

UE Molecular Bases of the Normal and Pathological Memory

 ECTS
6 crédits

 Composante
UFR de Chimie
et de biologie

 Période de
l'année
Printemps (janv.
à avril/mai)

Diplômes intégrant cet élément

- Master Biologie - Santé

- Langue(s) d'enseignement: Anglais
- Ouvert aux étudiants en échange: Oui
- Code d'export Apogée: YAMB8U20

Présentation

Description

Molecular Bases of the Normal and Pathological Memory

The goal of this course is to apprehend the latest findings about the cellular and molecular mechanisms of synaptic plasticity and the causes of their impairment in neurodegenerative diseases with a special emphasis on Alzheimer's disease.

Weekly lecture topics

- 1) Membrane potential, Nernst and Goldman Hodgkin Katz equations
- 2) Synaptic transmission
- 3) Organization of the glutamatergic and Gabaergic synapses (pre and postsynaptic elements)
- 4) Short and long term plasticity phenomenon
- 5) Role of protein kinases in synaptic plasticity 1
- 6) Role of protein kinases in synaptic plasticity 2
- 7) Traffic and diffusion of synaptic receptors 1
- 8) Traffic and diffusion of synaptic receptors 2

- 9) Cytoskeleton and Memory: molecular insights
- 10) Adult neural stem cells
- 11) Engram
- 12) Genetic and molecular causes of Alzheimer's disease: presenilin, APP, ApoE.

Details of assignments and Grading breakdown:

Oral article presentations by students (20%)

Description of scientific figures (80%)

Heures d'enseignement

CM	CM	36h
TD	TD	12h

Période : Semestre 8

Infos pratiques

Contacts

Responsable pédagogique

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Lieu(x) ville

➤ Grenoble

Campus

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