ID

TM38_Dip_Biotech

Teach Mob – Visiting Professors
Academic year 2014/2015

1st term

COURSE TITLE

Gaining some insights for a successful design of controlled drug release systems

Scientific area

Pharmaceutical Sciences

Department of Molecular Biotechnologies and Health Sciences

Language used to teach

English

Course summary

This course is an opportunity for undergraduate students to participate in lessons where key concepts about the design and characterization of controlled drug delivery systems will be discussed. In this respect the following lines of action are taken into consideration. After an animal or human health problem is selected to be the focus of the research, the drugs to be used in the treatment are the aim of the work. The study of the physicochemical properties of the drug will allow gaining knowledge to select the polymer. Polymers can be naturals or synthetics, and are the skeleton of the delivery system. Based on the health problem, site of application, type of delivery system, drug and intrinsic properties of the polymers, a material or a combination of more than one is selected as the candidate to prepare the delivery device. In this course of actions the key concepts to take into account are: 1) techniques for the characterization of the drugs and polymers, 2) preparation of the delivery system, 3) functional characterization of the system, in vitro and in vivo drug release studies. To accomplish the goal of a good therapeutic, the disease have to be cured, the symptoms should disappear or decrease, the health problem have to be overcome, anyone of this scenario can be achieved with a smart design of experiments to prepare the best controlled drug delivery system. In addition, another patient benefit will be the avoidance of unwanted secondary effects of conventional treatments. The reports (research papers, reviews, patents and books) on this topic are growing every day. The most important and significant reports will be selected as subjects of study for planning lessons.

Learning objectives

- increase knowledge of research methodologies on controlled release topics
- gain experience in the field of design and characterization of controlled drug release systems
- enjoy of a space to bring up topic related issues and discuss about designing controlled delivery systems: from a health problem to be treated to an optimized system drug delivery

Visiting Professor Profile

Assistant Professor

The candidate should have a PhD degree, and MD degree or equivalent.

The candidate should have at least 5 years of research experience.
The candidate should have extensive experience in drug delivery research, particularly in the control of drug release system for human therapy, demonstrated by a consistent per review publications. His/her training and work experience should enable him/her to contribute significantly to the teaching in the proposed classes, with a specific attitude towards experimental research.
The candidate should be able to teach in fluent English.

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