JAMIA HAMDARD

Centre of Excellence in Unani Medicine

(Pharmacognosy & Pharmacology)

Bioactive Natural Product Laboratory (BNPL)

Welcome to

PROF. ZIYAUR RAHMAN

Department of Pharmaceutical Sciences

TEXAS A&M UNIVERSITY United States

CoE LECTURE SERIES – 04

Interactive session

20TH December 2023 (Wednesday) 12: 30 p.m. (IST)

Venue: Centre of Excellence in Unani Medicine (Pharmacognosy & Pharmacology) , BNPL, 3rd Floor.

Interactive Session

CoE Lecture Series #4

Dr. Ziyaur Rahman is a Professor of Pharmaceutical Sciences at the Texas A&M University Department of Pharmacy. The focus of Dr. Ziyaur Rahman's lab at Texas A&M University Department of Pharmacy is on three areas: ultra-long delivery system, abuse/meth-deterrent formulations, and 3D printing in personalized drug delivery.

Interactive Session with Prof Dr Ziyaur Rehman

- The interactive session started with the welcoming of Dr Ziyaur Rehman with a planter by Prof Dr Sayeed Ahmad.
- *“He shared his journey from being an average student in the school to being a big shot in the scientific industry”.*
- During a recent interactive session, Dr. Ziyaur Rahman shared his journey from his school days to where he stands today, overcoming numerous challenges along the way. He explained how a small "mg" in his medications changed his life and motivated him to pursue a career in pharmacy, specifically pharmaceutics. Dr. Rahman is a highly accomplished academician with a strong background in pharmaceutical sciences. He received his Bachelor of Science in Pharmacy from Hamdard University, and later obtained a Master of Science and PhD in Pharmaceutics from the same institution. He further enhanced his expertise by completing a postdoctoral research associate program at the University of Mississippi.
- Dr. Rahman started his career in Torrent Pharmaceuticals and later moved to Ahmedabad, where he didn't have a project or work. However, he didn't want to waste his time and began to explore pharmaceutical books, which gave him valuable knowledge. He joined Dabur later on. In the meantime, he was looking for a job in the US, he answered a question based on pharmacokinetic dissolution. He received some mail and was subsequently hired by another company, joining the FDA at Ole Miss, University of Mississippi. He investigated issues related to solubility, dissolution, and more. He was inspired by the work, which focused not only on drug delivery but also on the safety and efficacy of the product.
- Dr. Rahman's research focused on a cold and cough medication named Chlorphenamine. He discovered that when the drug was mixed with tannic acid, it formed a tannate complex, which decreased the drug’s solubility. FDA approval was required to make the proper dosage of the medication for extended release. Dr. Rahman studied the same and published a paper to make an over-the-counter (OTC) product of tannate.

Interactive Session with Prof Dr Ziyaur Rehman

- Another example is Tacrolimus, an immunosuppressant medication prescribed to a woman who underwent a liver transplant. She was initially taking the brand product but was later switched to the generic version by her doctor. However, the generic product was not very effective for her and caused some issues, which she reported to her doctor. Dr. Rehman, purchased the active pharmaceutical ingredient (API) and prepared a formulation. The results showed that the drug was poorly soluble and changed from amorphous to crystalline form, which affected its solubility and made it ineffective for the woman's body to absorb. The manufacturing methods were changed by the company after this issue was identified with the help of the FDA. Later, Dr. Rehman joined the Department of Pharmacy at the University of Mississippi.
- During the session, Dr. Ziyaur Rahman shared his expertise on various topics such as abuse-deterrent formulations, ultra-long pharmaceutical characterization delivery systems, and advancements in 3D printing technologies. He also discussed a product that his lab researched for the FDA, which was focused on analyzing the amount of nicotine released when a person chews tobacco. To execute this research, his lab developed a dissolution method. Additionally, Dr. Rahman introduced his new research project, which is an Intramammary product for cattle. For this project, they have proposed the invitro quality matrix method. Furthermore, he talked about his new project on 3-D printing, which has also been funded by NIH.
- Dr. Rahman's notable achievements, include the prestigious FDA Team Excellence and Regulatory Science Excellence awards. The interactive session with Dr. Rahman proved to be a valuable opportunity for exchanging insights and ideas on the latest developments in pharmaceutical research. The session was inspiring and informative.