**Pharmaceutical Sciences**

19th December 2019

**Aim of the course:**

The pharmaceutical sciences is a dynamic field that combines a broad range of scientific disciplines critical to the discovery and development of new drugs and therapies. This one-day course serves as an introduction to the drug discovery and design. You will also learn about several aspects of personal, nano- medicine as well as their related analytical and data treatment strategies.

**Target group:** PhD candidates in the first half (year 1 or 2) of their PhD trajectory. Group is limited to 15 participants

**Prerequisites:** Working knowledge of English

**Location:** CIRM

**Duration of the course and workload:** one day

**Coordinators:** Marianne Fillet (CIRM, ULiege)

**Educators**

Anna Lechanteur, Anne-Catherine Servais, Eric Ziemons, Pierre-Yves Sacré, Marianne Fillet, Geraldine Piel, Pierre Francotte, Jean-François Liégeois, Michel Frederich, Pascal de Tullio, Marie-Pierre Hayette.

CIRM, ULiege

**Course programme**

**8:30-9:30  Biopharmaceuticals**

* Oral solid dosage form development and strategies to enhance oral availability (Anna Lechanteur)
* Quality control of biopharmaceuticals (Anne-Catherine Servais)

**9:40-11:10 Advances analytcial strategies and data treatment**

* Advances in vibrational spectroscopy and data treatment (Eric Ziemons, Pierre-Yves Sacré)
* Advances in electrophoretic and chromatographic microfluidics (Anne-Catherine Servais, Marianne Fillet)

**11:20-12:20 Nanomedicine**

* Introduction to nanomedicine (Geraldine Piel)
* Non-viral vectors for gene therapy (Anna Lechanteur)

**12:20- 13:30** – Lunch Break

**13:30-15:00 Target and lead discovery**

* Principles of drug design and application to glutamate receptors (Pierre Francotte)
* Exploration of small conductance calcium-activated potassium channels using biological and chemical tools (Jean-François Liégeois)
* Natural products drug discovery: introduction to purification and identification of bioactive metabolites (Michel Frederich)

**15:10-16:10 Personalized medicine**

* Update in Metabolomics for precision medecine (Pascal de Tullio)
* Update in proteomics for precision medecine (Marianne Fillet)
* Update in Clinical Microbiology (Marie-Pierre Hayette)