

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

EC5: Intra- and Inter-cellular trafficking

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The communication between the different cellular compartments in eukaryotic cells is essential to maintain cellular homeostasis. During this seminar we will discuss the microscopy-based experimental strategies applied to cellular and molecular dynamics and we will visit the BICeL platform. We will highlight the molecular mechanisms (general and specific) involved in intracellular protein transport. A particular attention will be paid to the role of lipids and targeting complexes, as well as to intercellular trafficking.

Organization of the day

Three articles selected by the teaching team will be used as a basis for questions to which students will answer in the form of "Flash-talks".

The day will end with a conference.

- 8h45 Opening session
- 9h00 Microscopy to study cellular trafficking
- 9h30 Intracellular trafficking
 - Molecular organization of biological membranes
 - Cell compartmentation and targeting signals
 - Distribution and intracellular trafficking of lipids
- 10h00 Intercellular mechanisms
 - Biogenesis of extracellular vesicles
 - Proteinopathies
 - Nanotube formation
- 10h45 Flash-talks by the students
- 13h30 Visit of the cell and tissue imaging platform BICeL
- 14h45 Vesicles targeting and tethering complexes
- 15h15 Flash-talks by the students
- 16h15 Closing Conference

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