BioNEST - BHU

(InnoResTech Foundation, BHU)

4th Floor, CDC Building, Opposite Central Office, Banaras Hindu University, Varanasi-221005, Uttar Pradesh, India

Contact No. +91 8076696601; Mail us. bionestbhu@bhu.ac.in

About Bio-Incubator

Bio-incubator harnesses the entrepreneurial potential of startups by providing access to infrastructure as well as mentoring and networking platforms that the start-ups could use during their early days. Bio-Incubator offers a multifunctional office and a well-equipped laboratory space with a "plug and plays" feature as well as technical, logistical, and mentoring support to start-ups. Biotechnology Industry Research Assistance Council (BIRAC), a Govt. of India Enterprise, has established many Bio-Incubators in India under its BioNEST (Bioincubators Nurturing Entrepreneurship for Scaling Technologies) Scheme. The BioNEST-BHU Bio-Incubation center of Banaras Hindu University (BHU), Varanasi provides a dynamic and stimulating environment in which start-up companies can commercialize their ideas and technologies.

About BioNEST-BHU

BioNEST-BHU, a bio-incubator facility is an initiative of InnoResTech Foundation, BHU, a Section 8 company under The Company Act 2013, created by the Institute of Science, Banaras Hindu University, Varanasi to foster entrepreneurship in the areas of Life Sciences, Biotechnology, Healthcare, Agriculture, Secondary Agriculture, Food Technology, and other allied areas**.** It has been developed in about 10000 ft^2 area on the 4th floor of the Central Discovery Centre (CDC building)**.** BHU provides an excellent ecosystem for interdisciplinary translational research and its validation. BioNEST-BHU provides a complete ecosystem to promote the growth of start-ups in the above areas and encourage industry-academia collaboration.

Vision

To translate expertise, experience and excellence of BHU researchers in life science, agricultural science, medical science and biotechnology for welfare and wealth through innovation and entrepreneurship.

Mission

Mentoring and nurturing bio-entrepreneurs with innovative translational ideas to generate new opportunities of business and self-employment by leveraging the expertise of faculty and equipment facility of BHU.

Thrust Area

Biotechnology; Agriculture; Secondary Agriculture; Lifesciences; Healthcare; Environment and Energy; Green Technology; Food & Beverages; Nanotechnology; Waste Management

DIRECTOR'S MESSAGE

BioNEST-BHU has enormous untapped potential which can be harnessed for translational outcomes leading to deployable technologies. Realisation of this potential can be accelerated through entrepreneurs and start-ups who can make the scientific work useful for the society. I sincerely believe that BioNEST program at BHU will provide all that is needed for the success of a start-up.

Prof. Anil Kumar Tripathi
Coordinator BioNEST-BHU &
Director Institute of Science, BHU

MANAGEMENT TEAM

Prof. Anil Kumar Tripathi
Coordinator, BioNEST-BHU
& Director, Institute of
Science, BHU

Prof. S. B. Agrawal
Deputy Coordinator
BioNEST-BHU

Prof. Rajeshwar P. Sinha
CEO, BioNEST-BHU

Dr. Durgesh Narain Singh
Scientific Officer, BioNEST-
BHU

Mr. Ravi Prakash Singh
Technical Officer, BioNEST-
BHU

Mentors

BHU has two campuses, 5 institutes, 16 faculties, 140 departments, 4 advanced centres, and 4 interdisciplinary schools. Startups incubated at BioNEST-BHU have access to faculties for mentoring and all facilities available in BHU.

Why BioNEST-BHU?

- BioNEST-BHU promotes incubation of start-ups by connecting them with the expert faculty members in the Institute of Science, Institute of Agricultural Science and Institute of Medical Sciences, Institute of Environment and Sustainable development and Indian Institute of Technology, BHU located in the same campus.
- BioNEST-BHU provides a office spaces (300 sq ft each) for each start-ups along with two well equipped laboratoies dedicated to Molecular Biology, Chemistry, Agriculture, and Microbial / Animal Cell culture facilities.
- Startups incubated at BioNEST-BHU have access to all the high-end instruments available in BHU and IIT-BHU (please see instrument list)
- BioNEST-BHU connects start-ups with inventors/ developers involved in developing technologies ready for transfer to the industry as well as to hospitals and provides initial hand-holding / mentorship to the start-ups.
- A 1585 bed hospital and 334-bed Trauma center on the campus provide an opportunity to start-up for healthcare-related business opportunity. Incubatee can perform clinical trails after permission from concerned authorities
- The Department of Ayurveda, one of the oldest in the country, can offer several useful leads for product development.
- Institute of Agricultural sciences develops several technologies including high-quality seed material for important grain crops. Start-ups can access these technologies for scaling and make available the outputs of these technologies to farmers.
- Incubates will also have access to mentors as well instruments from IIT-BHU which is also located in the same campus.

Institute of Agricultural Sciences


Institute of Medical Sciences

Various Departments of Institute of Science

The green ambience of the campus, multi-disciplinary knowledge-based coupled with advanced instrumentation facility along with experienced mentors and accomplished alumni is the uniqueness of the BioNEST-BHU.

These would provide the right ambience and ecosystem for cross disciplinary inputs.

The multi-disciplinary expertise and years of cumulative experience could effectively be leveraged in enabling the incubates in solving the problems.

List of Instruments in BioNEST-BHU

- Biosafety Cabinet BSL2
- Laminar Air Flow
- Autoclave
- Incubator Shaker
- CO_2 Incubator (dedicated to Animal Cell culture)
- High-capacity Refrigerated Centrifuge
- Micro Centrifuges (Refrigerated)
- Nano Drop
- Thermocycler (PCR)
- Gel Doc Imaging System
- UV-Visible Spectrophotometer
- High Precision Balance
- Biofermentor
- Sonicator
- Microscope
- Oven
- Deep Freezer (-20 ^{o}C)
- Deep Freezer (-80^{o}C)
- Refrigerator (0 to 8^{o}C)
- Lyophilizer
- Liquid Nitrogen Tank

High-End Instruments

SATHI-BHU Instruments

- High-Resolution Accurate Mass Spectrometry System (HRMS)
- Laser Ablation (Femto second) Combustion Gas Chromatography High Resolution-
- Isotope Ratio Mass Spectrometry (IRMS)
- NMR Spectrometer 600 MHz
- Laser Scanning Super-Resolution Microscope System
- Circular Dichroism Spectrophotometer (CD)
- Photoacoustic Imaging Platform
- Sophisticated Solar Simulator Workstation with Modular Electrochemical Workstation
- Clean Room Facility (Clean Room 1 (Class1000) and Clean Room2 (Class 100)

Central Discovery Centre Instruments

- X-ray Fluorescence Spectrometer (XRF)
- X-ray Photoelectron Spectrometer (XPS)
- X-ray Diffractometer (XRD)
- AFM, RAMAN, NSOM
- Live Cell Imaging System
- Neurolucida Microscope (MBF)
- Trinocular Research Microscope
- Fluorescence Activated Cell Sorter (FACS)
- Flow Cytometer (FCM)

Interdisciplinary School of Life Sciences (ISLS)

- Fluorescence Activated Cell Sorter
- Akta Purifier (FPLC)
- ISAS CASA System
- Microarray System
- Real Tim PCR System
- Ultracentrifuge
- Proteomics Facility with Maldi TOF/TOF
- Green House

Central Instrumentation Facility, IIT-BHU

- High-Resolution Transmission Electron Microscope (HR- TEM)
- High-Resolution on Scanning Electron Microscope (HR- SEM)
- Scanning Electron Microscope (SEM)
- Scanning Probe Microscope (SPM)
- Nuclear Magnetic Resonance Spectroscopy 500MHz (NMR)

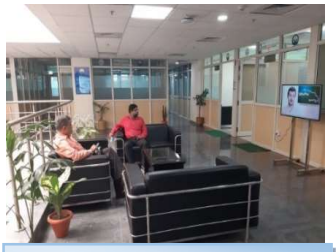
- Magnetic Property Measurement System (MPMS)
- High-Resolution X-Ray Diffraction (HR-XRD)
- Bench Top X-Ray Diffraction (BT-XRD)
- Particle Image Velocimetry
- PCB Prototyping Machine
- Ion Chromatography
- Multi-Function Tribometer
- Fourier Transform Infrared Spectroscopy (FTIR)
- Thermogravimetric Analysis (TGA)
- Differential Scanning Calorimetry (DSC)
- Surface Area Measurement Facility (BET)
- Inductively Coupled Plasma Mass Spectrometry (ICP-MS)
- X-ray photoelectron spectroscopy (XPS)
- Confocal Laser Scanning Microscopy (CLSM)

Other Facilities

Office Space cum Workplace

Meeting & Conference Room

Two Laboratories



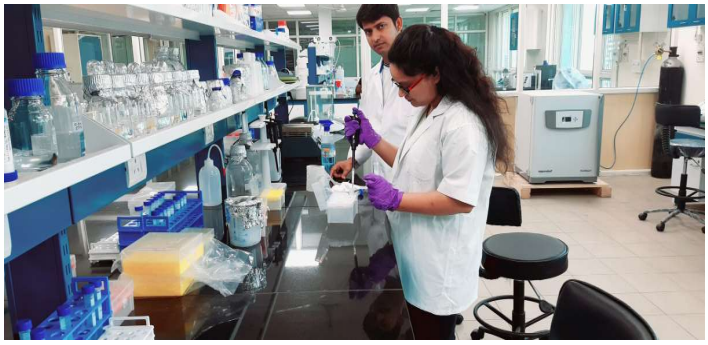
Lobby

Refreshment Zone

Reception Area

Startups of BioNEST-BHU

1. exRNA Therapeutics Private Limited



exRNA Therapeutics Pvt. Ltd. is an emerging drug development company, committed to finding a possible cure for certain autoimmune diseases. We focus on specific techniques, such as Extracellular RNA (exRNA) based therapies that can help accelerate the discovery of novel therapeutic solutions for the benefit of patients and healthcare providers.
We are constantly devoting our time and resources to the research and development of a reliable, non-toxic, long-lasting, and cost-effective therapeutic solution for incurable, complex, and globally prevalent autoimmune diseases.
At BioNEST- BHU, we are carrying out experiments to characterize our potential drug molecule. We take this association as an opportunity to support our data validation and also be able to support our research works so far. Moving forward with lots of in-depth research and experimental projects we have now been able to achieve successful, stable, and active in vivo and in vitro results for various diseases like Psoriasis, Asthma, and Chronic Hepatitis to name a few.

2. Freshily 19 Agri-tech Private Limited

Freshily 19 Agri-tech Pvt. Ltd. is working to solve the challenges small farmers face while adopting chemical-free farming. The company is working in the district of Unnao, Uttar Pradesh to solve the following issues related to organic farming

- Some farmers started organic farming, but they failed as there was no dedicated platform where they could market their produce
- Lack of Infrastructure linkage to their post-harvest produce
- Trust between farmers and health-conscious consumers over the traceability of organic produce

At BioNEST-BHU, Freshily 19 Agri-tech Private Limited is working on detection and management of aflatoxins in groundnut, and the prevention of infections in groundnuts while storage and transportation. Freshily 19 Agri-tech Pvt. Ltd. is developing aflatoxin-free fortified peanut butter & cattle feed from ground waste.

3. McGeeks Mechatronics Private Limited

McGeeks Mechatronics Pvt. Ltd. is a young med-tech startup recognized by DPIIT. Which is determined to solve the problem of bone replacement through the development of low-cost 3DPrinters capable of replicating actual human bones. We have designed the printers and selected the biomaterials, which are doing exceptionally well in the domain.
We also develop low-cost customized CNC machines for the rapid prototyping of products, developing research methodologies, and automation advancement. We also empower people with the latest machines and augmenting tools and provide workshops, which, in return, generate employment and thus uplift the automation sectors.
At BioNEST-BHU, we will develop CNC Machines for the manufacturing of dental implants and the customization of dental implants. We'll be developing the additive manufacturing process for the printing of bone grafts and a special machine for grafts using biomaterials. We are currently into the development of CNC Lathe/turning machine for the manufacturing of dental implants. We have setup the parts for the machine and we are into the purchase of electronics and motion parts for the machine**.**

4. iOligos Technologies Private Limited

iOligos Technologies Pvt. Ltd. is a health-tech innovation services company utilizing new-age technologies and experience of research in the lab. To this end, we have partnered with various IITs, hospitals, and companies across the globe and helping them create data analytics software using advanced technologies i.e., artificial intelligence, and machine learning. To create a pool of skilled manpower, we have partnered with IIT Guwahati and RFR foundation, Nagpur to conduct master classes, webinars, and workshops. We are also developing safe human-centric digital health platforms with multiple channels, integrations, and self-learning for various diseases including mental health.
At BioNEST-BHU, we are developing a screening and monitoring tool for cognitive decline in various forms of dementia. This will be an intelligent digital-health platform augmenting general physicians, paramedical staff, and individuals and provide them 1st level scaled-up screening capacity addressing the scarcity of "Neuropsychiatrists" and "Neuro physicians" in India and worldwide.

5. Scitechesy Research and Technology Private Limited

Scitechesy Research and Technology Pvt. Ltd. is a start-up India DIPP-recognized company that focuses on developing and manufacturing cross-cutting and cost-effective silver nanoparticles-based paste (Silver nanopaste). Silver nanopaste is used in bio-sensors, solar panel, textile industry, 3D printing, and R&D section. Silver nanopaste will replace silver paste which is an imported item.
At BioNEST-BHU, we are developing silver nano paste used in different industries. Our silver nanopaste has better viscosity and conductivity when compared to silver paste and can be manufactured with minimum resources and hardly there is any byproduct to wastage in the process.

Why does BioNEST-BHU need Donations/CSR funds??

In addition to the above-mentioned startups, we have a pool of registered startups/students with innovative ideas of commercial potential. Despite working facilities, we are having a shortage of seed funds required to support incubatee/startups to develop/establish their products/ideas. We need some financial assistance to support the growth of startups to meet the objectives of our honorable prime minister Shri Narendra Modi Ji. Therefore, we kindly request financial support in form of donations or Corporate Social Responsibility (CSR) funds. Your support would enable us to provide funds to startups working for sustainable management/product development. Your support to BioNEST-BHU will help us to generate innovations/entrepreneurship in this region of India.

Our Registered Startups

Name of Company	Director
Yolo E-commerce Pvt. Ltd., Gorakhpur	Kapish Tiwari
Asrp Pvt. Ltd., Ballia	Ashwani kumar pandey
Farmpool Pvt. Ltd., Noida	Vishwas Gupta
Fly-X Aerospace Pvt. Ltd., Ayodhya	Er. Shubham Yadav
Renergizr Industries Pvt. Ltd., Ghaziabad	Himanshu Gupta
Cleanyug Scrap Pvt. Ltd., Fatehpur	Manvendra Pratap Singh & Raman Singh Yadav
Biocrust Pvt. Ltd., Aligarh	Arunabh Singh & Anupma Singh
MealOBox Foodtech Pvt. Ltd., Lucknow	Devesh Raj
Meta Matters Pvt. Ltd., Noida	Shivam Bajpai, Sudhir Shikarwar, Bala Krishna
Tensift Farmers Fertilizer Pvt. Ltd., Berhampur Ganjam, Odisha	Sachidananda Dash
Soiltilizer Pvt. Ltd., Gorakhpur	Mohit jaiswal
Nutraceuticals Organic India Pvt. Ltd., Prayagraj	Ravinder Singh and Namrata Gulati Singh
Eco Char LLP, Bareilly	Dr Megha Saxena
Freshily19 Agri-Tech Pvt. Ltd., Unnao	Aman Kumar, Sushant Barma
Deehbaba Infotech India Pvt. Ltd., Varanasi	Nagendra Kumar Singh
Jungly Labs Pvt. Ltd., Noida	Gaurav Prasad
Swadeshee Biofuels Pvt. Ltd., Varanasi	Puran Kumar Sinha & Nina Verma
Delta 4 Digital Pvt. Ltd., Greater Noida West	Harendra singh bisht
Nextup Robotics Pvt. Ltd., Lucknow	Kirat Singh
Kayastha Digital Technical Innovations Pvt. Ltd., Deoria	Anjali Srivastava
Phytecora Pvt. Ltd., Sonbhadra	Himanshl Kushwaha, Niharika Gaur
Study At Home Private Limited	CA Raj K Agrawal
Zebu Breeding & Conservation LLP, Pratapgarh	Rohit Khandelwal
Medantrik Medtech Pvt. Ltd., Kanpur	Medant
MIRNOW LLP Varanasi	Dr. Garima Jain
VN Organics Pvt. Ltd., Gwalior	Nisha niranjan

Photogallery

Visit of Mr. S. V. Shukla Executive Director, Fragrance & Flavour Development Centre (FFDC)

Visit of Mr. L.B.S. Prasad, Joint Director of MSME, Govt. of India

Visit of Dr. Selvamurthy, Director General, Amity Directorate of Science and Innovation

Visit of Prof. Alok Dhawan, Director of Centre of Biomedical Research

Visit of Shri Manoj Tiwari, Hon. Member of Parliament

Visit of Mr. Anshul Sharma, Policy Implementation Unit, UPCL

Workshop on "Basics of Molecular Biology"

Hackathon on “Agriculture”







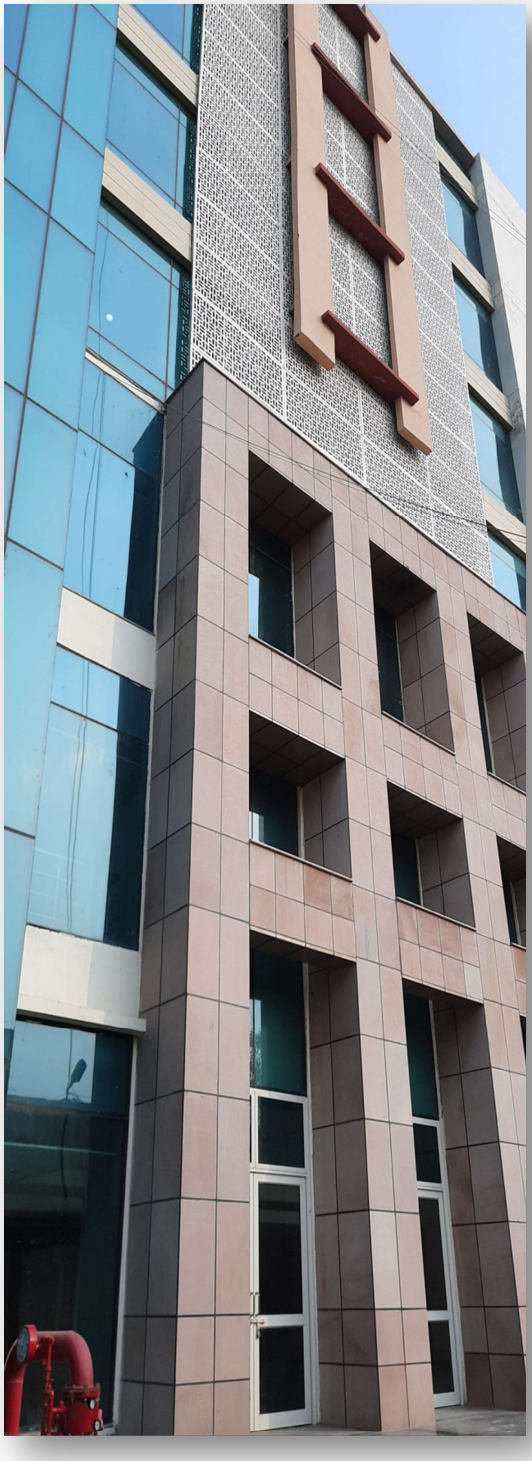


Webinars/Sensitization Programme









BioNEST-BHU supports innovative

Students, start-up companies and scientific entrepreneurs in all sectors of life sciences through

bio-incubation program.

Please support BioNEST-BHU to foster startup ecosystem

www.bionestbhu.org

Email: bionestbhu@bhu.ac.in

Contact: +918076696601