



Volume 13

# CREATORS

Newsletter of Bionest-IASST

(In Association with ISVEC)

February Issue

2023

## Editor's Desk

On the occasion of celebrating “Amrit Kaal” through Science, Technology and Innovation, it is important to make scientific intervention inclusive and in cohesion with the societal need. In this pursuit Institute of Advanced Study in Science and Technology, Guwahati is providing a platform to the scientific community to engage in result orientated research and are promoting development of technological advances that are citizen centric. It is believed that by integrating the scientific community with startup ecosystem can fill the gap and pave the path for fast tracking the deliverables to the society.

The current issue has glimpses of events conducted at IASST, mini report on India International Science Festival during India's Presidency of the G20 Summit, a Tech-Talk article with an entrepreneur, and an article on the Union Budget 2023 with special focus on schemes and funds for development of startups. I congratulate the editorial team for their contributions in amalgamating the contents to gain new insights in contemporary areas of Science and Technology.

**Editor**

**Prof. Ashis K. Mukherjee**  
**Director-IASST, Ghy-35**

### **Editorial Team:**

Dr. Devasish Chowdhury, Dr. Tania Paul Das, Dr. Tarini D. Goswami,

Mr. Sagar Kumar Mr. Nayan Talukdar, Mr. Minku Das

# EVENTS AND WORKSHOPS

## DECEMBER 2022 TO FEBRUARY 2023

### **Webinar by Dr. Divya Rajput organized by Bio-NEST IASST**

BioNEST-IASST organized a webinar on the topic: "How to validate your business Model." on 27th December 2022 from 3 PM onwards. The webinar topic will be addressed by Dr. Divya Rajput, CEO-JSS Science & Technology Entrepreneurship Park, Noida.

### **New Year's meet at IASST**

Institute of Advanced Study in Science and Technology had a get-together with all its members on 2nd January 2023, the first working day of the year, to mark the onset of the new year on a bright note. On this occasion, Prof. Ashis Kumar Mukherjee, Hon'ble Director of IASST, addressed the faculty, research scholars, officers and staff of IASST the dias encouraging them all to work harder in the new year with more incredible spirits. In the get-together meeting, Prof. Rajlakshmi Devi and Prof. Neelotpal Sen Sarma addressed the gathering and offered a new year's message. The program ended with a vote of thanks by Dr. Diganta Goswami, Registrar, IASST.

### **Webinar on the BIG Scheme by Miss. Deepa JK organized by Bio-NEST IASST**

BioNEST-IASST organized an interactive Session on the Biotechnology Ignition Grant (BIG) Scheme on 4th January 2023, Wednesday from 11am onwards. The speaker of the webinar was Miss. Deepa JK, Associate Program Manager at Centre for Cellular and Molecular Platforms (C-CAMP), Bengaluru.

### **Celebration of India International Science Festival (IISF)**

Managers of BioNEST-IASST participated in the Startup Conclave which was a part of the events organized at the India International Science Festival (IISF) from 21-24 January 2023 at MANIT, Bhopal.

### **In-house talk by Dr. Lipi B. Mahanta on 24th January 2023**

For the lecture series "Talks by Scientists at AI" an In-house talk by Dr. Lipi B. Mahanta, Assoc. Prof. II, Mathematical and computational Sciences (PSD), IASST was organized on 24th January 2023 at 4:15 pm in IASST Auditorium. She delivered a talk on - "Man Vs machine: comparing artificial and biological neural networks."

### **Celebration of 74th Republic Day of India at IASST, Guwahati, Assam**

IASST celebrated the 74th Republic Day of India on the 26th of January 2023 in the Institute with patriotic fervor. The faculty members, staff, officers and research scholars participated in the celebrations. The function started with the unfurling of the National Flag followed by a review of the parade by Prof. Ashis K. Mukherjee, Director, IASST.

### **Two days' Workshop on "Application of Proteomics in Bio-medical Research"**

Two days' Workshop on "Application of Proteomics in Bio-medical Research" was organized by IASST on 1st & 2nd February 2023 in collaboration with Proteomics Society of India (PSI) The resource persons were:

Dr. Arun Bandyopadhyay Director, CSIR-IICB, Kolkata.

Dr. Srikanth Rapole Scientist – E, NCCS, Pune.

Prof. Ashis K. Mukherjee, Director, IASST, Guwahati, Assam.

Dr. Shantanu Sengupta Sr. Principal Scientist, CSIR-IGIB, New Delhi.

Dr. Mahesh J. Kulkarni, Scientist, CSIR-NCL, Pune.

Dr. Debasis Dash Chief Scientist, CSIR-IGIB, New Delhi.

Dr. Swasti Raychaudhuri Head of Max Planck Partner Group, CSIR-CCMB, Hyderabad.

# EVENTS AND WORKSHOPS

## DECEMBER 2022 TO FEBRUARY 2023

The following sophisticated techniques was considered for providing hands on-training:

- High performance liquid chromatography (HPLC)
- Liquid chromatography-mass spectrometry (LC-MS) and
- Ultra high performance liquid chromatography (UHPLC)

### **Celebration of World Cancer Day 2023:**

IASST celebrated World Cancer Day on 4th February., 2023 (Saturday) through online mode. All the scientist, officers, staff and Research scholars attended the cancer awareness programme. The welcome address was delivered by convenor- Dr. Lipi B Mahanta, The Inaugural speech was given by Hon'ble Director IASST, Prof. Ashis Kumar Mukherjee. Followed by this the a talk was rendered by Dr. Tashnin Rahman of Dr B. Borooah Cancer Institute.

### **Webinar by Dr. Milind Choudhari organized by Bio-NEST IASST:**

Bionest-IASST organized an interactive Session on the "Entrepreneurial Journey of an Innovator" - An Insight on the Role of Biotechnology Ignition Grant (BIG)" on 8th February 2023, Wednesday from 11am onwards. The speaker of the webinar was Dr. Milind Choudhari, CEO of Weinovate Biologicals Pvt. Ltd., Pune.

### **International Day of Women and Girls in Science:**

IASST celebrated the "International Day of Women and Girls in Science" in collaboration with the Rotary Club of Gauhati South (RCGS) on 10th February 2023. More than thirty girls, students from different branches of sciences from nearby colleges, came for a day-long program, including a laboratory visit to IASST laboratories and an interactive session with the women scientists of IASST. In his welcome address Prof. A K Mukherjee, Director, IASST, emphasized that we need to encourage and nurture young women and girls to pursue science and technology as their careers. It followed the inaugural speech by Mr. Nabajyoti Sharma, elected President, RCGS explaining the meeting, and Dr. Indira Bardoiloj, Chairperson of RCGS, spoke about the objective of the meeting, with the digital presentation of RCGS by Mr. P.D. Choudhury. The Motivational talks by the invited speakers, Prof. Joyanti Chutia, Former Directr, IASST, and former Emeritus Scientist, DST, Gol, and Dr. Bula Choudhury, Senior Scientist, Guwahati Biotech Park, were the main attraction of the program.

### **Webinar by Dr. Vineet K Sharma organized by Bio-NEST IASST:**

Bionest-IASST organized an interactive Session on "Exploring the role of human microbiome in health and disease and its translational applications." on 16th February 2023, Thursday from 11am onwards. The session was moderated by Dr. Tania Paul Das, Manager (Science & Technology) who introduced the speaker of the webinar – Dr. Vineet K Sharma, Associate Professor in the Department of Biological Sciences, IISER Bhopal.

### **National Science Day 2023:**

All the scientist, officers, Staff and research scholars attended the National Science Day celebration at IASST premise on 28th February 2023. The theme of the National Science day was "Global Science for Global Wellbeing." The event started with the shraddhanjali to CV Raman statue, lighting of lamps, and felicitation of the invited speaker. The inaugural lecture was rendered by Dr. Subhra Chakraborty, Director of NIPGR, Delhi.

It was followed by the speech by Prof. Amlan J. Pal, Director, UGC-DAE, Consortium for Scientific Research, Indore. In the afternoon, Prof. Kishanu Ray, Director NBRC, Gurgaon gave his speech followed by a speech delivered by Dr. Pedro Alexandrino Fernandes, University of Porto, Portugal.



# INDIA INTERNATIONAL SCIENCE FESTIVAL 2022

21-24 January, 2023  
MANIT, Bhopal, Madhya Pradesh

**MARCHING TOWARDS AMRIT KAAL WITH  
SCIENCE, TECHNOLOGY,  
AND INNOVATION**

India International Science Festival (IISF) is an initiative of Ministry of Science and Technology and Ministry of Earth Science of Government of India in association with Vijnana Bharati which is a science movement with swadeshi spirit lead by eminent scientists of the country. The main purpose of IISF is the celebration of science by all. Engagement of common people with science in a joyful and entertaining manner is essential for the healthy, prosperous and meaningful life. Through its creative programs and activities, IISF provides opportunities to people and scientific fraternity in the country and abroad to come together, work together and experience the joy of doing science for the wellbeing of India and humanity.

This year the 8<sup>th</sup> edition of IISF was held in the city of Lakes, Bhopal. The Ministry of Science and Technology (MoS&T), Ministry of Earth Sciences (MoES), Department of Atomic Energy (DAE), Department of Space (DoS), Government of India and Government of Madhya Pradesh jointly organising IISF 2022 on the theme 'Marching towards Amrit Kaal with Science, Technology and Innovation'. The Department of Biotechnology, Ministry of Science & Technology is the nodal coordinating department for organising IISF-2022.

The Madhya Pradesh Council of Science and Technology (MPCOST) was the local partner and Vijnana Bharati (VIBHA) as Knowledge Partner for IISF 2022. IISF 2022 was held at Maulana Azad National Institute of Technology (MANIT), Bhopal, Madhya Pradesh during 21 to 24 January 2023. This year the festival had fifteen programs including the Mega Science and technology Exhibition showcasing the theme of the festival.

Out of the 15 programs, Managers of BioNEST-IASST (ISVEC) participated in the Startup Conclave which comprised the following major elements:

- Exhibition of innovative products and technologies by Startups in various fields including Healthtech, Agritech, Industrial Technology, Information Technology, Mobility, Edutech, Clean Environment, and others.

01	Artisan's Technology Village - Vocal for Local
02	Face-to-Face with New Frontiers in Science
03	Guinness Book of World Records
04	International Science Film Festival of India
05	Mega Science and Technology Exhibition
06	National Social Organizations and Institutions Meet (NSOIM)
07	New Age Technologies Show
08	Science through Games and Toys
09	Startup Conclave
10	State Science & Technology Councils Conclave
11	Students' Innovation Festival (SIF)
12	Students Science Village 2022
13	VIGYANIKA – Science Literature Festival
14	Young Scientists Conference
15	Mentoring & Counselling (Scientific Discussion)

- Exhibits by Incubators offering enabling services and shared infrastructure
- Focused discussions for Startups, Bio-Incubators and related stakeholders for peer to peer learning, networking and sharing best practices.

On Day 1 of IISF, Startup Conclave was inaugurated by Honourable Union Minister Dr Jitendra Singh.

It was a unique opportunity to exhibit and the Conclave comprised of 200+ startups, exhibitors, business mentors, research scientists, scholars, Govt. representatives, press & media and a large visiting population of students & common public.



The conclave had a special focus on the Biotech Innovation ecosystem that is championed by DBT/BIRAC. The largest funding schemes in the biotech sector, namely, Biotech Ignition Grant (BIG) for entrepreneurs & startups, and the BioNEST scheme for bio-incubation centres, have completed ten years and made an immense contribution. The key focus was peer to peer learning, networking, explore and forge collaborations. In addition, services available through individual Incubation centres across the country was also showcased.

Madhya Pradesh State Science & Technology & MSME Minister, Honourable Shri. Omprakash Sakhalecha visited the Stalls. During the product launch at Startup Conclave

he emphasized on agricultural startups in Madhya Pradesh. He said that every young entrepreneur should use their conversion ideas in form of data which will be available & useful for the society.



Startup India team members also interacted with beneficiary & other startups, highlighting the importance of DPIIT recognition & the benefits which can be availed by startups.

One of the interesting session of Day 3 was the Incubators Panel discussion on 'Nesting ground for Nascent Ideas' with some eminent panelists. All the panelists shared their experience and provided their view on taking Indian economy a step forward

Another session of Day 3 at startup conclave was Panel discussion on 'Catalytic support by Govt. Enablers' wherein the session was focused on setting up innovation ecosystem across the country & was filled with loads of information for aspiring entrepreneurs, startups & incubators.

Best Pavillion award of IISF 2022 was bagged by DBT India.



# Tech-TALK

## Entrepreneurial Journey of an Innovator ~Dr. Milind Choudhari, CEO - Weinovate Biosolutions Pvt. Ltd, Pune



### Biotechnology Ignition Grant (BIG) as a gamechanger

The biotechnology ignition grant should be called Business Ignition Grant because it is not only about Idea to POC but also how business can be generated into a real business and create value. It made me a sciencepreneur (a scientist turned into an entrepreneur). It focuses on proposals that are IP driven and those proposals that can compete with local and global markets. BIG is the leap from science to tangible products that can solve real-world problems for which customers are ready to pay. Therefore, for budding entrepreneurs to write the BIG, it is necessary to identify the problem statement, have an executable plan, onboard able and supporting team, and a tailor-made solution for a specific need.

### Traits of Entrepreneurs

The major traits of an entrepreneur should be perseverance, passion, and strategy in execution. Perseverance will help them to overcome the challenges positively and spend energy and money in building the business. One has to be passionate enough to be driven by a viable idea and accept failure positively. Lastly, build strategies to think through, and navigate their plans prior to execution.

### Nurtured by Bio - Incubators

It is a boon to have an incubation center in higher educational institutes. It is the breeding ground of the entrepreneurs that help in grooming them better by channeling the resources. An entrepreneur is a seed that takes its shape into a tree by getting support from the Incubators which strengthens their roots and accelerates their overall growth. There are 3 major chunks of environments that influence the entrepreneurial journey are Macro-economic environment-Comprising of social, political, and natural hindrance, Meso-economic, which is mainly Incubators that provides infrastructure, regulatory, financial, and marketing support) and lastly, micro-economic which is basically the inherent qualities of an entrepreneur i.e self. They should dream of a strong viable idea, build their business and start to generate revenue. An incubator should help their incubates during the product development life cycle and provide facilities and services related to testing the hypothesis, doing market research, estimating the valuation, cater to peer-to-peer learning opportunities.

### Achievements so far

- Developed technologies like UTIRAP; a rapid UTI detection kit and DNARAP; a one-step DNA isolation method.
- Recipient of BIG award and SBIRI grant from (BIRAC)
- Got assistance from NSTEDB Gov.
- Won the Healthcare accelerator competition organized by CIIE, IIM-A & also a NIDHI Prayas Grantee and a finalist of National Bio-entrepreneurship competition.
- Awarded with AABI torch award i(2018) for best entrepreneur in Asia for Internationalization.

**Message to the budding entrepreneurs: Fail Fast in your life so that you can build again.**

## Governments' initiative on creating Startup ecosystem

The policies that come from time to time are crucial and pivotal in creating and motivating startups.

It creates buzz among the ecosystem to leverage the benefit of a particular scheme. However, the actual implementation of the schemes should pick up momentum and be time-bound.

The Government should come up with more realistic schemes focused on driving the ecosystem through a regulatory perspective, minimizing import duties, and becoming proactive in health-tech production and manufacturing. Risk takers and young entrepreneurs will be found across the nation who are nationalist towards the society and country as a whole therefore the only thing required from the government side is to identify and inculcate the spirit of entrepreneurship by implementing various incentives right from an early stage of their life.

## Growth Phase post BIG

In the product development life cycle feasibility study, functional requirements and product maintenance should be taken care of. Traditional product development involves idea generation through customer pain, market studies competitors, etc. Followed by this comes research by assessing the market segment and size, growth potential, etc. Followed by this, business analysis needs to be done based on Benefits, resources capital expense, profitability, and anticipated sales. Lastly, one has to work on a go-to-market strategy, distribution, and marketing plan.

It is mandatory to define the problem, develop alternative solutions, design the solution, and implement the solution. While prototyping, identification of user requirements and matching the specifications are important.

As per Garnsey's resource-based model, it is important to understand how to access the resources, mobilize the resources, generate resources, do growth re-enforcement, suffer growth reversal, perform accumulation, and at last come across the maturity phase.

Post Biotechnology ignition grant, one can undergo stages of fundraising through seed capital, Early stage or late-stage Venture Capitalist acquisitions, Mergers, strategic alliances, IPO, and the public market.

## Impact of COVID-19 on Medtech Businesses

During COVID, patients were critical and suffered from multiple secondary infections wherein sciencepreneurs who were working with technologies that can combat the disease were not in the ready-to-deploy stage as there were constraints to evaluate the products, validate and get required licenses. The whole process slowed down as the entire healthcare ecosystem was troubled.

However, the post-covid situation was different as the user and healthcare professionals have shown interest in indigenous tailor-made technologies that were suitable for the Indian market. There was awareness and Indian Medical Divisions were receptive.

Hence, it becomes equally important to put more effort into R&D and stay ahead of time to develop and deploy the technology by assuming that this type of infection can actually create havoc and bring the whole world to a stop.

It was a learning experience for the whole world and COVID has taught how health tech and MedTech innovations can actually get implemented in times of crisis to save society as a whole for the betterment of our upcoming generations

## Product developed with the desired features

### SilvoGuard® Antimicrobial Foley Catheter

- 100% Antimicrobial using active silver nanoparticles - a patented NanoAgCide™ technology
- Impregnation technology ensures 0% loss of activity otherwise seen in coating technology
- Antibiotic/ toxic chemical free
- The product remains antimicrobial throughout its shelf life
- No leaching of an active component
- No special product activation required
- Prevents Catheter Associated UTI
- Prevents catheter encrustation and blockage
- Optimal tip for ease of insertion into patients
- The calculated distance between the eye and balloon for minimal urine retention

# UNION BUDGET 2023: EASING THE JOURNEY FOR STARTUPS

The Indian startup ecosystem has come a long way since the launch of the Startup India Initiative in 2016 under the leadership of Hon'ble Prime Minister Narendra Modi. Today, the country is proud to have over 89,000 thriving startups across the length and breadth of the country, bolstering economic performance.

The 2023 Union Budget has taken several steps to adjunct the startup ecosystem, aiming to reduce the tax burden, improve the investment climate, and boost the entrepreneurial spirit of the country. To enhance the ease of doing business, the Budget highlighted the simplification of the KYC process, the establishment of a Central Processing Centre, and the introduction of a Unified Filing Process.

The Budget has proved especially beneficial for nascent startups. One of the key benefits is the extension of the date of incorporation for eligible startups to avail tax benefits by an additional year. Important assistance from the government for the startups comes in the form of the increase from 7 years to 10 years for carrying forward and setting off losses.

The Budget has also announced the establishment of an Agricultural Accelerator Fund to encourage agri-startups in rural areas. This initiative will enable the creation of a conducive environment for young entrepreneurs and push for digital-led growth in the agriculture sector.

Promoting entrepreneurship and skill development, the Budget announced the setting up of 30 Skill India International Centres across different states. These centres will provide training in new-age courses like coding, AI, robotics, and 3D printing, among others, to skill and upskill the youth for the markets of tomorrow. The Skill India Digital Platform will also be launched to enable demand-based formal skilling and provide access to entrepreneurship schemes.

Tourism is another sector that has been given special attention in the Budget, with the Central and State governments taking a mission-oriented approach to promote tourism. This will create new opportunities for startups and entrepreneurs, generating opportunities for employment. Reforms in the financial sector have also been proposed, aiming to improve financial inclusion, service delivery, access to credit, and participation in financial markets. The Budget announced the establishment of 100 labs in engineering institutions to develop applications using 5G services. Giving fresh impetus to green economy, various green programs aimed at promoting clean energy and sustainability were introduced. These initiatives will benefit Clean-tech startups envisioning a resilient tomorrow.

In conclusion, the aspirational initiatives undertaken by the Union Budget 2023 aim to further strengthen the Indian startup ecosystem, providing support and empowerment to entrepreneurs.

Source: Invest India