Mr. Ankur Gupta <p>Closing Remarks</p>