



UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Molecular Pathways, Biomarker Discovery, And Therapeutic Innovation In Acute And Chronic Neurodegeneration

2627-122R-23

Title

Mechanisms, biomarkers and new treatments for acute and chronic neurodegeneration

Teacher(s)

Simone Beretta
Carlo Ferrarese

Language

Inglese

Short description

This course provides an overview of current translational research on the mechanisms, biomarkers, and emerging therapeutic strategies for acute and chronic neurodegenerative disorders.

The course will focus on the following conditions:
Cerebral ischemia

Hypoxic-ischemic brain injury after cardiac arrest
Repetitive seizures and status epilepticus
Alzheimer's disease
Parkinson's disease
Amyotrophic lateral sclerosis

Topics will include the molecular mechanisms underlying neuronal injury—including protein misfolding, excitotoxicity, oxidative stress, neuroinflammation, and impaired collateral circulation - as well as established and emerging biomarkers based on blood, cerebrospinal fluid (CSF), neurophysiology, and neuroimaging. The course will also critically discuss recent advances in therapeutic development and ongoing clinical trials, highlighting the translation of experimental findings into clinical practice.

CFU / Hours

1/8

Teaching period

Second semester

Sustainable Development Goals

GOOD HEALTH AND WELL-BEING
