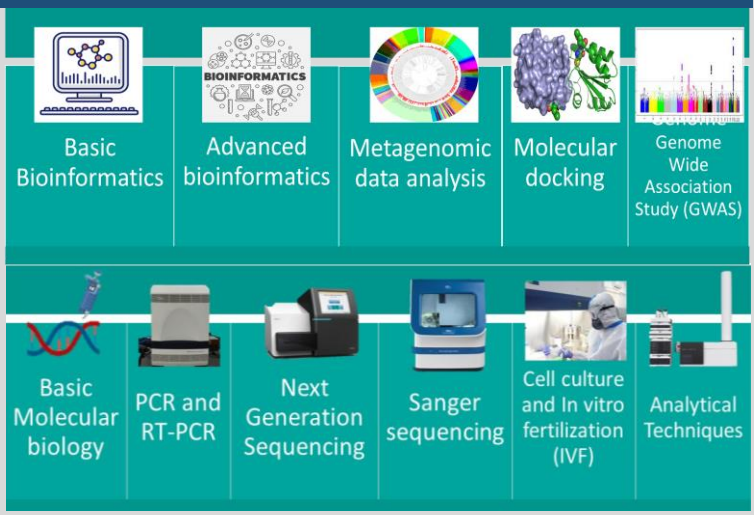
Department of Science & Technology (Government of Gujarat)

GBRC NEWS

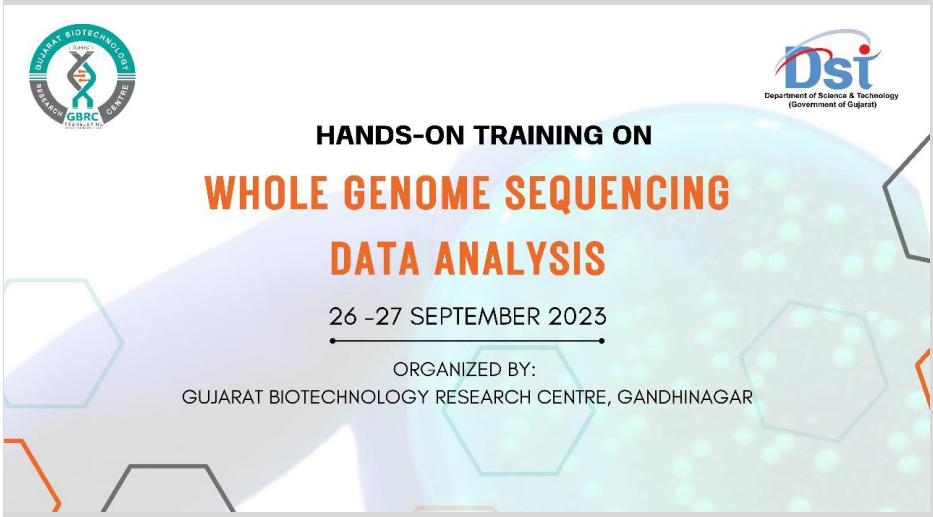
Volume III, Issue III
September 2023

KAUSHALYA TRAINING PROGRAM FOR SKILL DEVELOPMENT IN BIOTECHNOLOGY 2023-24

***KAUSHALYA (K**nowledge **A**dvancement **U**sing **S**kills **on H**igh-end **A**pplied **L**ifetechnolog**Y for A**spirants)* is an initiative by GBRC to help in developing biotechnological skills of the researchers, academicians and other stakeholders. The program's aim is to provide learners extensive and specialized practical knowledge for the development of their functional skill set in biotechnology and related fields. Total 12 trainings has been planned under the program on the different advance tools and technologies in the subject area of biotechnology.



NETWORK PROGRAM ON AMR, SUPERBUGS AND ONE HEALTH



UPCOMING TRAININGS

CONTENTS

GBRC in NEWS

Genetic factors behind severe Covid identified

GBRC Shares Analysis From Guj For Global Project

Parth.Shastri@timesgroup.com

Ahmedabad: While a new Covid-19 variant pops up at regular intervals causing spike in disease and hospitalizations in various countries, it's not only the virus that causes the infection and severity – it is also the host's characteristics, especially immunity.

A recent study published in the journal, Nature comprising of analysis from 2.19 lakh Covid-19 cases from 82 studies in 35 countries identified 51 distinct genome-wide significant loci responsible for deaths or critical illness, hospitalization and other infections. Loci can be understood as plural of genomic locus - a specific and fixed position on a chromosome to locate a gene or genetic marker.

IT'S IN THE DNA

Gujarat Biotechnology Research Centre (GBRC) was among the contributing institutions like MIT, Harvard University, Yale University, King's College London, Queensland University, McGill University among others. AIIMS Kalyani was the other institution from India which was part of data collection and analysis. Madhvi Joshi, joint director of GBRC, led the analysis team for host genetic factors for western Indian population, whereas CG Joshi, the centre's director was the admin team lead.

"This study has added 28 more loci to the global loci related to Covid infection and severity. This study has opened new opportunities to understand Covid virus entry, entry defence in airway mucus and response of type 1 interferon (defence mechanism protein) response," said Madhvi Joshi.

The researchers said that the study also highlighted different genetic factors responsible for Covid severity in different parts of the world.

The paper indicated that the study can 'inform our understanding of the underlying biological mechanisms that influence adverse outcomes and drug development.' After three waves of Covid-19, the cases overall are stable in India and Gujarat has single-digit active cases for more than two months now. Officially, the state has recorded more than 11,000 deaths due to Covid-19 so far.

MAJOR FINDINGS

- 14 novel genetic correlations and 10 Covid traits that made the infection severe identified. If a patient has these factors, chances of the disease taking a serious turn are higher
- Smoking, kidney functioning (eGFR)/ chronic kidney disease identified as some of the danger markers
- Chances of the disease getting severe due to lung conditions were stronger if the number of cigarettes smoked per day was high. Likewise, poor kidney functioning also pointed towards adverse outcome

35 COUNTRIES, 82 STUDIES

Condition	Sample	Loci found
Critical illness/ death	21,194	30
Hospitalizations	49,033	40
Covid infections	2.19L	21

Study sheds light on genetic causes of Alzheimer's

Study sheds light on genetic causes of Alzheimer's

Ahmedabad: A joint study by the Gujarat Biotechnology Research Centre (GBRC) and Government Hospital for Mental Health (HMH) associated the cases of Alzheimer's disease with the manifestation of NOTCH4 and ACHE genes in Gujarat population.

HONOURS

Prof. Chaitanya Joshi, Director of GBRC has been conferred with the prestigious SCROLL OF HONOR by SRBCE for his outstanding contributions in the field at Navrachana University, Vadodara

"The scientist is not a person who gives the right answers, he's one who asks the right questions." Claude Levi-Strauss

RECENT PUBLICATIONS

CRYSTAL STRUCTURE OF *SYNECHOCOCCUS PHYCOCYANIN*: IMPLICATIONS OF LIGHT-HARVESTING AND ANTIOXIDANT PROPERTIES

Authors: Stuti N Patel, Ravi R Sonani, Mukesh G Chaubey, Gagan D Gupta, Niraj Kumar Singh, Vinay Kumar & Datta Madamwar

Journal: 3 Biotech

Impact factor: 2.893

Phycobiliproteins is a family of chromophore-containing proteins having light-harvesting and antioxidant capacity. The phycocyanin (PC) is a brilliant blue coloured phycobiliprotein, found in rod structure of phycobilisome and has been widely studied for their therapeutic and fluorescent properties. In the present study, the hexameric assembly structure of phycocyanin (Syn-PC) from Synechococcus Sp. R42DM is characterized by X-ray crystallography to understand its light-harvesting and antioxidant properties. The crystal structure of Syn-PC is solved with 2.15 Å resolution and crystallographic R-factors, Rwork/Rfree, 0.16/0.21. The hexamer of Syn-PC is formed by heterodimer of two polypeptide chains, namely, α- and β-subunits. The structure is analysed at atomic level to reveal the chromophore microenvironment and possible light energy transfer mechanism in Syn-PC. The chromophore arrangement in hexamer, deviation angle and distance between the chromophore contribute to the energy transfer efficiency of protein. The structural attributes responsible for the antioxidant potential of Syn-PC are recognized and annotated on its 3-dimensional structure.

DEVELOPMENT OF EFFICIENT EMBRYO-DERIVED REGENERATION SYSTEM AND OPTIMIZATION OF GENETIC TRANSFORMATION IN CUMIN (*CUMINUM CYMINUM* L.)

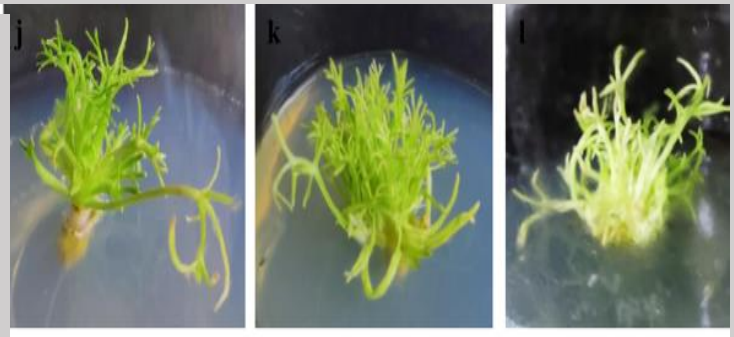
Authors: Komal K Sapara, Mansi Jani, Darshan Dharajiya, Fenil Patel, Amrut K Patel and Chaitanya G Joshi

Journal: Plant Cell, Tissue and Organ Culture

Impact factor: 2.7

Cumin is an important spice crop with high agronomic and economic importance. A direct regeneration system using embryogenic explants in cumin (*Cuminum cyminum* L.) was established to develop a highly efficient transformation system. Cumin embryos were utilized as an explant which shows higher regeneration efficiency on Gamborg's B5 media supplemented with 2.0 µM BA+ 0.5 µM NAA. Transformation of pSIM24-eGFP plasmid in cumin was carried out through *Agrobacterium tumefaciens* EHA 105 and gene gun method. The transgenic explants were confirmed for GFP (green fluorescent protein) gene integration through PCR analysis. The Agrobacterium-mediated transformed explants showed higher regeneration and transformation efficiency with 0.5 OD600 of cell density and 24 hr of co-cultivation compared to 0.4 OD600 with 24 hr, 48 hr, and 72 hr co-cultivation time and 0.5 OD600 with 48 hr and 72 hr cocultivation time. It was further confirmed by GFP expression analysis through real-time PCR. Gene gun-mediated transformed explants were cultured on different osmolytes (mannitol, sorbitol, and sucrose) containing media to reduce bombardment stress on explants. Compared to mannitol and sucrose containing media, transformed explants cultured on sorbitol-containing media showed higher rates of regeneration and transformation.

These results were further confirmed by real-time PCR analysis as prominent GFP expression was found in explants cultured on sorbitol-containing media compared to other osmolytes containing media. In the current study, we have developed an efficient transformation system with higher gene expression and regeneration efficiency.



RECENT PUBLICATIONS

RESPONSE OF WASTEWATER-BASED EPIDEMIOLOGY PREDICTOR FOR THE SECOND WAVE OF COVID-19 IN AHMEDABAD, INDIA: A LONG-TERM DATA PERSPECTIVE

Authors: Manish Kumar, Madhvi Joshi, Guangming Jiang, Rintaro Yamada, Ryo Honda, Vaibhav Srivastava, Jürgen Mahlknecht, Damia Barcelo, Sabarathinam Chidambram, Anwar Khursheed, David Graham, Chaitanya Joshi

Journal: Environmental Pollution

Impact factor: 9.988

Wastewater-based epidemiology (WBE) monitoring can play a key role in managing future pandemics because it covers both pre-symptomatic and asymptomatic cases, especially in densely populated areas with limited community health care. In the present work, wastewater monitoring was employed in Ahmedabad, India, after the successful containment of the first wave of COVID-19 to predict resurgence of the disease in the expected second wave of the pandemic. Here we show wastewater levels of COVID-19 virus particles (i.e., SARS-CoV-2) positively correlated with the number of confirmed clinical cases during the first wave and provided early detection of COVID-19 presence before the second wave in Ahmedabad and an WBE-based city zonation plan was developed for health protection. Monitoring upto eight month showed a substantial decline COVID related gene markers between October and September 2020, followed by an abrupt increase in November 2020. Similar changes were seen in March 2021, which preceded the second COVID-19 wave. Measured wastewater ORF-1ab gene copies ranged from 6.1 × 102 (October, 2020) to 1.4 × 104 (November, 2020) copies/mL, and wastewater gene levels typically lead confirmed cases by one to two weeks. The study highlights the value of WBE as a monitoring tool to predict waves within a pandemic, identifying local disease hotspots within a city and guiding rapid management interventions.

ASSOCIATION OF NOTCH4 AND ACHE GENE POLYMORPHISM IN ALZHEIMER'S DISEASE OF GUJARAT COHORT

Authors: Urvi Budhbhatti, Ajay Chauhan, Deeptiben Bhatt, Chirag Parmar, Vishal Damani, Amrutlal Patel, Chaitanya Joshi

Journal: Neuroscience Letters

Impact factor: 2.5

Alzheimer’s Disease (AD) is the most common form of dementia, affecting cognitive and behavioral functions. AD is a complex disease resulting from the modest effect of gene interaction and environmental factors, as a result of which the exact pathogenesis is still unknown. The aim of the present study was to investigate the association between variants of 98 targeted genes with Alzheimer’s disease phenotype. A total of 98 genes from 32 AD cases and 11 controls were genotyped using the Haloplex target enrichment method and the PCR-RFLP approach. Association analysis was performed using the PLINK tool to identify the variant significantly associated with AD. Functional enrichment analysis and network analysis was performed using ClueGo and String database respectively. The Expression Quantitative Trait Loci (eQTL) analysis using the Genotype Tissue Expression (GTEx) dataset to explore the possible implication of the variant on the expression of one or more genes in different brain regions and whole blood. Association analysis showed significant association of 19 variant assigned to 16 genes with Alzheimer’s with p-value & lt; 0.05 with rs367398/NOTCH4 only variant that passed multiple test corrections. Functional enrichment analysis showed the association of these genes with AD. ClueGo and network analysis utilizing the String database suggested that genes are directly and indirectly linked to the AD pathogenesis. eQTL analysis revealed that the rs367398/NOTCH4 and rs1799806/ACHE variant showed significant eQTL for the neighboring genes. The present study showed the possible role of 16 genes in AD pathogenesis, especially highlighting the role of rs367398/NOTCH4 and rs1799806/ACHE. However further investigation with large cohort is required to study and validate the implication of these variants in the AD pathogenesis.

RECENT PUBLICATIONS

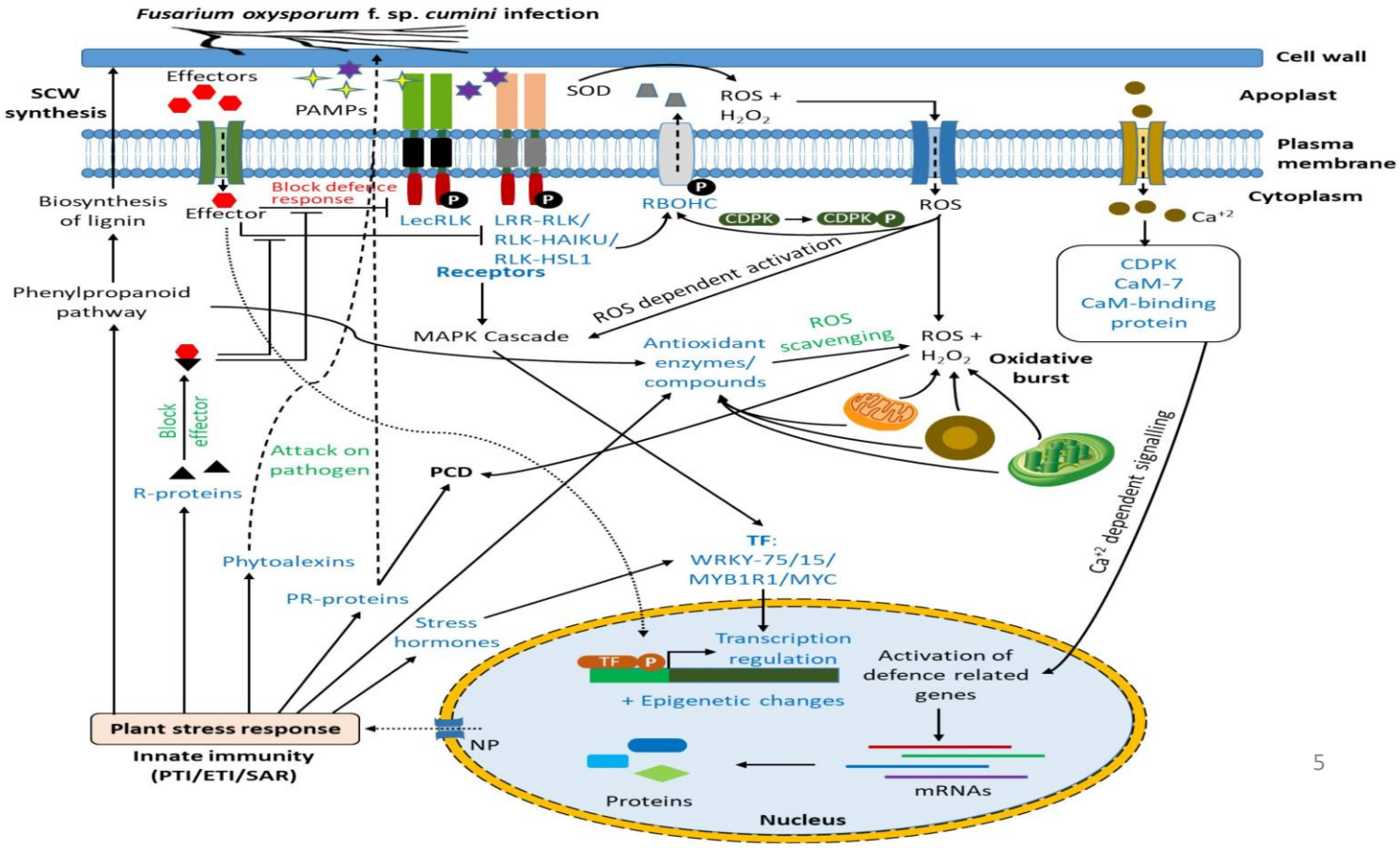
RESISTANT CUMIN CULTIVAR, GC-4 COUNTERS FUSARIUM OXYSPORUM F. SP. CUMINI INFECTION THROUGH UP-REGULATION OF STEROID BIOSYNTHESIS, LIMONENE AND PINENE DEGRADATION AND BUTANOATE METABOLISM PATHWAYS

Authors: Darshan T. Dharajiya, Nitin Shukla, Maharshi Pandya, Madhvi Joshi, Amrutlal K. Patel, Chaitanya G. Joshi

Journal: Frontiers in Plant Science

Impact factor: 5.6

Cumin (*Cuminum cyminum* L.), an important spice crop belonging to the Apiaceae family is infected by *Fusarium oxysporum* f. sp. cumini (Foc) to cause wilt disease, one of the most devastating diseases of cumin adversely affects its production. As immune responses of cumin plants against the infection of Foc are not well studied, this research aimed to identify the genes and pathways involved in responses of cumin (cv. GC-2, GC-3, GC-4, and GC-5) to the wilt pathogen. Differential gene expression analysis revealed a total of 2048, 1576, 1987, and 1174 differentially expressed genes (DEGs) in GC-2, GC-3, GC-4, and GC-5, respectively. In the resistant cultivar GC-4 (resistant against Foc), several important transcripts were identified. These included receptors, transcription factors, reactive oxygen species (ROS) generating and scavenging enzymes, non-enzymatic compounds, calcium ion (Ca2+) transporters and receptors, R-proteins, and PR-proteins. The expression of these genes is believed to play crucial roles in conferring resistance against Foc. Gene ontology (GO) analysis of the up-regulated DEGs showed significant enrichment of 19, 91, 227, and 55 biological processes in GC-2, GC-3, GC-4, and GC-5, respectively. Notably, the resistant cultivar GC-4 exhibited enrichment in key GO terms such as 'secondary metabolic process', 'response to reactive oxygen species', 'phenylpropanoid metabolic process', and 'hormone-mediated signaling pathway'. Furthermore, Kyoto Encyclopedia of Genes and Genomes (KEGG) pathway analysis revealed the enrichment of 28, 57, 65, and 30 pathways in GC-2, GC-3, GC-4, and GC-5, respectively, focusing on the up-regulated DEGs. The cultivar GC-4 showed enrichment in pathways related to steroid biosynthesis, starch and sucrose metabolism, fatty acid biosynthesis, butanoate metabolism, limonene and pinene degradation, and carotenoid biosynthesis. The activation or up-regulation of various genes and pathways associated with stress resistance demonstrated that the resistant cultivar GC-4 displayed enhanced defense mechanisms against Foc. These findings provide valuable insights into the defense responses of cumin that could contribute to the development of cumin cultivars with improved resistance against Foc.



RECENT PUBLICATIONS

A SECOND UPDATE ON MAPPING THE HUMAN GENETIC ARCHITECTURE OF COVID-19

Authors: Madhvi N. Joshi, Raghav D. Dixit, Pranay K. Shah, Kamlesh J. Upadhyay, Naresh T. Chuhan, Kairavi J. Desai, Meenakshi R. Shah & Bhavesh Modi, Chaitanya G. Joshi, Ramesh J. Pandit, Indra Singh, Afzal I. Ansari, Janvi N. Raval, Zarna Z. Patel

Journal: Nature

Impact factor: 69.504

Investigating the role of host genetic factors in COVID-19 severity and susceptibility can inform our understanding of the underlying biological mechanisms that influence adverse outcomes and drug development. Here we present a second updated genome-wide association study (GWAS) on COVID-19 severity and infection susceptibility to SARS-CoV-2 from the COVID-19 Host Genetic Initiative (data release 7). We performed a meta-analysis of up to 219,692 cases and over 3 million controls, identifying 51 distinct genome-wide significant loci adding 28 loci from the previous data release. The increased number of candidate genes at the identified loci helped to map three major biological pathways that are involved in susceptibility and severity: viral entry, airway defence in mucus and type I interferon. We conducted a meta-analysis for 3 phenotypes across 82 studies from 35 countries, including 36 studies of individuals with non-European ancestry (Fig. 1, Supplementary Figs. 1 and 2 and Supplementary Table 1): critical illness (respiratory support or death; 21,194 cases), hospitalization (49,033 cases) and SARS-CoV-2 infection (219,692 cases). Most of the studies were collected before the widespread introduction of COVID-19 vaccination. We found 30, 40 and 21 loci that are associated with critical illness, hospitalization and infection due to SARS-CoV-2, respectively, for a total of 51 distinct genome-wide significant loci across all three phenotypes.

COMPARATIVE STABILITY STUDY AND AGGREGATE ANALYSIS OF BEVACIZUMAB MARKETED FORMULATIONS USING ADVANCED ANALYTICAL TECHNIQUES

Authors: Arpit Arunkumar Bana, Nithin Sajeev, Sabyasachi Halder, Haidar Abbas Masi, Shikha Patel, Priti Mehta

Journal: Heliyon

Impact factor: 4.0

Bevacizumab (Bvz) is the most preferred recombinant humanized monoclonal antibody in bio-similar development due to its prominence as a standard treatment in the oncology space. Therapeutic monoclonal antibodies are typically more complex and unlikely to produce a replica. As a result, regulatory agencies allow approval of biosimilars that differ structurally and functionally from their reference product, but these differences should not have any clinical significance. To identify these significant discrepancies, it is essential to perform a thorough characterization of critical product attributes both in real-time and after storage until the product's expiration. In the present study, two Bvz biosimilar brands (Bio-1 and Bio-2) marketed in India were evaluated and compared with the reference product Avastin® to assess their degree of similarity. A comprehensive physicochemical characterization of biosimilars and reference product was performed using orthogonal techniques including LC-ESI-QTOF, MALDI-TOF, FTIR-ATR, iCIEF, rCE, nrCE, UV280, and RP-HPLC. Furthermore, Bvz formulations under study were subjected to various stress conditions of thermal (elevated temperature 50 ± 2 ◦C), chemical (acidic pH 3.0 ± 0.2, neutral pH 7.0 ± 0.2, and basic pH 10.0 ± 0.2), and mechanical (agitation 200 rpm) for comparative stability evaluation. Any alteration in the secondary structure of the native protein was detected and quantified using far-UV circular dichroism (CD), indicating an average of 15% and 11% loss in native antiparallel β-sheet conformation respectively in Bio-1 and Bio-2 upon exposure to elevated temperature and high pH. Additionally, covalent or non-covalent aggregates formed as a function of elevated temperature and agitation were quantified using SEC-MALS.

INVITED TALKS DELIVERED BY GBRC TEAM

- Dr. Niraj Kumar Singh, Joint Director, GBRC delivered lecture on "Preparation for Competitive CSIR-NET/GATE exams" at NIRMA University, Ahmedabad on 20th July, 2023.
- Dr. Amrutlal K. Patel, Joint Director, GBRC delivered lecture on "Gene delivery system: approaches for the treatment of hereditary disorders and cancer" at Arihant School of Pharmacy & Bio Research Institute, Gandhinagar on 21st August, 2023.
- Dr. Neeraj Kumar Singh, Joint Director, GBRC delivered lecture on "Novel alpha Amylase from hotspring metagenome" at Unveiling Innovation IKA new product launch, Chandigarh on 25th August, 2023.
- Dr. Madhvi Joshi, Joint Director, GBRC attended panel discussion on "Wastewater surveillance and other applications of molecular technologies in surveillance" in a workshop on "Building Back Better Surveillance Systems" co-hosted by the Tata Institute for Genetics & Society and the Global Learning Collaborative for Health Systems Resilience in Bengaluru on 31st August-1st September 2023.
- Dr. Madhvi Joshi, Joint Director, GBRC was invited as the chief guest at the inauguration of the Gujarat State Biotechnology Mission - sponsored Bioinformatics training program at Samarpan Science and Commerce College, Gandhinagar on 25th September, 2023

MOU'S

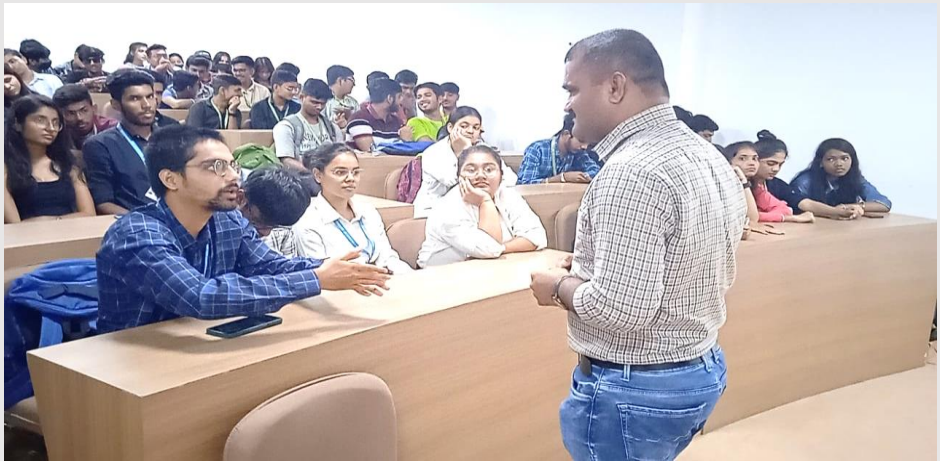
- GBRC signed MoU with Nirma University on 20th July, 2023. The aim is to pursue joint research addressing societal problems and issue prevalent in Gujarat state in the area of Biotechnology.

- GBRC signed MoU with Tata Institute for Genetics and Society, Bengaluru on 31st August, 2023. The aim is to pursue joint research addressing societal problems and issue prevalent in the field of Biotechnology.

- GBRC signed MoU with Swaminarayan University, Kalol on 1st September, 2023. The aim is to pursue joint research addressing societal problems and issues prevalent in Gujarat state in Biotechnology.

STUDENTS INNOVATION FEST

- As a part of Student Innovation Fest -2023 (Third Edition) organized by Vigyan Gurjari Gujarat Prant, a state unit of Vijnana Bharati (VIBHA), GBRC staff delivered lectures in various school/institute/university. This activity was conferred with World Records India Award as longest lecture series.
- Dr. Ishan Raval, Scientist-B, GBRC delivered a lecture on “Introduction to mass spectroscopy and proteomics” at Gandhinagar University, Gandhinagar on 10th August, 2023.
- Dr. Satyamitra Shekh, Scientist-B, GBRC, delivered a lecture on "Probiotics and Prebiotics" at Ambajipura Primary School, Santej, Ahmedabad on 10th August, 2023.
- Dr. Sanman Samova, Scientist-B, GBRC, delivered a lecture on “Unleashing the Power of Biotechnology: From Lab to Life” at M. M. Vasa Primary and High School, Koba, Gandhinagar on 10th August, 2023.
- Dr. Haidar Abbas, Scientist-B, GBRC, delivered a lecture on "Separation Techniques and Applications" at L.J. Institute of Engineering & Technology (L.J.I.E.T), Ahmedabad on 10th August, 2023.
- Mr. Narottam Jepal, AAO, GBRC, delivered a lecture on “Innovation and Entrepreneurship” at Silver Oak University, Ahmedabad on 10th August, 2023.



STUDENT STARTUP INNOVATION GRANTS

Gujarat Technological University Innovation & Start-up Centre Conveys and allocate a grant to innovator for the following project under the selection for the grant scheme of Student Startup Innovation Policy 2.0 on 2nd August, 2023. Following belong to GBRC are honoured with grant for their startups.

Dr. Bhumika Prajapati
Nalfia device for Dengue detection

Dr. Pooja Doshi
NaHotech Bioscience

Purva Gohil
Swasth Flora

CONFERENCES

Prof. Chaitanya Joshi, Director, GBRC attended Vigyan Bharti Conference at Lok Vigyan Kendra, Dahod on 10th August, 2023.

Dr. Madhvi Joshi, Joint Director, GBRC at panel discussion on "Wastewater surveillance and other applications of molecular technologies in surveillance" in a workshop on "Building Back Better Surveillance Systems" co-hosted by the Tata Institute for Genetics & Society and the Global Learning Collaborative for Health Systems Resilience at Bengaluru on 31st August-1st September, 2023.

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.

JULY-2023

INVITED GUESTS

Expert (15/07/2023)

Dr. Nitesh Kumar Mistry

Professor and Head, Department of Microbiology, Arts, Science and R.A. Patel Commerce College, Borsad

Topic: Entrepreneurship opportunities in biotechnology.

Expert (15/07/2023)

Shri Parth Shastri

Senior Assistant Editor,

The Times of India (TOI), Ahmedabad

Topic: The role of media and how media highlights scientific research for the larger audience.

PRESENTATIONS FROM GBRC MEMBERS

Dr. Sanman Samova
Scientist-B

Article: Baculovirus surface display of Zika virus envelope protein protects against virus challenge in mouse model

Journal Name: Virologica Sinica

Impact Factor: 6.947

Ms. Mansi Jani
JRF

Article: Transcription activator-like effectors protects bacterial endosymbionts from entrapment within fungal hyphae

Journal Name: Current Biology

Impact Factor: 10.9

AUGUST-2023

INVITED GUEST

Dr. Vasan Sambandamurthy,

Senior Vice President - Global Operations,

Bugworks™ Research

Topic: Challenges in developing a novel broad-spectrum antibacterial agent.

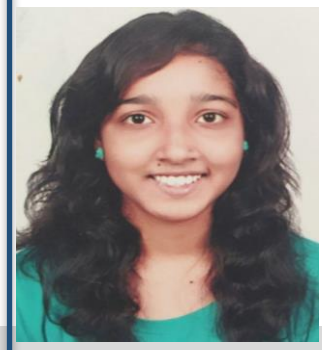
PRESENTATIONS FROM GBRC MEMBERS

Article: Derepression of specific miRNA-target genes in rice using CRISPR/Cas9

Journal: Journal of Experiment Botany

Impact factor: 7.378

Dr. Hemanshu Maisuria
TA, GBRC



Article: Nonnutritive sweeteners can promote the dissemination of antibiotic resistance through conjugative gene transfer

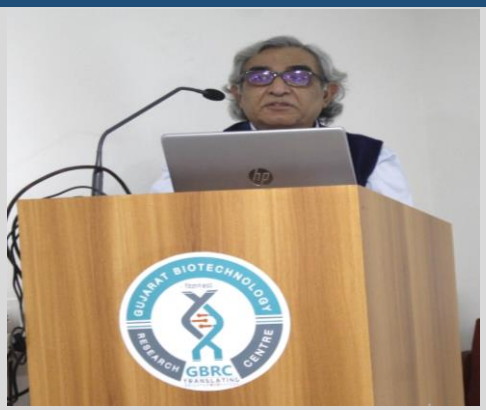
Journal: International Society for Microbial Ecology

Impact factor: 11.217

Ms. Monica Chavan,
JRF, GBRC

SEPTEMBER-2023

INVITED GUEST



Prof. Ashok Pandey,

Distinguished Scientist, CSIR-Indian Institute

of Toxicology Research,

Lucknow

Topic: Microplastics/ nanoplastics pollution and abatement for sustainable development

PRESENTATIONS FROM GBRC MEMBERS

Article: Commensal *Candida albicans* positively calibrates systemic Th17 immunological responses

Journal: Cell Host & Microbe

Impact factor: 31.316

ARRIVAL & DEPARTURE

GBRC would like to extend a hearty Welcome of the new members to family

Dr. Hemangkumar Brahmabhatt
Dr. Sonali Thakur
Dr. Vijay Nimkande
Ms. Jayvi Patel
Mr. Aveeral Chaudhary
Mr. Sandip Kanjibhai Chaudhary
Mr. Anubhav Tamrakar
Dr. Dishant Patel
Dr. Kartikkumar Gajjar
Dr. Anupam Kumari
Mr. Hardik Patni
Ms. Bhavika Parekh
Mr. Fenil Parmar
Mr. Abhijeeth Nair
Mr. Raj Gajjar
Mr. Manish Gupta
Dr. Nisarg Gohil

GBRC wishes best for the future of the bright minds who had left

Ms. Suchi Patel
Mr. Nikhil Mehra
Ms. Bhavya Nanavati
Dr. Amisha Kushwaha
Ms. Trusha Baraiya
Ms. Deepika Panda
Dr. Maitri Trivedi
Mr. Rupesh Thorat
Dr. Himanshu Joshi
Dr. Damyanti Prajapati
Dr. Sonali Thakur
Dr. Dishant Patel
Mr. Animesh Singh
Ms. Jayvi Patel
Mr. Kartik Deopujari
Mr. Abhijeeth M Nair

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 to run for in the music, dance, sports, social welfare, carry out scientific and technical, other than political activities.

JULY-2023

BEST MONTHLY PRESENTATION AWARD

Ms. Shreya Johnson
(JRF)

AWARD FOR BEST QUESTION IN PRABODH

Mr. Gufran Siddiqui
(JRF)

EMPLOYEE OF THE MONTH AWARD

Mr. Vikas Patidar
(TA)

BEST CUBICLE AWARD

Anaerobic Laboratory

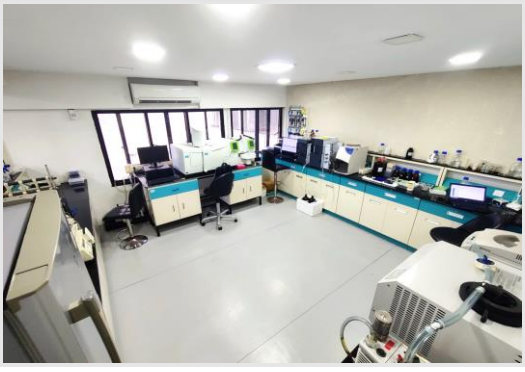
AUGUST-2023

BEST MONTHLY PRESENTATION AWARD

Mr. Priyank Chavda
(TA)

EMPLOYEE OF THE MONTH AWARD

Dr. Himanshu Joshi
(RA)



BEST CUBICLE AWARD

Proteomics Laboratory

STAFF WELFARE CLUB ACTIVITIES

SEPTEMBER-2023

BEST MONTHLY PRESENTATION AWARD

Mr. Aman Tripathi (JRF)

BEST MONTHLY PRESENTATION AWARD

Ms. Mansi Jani (JRF)

EMPLOYEE OF THE MONTH AWARD

Ms. Shreya Johnson (JRF)

BEST CUBICLE AWARD

Animal Tissue Culture Laboratory

MONTHLY EVALUATION ACTIVITY

GBRC has internal evaluation system of the project progress where all the fellows present their work for the month and their performances are also evaluated in front of external expert.

July-2023

Dr. Gunjan Sharma
Assistant Professor,
Gujarat Biotechnology University,
Gandhinagar

August-2023

Dr. Sanjay Kumar
Assistant Professor,
National Forensic Science University,
Gandhinagar

September-2023

Dr. Swati Joshi,
Scientist B,
ICMR –NIOH
Ahmedabad

LIGHTER NOTES

- ***DNA can be used to store data just like your typical hard drives. Scientists have been able to store 700 terabytes in a single gram of DNA.***

VISIT BY DIGNITARIES

Mr. Czek Haan Tan, General Manager, Asia Pacific Region and Mr. Arun Natrajan, Principal Engineer from GE Additive

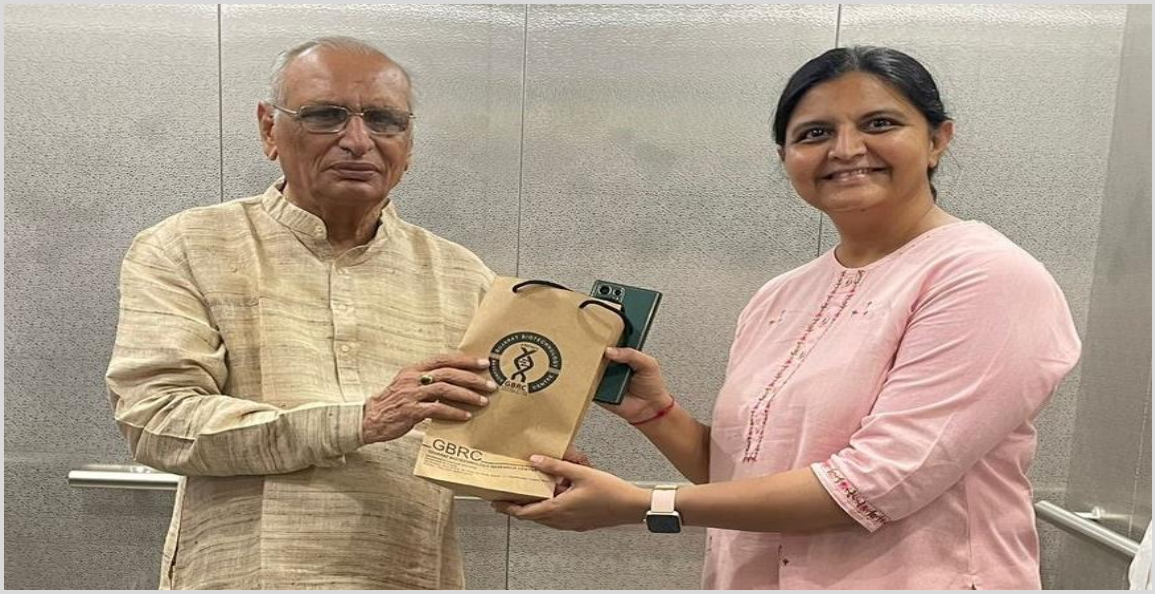
Prof. (Dr.) Col. A. K. Gahlot, Advisor to Governor, Rajasthan & Ex VC, Rajasthan University of Veterinary and Animal Sciences, Bikaner

Faculty members from Institute of Science, Silver Oak University, Ahmedabad

VISIT BY DIGNITARIES

Shri S. B. Dangayach, Founder Trustee, Innovative Thought Forum

Shri P. M. Jadeja, MLA, Gujarat



Shri Surendra Patel, President of CHARUSAT University

VISIT BY COLLEGE/ ACADEMIC INSTITUTES

Students and faculty members from Parul Institute of Applied Sciences, Parul University, Vadodara

Students and faculty members from Arihant School of Pharmacy & Bio-Research Institute, Gandhinagar

Students and faculty members from School of Science and Technology, Vanita Vishram Women's University, Surat

VISIT BY COLLEGE/ ACADEMIC INSTITUTES

Students and faculty members from B N Patel Institute of Paramedical and Science, Anand

Students and faculty members from School of Science, Indrashil University , Ahmedabad

Students and faculty members from School of Medico-Legal Studies, National Forensic Sciences University, Gandhinagar

VISIT BY COLLEGE/ ACADEMIC INSTITUTES

Students and faculty members from Navjivan Science College, Dahod

Students and faculty members from Pragati School, Ahmedabad

Students and faculty members from School of Pharmacy, Dr. Subhash University, Junagadh

VISIT BY COLLEGE/ ACADEMIC INSTITUTES

Students and faculty members from Gujarat Cancer & Research Institute (GCRI), Ahmedabad

Students and faculty members from Parul Institute of Applied Sciences and Research, Parul University, Ahmedabad

Students and faculty members from Institute of Science, Gandhinagar University, Gandhinagar

VISIT BY COLLEGE/ ACADEMIC INSTITUTES

Students and faculty members from Department of Biomedical Engineering, Institute of Technology, Ganpat University, Mehsana

KAUSHALYA TRAINING PROGRAMS

COMPLETED TRAININGS

No	Training	Date
1	Capillary Sequencing and Fragment Analysis	10th – 21st July 2023
2	Next Generation Sequencing	14th – 25th August 2023
3	Metagenomic Data Analysis	11th – 22nd September 2023

UPCOMING TRAININGS

No	Training	Date
1	Plant Tissue Culture and Transgenics	9th – 21st October 2023
2	Analytical Techniques: Isolation to Identification	20th – 1st November 2023
3	*In vitro* Fertilization	11th – 22nd December 2023

CONFERENCE

ORGANISED BY

Indian Society of Human Genetics

INSTITUTE OF HUMAN GENETICS

GUJARAT BIOTECHNOLOGY RESEARCH CENTRE GBRC TRANSLATING

NEW INSTRUMENT

LabChip GX Touch HT Nucleic Acid Analyzer

RECRUITMENT

Contact Information
Gujarat Biotechnology Research Centre (GBRC)
Department of Science & Technology,
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/

GUJARAT BIOTECHNOLOGY RESEARCH CENTRE

DEPARTMENT OF SCIENCE & TECHNOLOGY

GOVERNMENT OF GUJARAT

ANNOUNCES

Shared LAB

Online System

- NGS Illumina NovaSeq 6000
- NGS Illumina MiSeq
- NGS Ion S5 & S5 Plus
- NGS IonChef
- BD Flow Cytometer & Cell sorter
- Capillary ABI 3500 Sequencer
- PCR + Gel Doc
- Nanodrop, Qubit
- Lyophilizer
- HPLC
- GC-MS (Clarus 680/Clarus SQ8C)
- LC-MS
- Digital PCR
- Real time PCR machine
- HPC Server & Param Shavak Server for Bioinformatics (with CLC Genomics)

GBRC shared lab online booking system:

https://gbrc.org.in