Nanotechnologies in Drug Delivery

August 12, 2019
1:00-5:15 PM
Fluno Center, Madison, WI

Goals and Objectives:

This short course is designed to provide information needed to apply nanotechnologies in drug formulation and delivery. The course provides a comprehensive introduction to nanomedicine with an emphasis to current successful applications of nanoparticles in the therapy of various diseases, including but not limited to cancer and bacterial/fungal infections. The course will also present the biological requirements and safety assessments needed and developed for nanoparticles. A final review on the future of nanomedicine will detail the most modern concepts and applications of nanotechnologies in biomedical research. Upon completion of the course, the learner will be able to:

1) Identify different classes of nanoparticles based on size, composition, and fundamental applications.
2) Understand why nanoparticles are particularly important in cancer therapy.
3) Select and identify which nanoparticles can be efficiently used in the treatment of specific cancers.
4) Understand how nanoparticles can be used to treat infectious and cardiovascular diseases.
5) Develop nanoformulations for imaging.
6) Assess the safety requirements of nanoparticles to be used in humans.
7) Become knowledgeable on the most recent (up to mid 2019) developments in nanomedicine

Who should attend:

The course is intended for chemists/biologists/physicians and managers who deal drug formulation and delivery. It is primarily for those who are directly involved in devising new drug formulations. It will also serve as a comprehensive introduction to nanomedicine for all researchers involved in drug development.

Contents:

12:30 pm Registration

1:00 pm **Introduction: Definitions and Classes of Nanoparticles**
Includes a thorough description of the most common classes of nanoparticles used in medicine.

2:15 pm Break

2:30 pm **Nanoparticles in Cancer Therapy**
How to target cancer cells and tissues. Nanoparticles choice based on drug properties.

3:30 pm Break

3:45 pm **Nanoparticles Applications in Diseases Different from Cancer. Imaging.**
How nanoparticles can be applied for the formulation and delivery of drugs in infectious and other diseases. Imaging through nanoparticles.

4:25 pm Break

4:40 pm **1. Nanoparticle safety assessment.**
How to assess nanoprticles safety and identify biological requirements.
2. The Future of Nanomedicine
An overview of the most modern concepts and design in nanomedicine.

5:00 pm Open Discussion

5:15 pm Adjourn Pre-Conference Workshop

Instructor: Sandro Mecozzi, Ph.D.
Professor, School of Pharmacy, Division of Pharmaceutical Sciences
University of Wisconsin, Madison, WI

Fee: $175

Register: https://ce.pharmacy.wisc.edu/pd/land-o-lakes-pharmaceutical-analysis-conference/