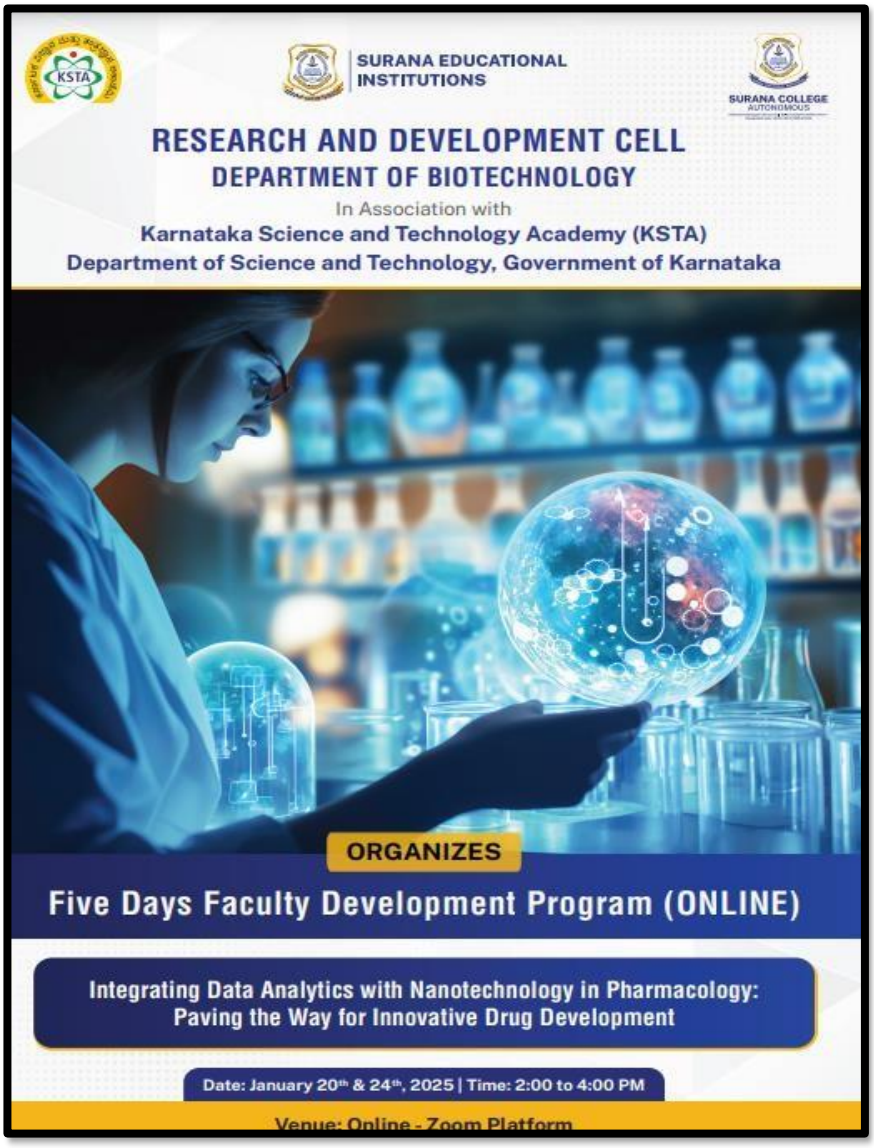


Research and Development Cell and Department of Biotechonology In Association with Karnataka Science and Technology Academy (KSTA), Department of Science and Technology, Government of Karantaka organized a online Faculty Development Program from 20th – 24th January 2025.

The lecture was delivered by Dr Ishan Pandey, Scientist-C at DHR-MRU, Moti Lal Nehru Medical College (MLNMC), Prayagraj. Dr Pandey highlighted the transformative role of nanotechnology in revolutionizing drug delivery systems.

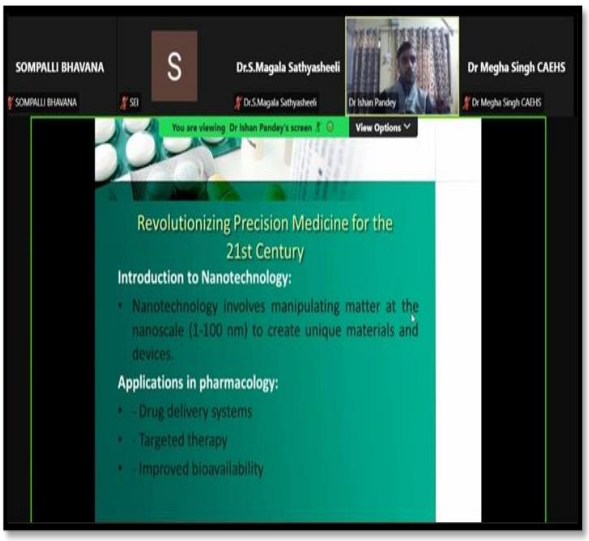
Technical Session 1

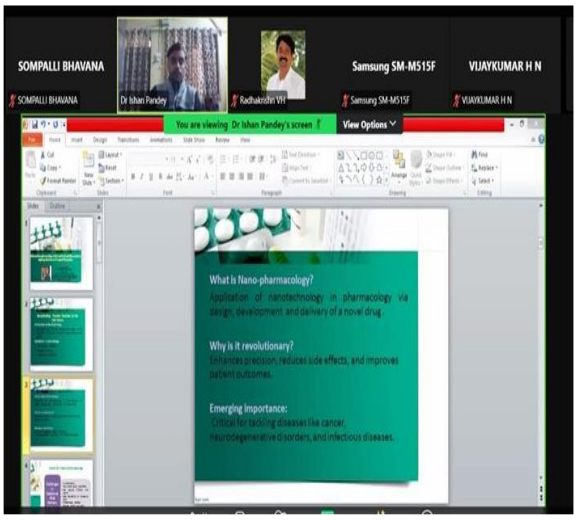
Date: 20th January 2025.

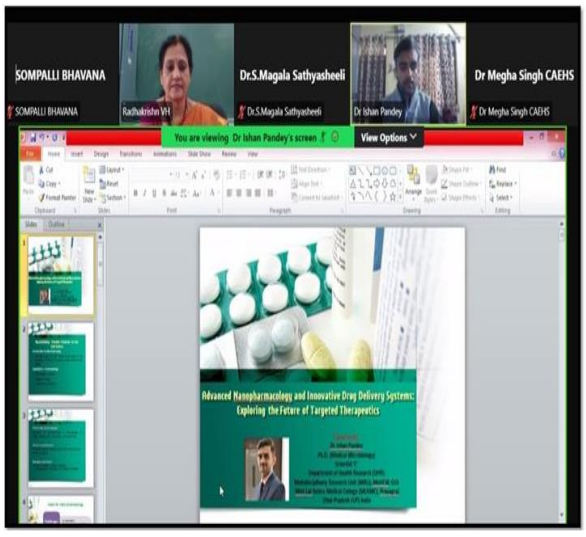
Time: 2:00-3:30 PM

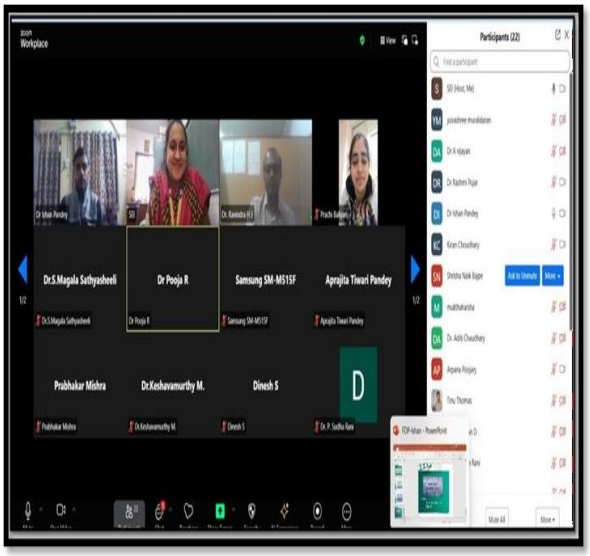
Resource Person: Dr Ishan Pandey Scientist-C, DHR-MRU, Moti Lal Nehru Medical College (MLNMC), Prayagraj

Topic: Advanced Nano pharmacology and Innovative Drug Delivery Systems: Exploring the Future of Targeted Therapeutics.









Technical Session

2 Date: 21st January

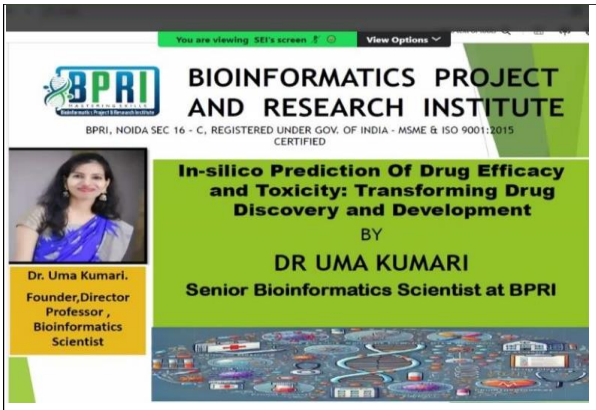
2025. Time: 2:00-3:30

PM

Resource Person: Dr. Uma Kumari (Professor and Senior Bioinformatics Scientist), BPRI (Bioinformatics Research Institute), Noida

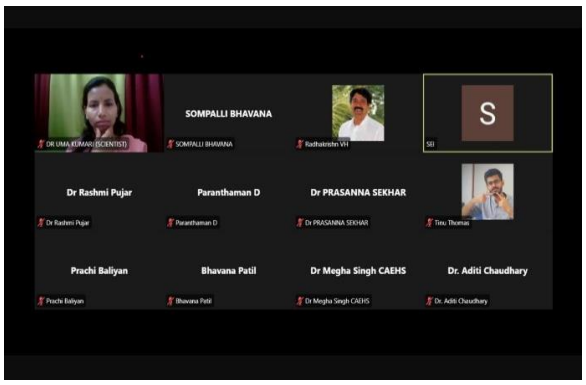
Topic: In Silico Prediction of Drug Efficacy and Toxicity: Transforming Drug Discovery and Development

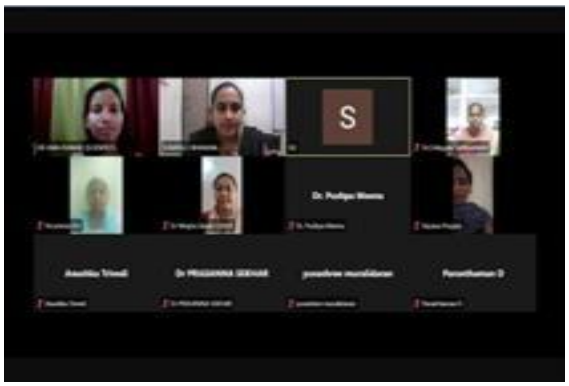
The second technical session of the Five-Day Faculty Development Program was held on **21st January 2025**. The session featured **Dr. Uma Kumari**, Professor and Senior Bioinformatics Scientist at the **Bioinformatics Research Institute (BPRI), Noida**, as the resource person. The topic of her lecture, **"In Silico Prediction of Drug Efficacy and Toxicity: Transforming Drug Discovery and Development,"** highlighted the critical role of computational tools in modern pharmacology.



Introduction of

Explanation with Live





Session in

Technical Session

3 Date: 22nd January

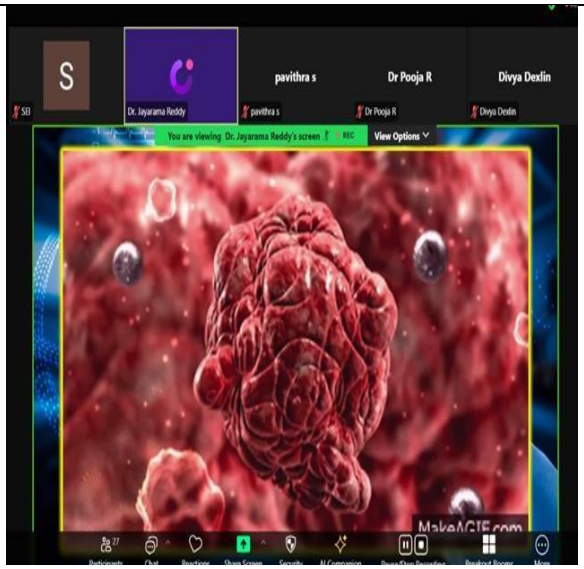
2025 Time: 2:00-3:30

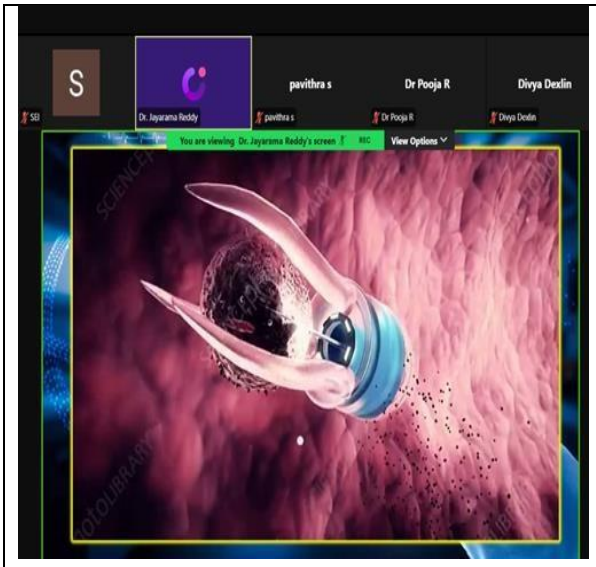
PM

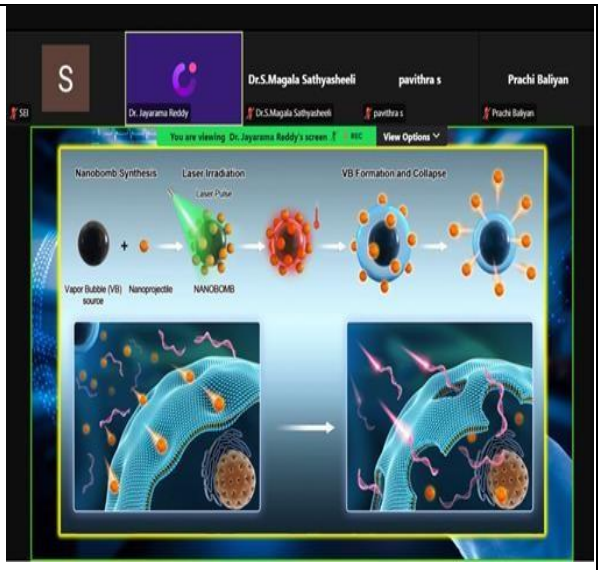
Resource Person: Dr. Jayarama Reddy Professor, Department of Botany, St Joseph's University, Bangalore Bengaluru

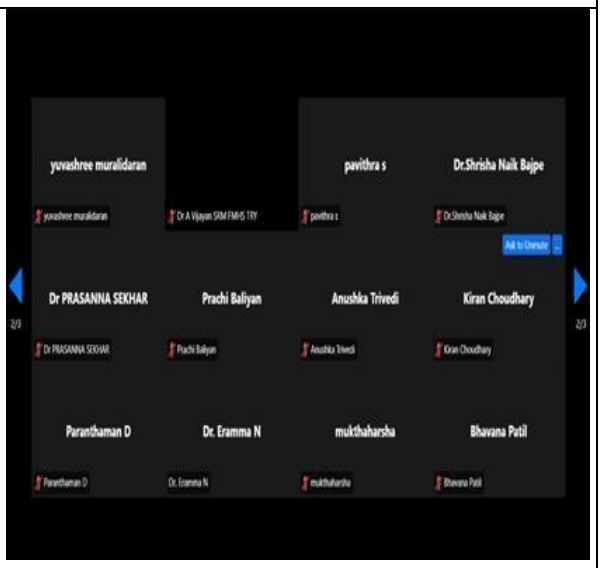
Topic: Nanocarriers in Drug Delivery: Innovations and Applications

The third technical session of the Faculty Development Program was conducted on **22nd January 2025** from **2:00 PM to 3:30 PM**. The session featured **Dr. Jayarama Reddy**, Professor from the Department of Botany, St. Joseph's University, Bengaluru, as the resource person. The topic, **"Nanocarriers in Drug Delivery: Innovations and Applications,"** focused on the revolutionary role of nanotechnology in enhancing drug delivery systems.









Technical Session 4

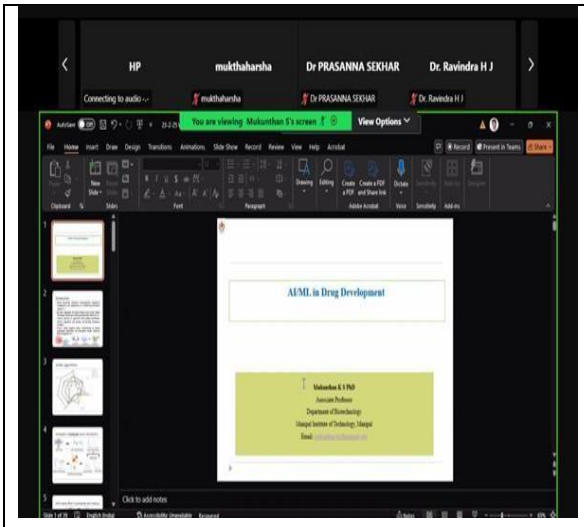
Date: 24th Jan 2025

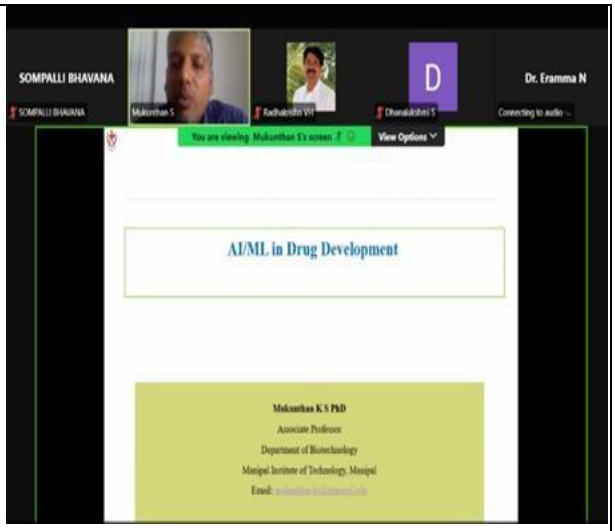
Time: 2:00-3:30 PM

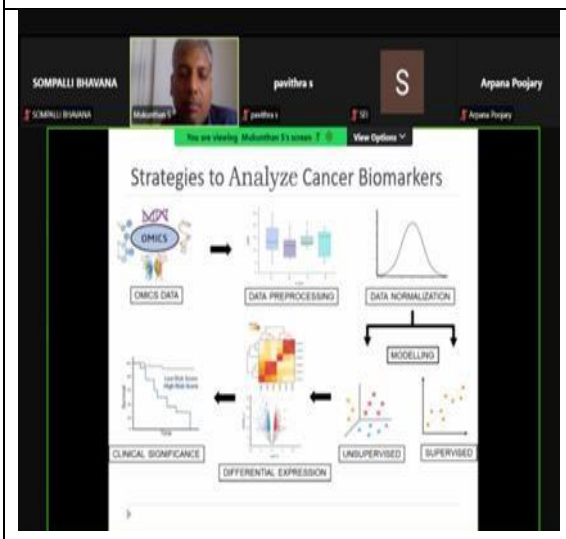
Resource Person: Dr. Mukunthan K Selvam Faculty Biotechnology, Manipal Institute of Technology, Manipal.

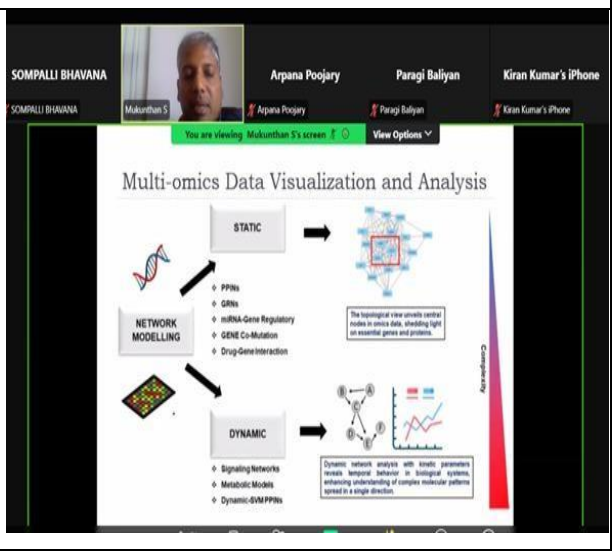
Topic: AI and Machine Learning in Drug Development

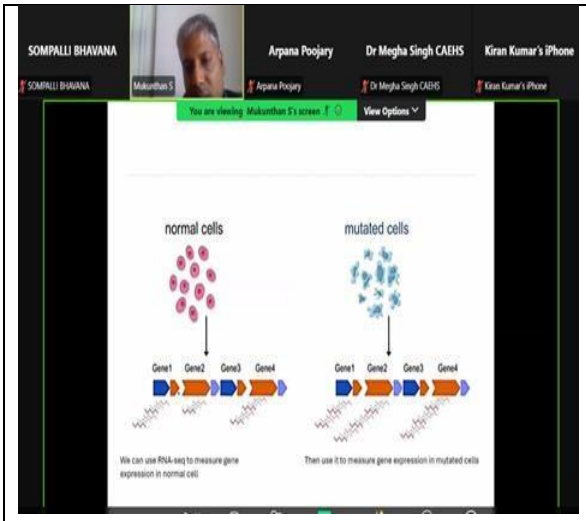
The fourth technical session of the Faculty Development Program was held on **24th January 2025** from **2:00 PM to 3:30 PM**. The session was led by **Dr. Mukunthan K. Selvam**, Faculty of Biotechnology at the **Manipal Institute of Technology, Manipal**. His topic, **"AI and Machine Learning in Drug Development,"** focused on the transformative impact of advanced computational tools in modern pharmacology.

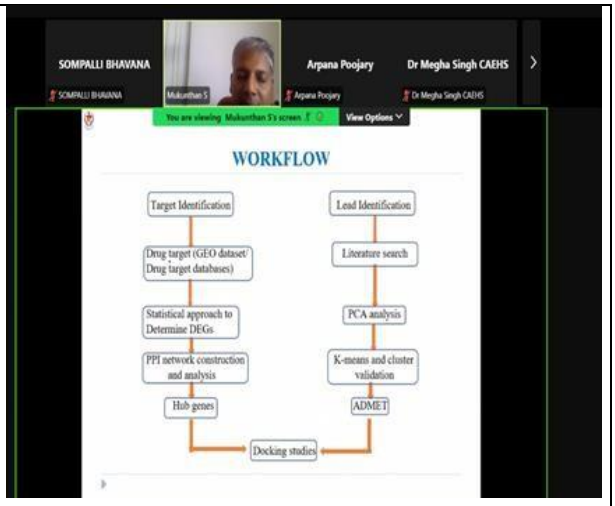












Technical Session 5

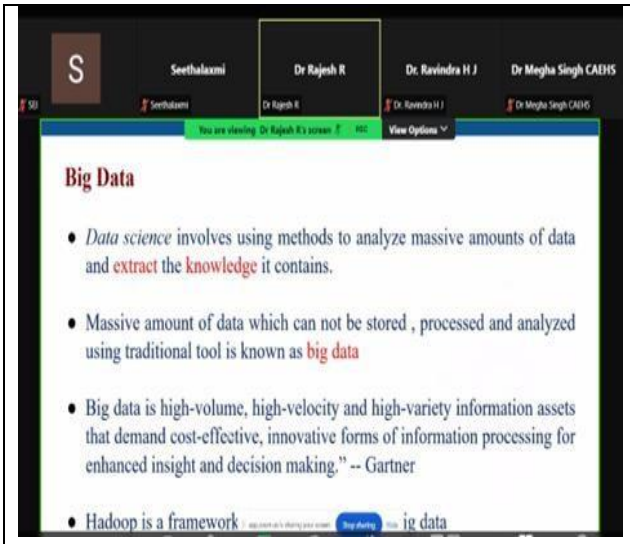
Date: 25th Jan 2025

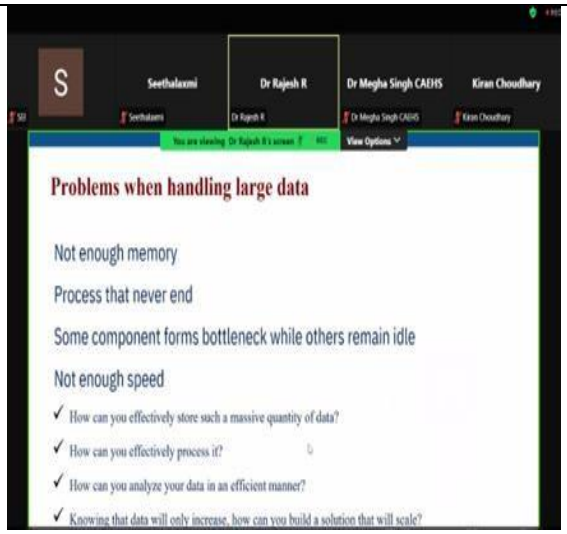
Time: 2:00-3:30 PM

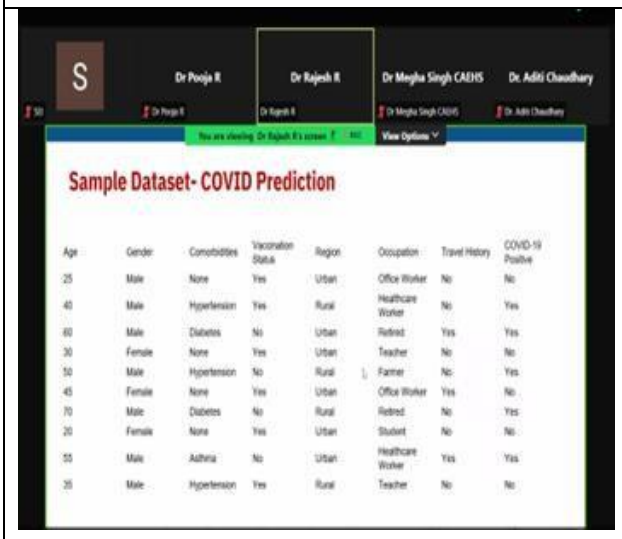
Resource Person: Dr. Rajesh Ramachandran, Professor, CHRIST University, Bangalore.

Topic: Big Data in Pharmacological Research

On **25th January 2025**, from **2:00 PM to 3:30 PM**, the fifth technical session of the series was conducted on the topic **"Big Data in Pharmacological Research."** The session was led by **Dr. Rajesh Ramachandran**, a distinguished Professor from CHRIST University, Bangalore. Known for his extensive expertise in data-driven research and pharmacology, Dr. Rajesh provided invaluable insights into the evolving role of big data in transforming pharmacological research and its applications.


Seethalaxmi
Dr Rajesh R
Dr. Ravindra H J
Dr Megha Singh CAEHS
View Options
Big Data
• Data science involves using methods to analyze massive amounts of data and extract the knowledge it contains.
• Massive amount of data which can not be stored , processed and analyzed using traditional tool is known as big data
• Big data is high-volume, high-velocity and high-variety information assets that demand cost-effective, innovative forms of information processing for enhanced insight and decision making." -- Gartner
• Hadoop is a framework


Seethalaxmi
Dr Rajesh R
Dr Megha Singh CAEHS
Kiran Choudhary
View Options
Problems when handling large data
Not enough memory
Process that never end
Some component forms bottleneck while others remain idle
Not enough speed
✓ How can you effectively store such a massive quantity of data?
✓ How can you effectively process it?
✓ How can you analyze your data in an efficient manner?
✓ Knowing that data will only increase, how can you build a solution that will scale?


Dr Pooja R
Dr Rajesh R
Dr Megha Singh CAEHS
Dr. Aditi Chaudhary
View Options
Sample Dataset- COVID Prediction
Age Gender Comorbidities Vaccination Status Region Occupation Travel History COVID-19 Positive
25 Male None Yes Urban Office Worker No No
40 Male Hypertension Yes Rural Healthcare Worker No Yes
60 Male Diabetes No Urban Retired Yes Yes
30 Female None Yes Urban Teacher No No
50 Male Hypertension No Rural Farmer No Yes
45 Female None Yes Urban Office Worker Yes No
70 Male Diabetes No Rural Retired No Yes
20 Female None Yes Urban Student No No
55 Male Asthma No Urban Healthcare Worker Yes Yes
35 Male Hypertension Yes Rural Teacher No No


Dr A Vijayan SRM FMHS...
Dr Rajesh R
Dr. Aditi Chaudhary
Dr Muktha H
View Options
Hadoop
Hadoop is different from previous distributed approaches in the following ways
▶ Data is distributed in advance.
▶ Data is replicated throughout a cluster of computers for reliability and availability.
▶ Data processing tries to occur where the data is stored, thus eliminating bandwidth bottlenecks.