

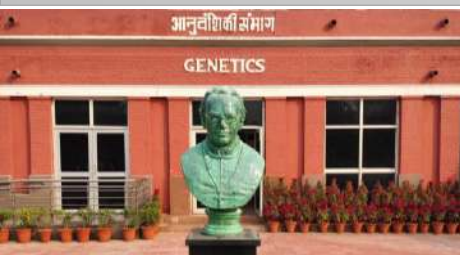
Jaiw-Patrika



MANAV RACHNA
॥vidyanatariksha॥

DECEMBER 2022

BIOTECH NEWSLETTER



VISION

Our vision is to produce competent biotechnologists who can employ premium processes and applications which will profoundly influence existing paradigm of agriculture, industry, healthcare and restoration of environment providing sustainable competitive edge to present society.

MISSION

- To provide Biotechnology educational program with impetus to generate quality workforce.
- To create awareness about potentials of Biotechnology with socio-ethical implications.
- To instill spirit of innovation and creativity in young minds with sound research aptitude.
- To nurture confident individuals who are effective contributors towards growth of the nation.

Chief editor : Prof. Manu Solanki, Head of Department

Editor: Dr. Jayant Maini

Co-Editor: Dr. Krishna Priya Ganti

Editorial Team: Tanvi Sidhwani, Sawan Yadav, Somya Sharma, Paridhi Saini, Shipra Soni, Shruti Thakur, Kartik Vats and Uditi Sachdeva

Contents

- *On the shoulders of the giants*
- *Know Your Scientists*
- *The Scientific Viewpoint*
- *Conferences and Workshops*
- *Faculty Development Programs*
- *Guest Lectures*
- *Achievements*
- *Industry-Academia Interactions*
- *Invitations and Open House*
- *Industrial Visits*
- *Lyrical Narratives*
- *The art of Seeing*
- *Moments and Memories*



On the shoulders of the Giants...!!!

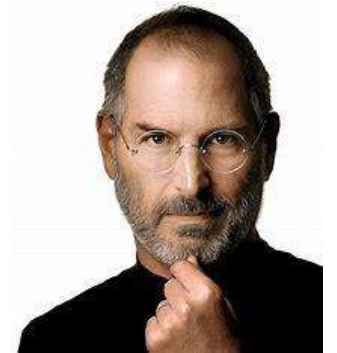


Biology gives you a brain. Life turns it into a mind.

Jeffrey Eugenides

I think the biggest innovations of the 21st century will be at the intersection of biology and technology. A new era is beginning.

Steve Jobs





Know your

Scientists...!!





Dr Vineeta Sharma is an Associate Professor in Department of Biotechnology, FET, MRIIRS. She has 8 years of post-Ph.D. experience of different research areas i.e. Genetics, Epigenetics, Oncology, Toxicology and Translational Research. She has a varied work experience of labs with diverse functional domains i.e. University of Delhi, CSIR-Centre for Cellular and Molecular Biology, Hyderabad and CSIR-Indian Institute of Toxicology Research, Lucknow.

Her area of research is Environment- Epigenome interactions and its impact on human health. Developmental origin of health and disease postulates the footprints of early life exposure are followed as an endowment of risk for adult disease. Her research aim is to decipher the effect of environmental toxicants (heavy metals, microplastics and air pollution) on Cardio-metabolic-renal health. This complex condition of an altered biological landscape and associated epigenetics mechanisms are being explored and examined.

So far, She has published 16 research articles in the Journal of Repute. She has expertise with handful of molecular biology techniques (Whole Genome Sequencing by Oxford Nanopore MINION, Luminex Assay, RT-PCR, Chromatin immunoprecipitation (ChIP), Immunohistochemistry (IHC)) and experience to work with Clinical samples, Mouse model, Drosophila and Primary Cell culture. She executed the statistical analysis of the data with the help of Software like STASTICA, GraphPAD and MS-Excel.

She has been selected in the list of prestigious #365 Women in STEM as Toxicologist by Life Science.com in 2021. She has been awarded DST-Women Scientist A and DBT-Research associateship. She availed two International Travel grants by CSIR and DBT to attend conferences in the USA and Germany.



Dr. Vineet Kumar Goswami is an Assistant Professor in Department of Biotechnology, FET, MRIIRS. His area of specialization includes biochemistry, cytogenetics, bioprocess engineering, microbial fermentation, protein engineering, bioprocess optimization, enzyme technology, bioconversions, biocatalysis, in silico studies and bioinformatics, chemistry of natural products, water quality analysis, biochemical profiling and bioprospecting.

His recent research interests are focused towards metabolic disorders, neurodegenerative disorders and Covid-19.

As on date he has a total of twelve and half years of professional experience. He served as Assistant Professor at Delhi Technological University, Delhi. He has also served as Senior Executive Scientist for Saudi Arabia based company (a subsidiary of Jazzira Pants, Khamis Mushayt, Saudi Arabia) for plant based biopesticides and microbial biopesticide formulation and production. He has also served as research associate for ITS limited, Delhi and visiting faculty for VIT, Noida, U.P.



Dr. Preeti Nandal is an Assistant Professor of Biotechnology at MRIIRS. She received her Ph.D. in Microbiology from University of Delhi South Campus, New Delhi. Her research interest is Microbial Biotechnology (Bioprocessing and protein engineering of industrial enzymes), Fermentation (Bioethanol and other high value products) and Genetic engineering of yeasts and proteomic studies.

She is an experienced researcher who has worked on developing processes for production of Industrially important enzymes, down stream processing, and applications in dye Industry, paper and pulp industry. She has been successful in bioconversion of lignocellulosic waste into feed and bioenergy sectors.

She has also worked on Xylooligosaccharide production from Agro-waste at pilot facility as a Stapledon fellow at Institute of Biological, Environmental and Rural Sciences (IBERS), Aberystwyth University, UK.

As Postdoctoral fellow at Jamia Millia Islamia, New Delhi, India where she developed FRET-based sensor for ethanol. She worked on pretreatments methods, hydrolysis of lignocellulosic wastes into fermentable sugars and then into ethanol using hexose and pentose utilizing yeasts and proteomic studies.

Dr. Nandal has been working on agro or forest residues and exploiting them for high value product.

Faculty of the Month



Congratulations

Prof. Kanchan Bhardwaj

Prof. Kanchan's Lab uses multidisciplinary approaches such as metagenomics and molecular biology, for fundamental understanding of how viruses target and regulate biological processes. Her additional interests include bio-prospecting and development of viral vaccines.

Her work has mainly focuses on the human gut virome and the pathogenic viruses, chikungunya virus and SARS coronavirus.

Prof. Kanchan has recently been funded by the SERB, DST for the project entitled "***Reverse Genetics of Chikungunya Virus for Identification of Therapeutic Targets and Validation in Mouse Model***"

The

Scientific

Viewpoint



Think before you click...!!!
-An article on cybersecurity

By

Tanvi Sidhwani

(1/21/FET/BBT/008)



Cyber-attacks are similar to natural catastrophes in that you can never predict when a hurricane will hit your city, but you can always be prepared for it. One cannot understand the value of cyber security in today's world until their private information is compromised one nice, random Friday afternoon and they are forced to pay a substantial sum to have it recovered.

One such noteworthy event occurred in 2013 involving "TARGET," a well-known American retailer with a multi-million dollar business. An employee of one of Target's third-party vendors received an email in this phishing scenario that misled them into giving their login information. The cybercriminals then utilised these credentials to install a variety of malware. into the primary selling network at Target. As a result, the personal information of 70 million customers as well as the credit and debit card information of 40 million users were compromised.

Many government and private firms that offer security services have reduced the cost of subscriptions to firewalls, antivirus software, PKI services, and MDR services for the benefit of an individual's personal online security after learning from this and numerous other incidents involving Google, Apple, and other successful companies and individuals.

As crucial as it is to keep one's personal online security, one can also advance their knowledge and work toward becoming a cyber security engineer. Numerous sub-units are linked to the umbrella unit of cyber security.

To make cybersecurity a career, one has to be well-versed in offensive security, defensive security, networking, LAN, Linux basics, Windows fundamentals, web development, CDF, CTI, phishing, pen-testing, and red-teaming in order to pursue a career in cybersecurity. There are several other programmes that also include programming skills for cyber security.

A "zero trust" strategy reduces the likelihood of an IT infrastructure attack by eliminating any implicit trust. Every vendor, platform, tool, user, and device must distinctly demonstrate their security credentials. This needs to be made clear to workers, and resilience and cyber hygiene need to be ingrained in organizational culture.

Matter of fact, as Stephane Nappo famously said, "Cybersecurity is much more than a matter of IT."



Conferences
and
Workshops



Workshop on “Roadmap for Patent Creation”

The Department of Biotechnology, FET, MRIIRS organized a workshop in 22nd August, 2022 on “***Roadmap for patent creation***”. During the workshop various aspects about Patent Creation were explained and discussed. It included Section 3 of Indian Patents Act, 1970, types of applications, Documents required for patent filing in India, Steps involved in filing patents in India and International patent filing (Conventional and PCT). Talks were delivered by three Resource persons:

1. Ms. Moumita Gorai, Assistant Manager (CIPAM)
2. Ms. Nitu, Assistant Manager (CIPAM)
3. Ms. Rashmi Tyagi, Manager (CIPAM)



Our Success Story..!!!

EEEDMAP 2022 Conference

Department of Biotechnology and MR Centre For Medicinal Plant Pathology (MR-CMPP) FET, Manav Rachna International Institute of Research and Studies organized a two-day National Conference on “Emerging Technologies and Enabling Tools for Eco-Friendly Management of Diseases in Medicinal & Aromatic Plants” (EEEDMAP 2022) which was supported by the National Medicinal Plants Board (NMPB), Ministry of AYUSH, Government of India (GOI).

The inaugural session was graced by the Chief Guest Dr. Chandrashekhar Sanwal, Deputy CEO, IFS, NMPB, Ministry of AYUSH, GOI. The ceremony also witnessed the presence of Hon’ble Keynote Speaker, Prof. P.C. Trivedi, Former Vice Chancellor- 5 Universities; Dr Sanjay Srivastava, Vice Chancellor, MRIIRS; Dr. Pradeep Kumar, Pro-Vice Chancellor and Dean, Faculty of Engineering and Technology; Mr. R. K Arora, Registrar MRIIRS; Dr. Nidhi Didwania, Director, MR-CMPP (Convener) and Dr. Manu Solanki, Head, Department of Biotechnology.

Prof. P.C. Trivedi gave an insight about the phytodiversity and talked about the Eco-Friendly Management of Diseases of Medicinal & Aromatic Plants. Dr. Sanjay Srivastava emphasized the importance of traditional knowledge and our treasure trove. Prof. (Dr.) Nidhi Didwania , Convener, highlighted the objective of the conference “Health of Healthy Plants”.



This was followed by two sessions which were conducted by Dr. A N Shukla, Scientist E, Biodiversity Division of the Ministry of Environment, Forest and Climate Change (MoEF & CC), New Delhi; Dr. Jeetendra Kumar Vaishya, Research Officer (Medicinal Plants / Agronomy), National Medicinal Plants Board, Ministry of AYUSH, Government of India, Mr. Sameer Kant Ahuja, Chief Manager, Regulatory Multani Pharmaceuticals Ltd. and Mrs. Reeva Sood, Director, Tanishka Herbals.

The oral & poster presentations were conducted on both the days of conference. The conference was attended by students, faculty members and participants from all over India, viz CSIR-NIScPR, Pusa, University of Patanjali, Haridwar, University of Delhi, Delhi, Banasthali Vidhyapeeth, Madurai Kamraj University, Tamil Nadu, JNV University, Jodhpur, UPES, Dehradun, MIT, Pune, JP Institute of Technology, Noida, JECRC University, Jaipur, Shoolini University, Solan, HP, Banaras Hindu University, Banaras, GGSIP University, Delhi, and MDU, Rohtak.

On the second day, the progressive farmers from Faridabad & Palwal, Mr. Bijendra Singh Dalal & team participated in the conference with full enthusiasm and are interested in cultivation of Medicinal Plants with the support of MR-CMPP, MRIIRS and NMPB. This was followed by a lecture session (invited talk) by Eminent Scientist, Professor N K Dubey, Head, Department of Botany, Faculty of Science, Banaras Hindu University, Varanasi. He delivered an exceptional talk in which he emphasized the importance of botanical pesticides with reference to the origin of mycotoxin and how nature had played the role of doctor in the absence of advancement in the past. He also pondered over the impact of pests or disease control of plants on the pharmaceutical industry.

Following this Dr. A. A. Ansari, Former Scientist E, Botanical Survey of India (BSI), famously known as the “Crotolaria Man”, delivered a detailed overview on plant pathogens on different species of medicinal plants. He reflected on the valuable ancient knowledge of medicinal plants and further emphasized on the importance of preserving this precious treasure trove.



The students of Department of Biotechnology organized a cultural program, where various dance forms (traditional and contemporary) and skits/street plays were used as a medium to depict the beauty of Nature & Indian Culture. Through various forms of art, they delivered an impactful message to protect the environment.

Dr. Jeetendra Vaishya, National Medicinal Plants Board (NMPB) highlighted the following recommendations made by the participants: Strategies should be in place for the post-harvest management of the medicinal plant produce; Need of inventorization and taxonomic identification of biodiversity in the Aravalli ranges for conservation of Medicinal Plants; and Special attention is to be made to the utilization of resources (agro-economics) whereby farmers should be made aware of the expensive medicinal plants so that they may expand their cultivation.



NMPB supported the recommendations and agreed to extend full support for carrying out research and extension activities in the newly established Manav Rachna Centre For Medicinal Plant Pathology (MR-CMPP).

The proposed conference provided a platform to discuss and provide a framework for the conservation and sustainable use of Medicinal & Aromatic plants.

The Drosophila model organism workshop

Department of Biotechnology, FET, MRIIRS in collaboration with Division of Genetics, ICAR-Indian Agricultural Research Institute, New Delhi and the XV Genetics Congress Trust, New Delhi organized a workshop titled “*Learning Basic Principles of Genetics Using Drosophila melanogaster*” on the 1st and 2nd November, 2022. The main objective of this workshop was to provide hands-on training on Genetics to the undergraduate students of the Department of Biotechnology, Faculty of Engineering and Technology, Manav Rachna International Institute of Research and Studies (BT, FET, MRIIRS), Faridabad, Haryana



Day1

The first day of the workshop started with an inaugural session where Dr. Prachi welcomed the students and guests followed by a discussion on the workings of ICAR-IARI and the XV Genetics Trust. The highlight of the inaugural session was the talk by Prof. Dr. R.P.Sharma (Former Director, ICAR-Indian Institute for Plant Biotechnology, New Delhi, and Chairman, XV Genetics Congress Trust). He enlightened the students with his exceptional talk on genetics and society and his work on Wnt/Wingless signalling in *Drosophila*. Following this the technical session started with discussion on Mendelian Genetics by Dr. Akshay Talukdar and an introduction to *Drosophila melanogaster* as a model organism by Dr. Prachi Yadav. This session was followed by the lunch break. The 2nd technical session of the day involved experimental set-up for introducing phenotypic markers and crossing procedures in *Drosophila melanogaster*. During this session, each student learnt to distinguish between male and female *Drosophila*, identify various wing, eye color and body color mutants, collection of virgin females and setting up of crosses



Day 2

The third technical session started with a lecture on “Genetics of maize cob” by Dr. Firoz Hossain (Principal Scientist, IARI, New Delhi). This was followed by an experiment of Genetics of PTC tasting where students were classified as tasters and non-tasters on the basis of their ability to taste Phenylthiocarbamide (PTC). The data was collected and ratios were calculated. The 2nd experiment was the preparation of polytene chromosomes by dissecting salivary glands from the third instar larvae of *Drosophila melanogaster*. This was followed by the scoring of F2 population of the crossed setup the previous day and further validation of the results using chi-square test.



A field trip was organized by Dr. Muraleedhar Aski where he discussed about different varieties of rice crops and the role of plant biotechnology in the improvement of crop yields. It was a very interactive session. The 2nd day of the workshop ended with the valedictory function where Dr. Prachi Yadav, presented a brief report on the workshop. This was followed by comments from Dr. Jayant Maini and Dr. Vineeta Sharma and distribution of certificates to the students of Department of Biotechnology, Faculty of Engineering and Technology, Manav Rachna International Institute of Research and Studies.



Faculty

Development

Programs



FACULTY DEVELOPMENT PROGRAMME

On

Organic Farming and Organic food Marketing

Organized by NITTR, Chandigarh

Conducted by

Education and Educational Management Department

from

Date: 25-07-2022 to 29-07-2022

The week-long FDP covered various topics and challenges related to Organic Farming. The FDP started with a discussion on the history of farming where Rishi farming, traditional farming (using cow dung/compost), natural farming (proposed by Masanobu Fukuoka). Natural farming (one straw revolution) was highlighted, which was based on four principles which were no tillage, no fertilizers, no weeding and no chemicals. Further discussions were based on two types of organic farming, pure organic farming and integrated organic farming. A lot of emphases was laid on pure organic farming which includes the use of manures and bio-pesticides without including chemicals and other synthetic peptides. The role and goals related to organic farming such as maximizing biological activity, minimizing soil erosion, and reducing the loss of biodiversity were discussed. Ideas of Zero Budget Natural Farming were exchanged and its four models were discussed in detail which were categorized into Jeevamrutha, Bijamrita, Acchadana and Whapasa.

The screenshot shows a Zoom meeting interface. The main window displays a slide with the following content:

Four main elements and models of ZNBF:

- **Bijamrita:**
 - The seeds are treated with formulations prepared using cow dung and cow urine from native cow species.
 - Benefits: The seeds sown in the field may be affected by fungus and other seed born/soil borne diseases. The seed treatment using "Bijamrita" protects the seeds from diseases.
- **Jivamrita/Jeevamrutha:**
 - Jivamrita is prepared using cow dung and cow urine. It is used as an input for the plants. It is a fermented microbial culture obtained from cow dung, urine, jaggery, pulse flour and uncontaminated soil. This fermented microbial culture when applied to soil, adds nutrients to the soil besides acting as a catalytic agent to promote the activity of microorganisms and earthworms in the soil.
 - Benefits: This culture stimulates microbial activity in the soil and enhances nutrient availability for the plants, protects the crops against soil pathogens and increases carbon content of the soil.

The meeting interface includes a grid of participant video thumbnails on the right and a control bar at the bottom.

A number of topics were covered in this FDP, these were

1. Organic Permaculture
2. Scenario of Organic Food Market in the World
3. Leading players in Global organic farming market
4. Organic Production in India
5. Sikkim model of organic farming

The screenshot shows a Zoom meeting interface. The main content is a presentation slide titled "Permaculture Ethics & Principles". The slide features a central circular diagram with the text "Ethics: Care of Earth, Care of People & Fair Share" in the center. Surrounding this central text are ten icons, each with a corresponding principle: "Creatively Use & Repond To Change", "Observe & Interact", "Catch & Store Energy", "Obtain A Yield", "Apply Self Regulation & Accept Feedback", "Use and Value Renewable Resources & Services", "Produce No Waste", "Patterns to Details", "Integrate Rather Than Segregate", "Use Small & Slow Solutions", "Use & Value Diversity", and "Use Edges & Value the Marginal".

On the right side of the screen, there is a grid of participant video thumbnails. The participants visible are: Rishi Behl, Ananya Agrakt, Dr. Mahesh Kumar Bana, Faculty Development Progra..., Karanhan Bhatnagar, Eshaesh Goutam, Upendra Nath Roy, and 47 others. A large purple thumbnail labeled "You" is also visible.

At the bottom of the screen, the Zoom control bar shows the time as 3:14 PM and the meeting title as "Online STC on Organic Farming and Organic Food ...".



Guest

Lectures



The Luminaries Lecture Series

Organized by

Department of Biotechnology,
Faculty of Engineering
Manav Rachna International Institute of Research and Studies



Welcomes



Prof. Daman Saluja

Dr. B.R.Ambedkar Center for Biomedical Research,
University of Delhi

Title of the talk

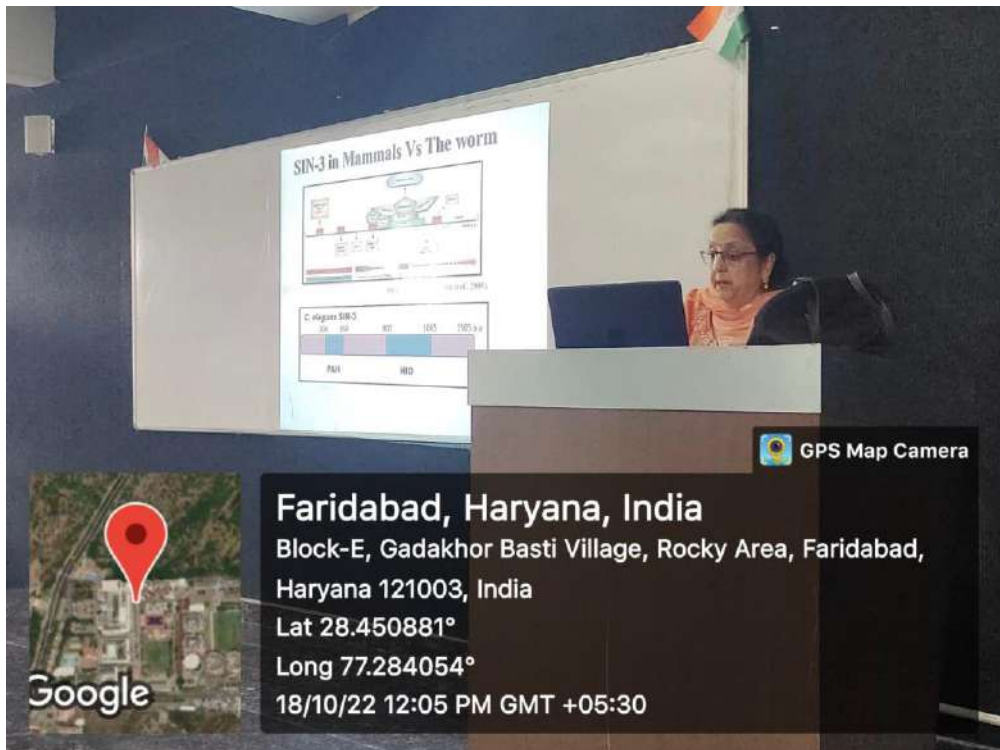
Elucidating the role of SIN-3 mediated ROS in the regulation of autophagy, longevity, and healthspan in *Caenorhabditis elegans*

Date: 18th October

Time: 11 a.m.

Venue: AT-19

Department of Biotechnology, FET, MRIIRS invited Prof. Daman Saluja for the 1st Luminaries Guest Lecture Series (an initiative of the Department of Biotechnology). Prof. Daman Saluja is currently a Professor at Medical Biotechnology Laboratory, Dr. B.R.Ambedkar Center for Biomedical Research, University of Delhi. For the past twenty years, Prof. Daman Saluja has been working in the area of medical biotechnology. Her primary contribution is in the development of beacon based polymerase Chain Reaction mediated diagnostic assays for sexually transmitted diseases caused by *Neisseria gonorrhoeae*, *Chlamydia trachomatis* and *Trochomonas vaginalis*. Her team is also working on LAMP based diagnosis of *Mycobacterium tuberculosis*. In collaboration with industry Prof. Daman has designed a low cost, hand held fluorescent reader. More recently, her team has developed a novel method of qPCR for detection and quantification of bcr/abl transcript for Chronic Myeloid Leukemia (CML) and Acute Myeloid Leukemia (AML). Her laboratory is also looking at Sin3B mediated regulation of gene expression in eukaryotes using *C.elegans* as a model organism. Her work establishes Sin3 a link between autophagy and life span. She has received numerous awards including the prestigious INSA Young Scientist Medal in 1989, She also received the LSS Kumar Memorial Award in the same year. On 11th May, 2013 on Technology Day she was awarded "The Biotech Product & Process Development and Commercialization Award" by the Honorable President of India for her outstanding contribution in the development of novel method of Beacon based PCR diagnostic Kit for *Neisseria gonorrhoeae* and *Chlamydia trachomatis*.



Prof. Daman Saluja in her lecture entitled “Elucidating the role of SIN-3 mediated ROS in the regulation of autophagy, longevity, and healthspan in *Caenorhabditis elegans*”, discussed about her work on Sin3-HDAC complex and its role in lifespan. She further elucidated her discovery of the role of Sin3 as a link between Autophagy and lifespan. She also introduced the model organism *C. elegans* on which she and her team performed experiments related to Sin3 regulated autophagy and lifespan. Her major findings were that deletion of Sin3 in *C. elegans*, decreased autophagy as well as lifespan. This was partially due to increase in reactive oxygen species. Her experiments also pointed out that consumption of vitamin C may decrease reactive oxygen species despite the deletion of Sin3. Thus, pointing out the crucial role of Vitamin C in protecting your body from ROS that may cause Cancer if left unchecked.

The Luminaries Lecture Series

Organized by

Department of Biotechnology,
Faculty of Engineering
Manav Rachna International Institute of Research and Studies



Welcomes



Dr. Muraleedhar S. Aski

Senior Scientist
Division of Genetics,
Indian Agricultural Research Institute (IARI)

Title of the talk

The fascinating facets of Agricultural Sciences

Date: 21st October

Time: 11:30 a.m.

Venue: AT-19

Department of Biotechnology, FET, MRIIRS invited **Dr. Muraleedhar Aski** for the 2nd lecture of the luminaries Guest Lecture Series (an initiative of the Department of Biotechnology). Dr. Muraleedhar Aski is currently a Senior Scientist at the Division of Genetics, Indian Agricultural Research Institute (IARI). For his Ph.D. he worked on Genetic Analysis of agro-morpho-quality traits of baby corn. He is a recipient of many awards including the Early Career research Award (DST, Government of India, 2018), Young Scientist Award by Society for Scientific Development in Agriculture and Technology, Meerut. He has received the Excellence in Research Award twice by Global Research Initiative for Sustainable Agriculture and Allied Sciences (GRISAAS, 2020) and by Innovative and Current Advances in Agriculture and Allied Sciences (ICAAAS, 2021).

Dr. Aski's Talk was divided into two parts. In the 1st part of the talk, he discussed about agriculture in India. He laid stress on the need for agriculture, different phases of agriculture in India, India's agricultural journey (starting from the Green Revolution to present) and present trends and indications. For the 2nd part of the talk, he discussed about his research work on unfolding of the complex regulatory network responsible for yellow mosaic disease resistance in mungbean using RNA seq analysis. He also discussed about his work on biofortified lentil variety, microgreens and seed trait, morphological and molecular characterization of a unique lentil genotype showing seed-coat colour anomalies, assessment of root phenotypes in mung bean.



He concluded his presentation by discussing various aspects about the future of agriculture in India such as Bees and drones; Artificial intelligence and automation; blockchain technology; urban agriculture and vertical farming; digital apps; genetic editing and Agri start-ups.





Achievements



Inauguration

of

Manav Rachna Centre for Medicinal Plant Pathology (MR-CMPP)

Department of Biotechnology

Manav Rachna International Institute of Research & Studies

Sector – 43, Aravalli Hills, Delhi – Surajkund Road
Faridabad – 121004, (Haryana), India

Dr. Nidhi Didwania
Director-MRCMPP



Manav Rachna Centre for
Medicinal Plant Pathology

औषधीय पादप रोगविज्ञान केन्द्र





Industry - Academia
Interactions



NextGen Company Visit and Student Interaction
Organized by
Department of Biotechnology,
Faculty of Engineering and Technology,
Manav Rachna International Institute of Research and
Studies

Coordinators:

Prof. Manu Solanki and Dr. Jayant Maini

Date: 22-09-2022

Mode: Offline

Department of Biotechnology, FET, MRIIRS organized a student interaction with Dr. Md. Kausar Neyaz, Ph.D, General Manager (R&D) at NextGen Life Sciences., Pvt. Ltd. And Dr. Nagma Abbasi, Ph.D, Founder and CEO, NextGen Life Sciences, Pvt. Ltd. Two sessions were conducted. During the first session of student discussion, Dr. Nagma Abbasi discussed her views on Science in contemporary India and its scope and further, enriched the interactions by giving examples from personal experience. She also discussed her journey in Science. The next session by Dr. Kausar Neyaz, concentrated on “HPV and Cancer: Prevention Efforts in India”. The aim of this session was to introduce the students to challenges in disease management in India and how vaccines can be a powerful tool not only for health safety as well as the economic backbone of our country. Towards the end, Dr. Kausar Neyaz invited students for summer and dissertation training and also introduced various training modules. During the question and answer session students and faculty raised many valid questions.



Dr. Kausar interacting with the students



Invitations

&

Open House



OPEN HOUSE @ IGIB

Our department received an invitation for the “OPEN HOUSE” at Institute of Genomics and Integrative Biology this year.

During the visit, students attended a seminar on “Computational Gastronomy” by Dr. Ganesh Bagler, Associate Professor, IIIT-Delhi. In this session, Dr. Bagler spoke about the various databases and apps that his lab has developed to document various food recipes, ingredients and food value. This was followed by a visit to the various facilities housed at IGIB. Students learnt about supercomputing; animal models used for genomics, including zebrafish; various microscopes, including confocal microscope and electron microscopes; sequencing and next-generation sequencing platforms.



35 students of Biotechnology and Microbiology along with 02 faculty members attended the event. The event was coordinated by Dr. Kanchan Bhardwaj, Associate professor and accompanied by Dr. Sabiha Imran, Professor-Biotechnology.



*Industrial
Visits*



Department of Biotechnology organized a one-day Industrial visit to the **Sewage treatment Plant, Badshahpur**, Faridabad, on 15th September 2022. The objective of this visit was to provide exposure to an aspect of environmental sciences to the students of Biotechnology and Microbiology. A total of 35 students pursuing B.Tech Biotechnology, M.Sc Biotechnology, M.Sc. Microbiology, and B.Sc (Hons.) Microbiology attended this industrial visit. The industrial visit was coordinated by Dr. Kanchan Bhardwaj, Associate professor, Biotechnology and accompanied by Dr. Rashmi Rameshwari, Associate professor, Biotechnology and Dr. Preeti Nandal, Assistant Professor, Biotechnology. Students. During the visit, students learnt about the units of sewage treatment plant and various chemical & biological processes used in the treatment of sewage water.





*Lyrical
Narratives*



The Sciences Sing a Lullabye

Physics says: go to sleep. Of course you're tired. Every atom in you has been dancing the shimmy in silver shoes nonstop from mitosis to now.

Quit tapping your feet. They'll dance inside themselves without you. Go to sleep.

Geology says: it will be all right. Slow inch by inch America is giving itself to the ocean. Go to sleep. Let darkness lap at your sides. Give darkness an inch. You aren't alone. All of the continents used to be one body. You aren't alone. Go to sleep.

Astronomy says: the sun will rise tomorrow,
Zoology says: on rainbow-fish and lithe gazelle,
Psychology says: but first it has to be night, so
Biology says: the body-clocks are stopped all over town

and

History says: here are the blankets, layer on layer, down and down.

Albert Goldbarth

My Proteins

They have discovered, they say,
the protein of itch—
natriuretic polypeptide b—
and that it travels its own distinct
pathway
inside my spine.
As do pain, pleasure, and heat.

A body it seems is a highway,
a cloverleaf crossing
well built, well traversed.
Some of me going north, some going
south.

Ninety percent of my cells, they have
discovered,
are not my own person,
they are other beings inside me.

As ninety-six percent of my life is not
my life.

Yet I, they say, am they—
my bacteria and yeasts,
my father and mother,
grandparents, lovers,
my drivers talking on cell phones,
my subways and bridges,
my thieves, my police
who chase my self night and day.

My proteins, apparently also
me,
fold the shirts.

I find in this crowded
metropolis
a quiet corner,
where I build of not-me Lego
blocks
a bench,
pigeons, a sandwich
of rye bread, mustard, and
cheese.

It is me and is not,
the hunger
that makes the sandwich
good.

It is not me then is,
the sandwich—
a mystery neither of us
can fold, unfold, or consume.

Jane Hirshfield

Evolution

How, Alan Turing thought, does the soft-walled,
jellied, symmetrical cell
become the asymmetrical horse? It was just before dusk,
the sun's last shafts doubling the fence posts,
all the dark mares on their dark shadows. It was just
after Schrödinger's *What is Life?*
not long before Watson, Franklin, Crick, not long before
supper. How does a chemical soup,
he asked, give rise to a biological pattern? And how
does a pattern shift, an outer ear
gradually slough its fur, or a shorebird's stubby beak
sharpen toward the trout?
He was halfway between the war's last enigmas
and the cyanide apple—two bites—
that would kill him. Halfway along the taut wires
that hummed between crime
and pardon, indecency and privacy. How do solutions,
chemical, personal, stable, unstable,
harden into shapes? And how do shapes break?
What slips a microfissure
across a lightless cell, until time and matter
double their easy bickering? God?
Chance? A chemical shudder? He was happy and not,
tired and not, humming a bit
with the fence wires. How does a germ split into a self?
And what is a—We are not our acts
and remembrances, Schrödinger wrote. Should something—
God, chance, a chemical shudder?—
sever us from all we have been, still it would not kill us.

It was just before dusk, his segment
of earth slowly ticking toward night. Like time, he thought,
we are almost erased by rotation,
as the dark, symmetrical planet lifts its asymmetrical cargo
up to the sunset: horses, ryegrass—
In no case, then, is there a loss of personal existence to deplore—
marten, whitethroat, blackbird,
lark—nor will there ever be.

Linda Bierds



*The
Art
Of*

Seeing.....!!





Simran
M.Sc microbiology,
1st Sem,
Roll No. 12204082N004



Ananya Verma
B.Tech Biotechnology
4th Year
Roll No. 1/19/FET/BBT/009





Ananya Verma
B.Tech Biotechnology
4th Year
Roll No. 1/19/FET/BBT/009

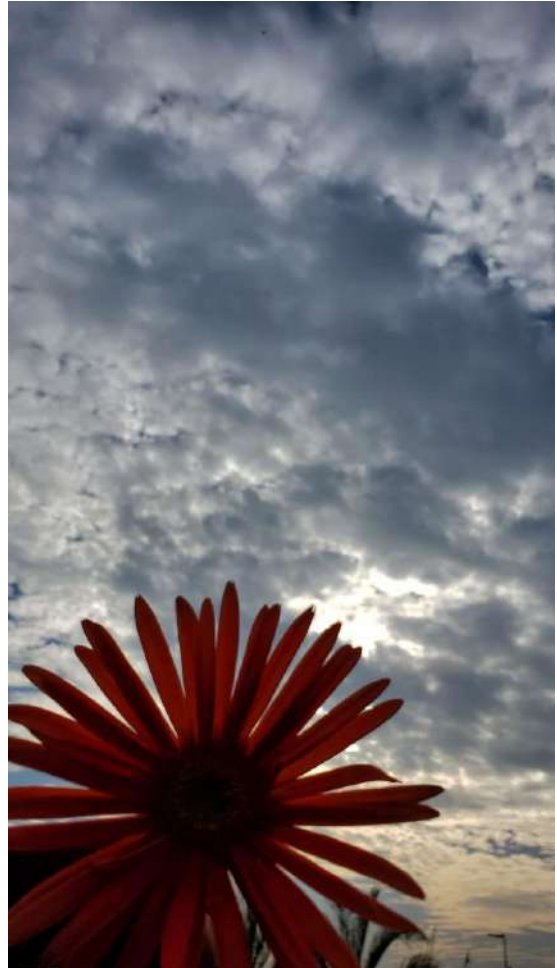


V. Rudra
B.Tech Biotechnology
7th Year
Roll No. 1/19/FET/BBT/001



Dr. Preeti Nandal
BT, FET, MRIIRS

Hiyaa Goel
Sec E1
Roll no. 1/22/FET/BBT/010





Kirti
Btech Biotechnology E1
1/22/FET/BBT/024

Dr. Vineeta Sharma
BT, FET, MRIIRS





Sumil Nagar
B.tech Biotechnology
5th Sem
1/20/FET/BBT/010

Congratulations

To

Prof. Abhilasha Shourie

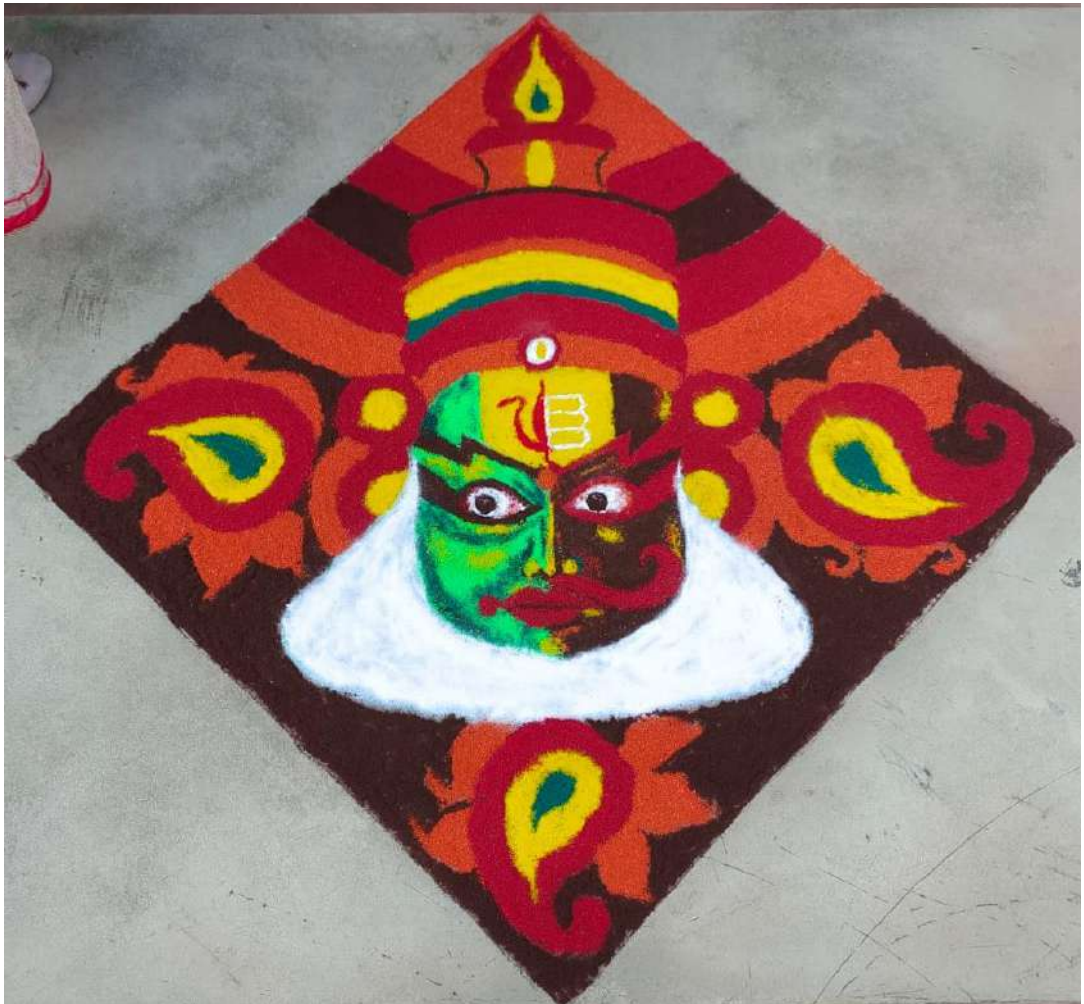
Prof. Nidhi Didwania

Dr. Vineeta Sharma

For receiving the

1st Prize in Rangoli Making Competition

During the Diwali Celebrations at Manav Rachna





Moments

&

Memories



Promotions



Congratulations
Prof. Kanchan Bhardwaj



Congratulations
Associate Prof. Kapila Kumar

