Fiche UE MU5BIN16
Ouverture en Neurosciences 1
Module : Hippocampus: from cells to physiology and human pathology

Responsable	Jean Christophe Poncer
Co-responsable	Eric Schwartz

Descriptif	***Parcours type***	***Option***	***Niveau***	***Semestre d'enseignement***	***ECTS***	***Effectif Maximal***
	Neurosciences	Neurosciences Cognitives et Comportementales – NCC Neurosciences Cellulaires et Intégrées – NCI- Sciences de la Vision	M2	S3	3	35

Modalités pédagogiques	***Volume horaire Cours***	***Volume horaire TD***	***Volume horaire TP***	***Présentiel ou distanciel***
	22,5	0	0	présentiel

Objectifs	This course addresses brain physiology and pathology by focusing on a cortical structure particularly well studied and involved in several important functions. The hippocampus is critically involved in learning and memory as well as spatial navigation. It is also affected in a variety of neurological and psychiatric disorders, including epilepsy, schizophrenia and Alzheimer's disease. The courses aim at shedding light on hippocampal function at all levels, from cells and their synapses to human brain and its pathology. The course is validated by a written exam consisting in 2 questions to choose among 4, in either French or English.
Thèmes abordés	- Anatomy : the hippocampus in his context - Cellular and synaptic morphology - Development - Cellular and synaptic physiology - Long-term synaptic plasticity - Hippocampal rhythmogenesis and behavior - Hippocampus and spatial navigation - Hippocampus, brain states and memory - Functional Imaging and episodic memory - Hippocampus and Alzheimer's disease - Epilepsy of the temporal lobe
Compétences acquises à l'issue de l'UE (concepts, méthodologie et outils)	– In depth knowledge about hippocampal anatomy, cells, circuits and synaptic functions – In depth knowledge of hippocampal rhythmogenesis in normal and pathological conditions – Basic concepts on fMRI and clinical imaging approaches – Clinical and cellular aspects of temporal lobe epilepsy – Anatomical alterations in Alzheimer's disease
Prérequis	– Basic knowledge in electrophysiology – Basic concepts in Neuroscience and cellular biology

Modalités d'évaluation/100	***Ecrit***	***Oral***	***CC***	***Autre***
	100			

Langues utilisées	***Dans les cours, TD, TP***	***Dans les documents, supports***
	English	English

Localisation	Institut du Fer à Moulin

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