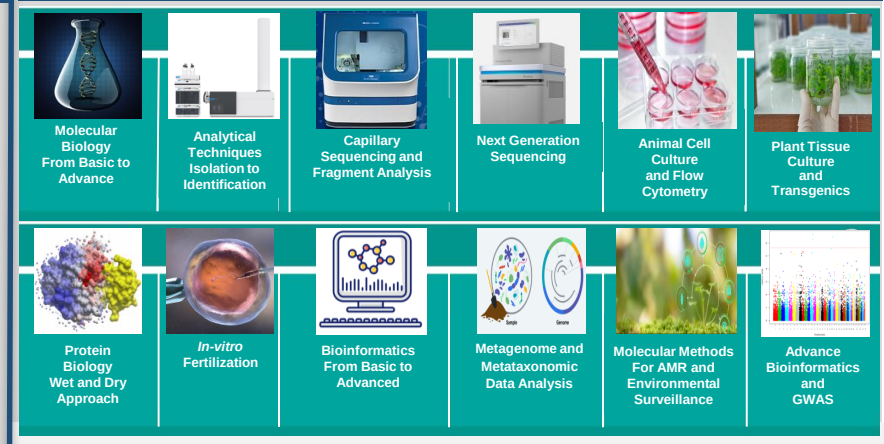
Department of Science & Technology (Government of Gujarat)

GBRC NEWS

Volume V, Issue II
JUNE 2025

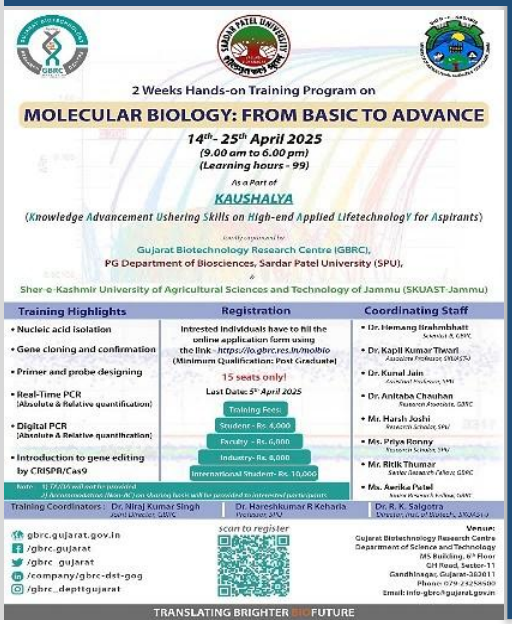
CONTENTS

KAUSHALYA TRAINING PROGRAM FOR SKILL DEVELOPMENT IN BIOTECHNOLOGY 2025-26



KAUSHALYA (Knowledge Advancement Ushering Skills on High-end Applied LifetechnologY For Aspirants) is an innovative initiative by GBRC, aims to bridge the gap between theoretical learning and practical application by providing hands-on training in cutting-edge biotechnology fields to aspiring stakeholders. In this regard, GBRC has developed 12 training modules with 99 hrs training session held monthly in collaboration with partner institute. One of the primary goals of this training is to establish an extension research centre. Another important objective of the training program is to provide support and opportunities to students and researchers from remote areas.. Moreover, the training program focus on generating networking opportunities.

TRAININGS COMPLETED IN *KAUSHALYA* (APRIL-JUNE 2024-25)



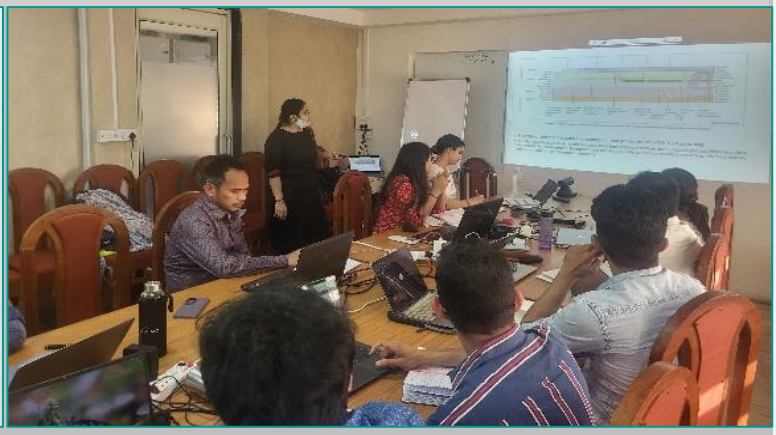
Glimpse of the training: Molecular Biology: From Basics to Advance

Glimpse of the training: Analytical Techniques: Isolation to Identification

Glimpse of the training: Capillary Sequencing & Fragment Analysis

SPECIALIZED WORKSHOPS

A training on bacterial and fungal DNA sequencing and bioinformatics data analysis for the scientists of ICMR-NIV, Pune and NIOH, Nagpur was organized during April 7th- 11th, 2025.



TECHNOLOGY TRANSFER

On June 24, 2025, Gujarat Biotechnology Research Centre formalized a License Agreement with Uri Research Lab Pvt. Ltd., Bhuj. This non-exclusive, revocable license grants Uri Research Lab the rights to commercialize the technology for sex determination in date palm, developed by GBRC.

RECENT PUBLICATIONS

FORAGING RESOURCE PARTITIONING BETWEEN INDIAN NATIVE *APIS FLOREA* AND *APIS CERANA*: UNVEILING ENTOMOLOGICAL SIGNATURES IN HONEY THROUGH HONEY DNA METABARCODING

Authors: Rajat Patel, Shaikhul Islam, Margi Patel, Jigneshkumar Trivedi, Madhvi Joshi, Chaitanya Joshi, Virendra Kumar Yadav, Dipak Kumar Sahoo and Ashish Patel

Journal: Scientific Reports (Volume 4, 11546)

Impact factor: 3.8

Honey DNA metabarcoding provides precise and comprehensive data on the origins of honey and the plants that honeybees select for feeding. Honey produced by both *Apis cerana* and *Apis florea*, along with the determination of honeybee floral preferences, has the potential to assist researchers in strategically selecting appropriate plant species that can effectively enhance the growth and prosperity of honeybee colonies. Honey samples collected from 40 places in North Gujarat, India, was produced by two species of honeybees, *A. cerana* and *A. florea*. Physicochemical analysis of honey samples was performed, including characterization of pH, ash content, electrical conductivity, brix content, free acidity, protein, amino acids, alkaloids, carbohydrates, tannins, flavonoids, phenolic components, and sterol content. Using DNA metabarcoding techniques, an investigation was conducted to discern the nectar preferences of *A. cerana* and *A. florea*. The results of the DNA metabarcoding study.

RECENT PUBLICATIONS

KOMPETITIVE ALLELE SPECIFIC PCR (KASP) BASED GENOTYPING OF SICKLE GENE IN THE SELECTED SUB-ETHNIC TRIBAL POPULATION OF GUJARAT AND MADHYA PRADESH

Authors: Urvi Budhbhatti, Bhumika Prajapati, Bhagirath Dave, Aman Tripathi, Chaitanya Joshi, Madhvi Joshi
Journal: Expert Review of Hematology (Volume 18, 491-499)
Impact factor: 2.3

Background: Indian tribal population is more vulnerable to Sickle cell disease (SCD), an autosomal recessive disease caused by a single A>T transversion mutation in HBB gene. Current study aims to develop a novel Kompetitive allele specific PCR (KASP) assay for genotyping of sickle gene in selected tribal communities of India.

Patients and methods: The study was conducted from 2021 to 2023 involving 583 self-declared healthy individuals from four tribal communities, i.e., Korku, Kol, and Sahariya of Madhya Pradesh and Dongri bhil of Gujarat. The sickle cell genotyping was performed using KASP and PCR-RFLP methods and further validated by Sanger sequencing. Various haematological and biochemical parameters were also studied and compared for their association with identified genotypes.

Results: Prevalence of sickle cell trait (SCT) was observed as 4.67%, 9.33%, and 16.41% in Kol, Korku, and Dongri bhil respectively. The SCD prevalence of 0.7% was observed in Dongri bhil. The KASP assay reflects as novel, high-throughput and cost-effective method for effective screening. The RBC, folic acid, foetal Hb (HBF) and bilirubin have shown significant association with sickle gene mutation.

Conclusions: KASP assay offers a rapid, precise and cost-effective method for screening in tribal populations which can help in early identification, management, and elimination of disease.

STRUCTURE AND STABILITY OF PHYCOCYANIN FROM THERMOTOLERANT OSCILLATORIA

Authors: Stuti N. Patel, Ravi R. Sonani, Gagan D. Gupta, Niraj Kumar Singh, Chandni Upadhyaya, Bhargavi Sonavane, Seema Amin, Vinay Kumar and Datta Madamwar
Journal: FEBS Letters (Volume 99, 1420-1432)
Impact factor: 3.0

Phycocyanin (PC), a pigment–protein complex with diverse biotechnological applications, plays a key role in light energy transfer for photosynthesis in cyanobacteria. PC (O-PC) from a thermotolerant cyanobacteria Oscillatoria sp. N09DM exhibits remarkable stability compared to its mesophilic counterparts, making it highly valuable for industrial and medical applications. To understand the basis of its stability, the crystal structure of O-PC is solved and analysed. Structural analysis reveals a key molecular interaction, including hydrogen bonds, salt bridges and hydrophobic interactions, along with amino acid substitutions that provide thermal stability. Additionally, structural results provide insights into chromophore-protein interactions for understanding O-PC's role in the efficient transfer of light energy.

ASSOCIATION OF MICROBIOME IN ORAL CANCER PATIENTS AND HEALTHY INDIVIDUALS: A METAGENOMIC STUDY

Authors: Harshitkumar J. Savalia, Nimisha Patel, Krishna Mohan Singh, Manan Patel, Shomesh Chandra, Purva Gohil, Apurvasinh Puvar, Chaitanya G. Joshi and Rushika Patel
Journal: Journal of Pure and Applied Microbiology (Volume 19, 1034 – 1048)
Impact factor: 0.7

This research explores bacterial communities in individuals diagnosed with oral cancer, comparing them to healthy individuals to identify potential variations associated with the condition. The study involved collecting 40 swabs from oral cancer patients, post-therapeutic patients, and healthy individuals, amplifying DNA samples, processing raw data using Perl scripts and Prinseq Lite, performing metagenomic analysis using QIIME 2-2022.2, and taxonomic classification using Greengenes2.

There are 91.89% of good quality sequences for downstream analysis. Analysis data indicates that individuals who suffer from oral cancer had much higher prevalence of phylum *Actinobacteriota, Firmicutes_A, Campylobacterota, Fusobacteriota*, and *Patescibacteria*. Total 298 species identify in current study, among this *Leptotrichia* (0.0015%), *Prevotella* (0.0041%), and *Capnocytophaga* (0.0052%) are predominant in oral cancer patients compared to healthy individuals. 23 species are absent in normal individuals and post-therapeutic patients but are dominant in oral cancer patients. The increased occurrence suggests a link between this group of bacteria and oral cancer. By comparing the abundance of alpha and beta microorganisms in patients with oral cancer to those in good health, the study highlights the importance of the oral microbial community in maintaining health and preventing disease. It also studies how habits like tobacco affect microbial communities and how they can raise the risk of disease. In cancer patients, oxidative stress and glycolysis are enhanced, and while certain metabolic abnormalities recovered after therapy, many remain, showing the long-term impact of the illness and treatment. These data suggest that post-treatment microbial regeneration may not occur, increasing cancer recurrence risk. The study's finding of microbial biomarkers, particularly those related to dysbiosis and changed tumor microenvironment, may inform oral cancer prognostic, therapeutic, and diagnostic methods. This metagenomic work contributes to a better understanding of how lifestyle factors influence microbial ecosystems, allowing lifestyle adjustments to lessen health risks associated with changes in microbial populations.

INTRACYTOPLASMIC MOTILE SPERM SELECTION IN FRESH AND FROZEN SEMEN AND ITS CORRELATION WITH SEMINAL ATTRIBUTES OF KANKREJ BULL

Authors: Karan F. Chaudhary, Babulal N. Suthar, Vishal S. Suthar, Haresh C. Nakhashi, Chaitanya G. Joshi
Journal: Indian Journal of Veterinary Sciences and Biotechnology (Volume 21)
Impact factor:

Total 8 mature healthy Kankrej bulls (7 replicates) were selected for evaluation of seminal attributes at fresh and frozen stage of cryopreservation. Seminal attributes evaluated included sperm viability, acrosome integrity, HOST-EN test, intracytoplasmic motile sperm selection (IMSI) and sperm mucus penetration test (SMPT). Based on the nuclear abnormalities, sperms were classified in Grade I, II, III and IV. Per cent sperm viability, acrosome integrity, HOST- reacted sperm and Grade I sperm were found significantly lower in frozen semen as compared to fresh semen. Grade IV sperm as assessed by IMSI tool was found significantly higher in frozen semen as compared to fresh semen. Correlation study revealed significant and positive correlations of sperm viability with acrosome integrity and HOST, while significant negative correlation with grade IV sperm. Sperm viability and acrosome integrity were positively correlated with SMPT.

LIGHT SPECTRAL QUALITY-DRIVEN GUGGULSTERONE PRODUCTION AND ANTIOXIDANT PROFILING IN COMMIPHORA WIGHTII (ARNOTT.) BHANDARI CALLUS CULTURES USING LC-MS

Authors: Sahil Kapoor, Poonam Patel, Vartika Srivastava, Haidar Abbas Masi, Chaitanya Joshi, Fenil Patel, Madhvi Joshi, Amrutlal Patel
Journal: Applied Food Research (Volume 5, 101013)
Impact factor: 4.5

Commiphora wightii (Burseraceae), an endangered medicinal plant, is appreciated for its diverse biological activities linked to its secondary metabolites. This study explored how light quality influences the production of secondary metabolites, growth, and DPPH free radical scavenging activity (DFRSA) in *C. wightii* callus cultures. The continuous white light significantly increased dry weight (0.371 ± 0.001 g/50 mL DW) on day 15 and enhanced guggulsterone-E (126.12 ± 0.86 µg/g DW) and guggulsterone-Z (137.23 ± 0.31 µg/g DW) on day 20, as compared to other light treatments ($p \leq 0.001$).

RECENT PUBLICATIONS

Blue light significantly elevated phenolic (TPC: 134.09 ± 1.37 µg CHA/mg DW) and flavonoid (TFC: 189.91 ± 4.93 µg RE/mg DW) content, alongside DFRSA (78.71 ± 0.95%) on day 30 ($p \leq 0.001$). Dark and red light treatments notably increased ascorbic acid (AAC: 34.69 ± 3.24 µg/mg DW) and anthocyanin content (TAC: 104.73 ± 3.33 µg CE/mg DW), respectively, on day 30 ($p \leq 0.001$). Correlation analysis revealed significant links between TPC, TFC, DFRSA, malondialdehyde, and hydrogen peroxide. Overall, the results of this study demonstrate the remarkable potential of light quality manipulation to significantly enhance growth and the production of high-value secondary metabolites in *C. wightii* callus cultures. Unlike previous studies, which primarily focused on conventional elicitors or growth regulators, this work introduces a novel approach by utilizing specific light treatments to optimize bioactive compound yield. This innovative strategy not only advances current methodologies but also holds promise for scalable applications in the pharmaceutical, nutraceutical, and cosmetic industries.

GREEN SYNTHESIS OF ZnO NANOPARTICLES USING MICROBACTERIUM ARBORESCENS: A MULTIFUNCTIONAL APPROACH IN ENVIRONMENT, HEALTH, AND AGRICULTURE

Authors: Naman Shah, Gautam Priyadarshi, Bhakti Patel, Santosh Kumar Sahu, Madhvi Joshi, Rabbani Syed, Mudassar Shahid, Esha Rami, Dipak Kumar Sahoo, Ashish Patel

Journal: Water Reuse (Volume 15, 215)

Impact factor: 4.3

The investigation is about the biogenic fabrication of ZnO nanoparticles (ZnO NPs) using a microorganism *Microbacterium arborescens*. The synthesis process was optimized using various two pH (5 and 9) values and calcination temperatures (30 and 300 °C). UV–vis spectroscopic analysis has shown adsorption peaks and band gap energy of 393 nm, 3.16 eV as well as 359 nm, 3.46 eV for ZnO NPs pH 5 and pH 9, respectively. FTIR spectra confirmed the reduction of functional groups with increasing pH and temperature. The XRD analysis identified a hexagonal wurtzite structure with increasing crystallinity based on pH and calcination temperature. SEM images revealed a reduction in particle size with increasing pH and temperature, with average sizes of 46 nm at pH 9 and 300 °C. ZnO NPs were utilised for methylene blue (MB) dye removal, achieving 90.55% removal efficiency within 70 min at pH 9. The kinetics study shows better fitting ($R2 > 0.9$), indicating the chemisorption process. An antimicrobial activity was observed in 16 mm inhibition zones at 6 mg mL−1 concentration of ZnO NPs. Additionally, ZnO NPs enhanced seed germination in Vigna radiata, achieving 100% germination in 14 h. The study highlights biogenic synthesis as a sustainable approach for environmental remediation, medical, and agriculture applications.

COMPARATIVE GENOMIC ANALYSIS OF MULTI-DRUG RESISTANCE AND VIRULENCE DETERMINANTS OF *ESCHERICHIA COLI* SKN 649 AND *STAPHYLOCOCCUS UREILYTICUS* SKN 217 ISOLATED AND CHARACTERIZED FROM MILK AND MILK PRODUCTS IN ANAND, GUJARAT, INDIA

Authors: Subrota Hati, Shirin Vahora, Sandip Patel, Janki Panchal, Arun Patel, Harshad Chauhan, Kishan Sharma, Pritesh Sabara, Mehul Shrimali

Journal: International Dairy Journal (Volume 169, 106316)

Impact factor: 3.4

Antimicrobial resistance (AMR) in dairy-associated pathogens presents a significant public health and food safety concern. This study examined 100 raw milk and fermented milk (buttermilk) samples collected from cattle farms in Anand, Gujarat, India, between January 2022 and December 2023, to assess the AMR patterns and genetic determinants. The bacterial isolates were identified using selective culturing and MALDI-TOF mass spectrometry, and their antibiotic susceptibility was determined through standard testing methods.

RECENT PUBLICATIONS

Whole-genome sequencing (WGS) was performed on two extensively drug-resistant (XDR) strains, *Escherichia coli* SKN 649 and *Staphylococcus ureilyticus* SKN 217, to elucidate key resistance genes and mechanisms. *E. coli* SKN 649 showed high resistance to multiple antibiotic classes, including β-lactams, aminoglycosides, and macrolides, while retaining sensitivity to tetracycline and chloramphenicol. S. ureilyticus SKN 217 exhibited similar resistance patterns, particularly against penicillin and cephalosporins, with 90 % of isolates showing resistance to multiple antibiotics. Genomic analysis revealed resistance mechanisms mediated by efflux pumps and target alterations, with major AMR genes identified, such as kdpE, vanG, rsmA, and emrB in E. coli and norC, salE, sepA, sdrM, vanT, and FusF in *S. ureilyticus*. These findings underscore the urgent need for genomic surveillance in dairy farming and highlight the potential transmission risks of AMR bacteria through the food chain. The misuse and overuse of antibiotics in the veterinary sector is a critical factor driving AMR, with implications that extend beyond dairy production to human health. This growing threat emphasizes the need for a One Health approach, linking human, animal, and environmental health to address AMR. The global spread of resistant pathogens underscores the necessity for stricter regulations, better antibiotic stewardship in veterinary practices, and continuous monitoring to prevent the further emergence of AMR strains. Future research should focus on developing effective control strategies and mitigating the global AMR threat to safeguard both public health and the sustainability of dairy farming.

ENHANCED CLONAL PROPAGATION FOR ELITE POTATO VARIETIES: IMPLICATIONS FOR GROWTH PERFORMANCE AND PLANT TRANSFORMATION STUDIES

Authors: Poonam Patel, Dhara Raval, Chaitanya Joshi, Madhvi Joshi, Amrutlal Patel, Fenil Patel
Journal: South African Journal of Botany (Volume 184, 517-532)
Impact factor: 2.7

The increasing demand for potato (*Solanum tuberosum*) plants, driven by rising food demands and foreign trade, highlights the need for efficient micropropagation and transformation protocols. The elite potato varieties, Kufri Chipsona-1 (KCS), Kufri FryoM (KFM), and Kufri Frysona (KFS) are highly valued for their traits, high yield, increased starch content, and good quality French fries. In this study, the Murashige and Skoog (MS) control medium was the most effective for shooting and rooting across all the varieties in vitro. The full-strength MS medium (MS100) supplemented with 3 % sucrose demonstrated optimal results in node and leaf proliferation, shoot elongation, and root development. The antibiotic assessment revealed that cefotaxime concentrations up to 600 mg/L caused negligible growth differences, whereas kanamycin significantly reduced root growth and shoot length. Additionally, in comparison to other culture vessels, the 250 ml culture flasks resulted in increased shoot and root growth. Overall, MS media with 3 % sucrose yielded 100 % rooting in all the cultures, with shoot multiplication rates of 35.01 fold, 39.66 fold, and 42.33 fold for KFM, KFS, and KCS, respectively. The plants were successfully acclimatized and hardened, with survival rates of 83.3 % (KFM), 80 % (KFS), and 90 % (KCS). Furthermore, successful transformation was achieved for all three potato varieties (KFM, KFS, and KCS), which was confirmed by a 735 bp amplicon using vector-specific primers. These findings provide critical insights into refining tissue culture protocols, offering valuable tools for potato transformation studies. This advancement supports the development of transgenic lines, enabling improved disease resistance, increased crop yields, and enhanced agricultural profitability.

CONFERENCES AND SCIENTIFIC MEETS

6th GENOMICS ANALYSIS & TECHNOLOGY CONFERENCE

6th Genomics Analysis & Technology Conference has been held at Indian Institute of Science Education and Research, Pune from April 4th-6th, 2025. Dr. Amrutlal Patel, Joint Director, GBRC participated as an expert panelist.

THE WORLD HEALTH SUMMIT

Dr. Madhvi Joshi, Joint Director, GBRC participated in a panel discussion on "Wastewater to action: novel approaches to enhance traditional surveillance for targeted public health interventions" at the World Health Summit held at Bharat Mandapam, New Delhi on April 26th, 2025

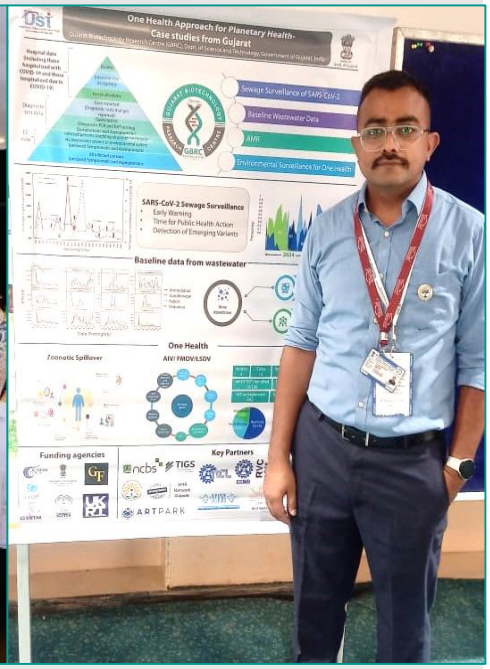
INDO-GERMAN PARTNERSHIP FOR VETERINARY EDUCATION AND RESEARCH (INDEVET) MEETING

Dr. Amrut Patel, Joint Director, GBRC participated in the inaugural ceremony of the meet held from April 28th – 30th, 2025. The event marked the official launch of InDeVet, focusing on AI-powered diagnostics, One Health, and animal welfare, with an emphasis on fostering Indo-German collaborative research projects.

CONFERENCES AND SCIENTIFIC MEETS

STATE ENGAGEMENT WORKSHOP UNDER THE NATIONAL ONE HEALTH MISSION

The Office of Principal Scientific Adviser to Government of India organized the first State/UTs engagement workshop under the National One Health Mission on June 9th, 2025 at Vighyan Bhavan New Delhi. The Youth Engagement Program and Dashboard for One Health under the National One Health Mission (NOHM) were launched. Dr. Madhvi Joshi, Dr. Niraj Kumar Singh and Dr. Apurvasinh Puvar represented Gujarat and poster of GBRC work in the area of One health initiatives has been presented.



STATE ADVOCACY WORKSHOP ON ANTIMICROBIAL RESISTANCE (AMR)

Dr. Amrut Patel, Joint Director at Gujarat Biotechnology Research Centre (GBRC), delivered a presentation on "AMR Genomic Surveillance Initiatives in Gujarat" during the State Advocacy Workshop on Antimicrobial Resistance (AMR) held on June 3rd, 2025, at Hotel Taj Resort and Spa, Gandhinagar. His talk highlighted GBRC's contributions toward monitoring and mitigating antimicrobial resistance through advanced genomic tools and collaborative efforts.

CONFERENCES AND SCIENTIFIC MEETS

BMGF ALL CONSORTIA IN-PERSON MEETING

Dr. Madhvi Joshi, Joint Director at GBRC, along with Scientist B, Dr. Rameshchandra Pandit and Dr. Bhumika Prajapati, participated in the BMGF All Consortia In-Person Meeting held at the National Centre for Biological Sciences (NCBS), Bengaluru between June 26–27, 2025. They were accompanied by Dr. Shreelekha Dutta (Project Manager) and Dr. Shewane Bishnoi (Project Scientist). During the event, Dr. Madhvi Joshi delivered GBRC's annual progress presentation, discussed Avian Influenza and highlighting key achievements and activities over the past year.

ANNUAL MEETING OF THE SOCIETY FOR *IN VITRO* BIOLOGY (SIVB) 2025

The Society for In Vitro Biology (SIVB) Annual Meeting 2025 was held from June 7th-10th , 2025, in Norfolk, Virginia, USA. Dr. Fenilkumar Patel actively participated in the conference by presenting both a poster and a lightning talk titled "Light spectral quality-driven Guggulsterone production and antioxidant profiling in *Commiphora wightii* (Arnott.) Bhandari callus cultures using LC-MS.“ Meanwhile, Dr Vartika Srivastava presented work, entitled, 'LC-MS characterization and kinetic modeling for Naringenin production in *In vitro* callus cultures of *Commiphora wightii* (Arnott.) Bhandari'

MOU's

APRIL 22ND, 2025

With Kaushalya - The Skill University, Ahmedabad

MAY 11TH, 2025

Siksha "O" Anusandhan (Deemed to be University), Odisha

PRABODH

GBRC is conducting "PRABODH" (Promoting Research Awareness in Biotechnology for Development of Human Resource) to accelerate the research work and to develop research-oriented thought processes in staff.

APRIL-2025

INVITED GUESTS

Prof. Sanjeeva Shrivastava

Professor

Indian Institute of Technology Bombay

Mumbai, Maharashtra, India

Topic: Advancing proteomics: MS-Based proteomic and clinical applications, highlighting the latest developments and real-world implications of mass spectrometry in clinical research

Dr. M. Sudhakar Reddy

Professor

Thapar Institute of Engineering & Technology

Patiala, Punjab, India

Topic: Biotechnological solutions for civil and environmental engineering

MAY-2025

INVITED GUESTS

Dr. Satinder Singh

Associate Director

DMPK, Aragen Life Sciences

Hyderabad, Telangana, India

Topic: Pharmaceutical and biotechnology patents: Global law and strategy

PRESENTATION FROM GBRC MEMBER

Mr. Dhruvinkumar Vadee

TA

Article: Multiple functions of exogenous melatonin in cucumber seed germination, seedling establishment, and alkali stress resistance

Journal Name: BMC Plant Biology

Impact Factor: 4.3

PRABODH

PRESENTATION FROM GBRC MEMBER

Dr. Chhavi Bramhe

RA

Article: Multi-omics profiling of dairy cattle oxidative stress identifies hindgut-derived *Phascolarctobacterium succinatutens* exhibiting antioxidant activity

Journal Name: Biofilms and Microbiome

Impact Factor: 7.8

JUNE-2025

INVITED GUEST

Swami Yogeshwaranand Giri

Shri Tripur Bhairav Shakti Peetham,

Valsad, Gujarat, India

Topic: Stress Management through Yoga and Spirituality

PRESENTATION FROM GBRC MEMBER

Ms. Dhruvi Bhat

JRF

Article: Computational investigations of potential inhibitors of monkeypox virus envelope protein E8 through molecular docking and molecular dynamics simulations

Journal Name: Scientific Reports

Impact Factor: 3.8

ARRIVAL & DEPARTURE

GBRC welcome to the new members

Mr. Himanshu Anantbhai Bhagat
Ms. Bhakti Pareshbhai Chauhan
Ms. Prachi Mayankkumar Shah
Mr. Teerth Bhave
Ms. Tulsi Dipak kumar Raval
Ms. Nandini Patel
Ms. Tanya Navneet Jha
Ms. Saiyed Farheen Nisarahemad
Mr. Viral Shrikant Andharikar
Ms. Ruchita N. Shelat
Mr. Jigar Harishkumar Sheth
Ms. Janviben Bharatbhai Patel
Ms. Roshni Singh
Mr. Gajjar Vraj
Mr. Panchal Devarsh Manubhai
Mr. Garg Nihar Ghanshyam
Ms. Krishanben Yogeshbhai Panchal
Ms. Manasaha Pragyan Ray

GBRC wishes best to the bright minds who left GBRC

Dr. Surabhi Shriram Rode
Ms. Laliteshwari Bhardwaj
Ms. Prarthna Dave
Ms. Urvi Budhbhatti

STAFF WELFARE CLUB ACTIVITIES

The main objective of the Staff Welfare Club is to establish, promote, subsidize, encourage, provide, maintain, organize, undertake, manage, equip, develop, recondition, operate, conduct and run activities such as music, dance, sports, social welfare, carry out scientific and technical, other than political activities.

ANNUAL AWARDS 24-2025

PROJECT GRANTS

FIRST HIGHEST PROJECT GRANT

Dr. Bhumika Prajapati
Scientist-B

SECOND HIGHEST PROJECT GRANT

Dr. Pritesh Sabara
Scientist-B

THIRD HIGHEST PROJECT GRANT

Dr. Apurvasinh Puvar
Scientist-B

RESEARCH PUBLICATION IN HIGH IMPACT FACTOR JOURNALS

FIRST HIGHEST

Dr. Chitra Nehra
RA

SECOND HIGHEST

Mr. Sadik Dantroliya
SRF

THIRD HIGHEST

Dr. Poonam Patel
RA

MONTHLY AWARDS

APRIL-2025

BEST MONTHLY PRESENTATION AWARD

Mr. Nitin Shukla
SRF

AWARD FOR BEST QUESTION IN PRABODH

Dr. Poonam Patel
TA

EMPLOYEE OF THE MONTH AWARD

Mr. Tejaskumar Shah
Principal Project Associate

STAFF WELFARE CLUB ACTIVITIES

BEST CUBICLE AWARD

PCR Lab
In charges
Dr. Bhumika Prajapati, Scientist
Mr. Harshil Patel, JRF
Ms. Aerika Patel, JRF

MAY-2025

BEST MONTHLY PRESENTATION AWARD

Ms. Minal Bhure
JRF

EMPLOYEE OF THE MONTH AWARD

Mr. Nitin Shukla
SRF

BEST CUBICLE AWARD

Anaerobic Culture Facility
In charges
Dr. Satyamitra Sheikh, Scientist
Mr. Krutarth Raval, RA
Ms. Aakanksha Shukla, JRF

JUNE-2025

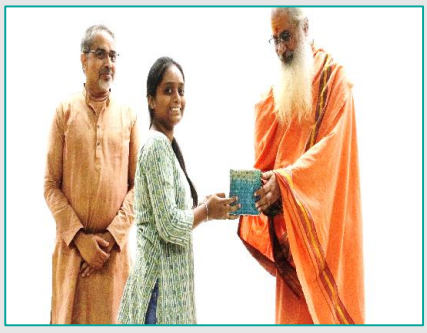
BEST MONTHLY PRESENTATION AWARD

Ms. Devarshi Raval
JRF

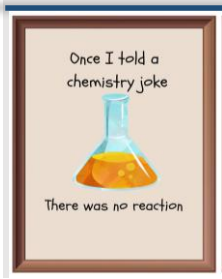
AWARD FOR BEST QUESTION IN PRABODH

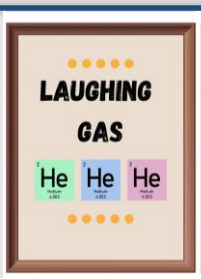
Ms. Jinal Thakor
RA

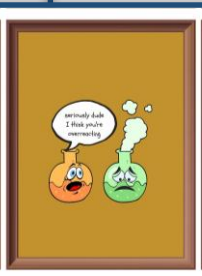
EMPLOYEE OF THE MONTH AWARD



Ms. Jagrutiben Mahla
JRF





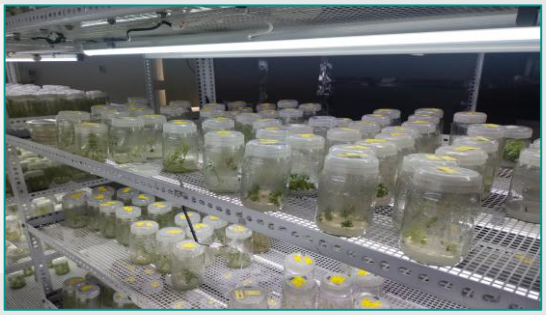


ON THE LIGHTER NOTE

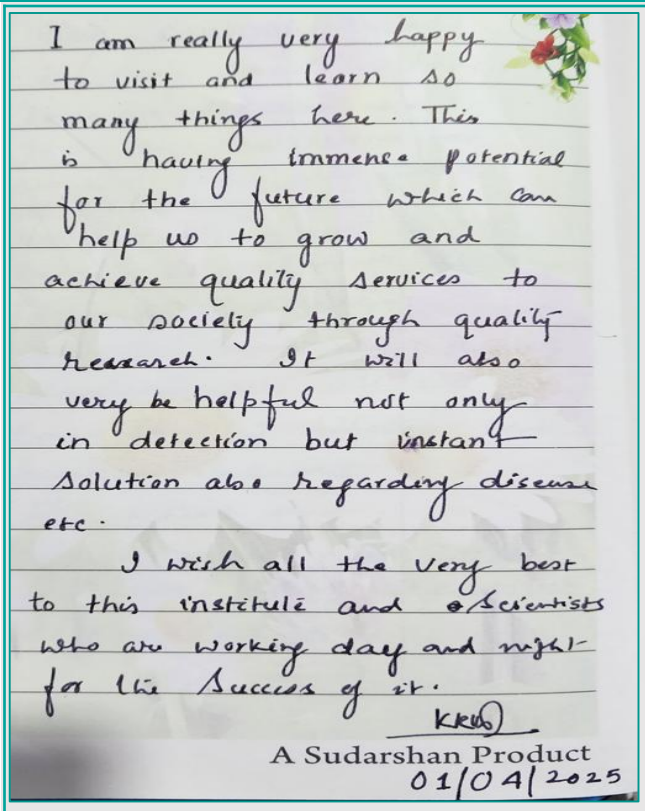
STAFF WELFARE CLUB ACTIVITIES

BEST CUBICLE AWARD

Plant Tissue Culture
In charges
Dr. Fenil Patel, Scientist
Ms. Payal Mavadiya, RA
Ms. Swathy V, JRF



VISIT BY DIGNITARIES AND TESTIMONIALS



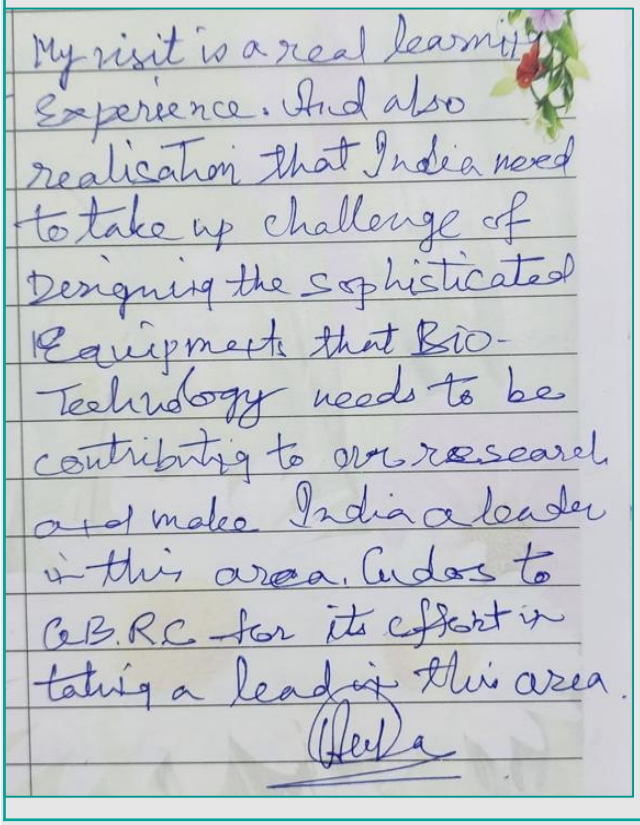
I am really very happy to visit and learn so many things here. This is having immense potential for the future which can help us to grow and achieve quality services to our society through quality research. It will also very be helpful not only in detection but instant solution also regarding disease etc.

I wish all the very best to this institute and scientists who are working day and night for the success of it.

KKNirala

A Sudarshan Product
01/04/2025

Shri K. K. Nirala, IAS
Secretary (Expenditure),
Finance Department,
Government of Gujarat

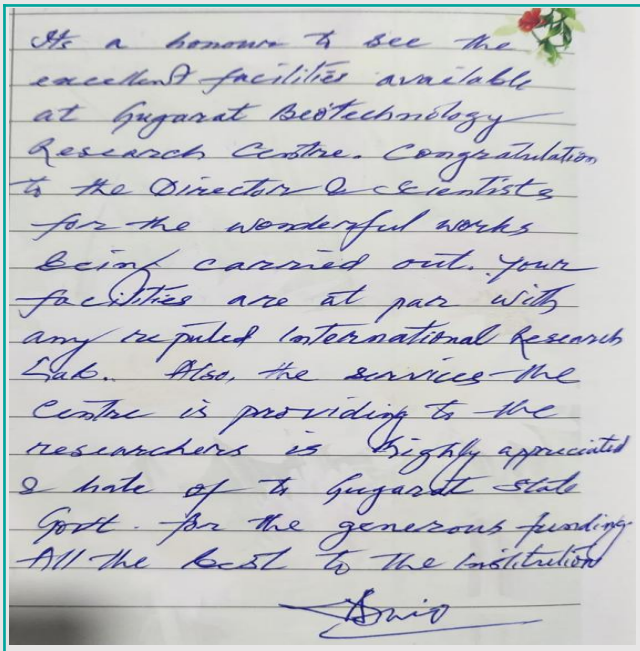


My visit is a real learning Experience. And also realisation that India need to take up challenge of Designing the sophisticated Equipments that Bio-Technology needs to be contributing to our research and make India a leader in this area. Cudos to C.B.R.C. for its effort in taking a leading this area.

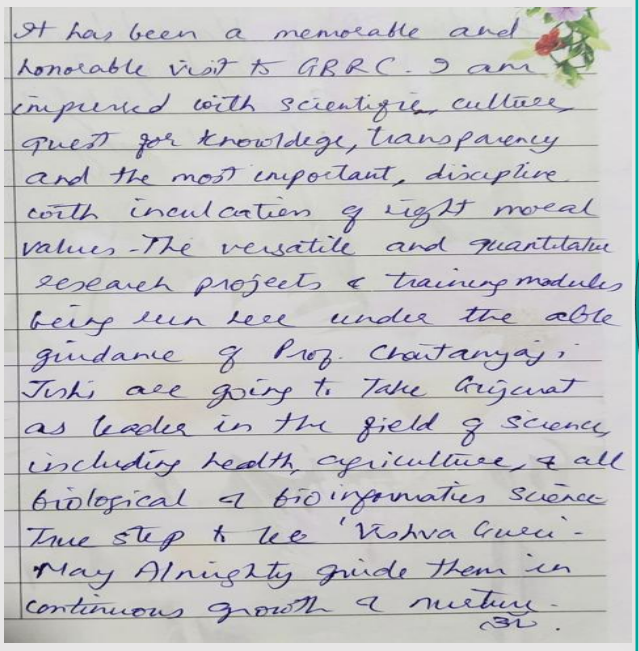
Neha

Dr. Amarendra K. Das
Professor
Indian Institute of Technology
Guwahati, Assam, India

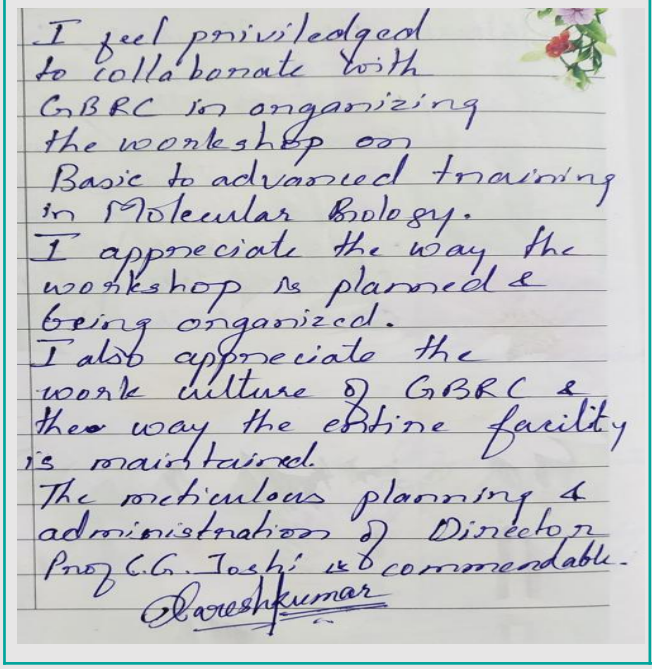
VISIT BY DIGNITARIES AND TESTIMONIALS


It's a honour to see the excellent facilities available at Gujarat Biotechnology Research Centre. Congratulation to the Director & Scientists for the wonderful works being carried out. Your facilities are at par with any reputed International Research Lab. Also, the services the Centre is providing to the researchers is highly appreciated & hats off to Gujarat State Govt. for the generous funding. All the best to the institution

Dr. Ashiho A. Mao
Director,
Director of Botanical Survey of India (BSI),
Kolkata, West Bengal, India

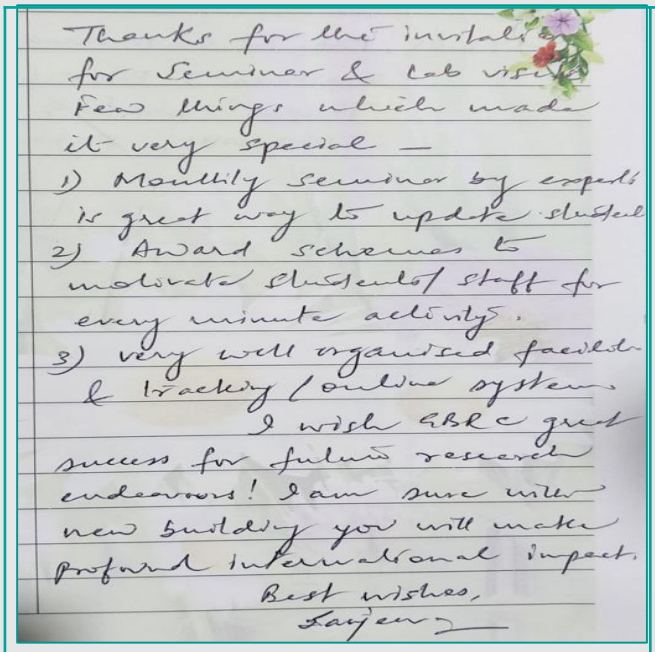

It has been a memorable and honorable visit to GBRC. I am impressed with scientific culture, quest for knowledge, transparency and the most important, discipline with inculcation of right moral values. The versatile and quantitative research projects & training modules being run here under the able guidance of Prof. Chaitanyaji Joshi are going to take Gujarat as leader in the field of science including health, agriculture, & all biological & bioinformatics science. True step to be 'Vishva Guru'. May Almighty guide them in continuous growth & nurture.

Dr. Aruna Vanikar
Former Vice Chancellor,
Gujarat University of Transplantation Sciences (GUTS),
Ahmedabad, Gujarat, India


I feel privileged to collaborate with GBRC in organizing the workshop on Basic to advanced training in Molecular Biology.
I appreciate the way the workshop is planned & being organized.
I also appreciate the work culture of GBRC & the way the routine facility is maintained.
The meticulous planning & administration of Director Prof C.G. Joshi is commendable.
Rakeshkumar

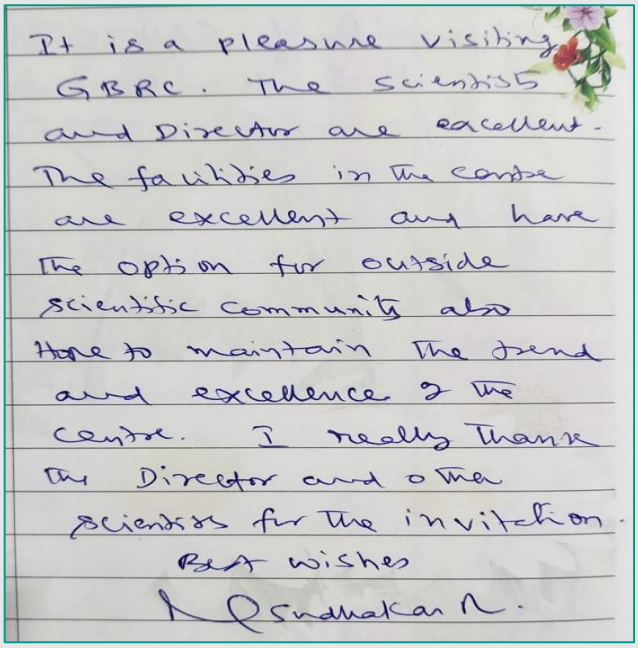
Prof. Haresh Kehariya
Professor,
P G Dept of Biosciences, Sardar Patel University
Vallabh Vidyanagar, Gujarat, India

VISIT BY DIGNITARIES AND TESTIMONIALS



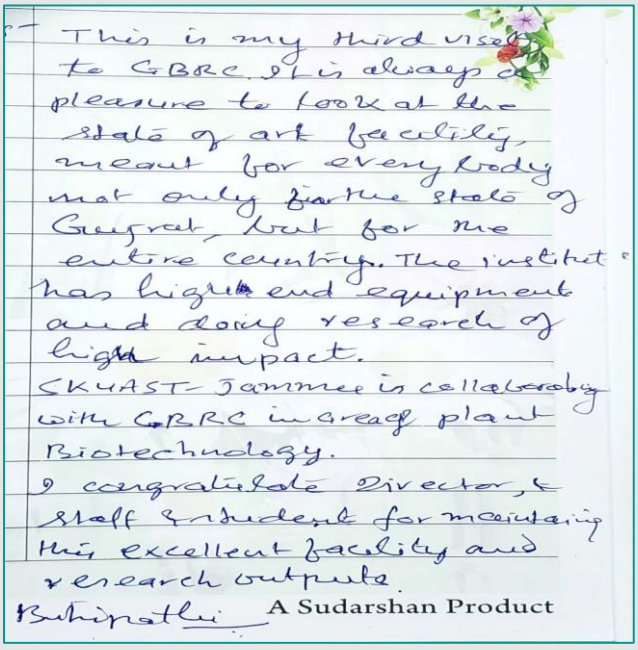
Thanks for the invitation for Seminar & Lab visit. Few things which made it very special —
1) Monthly seminar by experts is great way to update students
2) Award schemes to motivate students/ staff for every minute activity.
3) very well organised facilities & tracking/online systems.
I wish GBRC great success for future research endeavours! I am sure with new building you will make profound international impact.
Best wishes,
Sanjeev

Prof. Sanjeeva Srivastava
Professor,
Indian Institute of Technology Bombay
Mumbai, Maharashtra, India



It is a pleasure visiting GBRC. The scientists and Director are excellent. The facilities in the centre are excellent and have the option for outside scientific community also. Hope to maintain the trend and excellence of the centre. I really thank the Director and other scientists for the invitation.
Best wishes
N Sudhakar N.

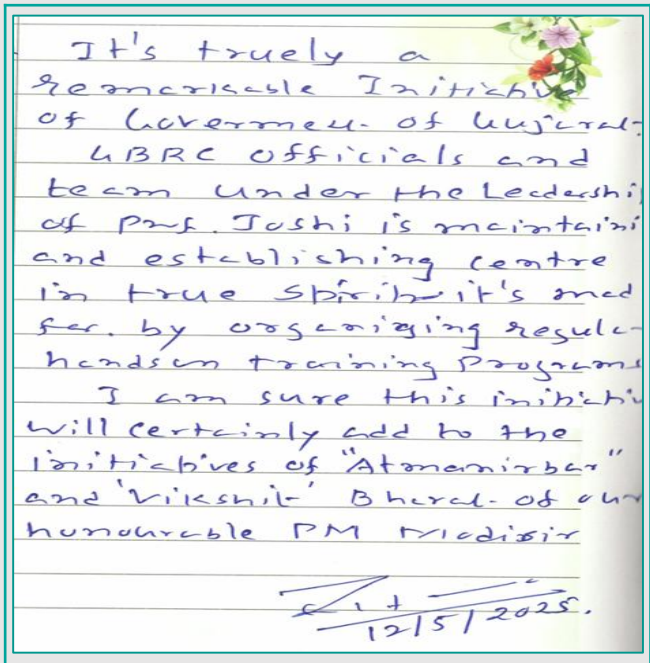
Prof. M S Reddy
Professor,
Thapar Institute of Engineering & Technology,
Patiala, Punjab, India



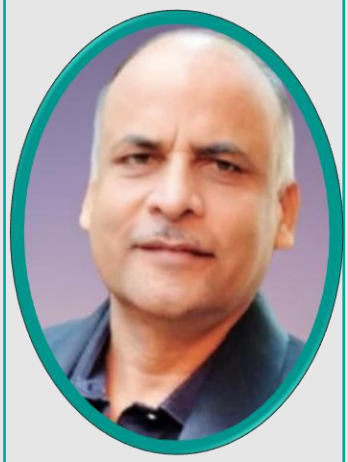
This is my third visit to GBRC. It is always a pleasure to look at the state of art facility, meant for everybody not only for the state of Gujarat, but for the entire country. The institute has high end equipment and doing research of high impact.
SKUAST-Jammu is collaborating with GBRC in areas of plant Biotechnology.
I congratulate Director, staff & student for maintaining this excellent facility and research outputs.
Bhupathi
A Sudarshan Product

Prof. B. N. Tripathi
Vice Chancellor,
Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu,
Jammu & Kashmir, India

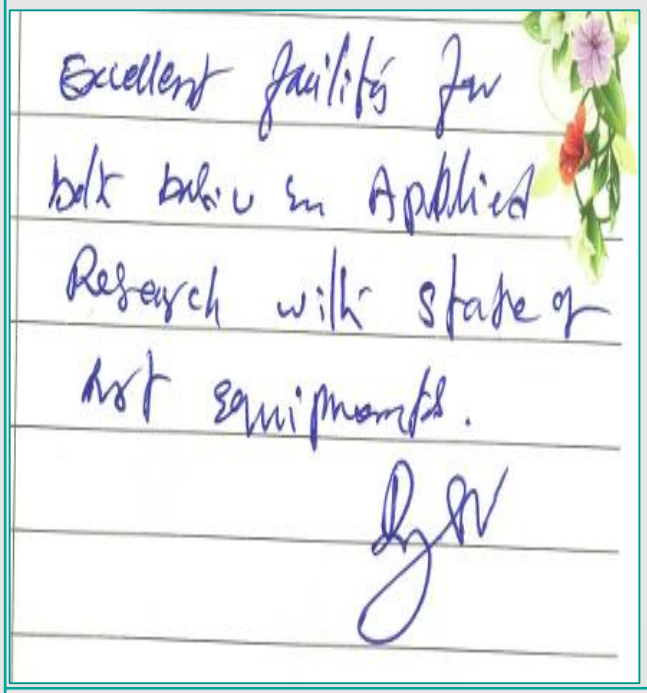
VISIT BY DIGNITARIES AND TESTIMONIALS


It's truely a remarkable Initiative of Government of Gujarat. GBRC officials and team under the leadership of Prof. Joshi is maintaining and establishing centre in true spirit. It's made for by organizing regular hands on training Programs. I am sure this initiative will certainly add to the initiatives of "Atmanirbar" and 'Vikshit' Bharat of our honourable PM Modiji.

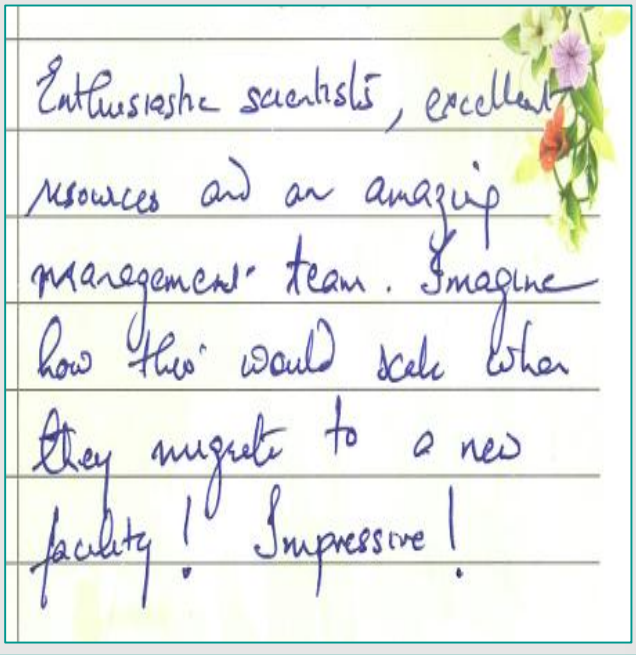
12/5/2025.



Prof. Haribhai Kataria
Vice Chancellor,
Shree Govind Guru University,
Godhra, Gujarat, India


Excellent facility for both basic & Applied Research with state of art equipments.

Dr. Ramu S. Vemanna
Regional Centre for Biotechnology,
Faridabad, India


Enthusiastic scientists, excellent resources and an amazing management team. Imagine how they would scale when they migrate to a new facility! Impressive!

Prof. B. Gopal
Professor,
Indian Institute of Science,
Bangalore, Karnataka, India

VISIT BY DIGNITARIES AND TESTIMONIALS

I am very happy to see the excellent facility at GBRC, Gandhinagar. The scientist at GBRC is very well knowlegeble and cooperative. I wish best luck to GBRC.

Kuralkar
29.05.2025

Dr. S. V. Kuralkar
Professor & University Head,
Maharashtra Animal and Fishery Sciences University,
Maharashtra, India

I had been invited to the KAUSHALYA initiative of GBRC, But what unfolded is a very vibrant Biotechnology Research Centre run by State with great facility and faculty. The vision of the State and the institute are futuristic and translation is the driving force. I find there is a great learning for any visitor It is great to see this talent pool of people have developed a niche in their attempts and I see a bright future. I wish to see this institute develop into an academic excellence in next decade.

Chandrabhas Narayana 16/06/2025

Prof. Chandrabhas Narayana
Director,
Rajiv Gandhi Centre for Biotechnology,
Thiruvananthapuram, Kerala, India

Remarks

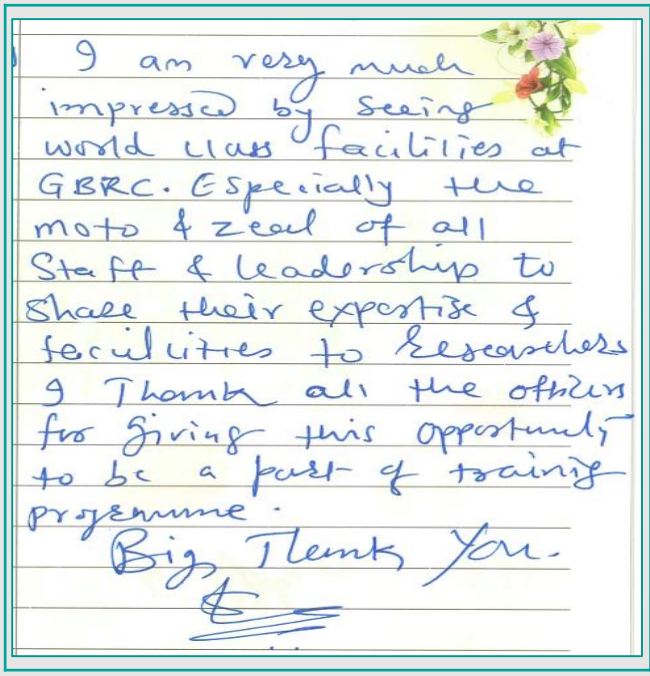
Pretty happy to see the Contributions of GBRC to the Society. Best biotechnology facilities in terms of AMR, detection of bugs in buffaloes, Genomic studies and of course Sciency for early confirmation of the Microbes. I Congratulate Professor Dr. C. Joshi for leading such a great team and making infinite Contributions through Collaborations & modern Equipments.

All the Very Best

27/6/2025

Prof. Mandeep Sharma
Vice Chancellor,
Nanaji Deshmukh Veterinary Science University,
Jabalpur, Madhya Pradesh, India

VISIT BY DIGNITARIES AND TESTIMONIALS


I am very much impressed by seeing world class facilities at GBRC. Especially the moto & zeal of all Staff & leadership to share their expertise & facilities to Researchers & Thanks all the officers for giving this opportunity to be a part of training programme.

Big Thanks You.

Prof. S O Junare
Campus Director,
National Forensic Sciences University,
Gandhinagar, Gujarat, India

VISIT BY COLLEGES/ ACADEMIC INSTITUTES

Ganpat University, Mehsana, Gujarat, India

Pramukh Swami Science & H. D. Patel Arts College, Kadi Gujarat, India

Department of Food Safety & Quality Assurance, College of Food Processing Technology and Bioenergy, AAU, Anand, Gujarat, India

Summer Interns from GEER Foundation, Indroda Nature Park,
Gandhinagar, Gujarat, India

UPCOMING TRAININGS (*KAUSHALYA* 25-26)

Animal Cell Culture and Flow Cytometry

Plant Tissue Culture and Transgenics

Know Your Scientist

Kamala Sohonie (June 18, 1911-June 28,1998)

She was an Indian biochemist who in 1939 became the first Indian woman to receive a PhD in a scientific discipline which paved the way for women to be accepted into Indian Institute of Science, Bengaluru for the first time in its history. Her research delved into the effects of vitamins and into the nutritive values of pulses, paddy, and groups of food items consumed by some of the poorest sections of the Indian population. Inspired by the then-president Rajendra Prasad's suggestion she worked on the nutritional benefits of the palm extract called 'Neera'. Source: https://en.wikipedia.org/wiki/Kamala_Sohonie

Contact Information

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Government of Gujarat,

6th floor, M. S. Building, Sector 11,

Gandhinagar, Gujarat, 382011, India.

Email id: info-gbrc@gujarat.gov.in

Contact no.: +91-079- 23258500

Website: https://gbrc.gujarat.gov.in, http://gbrc.res.in

For Shared Lab Facility : https://gbrc.org.in/

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Dr. Sonal Sharma (Scientist B- GBRC)


KAMDHENU UNIVERSITY
GANDHINAGAR, GUJARAT


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INDUSTRIES


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MUMBAI


ADVAIT
THERAGNOSTICS


AIIMS
New Delhi


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BABA GHULAM SHAH BADSHAH UNIVERSITY RAJOURI J&K


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CENTRAL UNIVERSITY OF HARYANA
विद्याधनं सर्वधनप्रधानम्


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अमृतं तु विद्या


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ज्ञानम् परमम् ध्येयम्


INDIAN INSTITUTE OF TECHNOLOGY GANDHINAGAR


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AHMEDABAD


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UNIVERSITY


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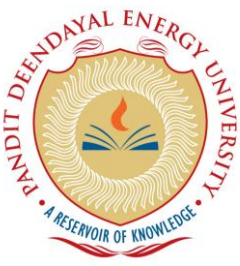
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PARUL UNIVERSITY

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DEPARTMENT OF SCIENCE & TECHNOLOGY
GOVERNMENT OF GUJARAT

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- Oxford Nanopore GridION and PromethION
- NGS Illumina Miseq
- NGS Ion S5 & S5 Plus
- NGS IonChef
- Capillary ABI 3500 Sequencer
- BD Flow Cytometer & cell sorter
- Digital PCR
- Real time PCR
- PCR + Gel Doc
- Qubit
- Lyophilizer
- HPLC
- GC-MS
- LC-MS
- HPC Server & Param Shavak Server for Bioinformatics (with CLC Genomics and Schrodinger)

GBRC shared lab online booking system:

https://gbrc.org.in