



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## SYLLABUS DEL CORSO

### Internato in Fisiologia

2122-2-H4101D236

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#### Aims

At the end of the course the student knows the basic functional mechanisms of cellular homeostasis, is able to describe the essential bases of functioning, knows the physiological processes and functional mechanisms of excitable cells and the physiological bases and the main functional characteristics.

#### Contents

- Cell cultures
- Videoimaging techniques for intracellular calcium measurements on viable cells
- Endothelial Permeability Assay
- Transwell© preparation
- Immunofluorescence

#### Detailed program

- Cultures of cells of various origin, epithelial, endothelial of the cerebral microcirculation, primary neuronal

cultures

Preparation techniques for collagenated slides and dishes, sterile preparation techniques, cell culture medium and maintenance buffer preparations

- Videoimaging techniques for measurements of intracellular calcium on viable cells

use of the fluorescence microscope, fundamentals of the MetaFluor software for image analysis and graphic processing, analysis of the obtained results by means of the Origin software

- Endothelial permeability tests

use of fluorescent tracers, calculation of endothelial permeability index (PE)

- Set up of Transwell © systems

Cell growth at confluence, measure of transepithelial electrical resistance (TEER)

## **Prerequisites**

Essential of Human Anatomy, Biology, Physic

## **Teaching form**

Laboratory attendance

## **Textbook and teaching resource**

Scientific papers carried out by the research group

## **Semester**

secondo semestre

## **Assessment method**

Oral examination and attendance

## **Office hours**

By appointment upon written communication to [giulio.sancini@unimib.it](mailto:giulio.sancini@unimib.it)

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