

Testi del Syllabus

Resp. Did. **TONGIORGI ENRICO** **Matricola: 005813**

Docente **TONGIORGI ENRICO, 9 CFU**

Anno offerta: **2016/2017**

Insegnamento: **741SM - NEUROBIOLOGIA CELLULARE E MOLECOLARE**

Corso di studio: **SM54 - NEUROSCIENZE**

Anno regolamento: **2016**

CFU: **12**

Settore: **BIO/06**

Tipo Attività: **B - Caratterizzante**

Anno corso: **1**

Periodo: **Primo Semestre**

Sede: **TRIESTE**



Testi in italiano

Lingua insegnamento English

Contenuti (Dipl.Sup.) The purpose of the course is to give an overview of molecular mechanisms that regulate the principal cellular functions of neurons and glial cells. Topics of the course are: PART A (Tongiorgi) The cellular basis of the nervous system: I Cellular diversity of the neurons; II Glial cells; III Glial cells and the formation of the myelin, IV The synapse. Inside the neuron: I Organelles, Golgi apparatus & secretion; II mechanisms of presynaptic secretion; III The postsynaptic density; IV cytoskeleton & molecular motors (axonal transport); V Dendritic spines. Functional cellular neurobiology: I Dendritic mRNA targeting and local protein synthesis; II Neurotrophins and their signalling; III Hippocampal anatomy and LTP. PART B (Baj) Methods to prepare, grow, transfect and measure the morphology of neurons in culture PART C (Gustincich): The functional physiology of neuronal cells through famous and Nobel prize studies that changed neurobiology: sensory neurons, circadian rhythms, cell cycle.

Testi di riferimento Squire et al. "Fundamental neuroscience" "Dendrites" by K. Harris & J.Fiala Articles and handouts provided by the teachers

Obiettivi formativi The aim of the course is to familiarize the students with the concept of the relationship between the structure of the different subcellular structures of a neuron and their role in the physiological functions with emphasis on the molecular mechanisms. The practical and theoretical lectures also aim at introducing the students to the scientific methodology typical of cellular neurobiology.

Prerequisiti Basic courses (from a previous degree) in cell biology, histology and physiology

Metodi didattici Frontal lectures with power point slide projections and short movies. The course has also a practical module (Dr.Baj)

Modalità di verifica dell'apprendimento	Written exam + Oral exam
Programma esteso	Available upon request from the teacher. Write at tongi@units.it



Testi in inglese

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