



BIONEST

A biotechnology incubator to assist start up enterprises in accelerating development & commercialization of new technologies by providing incubator space and state of the art “Plug & Play” laboratories

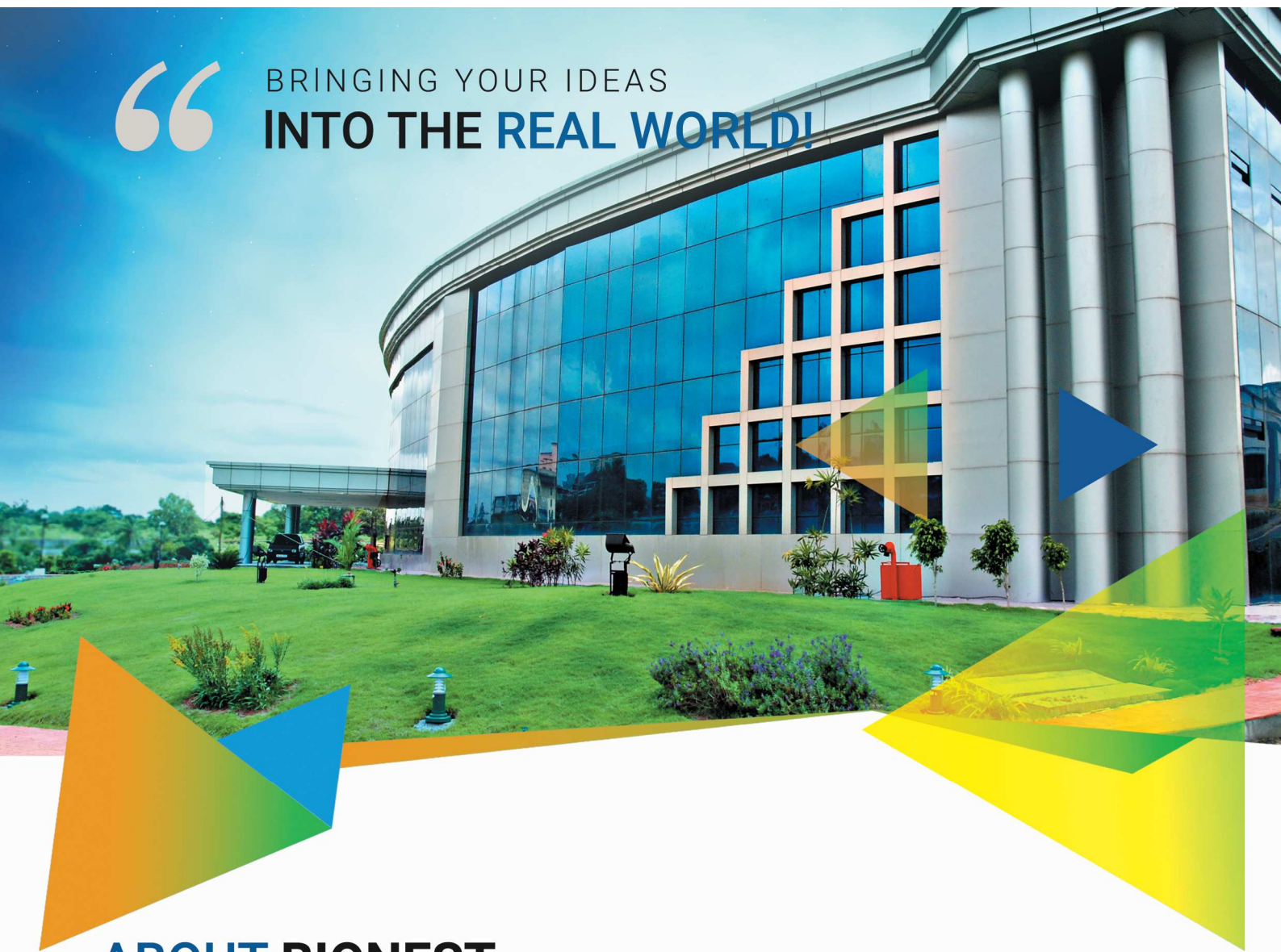
Jointly managed by Rajiv Gandhi Centre for Biotechnology (RGCB) & Kerala Startup Mission (KSUM)

**Kerala Technology Innovation Zone
Kochi 653 503**





BRINGING YOUR IDEAS
INTO THE REAL WORLD!



ABOUT BIONEST

BioNest is a unique facility, designed to provide infrastructure and scientific support to enable researchers, investors and entrepreneurs looking to transform biology, medical based technologies and innovations into real and mature big business. Located in Kochi, the commercial capital of Kerala, Bionest is jointly managed by Rajiv Gandhi Centre for Biotechnology (RGCB) and Kerala Start-up Mission (KSUM). RGCB is a premier national R&D institution of the Department of Biotechnology, Government of India, with years of experience in discovery, innovation & translation of biotechnology. The Kerala Start-up Mission is a special purpose vehicle of the Government of Kerala providing a spring board to budding entrepreneurs who wish to launch themselves into the world of technology based business careers. Together, these two power houses will provide technical & administrative support to ensure that a new age biotechnology entrepreneur is on the right track to success.

Spanning an area of 44,000 square feet, BioNest offers incubation space for individual companies backed up by a state of the art "plug and play" central common instrumentation facility for Analytical Biochemistry, Phytotechnology, Cell & Molecular Biology and Bioprocess Engineering. Through BioNest, hospitals all across the region have access to RGCB's high end NABL and NABH accredited molecular diagnostic facilities for infectious diseases, cancer and cardiovascular diseases. BioNest also offers RGCB's expertise and facilities for bioinformatics & computational analysis, DNA barcoding facilities for both plant and microbial material as well as expert advice and assistance on IPR and RA related matters.



OUR MISSION

Accelerate innovation and entrepreneurship through a collaborative, high throughput approach to scientific discovery and product development



OUR VISION

Attract, identify and support entrepreneurs in biotechnology, life sciences, medical sciences and pharmaceutical by providing office and laboratory space, high end instrumentation facilities as well as scientific mentoring as and when required. BioNest hopes to be the destination where blooming of elegant biotechnology/ lifescience /pharmaceutical ventures can happen.





BioNest Facilities

CENTRAL LABORATORY FACILITY

BioNest operates a 8500 square feet common instrumentation facility comprising of well established Molecular Biology, Medicinal Plant Extraction, and Analytical Biochemistry laboratories. It also provides upstream and downstream fermentation capability, classified tissue culture rooms, dedicated chemical-resistant lab benches, -80°C/ -20°C cold storage facilities etc. The facility is Federal Standard 209E compliant.

LIST OF SERVICES :

- Residual solvent analysis
- Pesticide residues analysis
- Chromatography & Spectral analysis
- Microbiological analysis
- Molecular diagnostics
- Cell & Molecular Biology
- Fermentation services
- Specialized training programs

LIST OF MAJOR INSTRUMENTS AVAILABLE IN BIONEST :

- LC MS/MS
- HPLC
- Gas Chromatograph
- Genetic Analyzer
- Real Time PCR
- Tissue Culture classified work station
- ELISA Plate reader
- Gel Documentation System
- Horizontal gel Electrophoresis System
- Vertical Gel Electrophoresis System
- Refrigerated Table top Centrifuge
- Electroporator
- UV- Visible Spectrophotometer
- RO system for water
- Refrigerated Centrifuge
- Deep freezer -80 °C
- Microprocess controlled baby and pilot fermentors



RENTAL BUILT-UP INCUBATOR SPACE FOR STARTUPS

BioNest offers rental space for new age entrepreneurs and young minds to transform their innovative ideas in biotechnology, life sciences, medical sciences and pharmaceutical sciences into viable business propositions. Rent amount is decided based upon annual turnover of the enterprise. Our primary goal is to facilitate a platform for a budding entrepreneur to start a business venture with minimum risks. BioNest will ensure that incubatees have access to technological assistance generated through mentors with multidisciplinary expertise.

PAID SERVICES OFFERED BY BioNest & RGCB

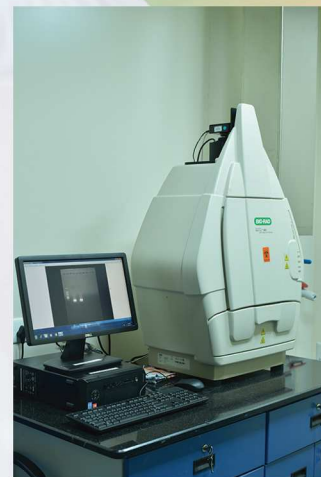
✓ ANALYTICAL BIOCHEMISTRY LABORATORY

- Protein separation and expression analyses from biological samples by two-dimensional gel electrophoresis.
- Testing product purity, analyses of drugs, food & nutrients and compound identification and quantification by HPLC/GC
- Identification and structural characterization of chemical compounds and various molecular weight species in a sample (qualitative analyses of small molecules) by LC/MS/MS.
- Identification and absolute quantification of drugs and metabolites in samples through fragmentation and quantification by LC/ MS /MS.
- Qualitative Analysis of Proteins and Peptides by LC/MS/MS (QTrap 4000)
- Mass Spectrometry based detection of inborn errors affecting metabolism of the urea cycle, amino acids, organic acids and fatty-acid oxidation.

✓ CELL BIOLOGY AND GENOMICS LABORATORY

- All standard cell and molecular biology assays and cell cycle analysis
- Sterile and non-sterile cell sorting at rates of 20000 cells/second.
- Screening for proteasome inhibitors by automated microscopy and flow cytometry.
- Apoptosis (Live cell assay) using 2D and 3D models using cells engineered with FRET probe in the nucleus using high-throughput imagers.
- Assays for Autophagy and screening of mTOR pathway inhibitors
- Antioxidant assay using mammalian cells (NRF2-EGFP stable cell line)
- Screening for HIF inhibitors using HRE-LucorHRE-mCherry-Luc
- Gene expression studies: Step One plus (Invitrogen 96-well format) and ABI 7900HT (96 and 384 well format).
- Next generation sequencing: Ion Torrent and PGM platform from Invitrogen and capable exome sequencing, transcriptome sequencing, microbiome analysis etc. Supported with in house computation facility for analysis.
- Microarray analysis: Affymetrix platform
- Molecular (DNA) HLA-A, -B, -C, -DR and -DQ low and high resolution typing, Pre-transplant STR engraftment screen, Post-transplant STR engraftment analyses, PRA (panel reactive antibody) screen, Flow cytometry cross-match.
- Genotypic and phenotypic characterization of adult and pediatric leukemias.
- Advanced multi drug resistance testing of bacterial infections

BioNest clients will also have paid access to use RGCB's Animal House Facility which runs in compliance with all regulatory guidelines on animal usage (IAEC/CPCSEA). The animal house facility has transgenic and immune deficient animals with in vivo imaging system (IVIS). Assays offered include angiogenesis (tumor specific capillary formation assay), tumor stem cells (in vivo assays), tumor model systems for preclinical validation of compounds (human tumor xenografts) in athymic nude or SCID mice, orthotopic human tumor models in nude mice (colon and pancreas), syngeneic mouse tumor models (colon and breast), chemical carcinogenesis models in mice and rats (colon, gastric, breast and lung), toxicity profiling (ADME/PK studies), autoimmune and inflammatory disease models, etc.



BIO PROCESS LABORATORY

- Pilot batch culture of non-pathogenic bacteria, yeast, filamentous fungi
- Continuous culture of all the above organisms in fermentors up to a volume of 100 liters.
- Software-driven optimization of conditions for maximum production of your product of interest (single cell proteins, enzymes, primary and secondary metabolites, monoclonal antibodies, antibody fragments, etc).
- Isolation and purification of your product.
- Assistance in cloning gene(s) of interest
- Consultancy





TRANSFORMING
GREAT IDEAS
INTO GREAT
INNOVATIONS



LISTEN TO WHAT OUR INCUBATEES SAY



**Dr. M.V. Mahesh Kumar
Dr. Jomon P Jacob**
Directors
SPICEOR BIONUTRALITES

Spiceor Bionutralites Private Limited is a technology start up floated by us operating out of BioNest, Kochi. In the last 2 years at BioNest, our company has achieved tremendous progress and has gone into acceleration mode now. The immense support provided by BioNest team has catalysed the growth of this venture. Being fresh Ph.D. holders belonging to first generation entrepreneurs, the BioNest has given us a very good ecosystem to incubate our concept. The project envisages extraction of essential oils from the spices and herbs using super critical fluid extraction technology. We confidently recommend BioNest to researchers opting for entrepreneurship



P K RAMDAS
Director - R & D
Bodina Naturals (P) Ltd

"At BioNest we could find a meaningful merge of proximity, serenity, technology and positivity that are most essential for any incubation. Quality Assurance and Quality Control, the lifeline of R&D is not only advanced but reliable also in terms of confidentiality. The commitment, drive and initiative of key personnel is motivating enough not just incubate but go beyond to try and fly high in the vast arena of Phytonutrients to set standards and milestones for future."



Dr. K.S. Rishad
Director
Klonos Life Sciences Pvt. Ltd

"BioNest provides a thriving environment for young entrepreneurs to grow according to their needs. One of the main advantages of BioNest is that a wide range of high end instrumentation facilities are easily accessible in one location, allowing the startups the chance to use them when required and reducing the difficulties which face all small businesses in meeting rapidly changing demands. The working atmosphere of the incubation facility is collegiate and relaxed which also fosters good inter-company contacts between the resident companies"

TRANSFORMING GREAT IDEAS INTO GREAT INNOVATIONS



Dr. Jikku Jose

Managing Director
Scire Science Pvt. Ltd., India

Smell and taste are most primeval, magnetizing senses which cross barriers easily. They become reasons for inspiration as well as contentment regardless regions and cultures. Their immense role in physical and mental well being has been proven already and many more yet to be explored. ScireScience is involved in research on natural extracts from herbs and spices. Our research team is looking forward for being a vital step towards scientific excellence through incessant research in the research unit of BioNest to provide best productivity to society by all means. Technical expertise of RGCB along with state of the art facilities provided by BioNest will leverage the potential of out put coming from ScireScience R & D Essentials



Dr. Beena PS

PI & Director
OmicsGen LifeSciences Pvt Ltd

"The BioNest Bio-incubator facility supports us in developing our research ideas by providing office space and high end lab equipments. We are also being provided technical support and centralized utilities for process and product development. This will help our technology mature faster and accelerate towards commercialization in the near future"



Safer P.M

Managing Partner
Green Clones

"As a Plant Tissue culture based initiative, we were astounded at the full-fledged scientific instrumentation and infrastructure facilities at Bionest. With the wonderful support received for our efforts and the hi-tech facility available, we hope to scale to greater heights in development and commercialization of quality plantlets, plant based products and technologies for life. Expert guidance from the patrons at BioNest and knowledge shared between the life-science companies co-inhabiting the facility, shall definitely stimulate innovations that resonate globally."

FINISHING SCHOOL

✓ TRAINING PROGRAM

BIONEST offers training programs to course finishing students and fresh employees in 3 modules namely: Cell & Molecular Biology, Microbiology & Fermentation, Analytical & In-Process Development. This unique course offers an opportunity to gain experience in cutting edge technology, process and analytical tools prior to pursuing their career. The trainees will acquire a good understanding of fundamentals of microbiology, fermentation, and bio-analytical tools with simple tips and guidelines to make bioprocess work easier and efficient. The training program will add value for beginners and enhance their potential for placements in industries such as pharmaceutical, process biotechnology and other allied biopharma sectors

✓ BIO ACADEMY

BioAcademy is a part of Academany, a distributed educational model providing a unique educational experience driven by Kerala Start Up Mission and BioNest. BioAcademy is a six month diploma course on Synthetic Biology, focusing on "How To Grow Almost Anything", which gives a glimpse of everything that can be grown. The program is directed by Professors from world's leading Universities such as MIT, Harvard, Stanford, UW Madison, University of Minnesota and various leading companies in the field of Synthetic Biology. The curriculum covers BioDesign, Next Generation Synthesis, BioProduction, Biomolecule Sensors, Synthetic Development Biology (grow a mouse heart), 3D BioPrinting, Gene drives and Genome Engineering. Academany faculty, who are leaders in their respective fields, provide global video lectures, supervise academic content, and guide research. Hands-on instruction in the labs is provided by instructors who supervise, evaluate, develop and disseminate instructional material as well as, assist with projects. BioNest is instrumental in hosting wet lab experimentation in our well equipped laboratory facilities to enable the students enrolled in the BioAcademy course in Kerala, thus serving as a part of the Academany Network.







for more information visit

www.bionestkerala.com

GET IN TOUCH

KRIBS - BIONEST

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