

Corso di Laurea Magistrale in
Pharmaceutical Biotechnologies
A.A. 2019 – 2020

PROGRAMMA Teaching Staff ERASMUS+

Short Course 2019 – 2020

BIOLOGY AND CHARACTERIZATION OF RECEPTORS TARGETED BY DRUGS IN CLINICAL USE

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The main topic of the lectures and workshop will be surface receptors, especially G protein-coupled receptors (GPCRs)

The subjects covered will be the following:

Lecture 1 (Tues, March 10, 2020, 14:30-16:30) - AULA 3

After a short general introduction into the course and an overview of the receptors,, this lecture will focus on the signalling and function of G protein-coupled receptors. Furthermore we will cover genetic polymorphisms and point mutations and their relevance for drug development. General mechanisms of pharmacogenetics, -kinetics and -dynamics will be introduced and the effects polymorphisms have on responses to drugs and adverse effects. It will also highlight the advantages and limitations of personalized medicine.

Lecture 2 (Tues, March 10, 2020, 16:30-17:30) - AULA 3

This lecture will give an overview about different methods applied for ligand-receptor interactions and the strategies for assay development. Some assays will be introduced in more detail to give an idea about the processes involved and problems which can occur will be discussed as well.

Workshop (Thu, March 11, 2020, 14:30-17:00) - AULA Informatica

This workshop builds on the "assay" lecture, it will focus on how data from pharmacological studies should be plotted and analyzed. Students will practice with sample data sets. In addition this hands-on course deals with database search strategies (NCBI, UniProt, cell and vector databases), molecular biology tools and programs (e.g. sequence analysis and topology predictions as well as alignment tools for sequence comparison). The students will learn how they can efficiently use the computer for molecular biological problems. They will be introduced to online tools and programs and they will apply those tools and work on some exercises.

Venue: Dipartimento di Scienze del Farmaco, via Marzolo 5, 35131 Padova

Final test: multiple choice test

Info: barbara.gatto@unipd.it

PLEASE REGISTER BEFORE MARCH 4, 2020 at the link below:

Registration: <https://drive.google.com/file/d/1v5G8gTHzWGDPUyypxT5Dz6nbVOvqaSY7x/view?usp=sharing>