MHRD's Global Initiative of Academic Network (GIAN)

INVENTING NEW CHEMICAL ENTITIES FROM TRADITIONAL MEDICINES

60+ hours of academic interaction and mentoring by
Professor **Mukund S Chorghade** (PhD)
Affiliation: Harvard and Princeton Universities

Broad Area:
Drug Discovery, Development, Translational Research, Synthetic Chemistry

Objectives:

1. Develop insights into the process of drug discovery and development
2. Learn reverse pharmacology, observational therapeutics and informational flow analysis.
3. Train the participants for using traditional knowledge for inventing new chemical entities of certain properties
4. Comparative study of medicines (Diabetes, Oncology, HIV and Malaria)
5. Brainstorming on developing newer alternative medicines

Guest Faculty:
Professor Mukund Chorghade

Hosts:
Dr Ambuja Salgaonkar
Dr Varsha Kelkar-Mane

Duration:
October 9 to 20, 2019 (12 days),
Everyday 5 hours
(9:30 to 12:00 noon and 2:00 to 4:30 pm

Who can attend
Executives and researchers from pharmaceutical companies.
Students of graduation and master's degree programmes in biological and life sciences including Biotech, Biochem, Bio-analyticals, Chemistry and, Computational sciences.
Teachers from Universities, Colleges and reputed Academic and Technical Institutions.

Registration fees:
Representatives from corporate houses and NGO: ₹ 7000
Professionals from research and academic institutions: ₹ 2000
Bona-fide students of colleges and universities: ₹ 1000
(DD to be drawn in the name of 'Finance and Accounts Officer, University of Mumbai'. Candidates name and contact number to be mentioned behind DD)

The registration fees include charges for instructional kit, use of computer labs for tutorials and assignments, 24 hr wi-fi facility and a working lunch for overseas and industry participants. Accommodation and dinner can be arranged for overseas participants and outstation participants on payment basis.

- The content is equivalent of 4 credits; A certificate of credits earned could be availed for the qualified participants who wish to get examined by paying the Examination fees of ₹ 1000/- per person.
- The Course is available in the flipped class-room mode for those who wish to attend it online. Please write to ambujas@udcs.mu.ac.in for knowing the modalities.

University of Mumbai

LECTURE SCHEDULE

DAY	DATE	LECTURE (9:30 to 12:00 am)		TUTORIALS (2:00 to 4:30 pm)
		Lecture 1	Lecture 2	
Day 1	09/10/2019	Keynote - What this course entails?	Introduction - Basic principles. Small molecules, Biomolecules, Polymer therapeutics	Developing innovative ideas
Day 2	10/10/2019	Essential medicines - the question of access.	Reverse pharmacology / observational therapeutics for drug discovery	Reverse pharmacology
Day 3	11/10/2019	Historical development of drug discovery and its relevance to contemporary approaches, cases.		Discovery of Olaparib or Aliskiren or alike.
Day 4	12/10/2019	Lead optimization in drug discovery, case of Carfilzomib		lead optimization
Day 5	13/10/2019	Evaluation of pharmacology and toxicology of bioactives		Evaluation of pharmacology and toxicology of bioactives
Day 6	14/10/2019	Polymer therapeutics. Unusual experiences with discovery		Detailing of the cases selected by the participants
Day 7	15/10/2019	Process development / route selection	Case studies: Gabitril, HIV protease drugs, Renagel.	Process development
Day 8	16/10/2019	Drug metabolism, New technologies for assessment of ADME		Drug metabolism
Day 9	17/10/2019	Drug substance / Drug product regulations; EU directives FDA's guidelines and ICH regulations for stability testing, control of drug substance and drug product; Confirm manufacturing consistency and product quality.		Review of the solutions and tutorial on refinements
Day 10	18/10/2019	Designing and validating stability indicating analytical test methods. Establishing successful stability data management..Importance of quality control. Introduction to method validation review necessary test methods for release of drug.		Case study for small molecule NCEs
Day 11	19/10/2019	Overview of biologics: differences with small molecules. Biopharmaceuticals: what makes them different from small molecules?	Current technologies used for biopharmaceutical discovery. Cell banks and other biopharmaceutical manufacturing challenges.	Integration of solutions of the assignment problems, compilation of project, documentation etc.
Day 12	20/10/2019	Basics of biopharmaceutical drug substance and drug product manufacturing.	Analytical methods for biologics development, formulation of biologics.	Integration of solutions of the assignment problems, compilation of project, documentation etc.

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