

Màj 09/06/2022

UE 2.1. Current concepts in Biology and Health Sciences

6 ECTS

Teaching unit shared by the following tracks:

- Cellular, Integrative and Translational Neurosciences
- Diabetes and cardiovascular diseases
- Fundamental and clinical oncology, towards precision medicine
- Immunity, Inflammation et Infection

EC1: *In vivo* study of gene function and regulation

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During development, cells must integrate different molecular signals to proliferate, migrate or differentiate. Deregulation of the signaling pathways involved can cause developmental abnormalities or cancer. Abolishing or controlling, spatio-temporally, the expression of a gene is a key step to understand its biological role *in vivo*. Through examples in human disease (infectious diseases, oncology, developmental anomalies), we will approach the methods of *in vivo* and *ex vivo* study of the function and regulation of genes in different models such as parasites (Plasmodium, Trypanosome or Toxoplasma), zebrafish, mice, chicken and also induced pluripotent stem cells.

Organisation of the day

9h00-10h00 : Jamal Khalife (CIIL-INSERM U1019)
Functional studies in parasites.

10h30-13h00 : Pierre-Olivier Angrand (INSERM U908)
In vivo study in zebrafish of genes involved in cancer.

14h00-15h30 : Jamal Ghoumid (EA RADEME Université de Lille)
Ex vivo study of developmental genes : use of the induced pluripotent stem cells.

15h45-17h15 : Florence Petit (EA RADEME Université de Lille)
In vivo study of the function and regulation of genes involved in limb development.