

Màj 04/06/2021

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

EC12: Experimental animal models - phenotypic characterization in metabolic and neurological diseases

Contact: julie.deguil@univ-lille.fr

Experimental animal models are crucial to basic and applied scientific research. This session focuses on metabolic diseases (diabetes, obesity and their complications including atherosclerosis, NASH) and neurological diseases (Alzheimer disease and related disorders) to address the choice of animal models and characterization parameters according to the scientific issue. We address the following topics: (1) strengths and limitations of some current models generated by distinct experimental manipulations e.g. genetic, pharmacological or environmental; (2) experimental conditions to be applied according to the specific scientific question (3) relevant circulating parameters and functional tests to be used; (4) suitability and limitations of experimental models for clinical translation.

Organization of the day

9h – 12h: Experimental models of metabolic disorders and phenotypic characterization

9h – 10h45: Didactic presentations

1- Experimental models mimicking metabolic disturbances and phenotypic characterization

2- Phenotypic characterization through analyses of food intake, locomotor activity, energy consumption (metabolic cages) and body composition

Speakers : Anne Tailleux & Steve Lancel

10h45-12h00: Journal club (part 1) : Presentation of articles by students (a 15-min. presentation followed by a 15-min. discussion)

13h00 – 16h00: Experimental models of neurological diseases and phenotypic characterization

13h00 – 14h45: Didactic presentations

1- Presentation of experimental models and the criteria to assess their suitability

2- Strategies for constructing animal models of cognitive disorders in Alzheimer's research

3- Limits of modeling human neurological pathologies in rodents

Speakers : Michèle Bastide et Julie Deguil

14h45 – 16h00: Journal club (part 2) - Presentation of articles by students (a 15-min. presentation followed by a 15-min. discussion)

An interactive scientific discussion follows each speaker's presentation and the students' presentations.

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16h00: Invited speaker/conference

Educational team: Julie Deguil, Steve Lancel, Anne Tailleux.