

A Brief Report
on
CSIR-Central Drug Research Institute (CDRI) visit

On the occasion on “**83rd CSIR Foundation Day**” at **CSIR-CDRI**, students of the Department of Biosciences, Integral University, Lucknow, were invited to visit CDRI for the Open house (Laboratory visit, interactions with scientists), Exhibition of technologies, and process and product development by the institute, on **26th September, 2024**.

The Central Drug Research Institute (CDRI), a premier research institute under the Council of Scientific and Industrial Research (CSIR), is dedicated to the discovery of new drugs and therapeutic methods. The student visit was a part of an educational initiative to provide exposure of cutting-edge research in drug discovery and development. During the visit, students learned about the research environment, facilities, and ongoing projects at CDRI, bridging the gap between academic learning and practical applications in the field of drug research and development. The research institute is known for its contributions in areas such as development of new therapeutic agents, research on diseases including malaria, tuberculosis, cancer, diabetes, and reproductive health, clinical and preclinical studies, modern analytical and bioinformatics approaches for drug development.

A total of **39 students** from undergraduate and postgraduate programs were selected for the visit, coordinated by 2 faculty members, **Dr. Mohsin Vahid Khan** and **Dr. Mohd Aamir Qureshi**. The institute, CDRI is one of India’s leading research institutes in drug discovery. It has contributed significantly to national health programs, providing affordable drugs and solutions to a wide range of diseases. During the CDRI visit, students were introduced to state-of-the-art research facilities, real-world challenges in drug discovery. The interaction of students with scientists and research staff, working on cutting-edge projects in areas such as Medicinal Chemistry, Pharmacology, Toxicology, Biotechnology and other areas of research bestowed them with latest research methodologies related to drug discovery. The visit was meticulously planned to ensure that students could gain maximum exposure to the drug development research environment.

The students were warmly welcomed by CDRI’s administration and briefed about the institute’s history, mission, and vision. The opening session was conducted in the auditorium followed by visits to different research labs involved in drug synthesis and development. The students

observed the drug synthesis and optimization processes, including the use of computational techniques to design new molecules with therapeutic potential. They were introduced to high-tech instrumentation facilities used in analysis of drug purity, stability, and bioavailability, including different chromatographic techniques like TLC, column chromatography, HPLC and mass spectrometry. Students also experienced how pharmacokinetics and pharmacodynamics studies are conducted. They were briefed on the preclinical testing process involving both *in vitro* and *in vivo* models. They also learned about the role of molecular biology in drug research, including cloning, gene expression studies, and the use of biotechnological methods for target validation. The students also interacted with the scientists and research staff in the laboratory visited.

The visit to CDRI provided a valuable opportunity for students to witness cutting-edge research in drug discovery and development. It allowed them to gain practical insights that complement their academic curriculum, and the interactions with scientists offered a clearer understanding of the career prospects in Pharmaceutical and Biotechnological research. The visit successfully connected theoretical learning and practical application, making it a memorable and educational experience. Below are the few glimpses from the visit.



