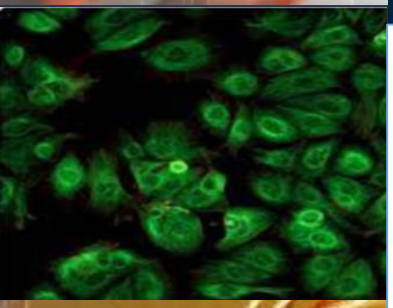
KOSHIKA

Unit of Life, Technology & Communication

VOLUME II, JUNE 2022

VOLUME THEME

Centre of Excellence in Emerging Diseases (CEED)

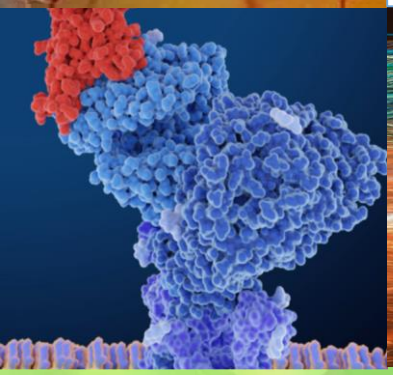


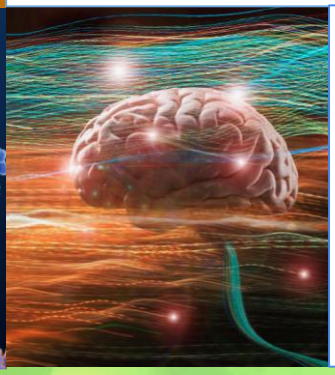
EDITORIAL TEAM

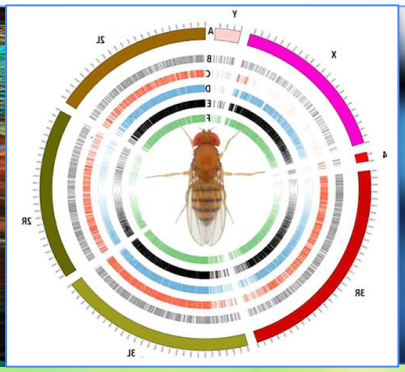
Prof. Vibha Rani

Dr. Sonam Chawla

Prof. Pammi Gauba
(HOD Biotechnology)







DEPARTMENT OF BIOTECHNOLOGY

JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY

(DEEMED TO BE UNIVERSITY UNDER SECTION 3 OF UGC ACT)

TABLE OF CONTENTS

Message From Editorial Team

We, the editorial team, welcome all our readers to the second issue of 'KOSHIKA', the newsletter of the Department of Biotechnology, at JIIT NOIDA, and also take this opportunity to express our gratitude for the appreciation conferred by our readership for the inaugural volume published in September 2021.

"*Opportunities don't happen, you create them*" - Chris Gosser

With Koshika, we have created a multidimensional platform which proudly showcases the many accomplishments of our students, faculty and alumni. We appreciate and further encourage your involvement in the form of feedback, anecdotes, experiences in the department, professional and/or non-professional accomplishments.
The second edition of "Koshika" focuses on the "*Centre of Excellence in Emerging Diseases*" in our department. The Centre is a melting pot of research and innovation in the arena of human healthcare, with laudable accomplishments. The intention is to appraise our readership with the ongoing activities in the centre and inspire the young minds keen to pursue medical biotechnology.
We would like to thank our honorable Pro-Chancellor, Vice Chancellor and HOD for helping and reinforcing our confidence through this journey. We would also like to recognize the active involvement of our faculty members who gave valuable inputs and suggestions.
Looking forward to your feedback and participation.

With best wishes,

Dr. Sonam Chawla
Prof. Vibha Rani
Prof. Pammi Gauba

Message From Head of the Department

The Department of Biotechnology at Jaypee Institute of Information Technology, Noida believes that the students should be nurtured and cared for in the best possible manner to ensure that they have a bright and promising future. The faculty has created an environment which encourages students to explore, learn and provide the necessary support. We ensure that every student gets an opportunity for advancement as per his or her aptitude and area of interest.

Our first edition published in September 2021 was a huge success. Our editorial team did an impeccable job. The newsletter is a product of the hard work that faculty and the students put in on a regular basis. It showcases the same effort and zeal they put into every work they do. I congratulate the editorial team for the second issue of KOSHIKA. I also appreciate the student fraternity and faculty members for juggling different roles and responsibilities with perfection. Each page of the newsletter reflects their accomplishments in curricular and extracurricular endeavors.

I am happy to see an extensive section of contributions by our cherished alumni. Their experiences, success stories and their creative contributions are our medals that we proudly display. I thank them for their inputs and also appreciate the editorial team for reaching out to them.

Heartiest Congratulations!

With best wishes,

Prof. Pammi Gauba

VISION

To be a centre of excellence in Biotechnology for providing quality education and carrying out cutting edge research to produce professionals, innovators, researchers and entrepreneurs.

MISSION

- **To offer contemporary, futuristic and flexible curricula of Biotechnology for teaching and training.**

- **To carry out globally acceptable cutting-edge research through sponsored projects and to provide state of art laboratories for experimental work.**

- **To develop bio-safe, socially, ethically and environmentally acceptable solutions to address health, environmental, industrial, entrepreneurial and societal concerns.**

Programme Educational Objectives

B.TECH. BIOTECHNOLOGY

PEO1: To provide fundamental and practical knowledge in the field of Biotechnology for pursuing research career in industry and academia.

PEO2: To impart analytical and research skills and nurture entrepreneurial endeavours.

PEO3: To develop biotechnologists with professional ethics to address global and societal issues for sustainable development.

M.TECH. BIOTECHNOLOGY

PEO1: To impart advanced theoretical and practical knowledge in Biotechnology and allied fields.

PEO2: To provide domain knowledge and expertise for successful career in academics, research and industry.

PEO3: To develop ethically and socially responsible professionals with leadership and entrepreneurship skills.

M.Sc. ENVIRONMENTAL BIOTECHNOLOGY

PEO1: To impart advanced theoretical and practical knowledge in Environmental Biotechnology and allied fields.

PEO2: To enhance knowledge and expertise for a successful career in academics, research and industry.

PEO3: To develop professionals with social, environmental and ethical awareness.

M.Sc. MICROBIOLOGY

PEO1: To impart advanced theoretical and practical knowledge in Microbiology and allied fields of Biotechnology.

PEO2: To enhance knowledge and expertise for a successful career in academics, research and industry.

PEO3: To develop professionals with social, environmental and ethical awareness.

CEED IN BRIEF

We live in an interconnected world where an upsurge of infectious disease is just a plane ride away. Research at the Centre of Excellence in Emerging Diseases focuses to deliver into fundamental molecular events behind pathogenesis of emerging viral and bacterial diseases, alongside life-style diseases like cancer, cardiovascular, respiratory and diabetes for designing novel and unconventional diagnostics as well as therapeutics.

The research activities within the Centre have brought about ~ 10 crore extramural research funding from several agencies of Govt. of India including Department of Biotechnology (DBT), Department of Science & Technology (DST), Indian Council of Medical Research (ICMR) and All India Council for Technical Education (AICTE).

The centre faculties are engaged to understand and comprehend the molecular and cell biology of pathogen-host-vector interactions; study the pathogen specific remodelling processes; identifying peptide-based inhibitors and exploring molecular interactions for future therapeutics. In present scenario, multidrug resistant strains of almost all group of pathogens are unfolding, the need for new antibacterial compounds is of utmost importance. Initiation for early-stage rational drug discovery for novel antimicrobial agent has been put into more effort. Further, another major domain of focus is to understand the mechanistic role of natural compounds in combating metabolic, neurological disorders and cardiovascular diseases. The bioinformatics group is engaged to study various aspects of cellular processes by building networks of complex frameworks, data mining and pattern recognition and creating sophisticated tools and pipelines to tackle issues pertinent to disease biology. Novel nanotherapeutic based interventions are being explored through Drug loaded polymeric nanoparticles to improve the delivery and bioavailability of antiepileptic and anti-Alzheimer's drugs and for some other CNS related drugs. Nanoemulsions encapsulating natural compounds are being investigated for improved efficacy and bioavailability. To examine and understand more about the genomic variations, genome-wide comparative and evolutionary studies with an eco-evolution point of view, host-microbiome association and interaction, trait variations and adaptations are as well being implemented.

MEET CENTRE FACULTY

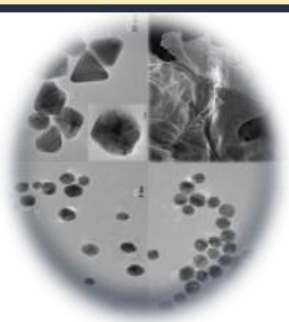
Coordinators:

Prof. Sujata Mohanty
Prof. Vibha Rani

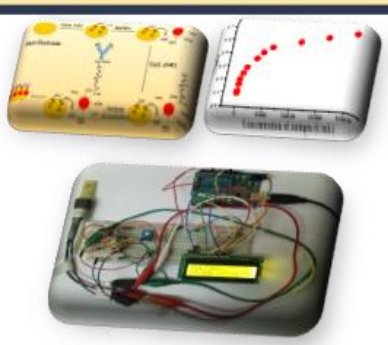
Prof. Sudha Srivastava
PROFESSOR

- Research focuses on biomedical application of nanotechnology.
- Groups's Expertise is in synthesis of metallic nanomaterials (gold, silver, copper), graphene, core shell nanoparticles, composite nanomaterials, polymeric nanoparticles etc.
- Use of nanotechnology for the development of biosensors with improved stability, sensitivity and response time is USP of the group. In addition to above, nanoparticles based vaccine development is also underway.
- Successful Technology Transfer of biosensor for thyroid disease diagnosis
- Indian patent on novel method for making nanoparticles of enzymes itself to enhance their thermal and pH stability.

Nanomaterial Synthesis



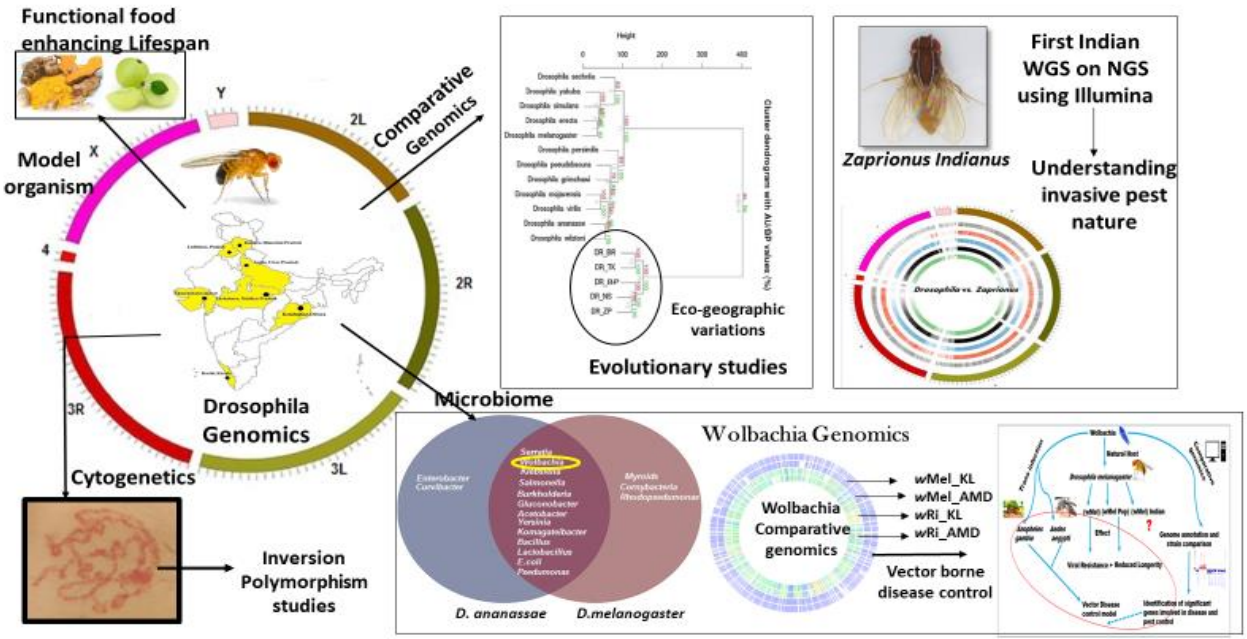
Biosensor Development & Device Fabrication



Nanoparticle Based Vaccine Development

Prof. Sujata Mohanty
PROFESSOR

My research interest focuses on evolutionary and comparative genomics of highly structured *Drosophila* species complex with large scale genomic data generation and analysis with various bioinformatics approaches. Whole genome sequencing of one *Zaprionus indianus* and 10 *Drosophila* species were submitted from our lab to NCBI 'Genome' Bank and this is the first time submission of Indian Drosophila from India. Eco-genomics is a growing field having application in both agriculture and medical sciences with respect to the evolutionary changes it brings in species population. Thus, using WGS of various Drosophila species, the ecological impact on genetic variations was explored providing an insights in to molecular taxonomy field. In addition, my lab is also involved in conducting studies related to phytomedicine, ageing, host-bacteria interaction, The knowledge generated from my research work could be applied to the field of agricultural and medical importance.

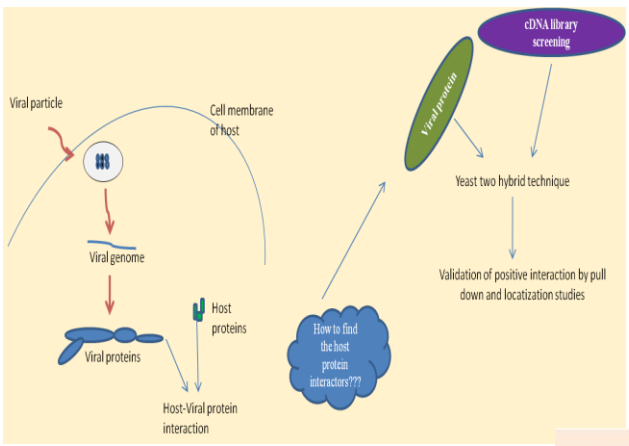


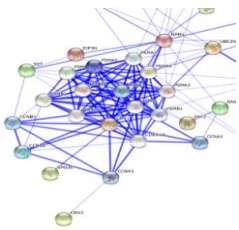
Prof. Reema Gabrani
PROFESSOR

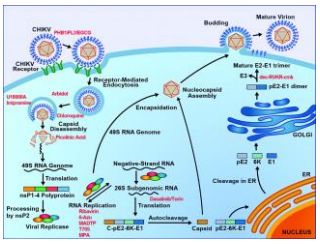
Current research interests in molecular virology focus decipher the chikungunya viral proteins' interaction with the human host. The findings help to elucidate the pathogenesis and identify the targets for therapeutics.

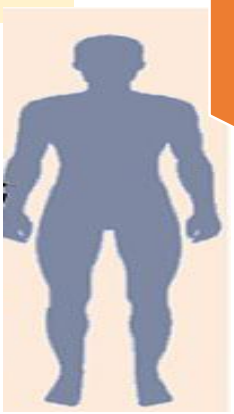
Cancer treatment gets severely impacted due to the development of drug resistance and it leads to the recurrence of the disease. Another research interest is to explore the effect of the drugs in combination on glioblastoma cells. The effect of the drugs is studied on various features of cancer.

Identification of Host-Chikungunya Virus Protein Interactions





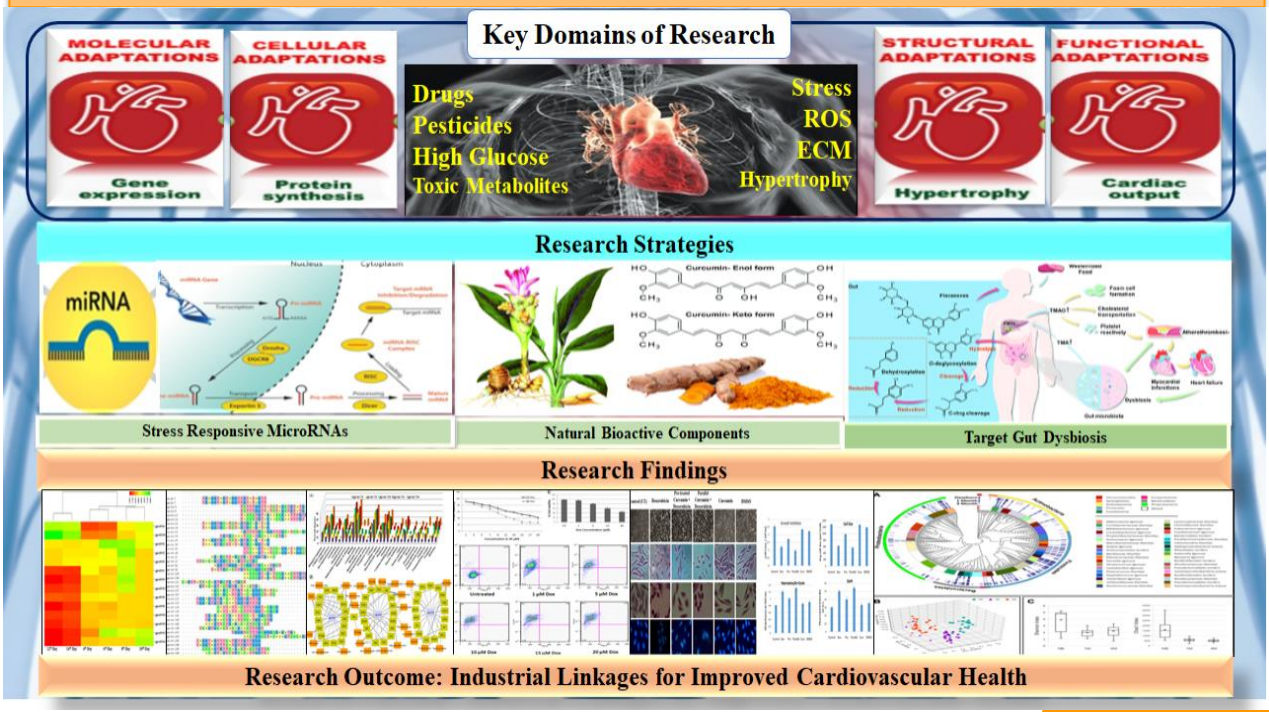




Uncover novel viral-host protein interactions, CHIKV Biology, and mechanism adopted by CHIKV during infection.

Prof. Vibha Rani
PROFESSOR

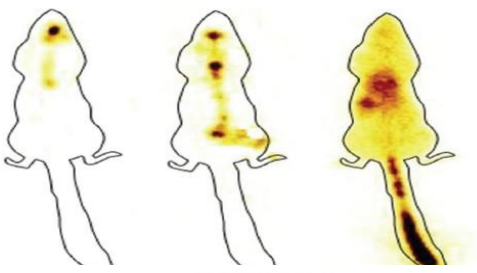
The research work of Prof. Vibha is focused on dissecting molecular pathways involved in cardiovascular complications, developing microRNAs and natural product based therapeutic strategies. Apart from having sponsored research grants of ~ ₹ 45 million (As PI: ~3 Cr & Mentor ~1.5 Cr) from premier funding agencies of GOI, publishing 66 peer reviewed research papers in reputed international journals, she has published two Springer books and filed two patents in the field of microRNAs. She has studied utility of miRNAs in cardiac development and diseases. Her parallel research is towards understanding stress-mediated mechanisms and developing antioxidative therapeutics against most severe human disorders and to combat drug induced toxicity. Recently, she has expanded her research towards host microbe association and the herbal intervention to correct disease specific gut dysbiosis.



Prof. Shweta Dang
PROFESSOR

Research of Prof. Shweta Dang focuses on improving drug delivery and bioavailability of active pharmaceutical ingredients used in the treatment of various central nervous system (CNS) disorders such as epilepsy, Alzheimer, neuropsychiatric disorders, neuropathic pain and cancer. Using biocompatible and biodegradable polymers, nanocarriers have significantly improved efficacy with improved biodistribution, and efficacy. Presently our research is focused on the surface modification of nanoparticles, which has shown to be an effective means to improve the applications of these.

Another important area in which we are working is Drug repurposing. It is the process of finding new indication of the drug already used for any primary indication. Given the high attrition rates, costs, and stagnant pace of new drug discovery and development, repurposing "old" pharmaceuticals to treat both common and rare diseases is a must.



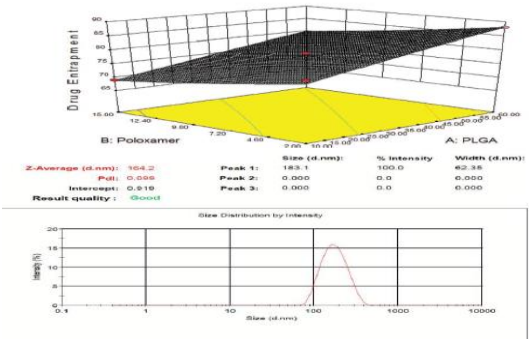
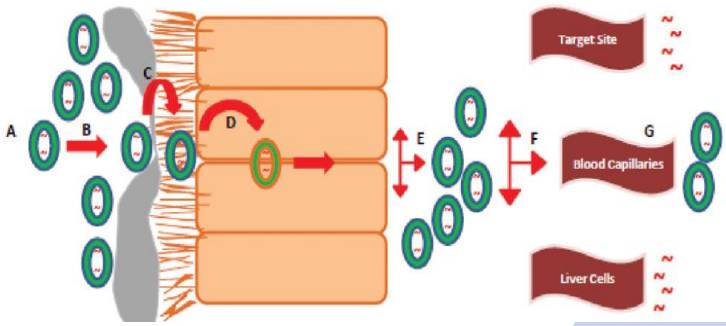


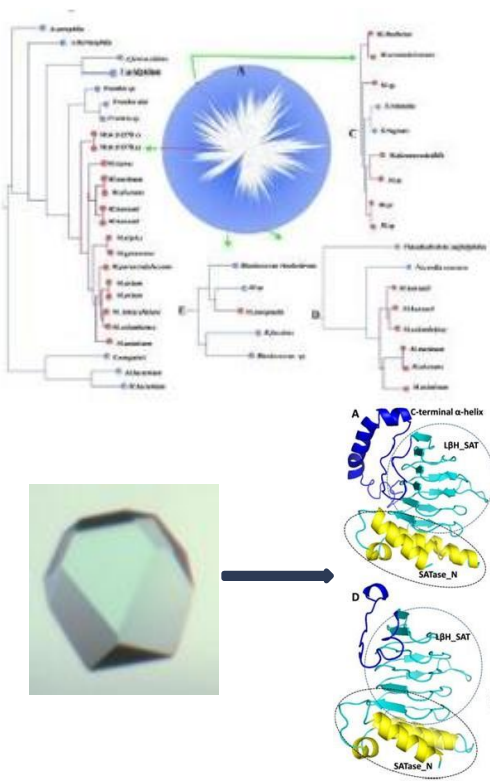
Table I. Independent and dependent factors levels in Box-Behnken design.

	Levels		
	−1	0	1
Independent Factors			
X_1 = Polymer Concentration (w/v)	10	35	60
X_2 = Surfactant Concentration (w/v)	2	8.50	15
X_3 = aqueous/organic phase ratio (v/v)	2	6	10
Dependent Factors	Constrains		
Y_1 = z-average (d.nm)	Minimize		
Y_2 = %	Minimize		



Dr. Vibha Gupta
ASSOCIATE PROFESSOR

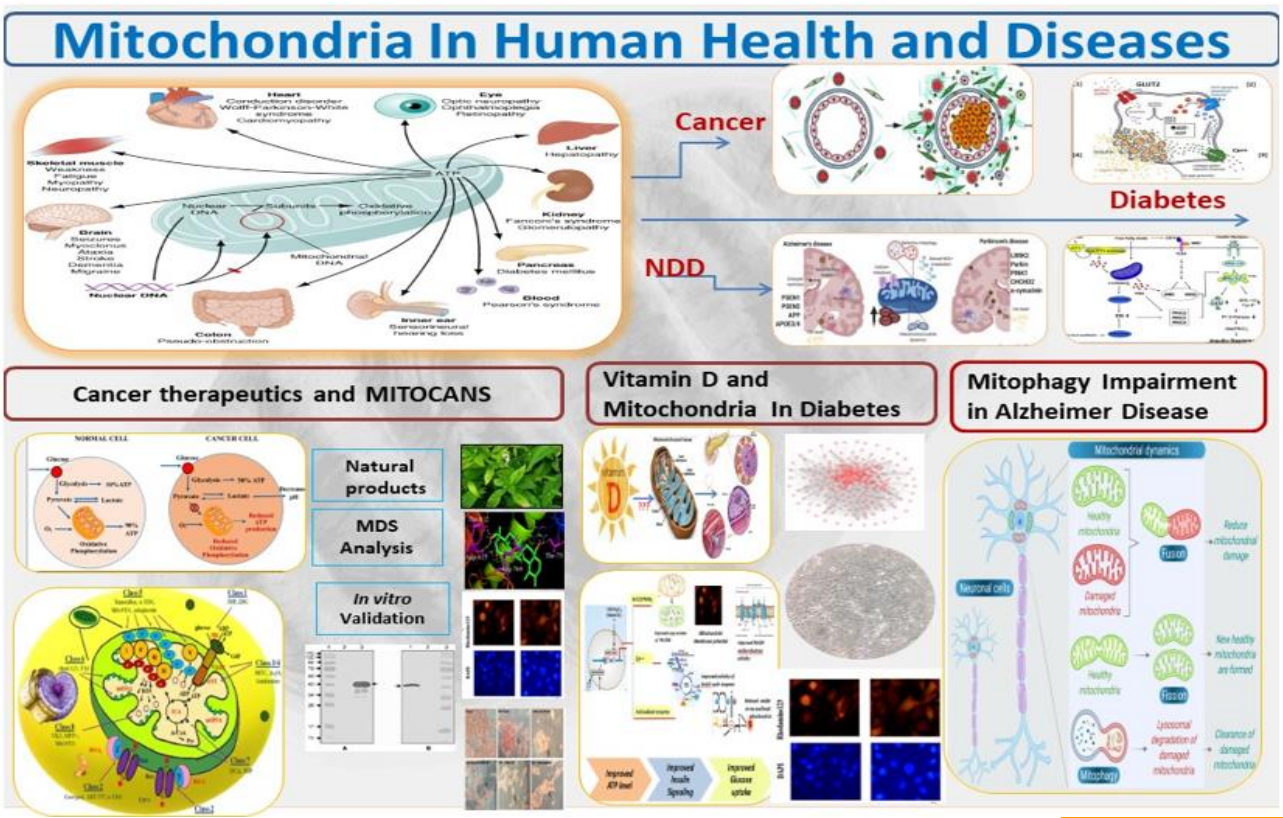
I am a structural biologist and my research efforts are focused towards early-stage rational drug discovery for a novel antimicrobial agent specifically against multidrug resistant and persistent forms of Mycobacterium tuberculosis, the causative organism of TB disease. Understanding the structure-function of drug target of interest through interdisciplinary techniques comprising protein chemistry, biochemistry, molecular biology, biophysics and bioinformatics facilitates drug discovery process. Currently we are exploring inhibitors against de novo cysteine biosynthetic pathway enzyme CysE and Glyoxylate shunt pathway enzyme isocitrate lyase.



Structure-function analysis for drug discovery through bioinformatics studies and experimental validation

Dr. Shalini Mani
ASSOCIATE PROFESSOR

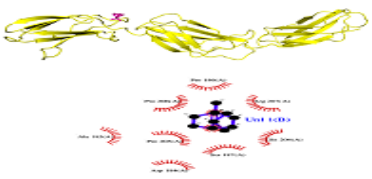
The research area of Dr Shalini Mani is to study the role of mitochondria in diverse chronic diseases and, the consequence of various environmental factors on mitochondrial functions. Her research is primarily focused on bioenergetics of cellular system, oxidative stress, and instability as well as copy number variation of mitochondrial genome. She is currently exploring the role of altered mitochondrial genetics, defective mitochondrial metabolism and the impaired mitochondrial- nuclear cross-talk in causing diabetes, cancer and neurodegenerative disorders. As a translational researcher, Dr Mani is further investigating the in-depth mechanism for therapeutic potential of certain Indian medicinal herbs and their effect on mitochondrial metabolism in such clinical conditions, using different in-silico and in-vitro approaches.



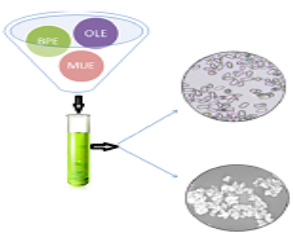
Dr. Priyadarshini
ASSOCIATE PROFESSOR

In spite of advancement in the medical field we are still unable to completely cure kidney stone disease. This disease is multifactorial in nature and also known as Urolithiasis. The underlying molecular mechanism of this disease is not clear yet, therefore, evaluation of factors involved in this disease along with the management of kidney stone is required.

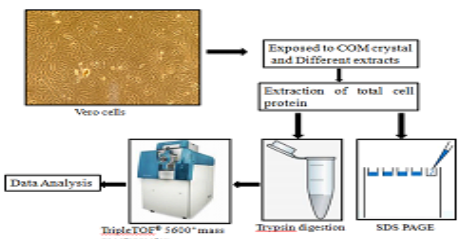
My research work involved in the characterization of molecules involved in urolithiasis through proteomic analysis. For the management of the disease different phytocompounds having antiurolithiatic properties are screened on the basis of structural based computational analysis. Formulation of phytocompounds having high anti-urolithiatic potential are further studied.



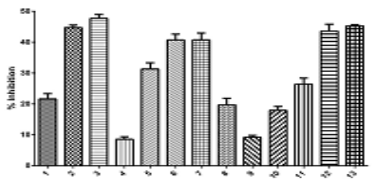
Interaction of Eucalyptol with Fibronectin



Synergistic effect of different phytocompounds



Proteomic analysis of dysregulated protein



Effects of combinations of extracts on nucleation of COM crystallization

Dr. Chakresh Kumar Jain
ASSISTANT PROFESSOR (SENIOR GRADE)

The broad area of research interests are development of computational algorithm/methods used for quantification of biological feature in order to decipher the complex biological phenomenon non-coding RNAs identification, computer based docking , molecular modelling and dynamics, drug target identification and mutational analysis for revealing the antibiotic resistance across the (biowarfare) microbes through machine learning/deep learning models, omics data analytics, and network biology/pharmacology based approaches.

Apart from that research is also focused on to understand the possible therapeutics, based on medicinal plant (Bacopa monneri) components for some neurodegenerative diseases (specially Parkinson's disease) and cancer.

Network Biology and Molecular interaction

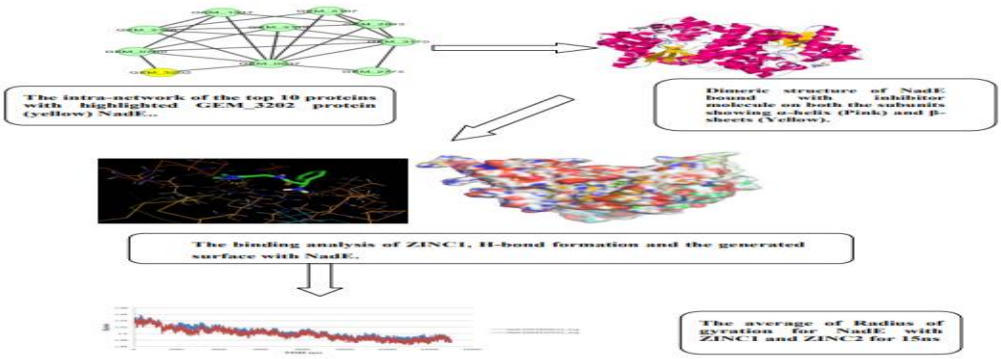
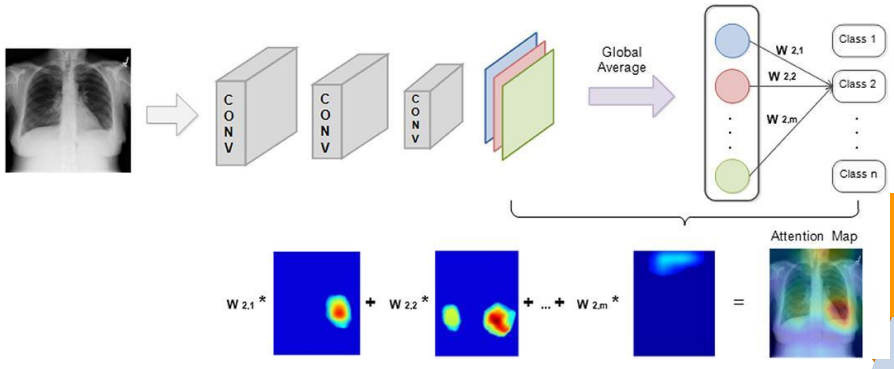


Image Analysis and Deep learning Models

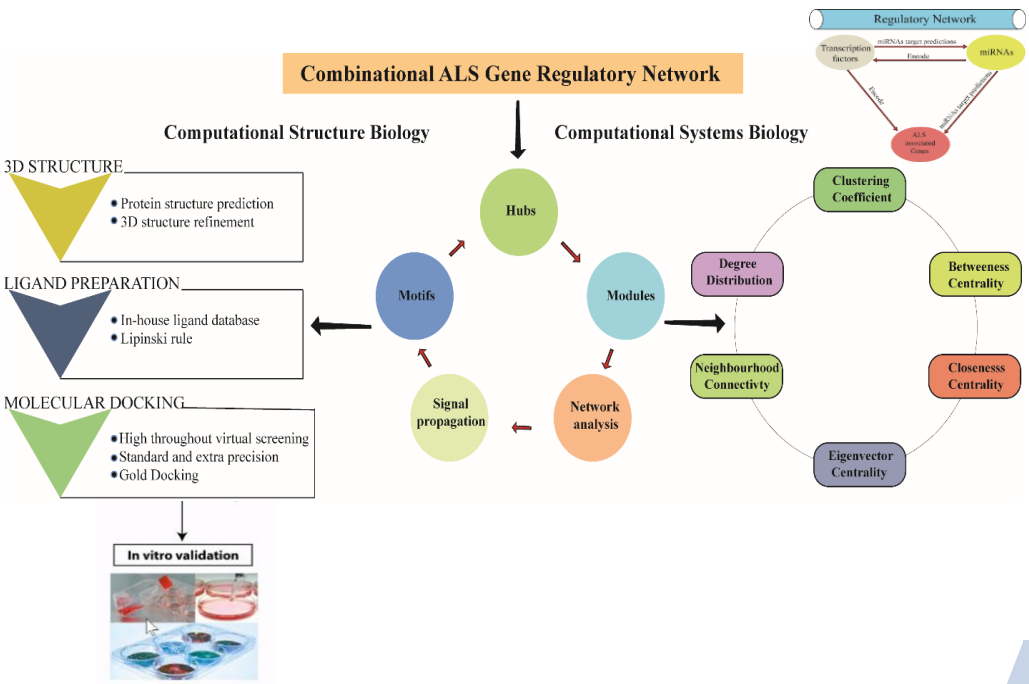


Dr. Shazia Haider
ASSISTANT PROFESSOR (GRADE - II)

Computational modelling and bioinformatics analysis of candidate genes in human diseases

- Computational systems and structural biology study is aimed to identify novel key regulators using PPI database and target prediction tools.
- Construction of Combinatorial Genes Regulatory Network, which includes Genes, TFs, and miRNAs.
- Identification of novel regulators from the selected disease-associated genes using Network theory.
- Modulation of selected novel regulatory proteins with potential natural compounds through structure-based high-throughput virtual screening.

Workflow of the computational systems and structural biology



Published more than 10 research papers in the field of Systems Biology in renowned and highly reputed international journals

Dr. Manisha Singh
ASSISTANT PROFESSOR (GRADE - II)

Dr. Manisha Singh prime research focuses in neuroscience and nanomedicine, along with targeted pharmaceutical delivery using natural compounds for neurological and neurovascular illnesses. Her research group is working on various projects related with targeted delivery and development of nanoformulations like - polymeric and metallic nanoparticles, drug coupled graphene oxides nanoconjugates, nano-emulsions, hydro/nano gels, nanosuspensions, microspheres, nano coacervates, extra cellular vesicles (EVs), Exosomes and transdermal patches. She works on neuroprotective benefits of diverse Indian (Aayush formulations/Chinese/Australian) native plant extracts, essential oils and biologics to combat neurodegenerative disorders. Dr. Singh's lab also expertise in computational validation and exploring networking avenues in neurological deficits and oncological / neuropathic pain complications. Further, she specialises in statistical validation and release kinetics modelling of formulated preparations.

Neurosciences

Neurodegenerative Disorders (NDDs), Neuropathic Pain, Neuropsychiatric Disorders, Neuroinflammation,

Oncological and Metabolic Disorders

Glioblastoma/

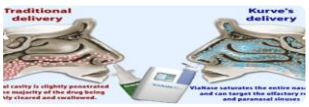
Neuroblastoma, Hypoxia induced Metastatic Cancer, Diabetes, Obesity, Hypertension

COMPUTATIONAL VALIDATION AND DRUG DESIGNING

Autodock, PyRx,

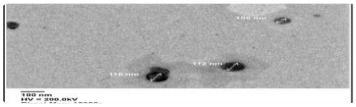
Swiss ADMET, ProTox

Schrödinger (Glide, Prime), Cytoscape



Drug Delivery

Transmucosal, Intranasal, Intra ocular and Transdermal delivery, Extracellular Vesicles, Exosomes Cargo packages Sustained Release of



NANOFORMULATION FABRICATION

Polymeric nanoparticles (NPs), Nanoemulsions, Nanogels, PLGA NPs, Gold NPs, Graphene Oxide nanosheets, Liposomes, Transdermal Patches, Formulation of BCS class IV drugs, Statistical optimization, NPs Characterization (PSA, TEM, SEM, FT – IR, XRD, DSC AFM, Rheology etc., Release kinetics

IN VITRO AND IN VIVO ANALYSIS

Cytotoxicity estimation, Toxicity evaluation in rodent models, Dose Optimisation, Molecular techniques

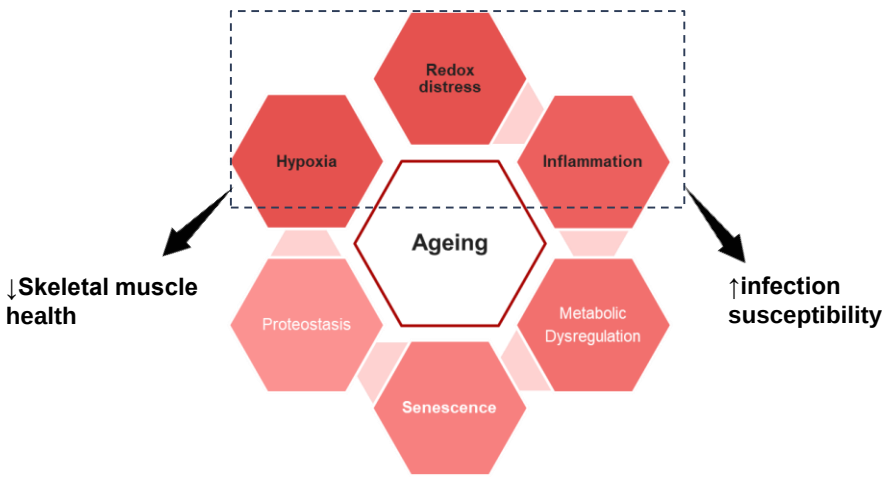
Dr. Sonam Chawla
ASSISTANT PROFESSOR (GRADE - I)

Cellular and molecular ageing

My research focus is on molecular aspects of ageing and the coincident diseases. At present work is ongoing in:

Sarcopenia (age-related muscular decline)
- Evaluation of adaptogenic herbs as intervention
- Development of manually curated database of natural products against sarcopenia

Susceptibility to infectious diseases
- Evaluation of natural products against *Candida spp* infections



- **Published >10 research articles/reviews book chapters in international peer reviewed journals.**
- **H index - 7**
- **> 100 citations**

(CEED Ph.D Alumni)

Name of Student	Passing Year	Current Affiliation
Dr. Sharad Saxena	2020	Cardiovascular Biology Group, ICGEB, Italy
Dr Ainderpal Kaur	2020	Lloyd's College, Greater Noida
Dr Kuldeep Nigam	2020	ICMR, Govt of India
Dr. Rahul	2020	Carewell Biotech Pvt Ltd
Dr Kopal Singhal	2020	The OPAL Premier Pvt Ltd, Rampur
Dr. Deepali Verma	2020	Ram Lal Anand College, University of Delhi
Dr. Aditi Jain	2019	DBT- Perundurai Lab, CCBD, Bangalore
Dr. Nancy Taneja	2019	Kalinga Institute of Industrial Technology - Technology Business Incubator
Dr. Radhika Khanna	2019	Genetix Biotech Asia Pvt. Ltd, New Delhi
Dr. Manisha Singh	2019	DBT, JIIT Noida
Dr. Yashika Rastogi	2018	Department of Plastic Surgery, Indiana University School of Medicine, United States
Dr. Garima Sharma	2017	Noida International University
Dr. Neha Atale	2016	University of Pittsburgh School of Medicine, Pittsburgh, PA,USA
Dr. Ragini Raghav	2016	Atmiya University, Rajkot
Dr. Sonal Gupta	2016	Biogrademy-Own business
Dr Deepak Sharma	2016	Wipro limited, Doddakannelli, Sarjapur road, Bengaluru
Dr Nidhi Bajpai	2016	HCL Technologies
Dr. Namrata Dudha	2015	Noida International University
Dr. Sreejith Rajasekharan	2015	ICGEB Trieste, Italy
Dr. Jyoti Rana	2015	Indiana University–Purdue University Indianapolis
Dr. Kapila Kumar	2013	Manav Rachna International Institute of Research and Studies
Dr. Shikha Shama	2012	IQVIA, Ontorio, Canada

ACHIEVEMENTS

NAME	DETAILS
Prof. Pammi Gauba & Ms. Radhika Bansal	Best presentation Award on "Efficacy of *Cicer arietinum L.* & *Vigna mungo L.* in remediation of Hexavalent Chromium" in ICECAE 2021 by THAME (Tashkent Institute of Irrigation and Agricultural Mechanization Engineers)
Prof. Rachana	Excellence in Phytomedicine and Therapeutics Award, at Healthcare leadership Conclave and Awards at FICCI, New Delhi, by Healthcopeia, Supported by national Coordination Centre for Pharmacovigilance program of India, IPC India and MHFW, Govt of India. Nov 25, 2021
	Women Prestige award 2022 from Lions Club Veg, New Delhi 20 Feb, 2022
Dr. Shazia Haider	Young Woman Researcher in Bioinformatics in the discipline of Engineering from 7th Annual Women's Meet – AWM 2022 held on 5th March 2022, Chennai
	Young Woman Educationist & Researcher in Bioinformatics from India's Most Prominent Women Empowerment Awards- 8th March 2022 organized by Merit Awards and Market Research
Dr. Manisha Singh	Awarded Global Talent (Subclass 858) visa under Global talent Independent Program, Australian Government, February 2022
	Awarded Excellence in Neurosciences and Nanotechnology, by Healthcare Leadership awards, Indian Pharmacopoeia Commission, Ministry of Health and Family Welfare, govt. of India, November 2021
	Commendation certificate for online awareness session and interview on - "Global Opportunities for doctoral studies and research" on 26th June 2021 by Rehabilitation science group channel and PRO – SEED India foundation
	Awarded travel grant by IEEE photonics society for 5NANO2021.
Divya jindal	Awarded with First Prize in Translational Research In Medicine (TRIM) 2022 organized by IITB for Best Proof of Concept Pitch Competition 19th April 2022
	Awarded Travel Grant by AAIC (Alzheimer's Association International Conference, San Diego, USA 31st July to 4th Aug 2022

Recently Sanctioned Projects

S. No.	Principal Investigator	Co-PI)/Co-Investigator(Co-I)	Title	Funding Agency	Grant Amount
1	Dr. Sudha Srivastava	Dr. Deepshi Thakral (Co-PI) Dr. Ritu Gupta(Co-I) Dr. Vibha Gupta (Co-I)	Development of Electrochemical biosensor for detection of circulating tumor DNA mutations in Acute myeloid leukemia.	ICMR	Sanctioned Funds awaited
2	Prof Vibha Rani	Prof Pammi Gauba	Study to Explore Cross Kingdom Regulation of Anticancerous Indian Herbs Derived XenomiRs in Lung Cancer: Basic Research for Future Herbal Oncotherapeutics.	ICMR	Technically Approved Sanction order awaited
3	Dr Shweta Dang	Prof Pammi Gauba	Nano-carrier based nose to brain delivery for anti-psychotic drugs and natural compounds.	ICMR	Technically Approved Sanction order awaited
4	Dr. Vibha Gupta	Dr. Punit Kaur (AIIMS); Dr. Jyoti Sharma (Institute of Bioinformatics)	Reverse pharmacology and multi-target approach for designing of novel therapeutics and candidates for Covid-19.	ICMR	42.9 Lakhs
5	Dr. Jyoti Sharma (Institute of Bioinformatics)	Dr. Vibha Gupta	Development of computational framework for COVID-19 multi-omics data analysis.	ICMR	28.3 Lakhs
6	Prof. Pammi Gauba Prof. Vibha Rani	Prof. Shweta Dang (Co-pi) Centre Representatives: Prof. Reema Gabrani & Prof. Indira Sarethy	Development of Natural Product Laboratory for Advance Research.	DST-FIST	66 Lakhs

OPEN HORIZON

(Student Corner)

Tips To Combat Work Related Stress

As most desk jockeys would know and feel how sitting over keyboard for long hours feels like! Ending up the day with tightened hip and thighs, stiff shoulder and back, humped neck, and so on. It may not be a joke but our lifestyle is killing us & yes it might actually be true. While thinking of it, work-related stress seems to be main culprit but actually there's another danger i.e. SITTING.

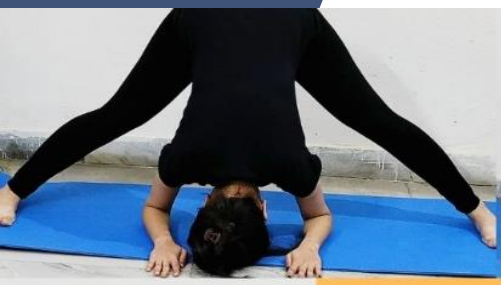
"Sitting is the new smoking"

Practicing 15 minutes of moderate-intensity exercises and meditational techniques will enhance mental and physical well-being. This can easily be accomplished at home, office or anywhere with no specific instrument and confined area. Therefore, summing up some of the basic tips focusing on the area of tension to remain active and minimize sedentary lifestyle.

- ✔ Opting for short active breaks while at work- short and easy activities like walking on or about the working spot with simple stretching, casual bending and extensions.
- ✔ Rotating joints and moving muscles- for opening joints rotate head, wrists, shoulder, elbow, feet clock and anti-clockwise and try stretching muscles of hands and legs.
- ✔ Standing and sitting up- Ideally, this will abort the sitting and reclining time usually after every 30 minutes.
- ✔ Relax- Gazing at any object far or near for 10 mins, closing eyes with focus on deep breaths.
- ✔ Smile -whenever, wherever possible.

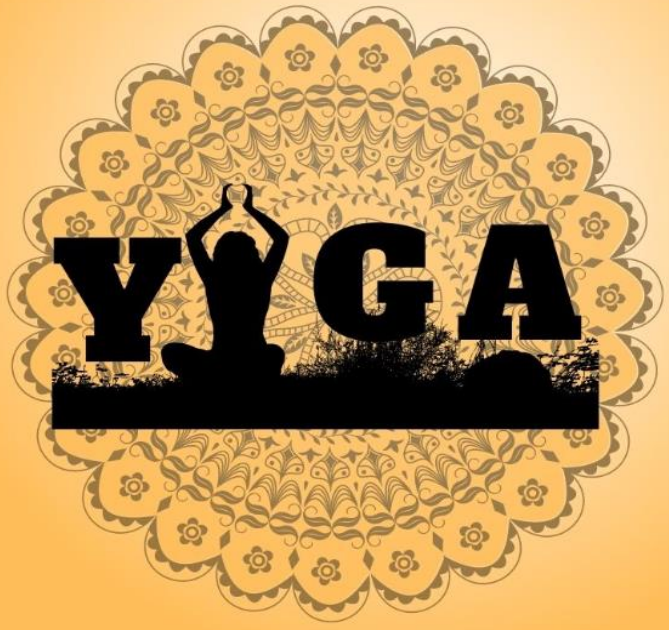
I am happy to share few "Yoga Poses" for healthy body and mind:

'योगा से ही होगा'




परस्पर देवो भव ॥
सर्वदुखःनिर्वृत्ति । परमानन्दप्राप्ति ॥

paraspara devo bhava ॥
sarva-dukha-nivrtti ; parmananda-prapti ॥



For everyone, everywhere,
to realize the presence of divinity in
themselves and
creating the cessation of miseries and
suffering,
and attainment of supreme bliss.








Priyadarshini Gupta, (Inspire Fellow)

Sunshine-Sunshine Salvage me from falling prey,

The Dark is on a hunt.

Silence of this sunless day,

The ray of hope won't fade away.

Sunshine-Sunshine Salvage me from the deadly Play,

The Dark is an accomplished falconer.

Sunshine-Sunshine now that I've leapt half way,

The Dark seems fading grey.

Thou shalt not abandon me for the rest of the day,

Avaunt, The Dark is on a hunt.

©-Rishikesh

Rishikesh Kumar, Integrated M.Tech

Attitude Vs Reality

I wonder today, what would have happened

If I had let some paths in life abandoned

Would I be happy if I didn't make the decisions I made? Would I have been sad to leave some choices because I was afraid? Because I couldn't see the future of my ambitions,

I had to believe in advices before embarking on life's missions,

Today I am proud of believing in myself too

Without which, it would have been impossible to come through. I can't help but think about those endless thoughts, Where my appreciation for my talents was at loss

It broke me to think so little of my capabilities,

By always overthinking about my responsibilities

This is something life taught me

My attitude

Could change

The reality.

[NOW READ BACKWARDS]

OPEN HORIZON

(Alumni Corner)

Meet Our Entrepreneur

Mr. Akash Subramanian

Start-up: MeraMaali

akash@meramaali.com

Passed out JIIT Noida at 2010-2014 batch in Biotechnology. Worked with Advance Surfactant's for less than a year and then studied for my GRE's and gave my examination. Got through Illinois Chicago for Master's in Plants science Management but opted to start a business in India.

ACCOLADES

- **Incubated under the ATAL INCUBATION Program – 2019**
- **Mint Business Top 30 Entrepreneur's under 30 in Urban Gardening Segment**
- **Became Consultants for PWD Delhi Government**
- **Consultant for Business Blaster's Program of Delhi Gov. School for Entrepreneurship**

Akash Subramanian and Parikshit are a blend of B. Tech in Biotechnology and BBA graduate with Agri Business sector experience of 3 years before they started MeraMaali. Both having opportunities to go abroad to pursue their respective Masters education in ivy league colleges namely Harvard Business School and Illinois Chicago opted to stay back to pursue MeraMaali in Delhi to bridge a very big gap in the industry which they saw realizing it as the need of the hour. With the alarming pollution levels rising day by day in the country, everyone has realized the importance of Green and plants in one's life, but there is no right kind of service available in the market to provide skilled and dedicated gardeners to provide them with solutions and right guidance. So both dropped the idea to pursue their education ambition to bring out a change in the society in a major way to inculcate the importance of plants and greens in urban space and creating a platform for the same with the digital transformation by utilizing new technologies into the gardening sector to create MeraMaali.com.

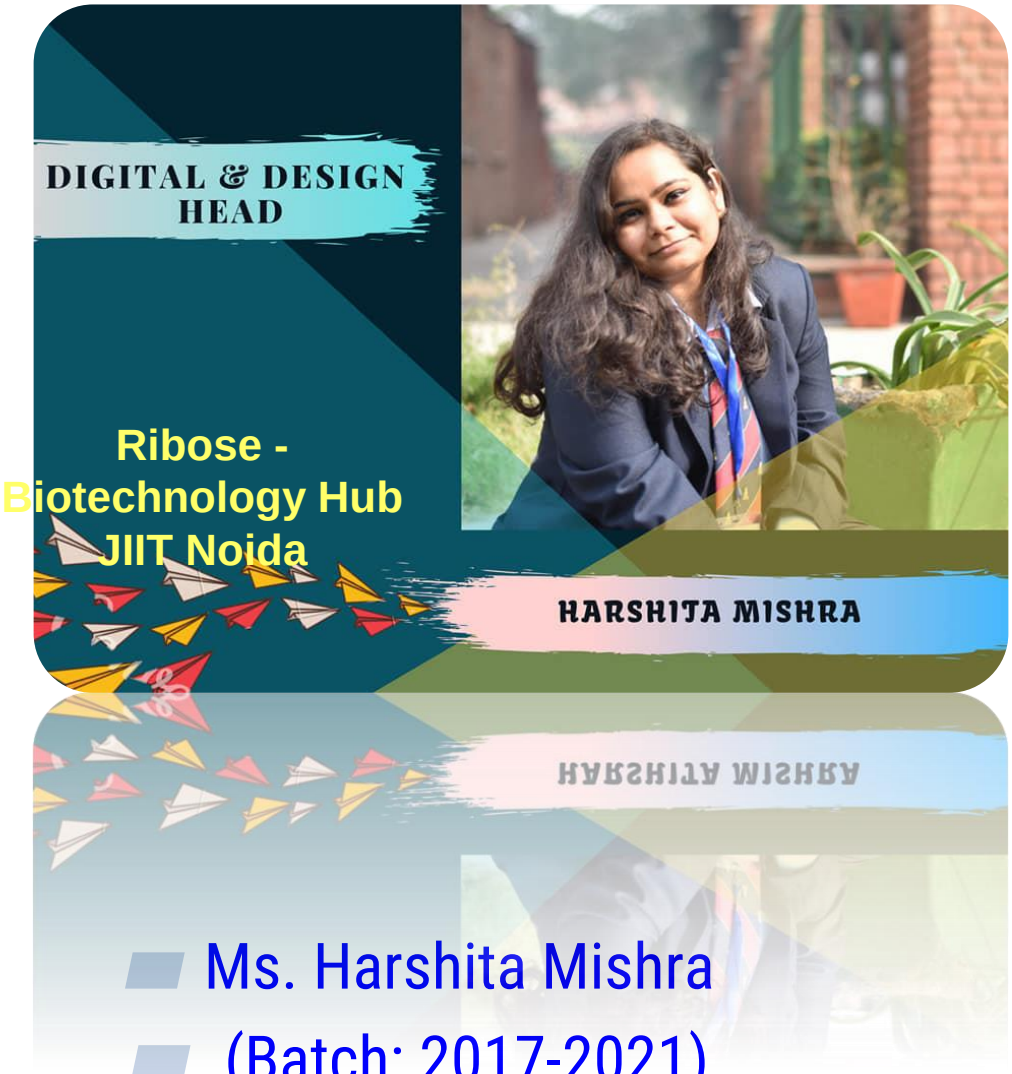
Business idea

With a vision to revolutionize Gardening and providing a one stop shop for all its customers wherein in end to end services from designing to execution and maintenance of Green Urban Spaces. With a 360 DIGITAL PLATFORM MeraMaali likes to inculcate healthy lifestyle among customers to provide them the right knowledge and solutions and provide customized solutions-based fit. With trained Gardening experts MeraMaali would like to incubate the gardeners and encourage Gardening as a corporate profession and organize this unorganized sector to harness the right skills for it to grow and reach the customers to bridge the gap of the industry.

Mr. Akash Subramanian

IKIGAI

The Japanese Secret to a long and Happy Life



Ms. Harshita Mishra

(Batch: 2017-2021)

:Current Affiliation:

(Research Associate, Apelo Consulting)

IKIGAI is one of my favorite read. I would really like to appreciate the authors Hector Garcia and Francesc Miralles, who have tried to sum up what actually our lives should be surrounded with to lead a long, meaningful and happy life. It's a incredible concept that can help a lot of people. Finding your reason to live will aid you in finding a deeper level of happiness and meaning, whether you want to live longer, stuck in your job, or desire a deeper level of pleasure and containment.

The book reflects that in Japanese culture how important it is to have a purpose in life. In today's era where people have engrossed themselves in their work resulting in a bad life style. There's this book which comes in scenario and teaches us the importance of how an active mind , a youthful mind drives us towards the healthy lifestyle and slows the ageing process.

The book has few components that I'll try to compile here:

- **Stay active, don't retire : It's an old saying a healthy body leads to a healthy mind.**
- **Take it slow: Walk slow and you will go far.**
- **Don't fill your stomach: Do not stuff yourself, follow the 80 percent rule to lead a healthy life.**
- **Surround Yourself With Good Friends: Friends are the antidote to all our worries.**
- **Get in shape for your next birthdayKeep your body moving. Keep exercising as it releases serotonin, the happiness hormone.**
- **Smile: Let your smile be the "Expecto Patronum".**
- **Reconnect With Nature: Humans are made to be a part of natural world , we should return to it to get ourselves charged up.**
- **Give Thanks: Express gratitude towards everything and everyone.**
- **Live in the moment: Stop being apologetic about the past and being agitated about the future. Focus on the present.**
- **Follow your Ikigai: Follow your passion that pushes you to live your everyday at its fullest.**

A compass pointing to a specific object is far more vital than a map. If we want to improve our ability to achieve a state of balance, meditation is the perfect accompaniment to all of our distractions.

MY JOURNEY: DESH-TO- VIDESH

CHASING MY DREAMS

Mr. Shubham Rajput

(Batch: 2017-2021)

:Current Affiliation:

Incoming MS (Biomedical Engineering), August 2022

“ Start where you are, Use what you have, Do what you can. Opportunity is everywhere. The key is to develop the vision to see it ”

Dreams do come true when you pursue them. Five years back, I was an average student from a traditional family stuck with what many people claimed were fantasies of studying in the United States of America and ambitions bigger than me. It still feels like a dream to me. Getting admission to top-tier colleges including Ivy League Universities, could not have been possible without the guidance that I got from JIIT, colleagues and I can’t thank my teachers enough. I got my first exposure to medical marvels in the initial phase of my life as my mother was diagnosed with chronic kidney failure. After that, my encounters and discussions with medical professionals and my efforts to demystify this industry's structure, workings, and impact profoundly transformed my life. Since then, I got intensely inspired by and fascinated with the field of science, particularly biology, which has altered my understanding in multiple ways. Studying, exploring, and researching the latest medical discoveries became my favorite pastime. Since high school, I have had a solid grounding in science as a subject.

In 2017, I chose Jaypee Institute of Information Technology to complete my Bachelor's degree in Biotechnology, extending my knowledge base and research skills. College is merely college for some students. You go to college, graduate, and start your adult life. I don't think many students consider how influential their institution has been in their lives, but I have, and I can honestly say that I would not be where I am now if it weren't for JIIT, to whom I owe a tremendous thank you for being the place where I discovered myself. I was able to expand my wings and become the best version of myself, as well as be a part of unforgettable experiences and once-in-a-lifetime opportunities that I don't believe I would have had any other way. My time at JIIT taught me one important lesson: life is unpredictable. Expect the unexpected. It could be nice, unpleasant, strange, or uninteresting, but expect anything to happen. It's the perfect balance of happiness and adversity.

I’m grateful to my professors who act as guiding stars in shaping my life on the right path. They have been pillars of strength for students. The devoted availability of professors to answer any question that pops up in our heads has directed our energies to positive fruition. My major and minor project supervisors were just a text away and have always walked the extra mile to help me in a situation of crisis. It truly feels an honor to be supervised by a mentor like Prof. Pammi Gauba who has been the guiding light and my academic advisor throughout my undergraduate journey, she has been an endless informational resource who is always available for students despite having huge responsibilities being HoD. I have never seen a more selfless professor than her.

I'll forever be grateful to her for being an inspiring professor. I must also mention Prof. Vibha Rani and Dr. Shweta Dang who helped me clear the clutter in my brain and choose biomedical engineering for my higher studies. Their courses like Molecular Biology, Biopharmaceutics, and Pharmacokinetics, helped me to refine and narrow down the scope of my research interest which made me choose Drug Delivery and Tissue Engineering as my concentration.

Lastly, The integration of mathematical, biological, physical, and chemical concepts in the Biomaterial Science course taught by Dr. Papia Chowdhary helped me better comprehend the domain of Biomedical Engineering. In this, I studied how Biomaterials and Physics concepts may be applied to restore function, assist healing, and improve drug delivery systems I'd want to express my heartfelt gratitude to all of the faculty members in the Department of Biotechnology for their unwavering dedication to and concern for their students. During the Pandemic, You've displayed the actual nature of our university community. Aggies never back down from a challenge; instead, they rise to it with decisive action, inspired creativity, and unwavering determination.

For student aspiring to continue their education in Biomedical Engineering at top universities- Biomaterial Sciences, mathematics, and life science courses such as Stem Cells & Regenerative medicine, Molecular Biology, and Genetic Engineering at JIIT is highly recommended as this is the single most important factor which helped me get admits in some of the most sought-after courses (eg. Cornell University, Dartmouth University, Carnegie Mellon University, Northeastern University, UTD, Arizona State University).

Big Thanks to my seniors and friends who have been there for me in all the rainstorms and rainbows and have always been like a guardian to me. I wish everybody who is or plans on studying Biotechnology, the best of luck.

I assure you, that you are on the right track. Make the most out of the resources that you have and work hard!

Mr. Shubham Rajput

Moving Bioresources to Bioeconomy

- Mr. Raveesh Malik
- (Batch: 2016-2020)
- **Current Affiliation:**

Strategic Partnerships and Entrepreneurship Development Biotechnology Industry Research Assistance Council (BIRAC)

Estimating Technology Readiness for Product Development

Enterprising ideas in the biotechnology sector is complex and requires long gestation periods. Depending upon the technical maturity and stage of development a particular innovation is in, Technology Readiness Levels (TRLs) are a standard metric to evaluate the evolution of an innovation from ideation to the highest degree of application/commercial readiness. Originally developed by NASA, the use of TRLs enables consistent and uniform discussions of technical maturity across different types of technologies.

TRL 1-3**,** namely **Ideation, Proof of Principle,** and **Demonstrated Proof of Concept focus** on the basic research to substantiate and formulate a hypothesis as a solution for an unmet need in society. To take an eventual form of a breakthrough product or technology, it is essential that a real need for a proposed innovation is traced down through enquiry from the end-users.

TRL 4 is **Established Proof of Concept** and ***TRL 5-6*** are **Early Stage Validation**. These three levels pivot on the development of the proposed innovation into a value-added product. The research parameters are scaled up to prove the concepts at higher production levels (firstly, at a bioreactor level of ⩽100 L, and then at an industrial level of >100 L) with optimised core conditions, validating the product's critical properties, analytical predictions, efficacy and efficiency.

TRL 7-9 are ***Late Stage Validation***, ***Pre-Commercialization***, and ***Commercialisation*** *and* ***Post Market Studies*****.** TRL 7-9 emphasizes on the deployment of a product in a marketplace. Rigorous testing and multiple field trials are carried out for a pilot-scale demonstration of the technology.. The product is hence commercialized, with the delivery of the end product to the consumers by establishing a well-versed supply chain.

Product development and commercialization is a juggernaut of ups and downs, and every industry has its own unique set of quirks involved in creating something new. Thus, novel innovations should congruously communicate their utility to prevent falling into the valley of death. TRLs ought to be systematically addressed as well, so as to allow technology to evolve from conception through to research, development and deployment to reach the last milestone of application.

Mr. Raveesh Malik

OPEN HORIZON

(Faculty Corner)

Power of Biological Networks

The Human system is a constellation of biomolecules like genes, proteins, metabolites, and others. These molecules interact with each other directly or indirectly to perform a particular function inside a cell. To understand how these biomolecules relate and interact with each other is through the construction and analysis of networks using different approaches. Networks may consist different or same type of components (Biological networks) to construct a system. In case of network, nodes represent the entities of a network. For examples, in social network individual person considered as nodes and individuals who've become friends (other nodes) are links by edges. In biological network nodes can be represented as protein, gene, transcriptional regulators (transcription factors; Tfs), post transcriptional regulators (micro-RNAs; miRNAs), epigenetic markers, diseases, phenotypes. The definition of connection/edge (undirected edges) is depending on the type of network such protein-protein network in which edges are the representation of physical connection between two different proteins. In, gene regulatory network edges (directed edges) reflect the regulation of nodes. In a co-expression network, an edge indicates that two genes are co-expressed to some extent.

THE HUB NODES: MASTER'S OF THE NETWORK

Hub nodes considered as the master regulators of the network. These are the nodes which possess the largest connections with other nodes and generally they are the 20% of total nodes of the overall network, despite the fact that this is an arbitrary definition. Hubs play an important role to control the signal propagation, stability and integrity of the networks..

NETWORK ORGANIZING PRINCIPLES

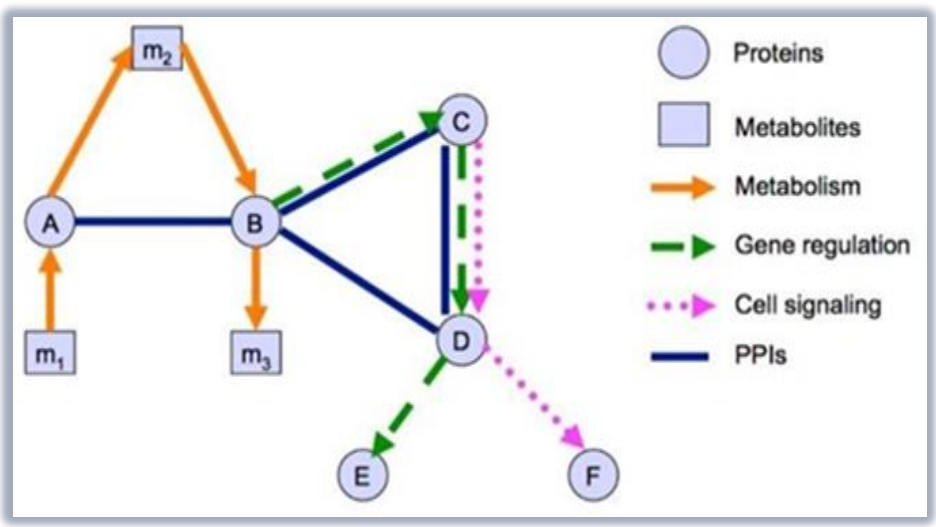
Random network: The number of links (edges) per node in random network has a normal distribution.

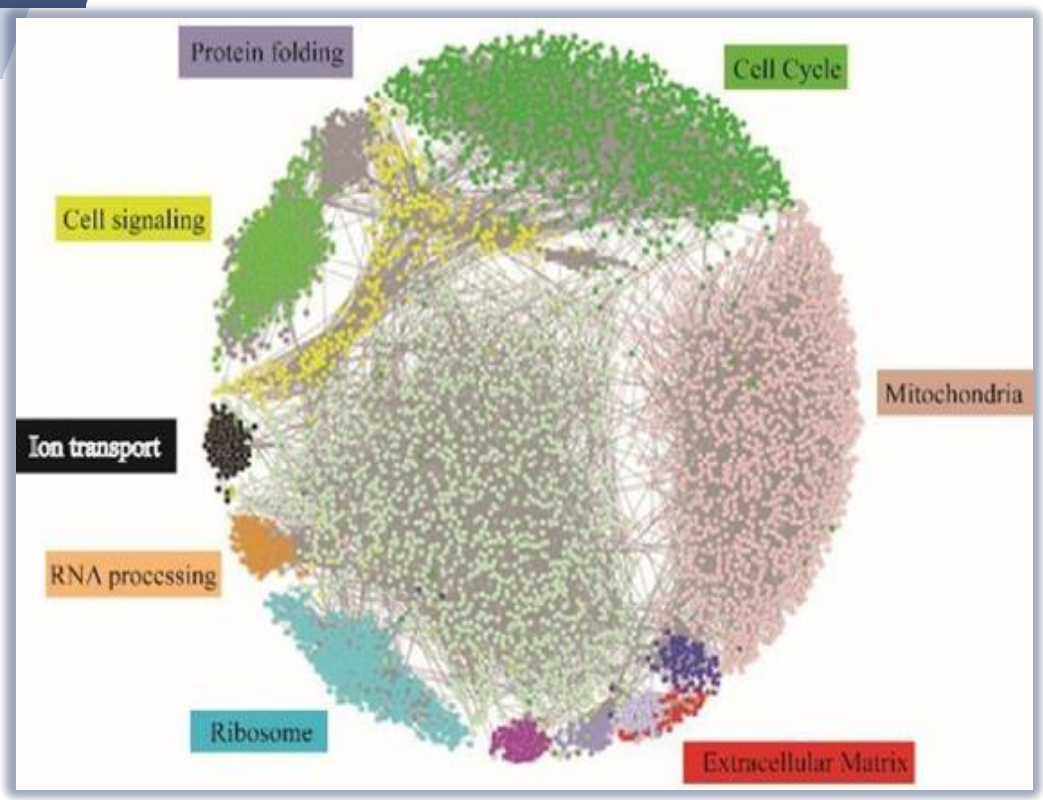
Scale-free network: Lesser number of nodes have higher degree while larger number of nodes consist lesser degree in scale-free network. One of most interesting concepts is that as genomes have duplicated over time, they have become much more complex. Any gene linked with a duplicated gene will form the connection with new gene as well and in results, the connected genes will create the large number of new links due to gene duplication; means that is, the rich get richer.

Modularity: In biological networks, the functional modules contain number of highly clusters entities which perform a particular function These groups of nodes are known as functional modules. A disease module is a cluster of entities which are responsible for a particular kind of disease due to aberration in functional modules. These disease modules help us to reveals the new disease genes and their function in the network.

TYPES OF NETWORKS

Phenotypic or disease networks do not depic interconnections present in cell; rather, they highlight connections among related traits or diseases with common pathophysiology eg., Multiple diseases can be caused by the similar or different mutations in particular gene. On a genome-wide scale, Protein-protein interaction networks, helps to understand the physical interactions between proteins, key regulators, and also elucidate the novel disease understanding.





Disease genes commonly interact physically with one another, one approach for discovering novel genes is to search for PPI network neighbours of identified mediators. Co-expression networks are the most adaptable of the numerous types of networks for probing disease. Co-expression is a term that refers to relationships in transcript levels, however, it is possibly implemented to any biological scale to examine correlational interactions. By using the, co-expression analysis of network we can identify the down-regulation and up-regulated genes of the network.

Application of network-based systems genetics studies:

- ❑ To identify the new gene and cluster of nodes causing disease.
- ❑ To understand the functions of genes and their interacting partners.
- ❑ To understand the different types of omics data (proteomics, genomics, metabolomics etc.)

नारी तुम शक्ति हो

तुम नारी हो तुम शक्ति हो
तुम प्रीति हो तुम भक्ति हो
आधार स्तम्भ हो तुम सबका
हर एक में तुम इक व्यक्ति हो
तुम नारी हो तुम शक्ति हो

जब भी कोई मुश्किल आयी
तुम साहस बनके अडिग रही
तुमने तोड़े सारे बंधन
तुम चट्टानो सी सबल रही
तुम प्यार की भी अभिव्यक्ति हो
तुम नारी हो तुम शक्ति हो

तुमसे रौशन है सब संसार
तुम देती हो सबको आकार
इस जीवन का तुम ही आधार
तुमसे डरता है अंधकार
तुम सबसे पहले जगती हो
तुम नारी हो तुम शक्ति हो

आज भी है प्रेरित करती
कितनी गाथाएँ तुम्हारी ही
तुम आज भी हो पूरा करती
कितनो को जीवनचारी सी
तुम कुछ भी तो कर सकती हो
तुम नारी हो तुम शक्ति हो

प्रोफेसर रचना

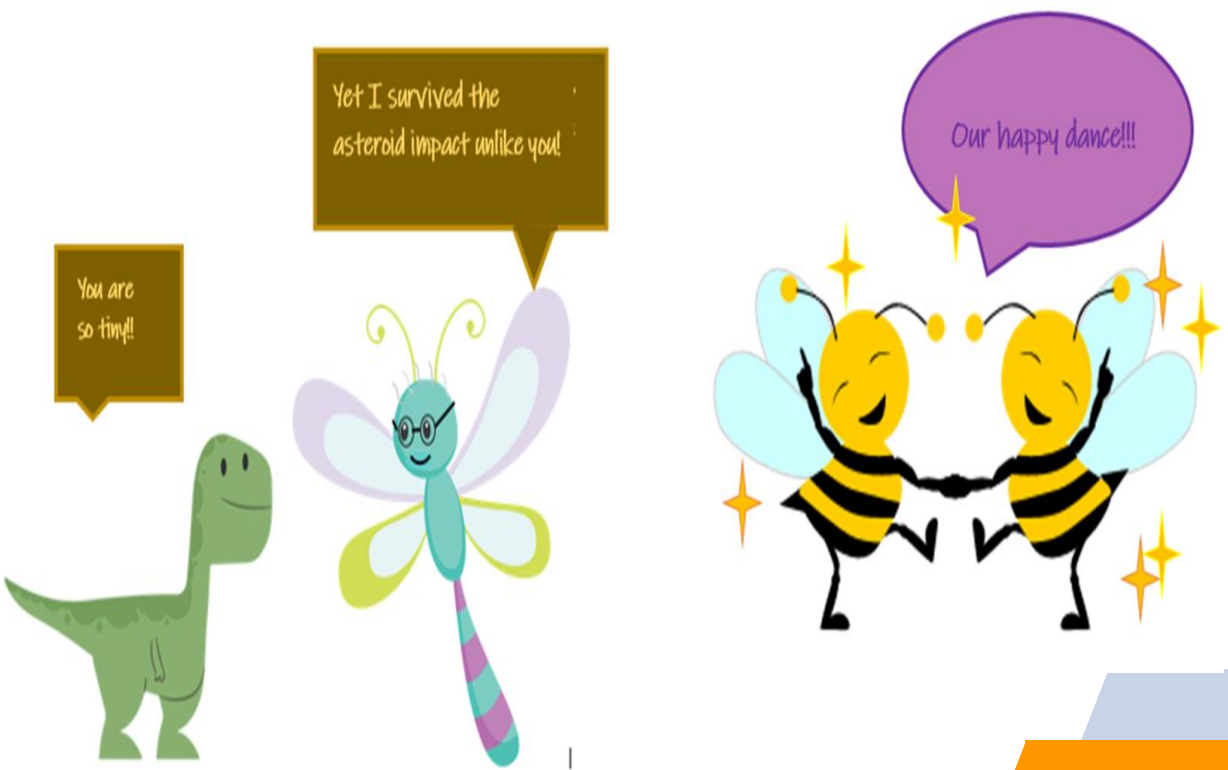
Interesting Insecta !

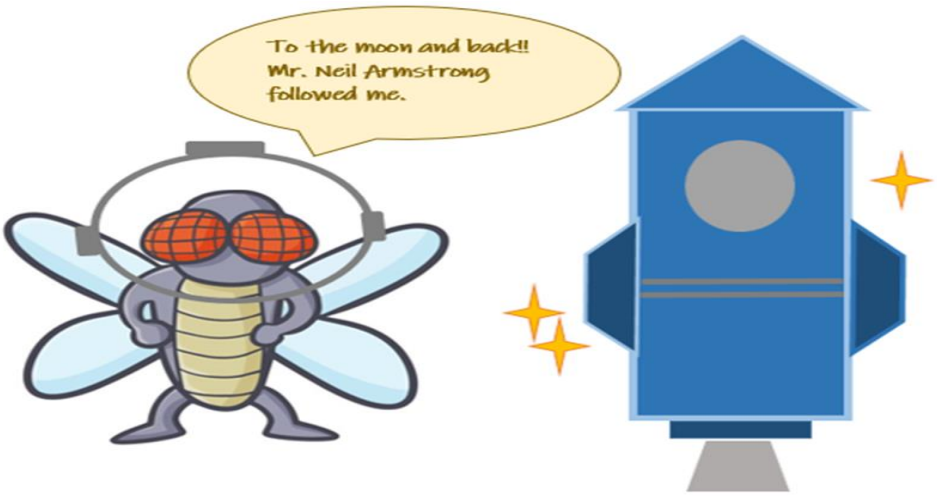
a. **In 1920s, Karl von Frisch indicated that when honey bees find nectar in flowers, they fly in a unique fashion and perform a sort of dance that help various other bees to find nectar in the area. A single** honeybee colony can mass-produce about 100kg of honey every year.

https://www.nobelprize.org/prizes/medicine/1973/frisch/facts/

b. Fruit flies were the foremost living creatures to be sent into space. In 1947, they began their travel in a V-2 rocket. They reached an altitude of about 68 miles in less than 200 seconds. They returned to the earth by parachute.

https://www.nature.com/articles/laban.451#:~:text=Fruit%20flies%20were%20the%20first,returning%20to%20Earth%20by%20parachute.





c. Dragonflies have been on earth for 300 million years. A single dragonfly can eat 30 to hundreds of mosquitoes per day. They can fly straight up and down, hover like a helicopter.

https://www.smithsonianmag.com/science-nature/14-fun-facts-about-dragonflies-96882693/

d. Cockroaches are omnivorous and were introduced to America from Africa in 1625. From America they have spread throughout the world through commerce. Cockroaches are omnivorous and their scientific name is Periplaneta Americana meaning around the world from America.

https://entnemdept.ufl.edu/creatures/urban/roaches/american_cockroach.htm

Write-up: ***Dr. Priyadarshini***
Images Credit: ***Ananya Trivedi, B.Tech III Yr***

FESTIVE VIBES

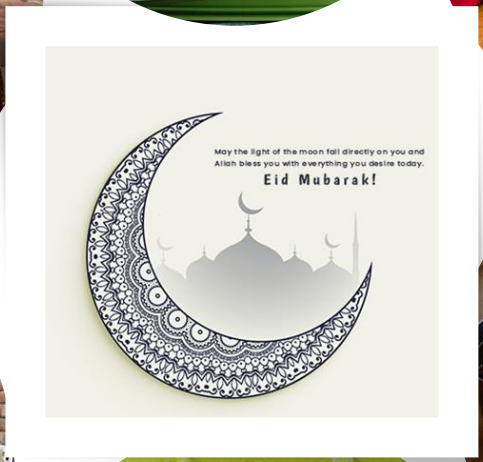
Navratri Celebration with Different Colors

"Color of Purity, Peace, Passion, Patience, Prosperity, Power, Perfection & Perseverance"

Diwali Celebration

"May the supreme light of Diwali illuminate our minds, enlighten our paths and strengthen our will power"

Eid Celebration



"Department celebrated festival of Eid to embark the journey of self-discipline, self-control, sacrifice and empathy"

EVENTS ORGANIZED

(January 2022 Onwards)

International Conference on Advances in Biosciences and Biotechnology (ICABB-2022)

20 - 22 Jan, 2022

Department of Biotechnology organised its 5th Chapter of International conference on Advances in Biosciences and Biotechnology on the Theme: "Innovations in Life Sciences and Computational Biology (ICABB-2022)". The objective of the conference was to provide opportunities for the exchange of ideas, scientific knowledge and experience amongst researchers, academicians, Scientists and students from Biological, Medical, Environmental, Agricultural and Computational fields.

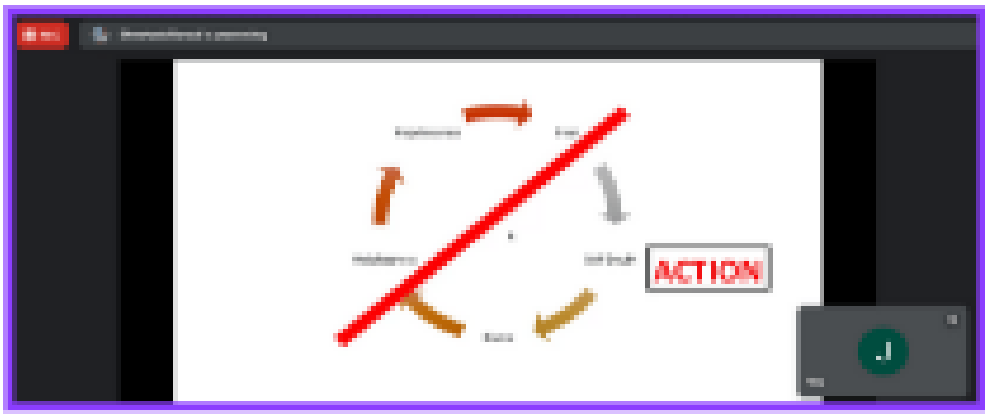
SPEAKERS

- Dr. Rajeev Singh, Indian Pharmacopoeia Commission, Ministry of Health and Family Welfare, Govt. of India
- Prof. Anirban Chakraborti,BML Munjal University, Gurgaon, Haryana
- Prof. Pawan K. Dhar, Jawaharlal Nehru University, New Delhi Prof.
- Prof. Yogendra Singh ,University of Delhi, New Delhi
- Prof. Rup Lal, The Energy and Resources Institute, New Delhi
- Dr. Murugeswaran R, Ministry of AYUSH, New Delhi
- Dr. Dinesh A. Nagegowda, CSIR-Central Institute of Medicinal and Aromatic Plants, Bengaluru
- Prof. Narayan S. Punekar BSBE Department, IIT Bombay
- Dr. Jean-François Berret University of Paris, France

Mental Health Consideration during and post-COVID: A paradigm shift

8 February, 2022

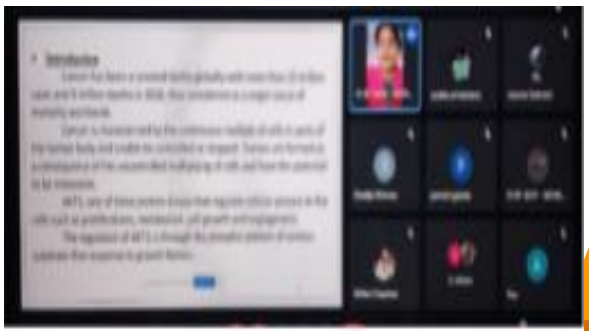
Capacity Enhancement and Development Cell, Yoga and Health club, Student Counselling Centre, Unnat Bharat Abhiyan Cell and Department of Biotechnology organised a seminar on "A. Mental Health Consideration during and post-COVID: A paradigm shift". The speaker for the session was Dr. Shwetank Bansal, a Consultant Psychiatrist & Psychotherapist at Better Me, Delhi. The Objective of the events was to append the attendees a psychologist's opinion on the impact of the Covid pandemic and strategic approaches to overcome that. The speaker also provided an impetus on the approaches for overcoming the psychological stress and for holistic development of society at large.



JAYPEE BIOTHON-2022:
An International Biotech Hackathon

20 February, 2022

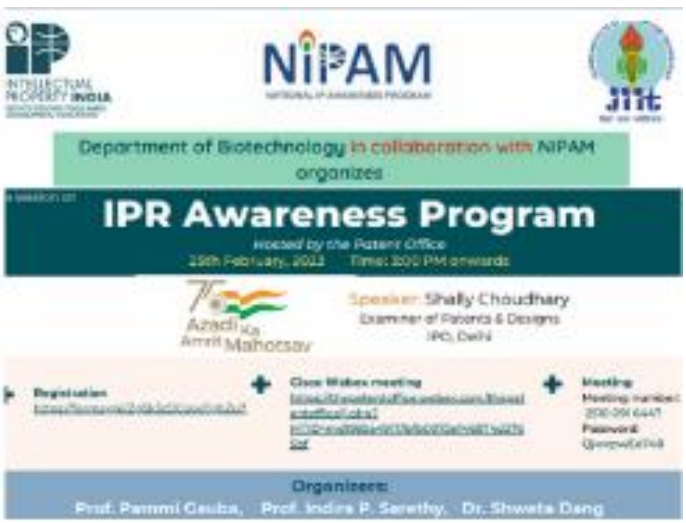
The Department of Biotechnology, Jaypee Institute of Information Technology organized an International Hackathon where students from various institutions from around the world were given an opportunity to pitch in ideas for their business proposals concerning problems statements in the field of biotechnology.The judging panel for the day included a merged panel of institutional faculty of JIIT along with the external panelists including, Dr. Kalaiarasan Ponnusamy, Dr. Sudheendra Rao, Mr. Raveesh Malik, Mr. Ritik Vaishy, Prof. Reema Gabrani, Dr. Garima Mathur.The objective of the event was to identify and encourage new ideas, concepts and designs toward development of technologies, products and solutions for real life problems. This platform was the foundation stone for future start-ups and industrial tie-ups.



IPR Awareness Program

25 February, 2022

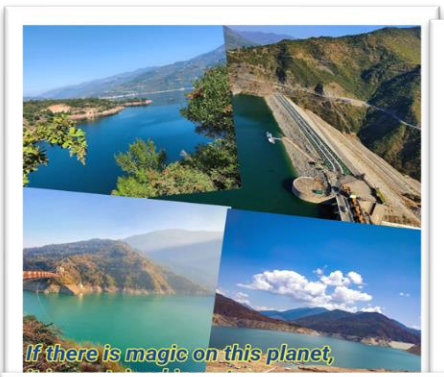
Department of Biotechnology JIIT in collaboration with National Intellectual Property Awareness Mission (NIPAM) organised an IPR Awareness Program (hosted by The Patent Office) under the intitiatives of the Government's "Azadi ka Amrit Mahotsav". The speaker for the session was Mrs. Shally Choudhary, currently working in the capacity of Examiner of Patents & Designs in the Biotechnology and allied group at the Delhi Patent Office. The Objective of the event was to spread awareness about intellectual property and their rights to around 1 million students. It aimed to ignite and inspire students of various College/Universities.

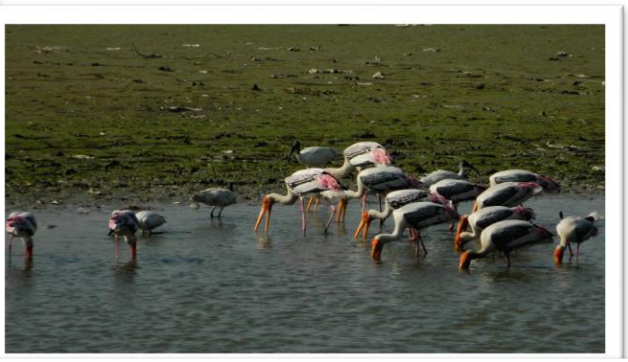


“World Water Day”: Photo Contest and Photo Story contest

22 March, 2022

To mark the occasion of World Water Day celebrated globally on 22nd March 2022, to create attention to the significance of freshwater and to advocate for the sustainable management of freshwater resources, Department of Biotechnology, JIIT organized a Photo contest on the theme of “Water storage and Hydropower - making the invisible visible” and “Water – The Blue Gold”. A photo story contest was also organised and entries were invited from students across JIIT.



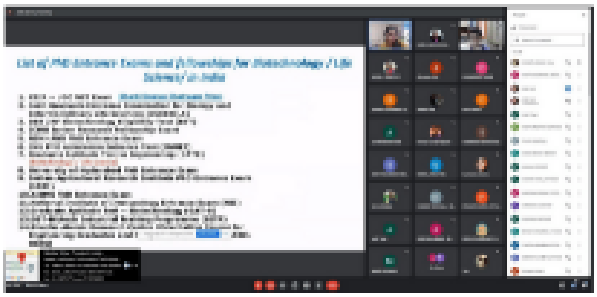


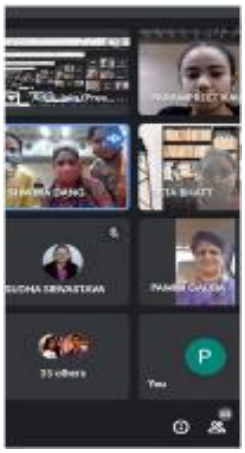
Invited Talk on:
“The much-awaited boom in the field of Biotechnology and different career prospects in India”

MEET OUR ALUMNI SERIES

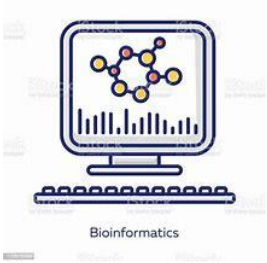
01 April, 2022

Department of Biotechnology, Jaypee Institute of Information Technology conducted the second session of Meet Our Alumni Series. The speaker for the session was Dr. Aditi Jain (alumnus: 2008-2019), a DBT-Research Associate II at Perundurai Lab, Center for Cardiovascular Biology and Disease, Institute for Stem Cell Science and Regenerative Medicine (InStem), Bangalore Life Science Cluster, GKVK - Campus, Bellary Road, Bangalore The Objective of the events was to provide a platform to our students to interact with our alumni who would share their experiences, knowledge and achievements with a sense of connecting back to the institution.





2-week Virtual Workshop & Hands-on Training on "Next Generation Bioinformatics Approaches In Infection Biology"



04 -15 April, 2022

Department of Biotechnology, JIIT, conducted a 2-week Virtual Workshop & Hands-on Training on "NEXT GENERATION BIOINFORMATICS APPROACHES IN INFECTION BIOLOGY". The workshop boasted of speakers and trainers from premier institutes and industry and broached state-of-the-art bioinformatics techniques spanning themes of antimicrobial resistance, pathogenicity, immunoinformatics approaches for vaccine design and structural bioinformatics.

SPEAKERS

1.Dr. Anshu Bhardwaj-IMTECH, Chadigarh
2.Dr. Shailza Singh- Jawahar Lal Nehru University
3. Mr. Yash Shrivastava- and Mrs. Vandna Barot- Edgene Biomed Pvt. Ltd
4. Dr. Vibha Gupta -Jaypee Institute of Information Technology, Noida
6.Dr. Sachidanand Singh-Biotech in Vignan's Foundation for Science & Technology and Research, Andhra Pradesh
7.Ms.Yamini Chand- Shri Ramswaroop Memorial University, Lucknow.
8.Dr. Roshan Kumar- Magadh University, Bodh Gaya
9.Dr. Helianthous Verma- Ramjas College, University of Delhi.
10.Dr Jata Shanker- JUIT , Solan, Himachal Pradesh, India.
11.Mr. Rohit Shukla- JUIT, Solan, Himachal Pradesh, India.
12.Chhavi Thakur-JUIT, Solan, Himachal Pradesh, India.
13.Dr. Nirjara Singhvi- Hansraj college, University of Delhi.

TALK ON:
Stress management

16 April, 2022

Yoga and Health Hub in association with Capability Enhancement and Development Cell conducted a session on Stress Management. The speaker for the session was Dr. Swati Sharma, Associate Professor, Department of Humanities and Social Sciences, Jaypee Institute of Information Technology, Noida Sector 62. Swati Sharma, Ph.D. in Management has over 20 years of academic, research and industry experience.The Objective of the session was to encouraged the participants to maintain a healthy lifestyle by bringing together physical and mental disciplines.

Institute-Industry Interaction: “Bioentrepreneurs - The Scope & Future”

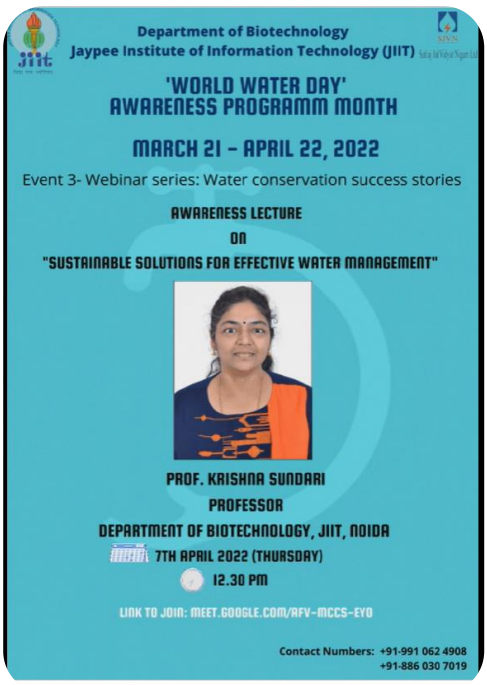
22 April, 2022

Institute-Industry interaction in collaboration with Genomiki Solutions Pvt. Ltd., Noida, was presented by Dr. Deeksha Bhartiya, founder of Genomiki. Title for the session was “Bioentrepreneurs: The Scope & Future".The objective of the talk was to appraise the students about the scope of bioinformatics research, and challenges of a start-up venture in bioinformatics

“World Water Day” Webinar Series

7 & 13 April, 2022

Department of Biotechnology, JIIT in continuation of marking the occasion of “World Water Day” and spreading awareness amongst students and staff, organized a webinar series. The first lecture in the series was given by Prof. Krishna Sundari, Dept of Biotechnology, JIIT and emphasized on sustainable solutions to counter exploitation and depletion of water resources. The second lecture in the series was delivered by Prof Indira P Sarethy, Dept of Biotechnology, JIIT and emphasized on ancient water conservation systems which can be adapted and implemented in today’s day and age for conserving water.



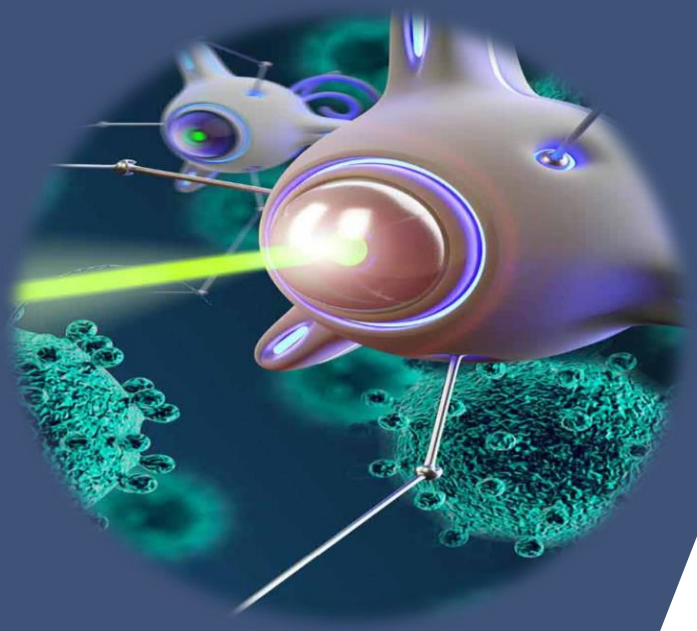
Lecture 1: “Sustainable solutions for effective water management”
Lecture 2: "Ancient Systems of Water Conservation In India & their relevance to modern times "

“Save Soil” Awareness Program

20 May, 2022

Department of Biotechnology, JIIT organized an awareness program on “Save Soil Initiatives”, as an extension of Environment Day program which is observed on 5th June every year. The awareness program was conducted in collaboration with ISHA Foundation, Coimbatore and is a part of the ongoing “Save Soil” movement. The program generated awareness about the alarming rate of soil degradation and emphasized on soil conservation initiatives to students.

UPCOMING EVENTS



ICABB 2023

6th International Conference in Advances in Biosciences & Biotechnology....

: THEME :

Innovative Advancements in Biotechnology and Bioinformatics

Dept. of Biotechnology, Jaypee Institute of Information Technology, Sec-62, Noida

icabb_jiit23 **icabb23@jiit** **IcabbJIIT23**

Coordinators: Prof. Vibha Rani & Dr. Chakresh Jain

DEPARTMENT OF BIOTECHNOLOGY
JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY, NOIDA

Faculty Development Program on Innovation in Drug Delivery Technologies

DATE
25th JULY- 30th JULY 2022

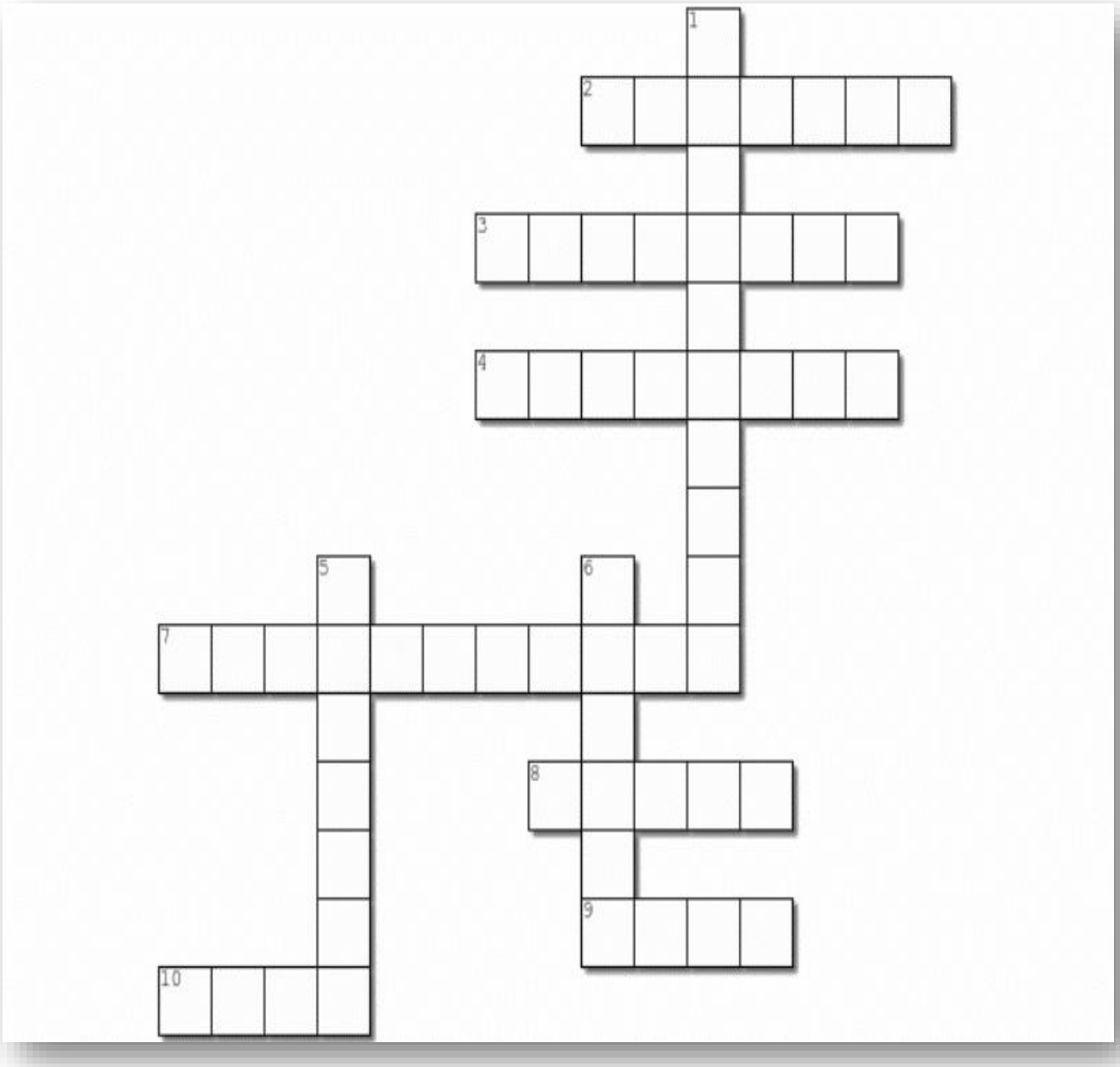
TIME
09:30am - 04:00pm

MODE OF FDP
ONLINE

Convener : Prof. Pammi Gauba

Organisers : Prof. Shweta Dang - (+91)-120-2594-20; Dr. Priyadarshini - (+91)-120-2594 211

Solve Me



Hints:

ACROSS

2. It is an air-borne disease

3. It is a steroid hormone

4. Most highly intelligent mammal

7. Blood vessels with the smallest diameter

8. Organ of the body produces the fluid known as bile

9. Plants receive their nutrients mainly from

10. Pyorrhoea is a disease of the

DOWN

1. Plants that grow in saline water are called

5. Process of cell division can take place by

6. Plants hormone that induces cell division is

TRENDING NEWS

Paxlovid, Pfizer's "game-changing" COVID-19 medication, receives DCGI approval.

https://economictimes.indiatimes.com/industry/healthcare/biotech/pfizers-game-changing-covid-19-pill-paxlovid-gets-dcgi-nod/articleshow/91018614.cms

Lupin establishes a main reference lab in Kolkata in preparation for development in eastern India.

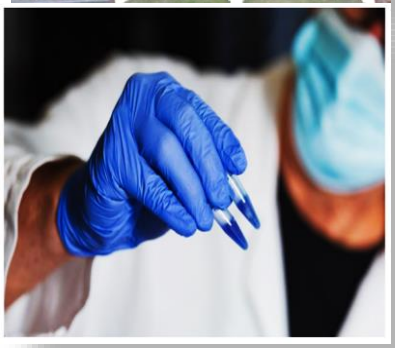
https://economictimes.indiatimes.com/industry/healthcare/biotech/lupin-opens-main-reference-lab-in-kolkata-for-expansion-in-east-india/articleshow/90130102.cms

The Rajiv Gandhi Centre for Biotechnology has launched a programme in Wayanad to support tribal entrepreneurs.

https://english.mathrubhumi.com/news/kerala/rajiv-gandhi-centre-for-biotechnology-rgcb-launches-project-to-support-tribal-enterprises-in-wayanad-1.7503172

Biotech partnership to accelerate understanding of genetics of long Covid and helps to identify new treatments.

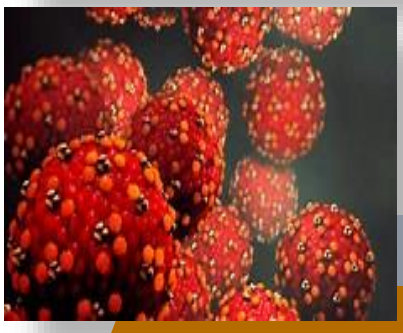
https://www.biospace.com/article/releases/biotech-partnership-to-accelerate-understanding-of-genetics-of-long-covid-and-help-identify-new-treatments/



-

A new outbreak: Tomato flu is reported in Kerala Kids.

https://www.indiatoday.in/india/story/tomato-flu-symptoms-treatment-precautions-kerala-tomato-flu-1948129-2022-05-11



CAREER PROSPECTS

AIIMS (All India Institute of Medical Science) Examination:

The exam is held twice annually for Ph.D entrance and takes place in the month of June to provide admissions to the eligible candidates. AIIMS conducts this exam for candidates focused on medical aspects correlating with diagnosis and therapy using modern bio-technological tools of recombination, immunology and DNA technology. Every candidate must achieve a minimum score of 50% in order to be considered. The online exam comprises of 90 questions and the duration is 90 minutes.

For details, visit: website- www.aiimsexams.org

ICAR AIEEA Examination:

National Testing Agency (NTA) conducts a national level entrance exam ICAR AIEEA. Candidates pursuing admissions in Agriculture programs of various Indian Council of Agricultural Research (ICAR) affiliated institutions are eligible for the exam. Qualified candidates get admission in various PG Agriculture and Applied science programmes offered by the ICAR and AUs across the country through this exam. The exam is a LAN based CBT (Computer Based Test). The exam question paper consists of 150 Multiple Choice Questions of 600 marks. The duration of the exam is 2 hours and 30 minutes.

For details, visit: ICAR website- https://icar.org.in/

GUIDING FUNNEL FOR SUCCESS

Every difficulty is surmountable if it is achieved with will, wish, wisdom & perseverance

STUDENT'S EDITORIAL TEAM

Ms. Shivani Singhal, Ph.D Scholar
Ms. Priyadarshini Gupta, Ph.D Scholar
Ms. Aaysha, Ph.D Scholar
Ms. Renu Bhadana, Ph.D Scholar
Ms. Isha Jain, M.Tech
Ms. Bhumi Gaba, M.Tech
Ms. Harshita Singh, B.Tech, III Yr
Ms. Nandini Bagga, B.Tech, III Yr
Ms. Saloni Mathur, B.Tech, III Yr
Ms. Aditi Kaushik, B.Tech, III Yr
Mr. Prashant Kaushik, B.Tech, III Yr
Mr. Debdarshan Datta, B.Tech, II Yr

Koshika: A Team Work

We hope you liked reading the newsletter. We would love to hear your valuable feedback. Do write to us at

koshika.newsletter@gmail.com