PADOVA
neuroscience
CENTER

19 SEPTEMBER 2024 3:00 pm

SALA SEMINARI VIMM

(Via Giuseppe Orus 2, Padova)

PNC SEMINARS

A talk by Manuela Allegra
(National Research Council and University of Padua)

PLASTICITY, LEARNING AND MEMORY IN PHYSIOLOGY AND PATHOLOGY: A NAVIGATIONAL STORY

The ability of the brain to reorganize its structure and function in response to intrinsic or extrinsic stimuli is defined neuroplasticity. Plasticity of the nervous system is crucial throughout the lifespan, refining sensory systems during development, mediating learning and memory in adulthood and being the key mechanism for neuro-rehabilitation in case of injury and for the prevention of neurodegenerative disorders later in life. Using *in vivo* recording techniques (extracellular LFP recordings and calcium imaging), we will explore neuroplasticity in physiological and pathological conditions and we will describe how neuronal circuits of the hippocampus and neocortex can rewire their activity during learning and memory, and in response to brain injury.

Biography

Manuela Allegra is currently Permanent researcher at CNR working at the Neuroscience Department in Padua.

She graduated in Neurobiology at the University of Pisa in 2009 under the supervision of Prof Yuri Bozzi. She obtained a PhD in Neurobiology at the Scuola Normale Superiore of Pisa in 2014, working in Prof Matteo Caleo's lab, where the main focus of her research activity was the study of neuroplasticity mechanisms in physiological and pathological conditions, using the visual system of rodent models.

In 2017, Dr Allegra moved to Paris and joined the laboratory of Prof Christoph Schmidt-Hieber at the Institut Pasteur. Here she was awarded with the Marie Curie individual fellowship and her research activity was mainly focused on the hippocampal function in memory encoding and recall.

In 2020, she was appointed to a permanent research position by the CNR and she joined the Neuroscience Department in Padua, where she has started her own research group with a starting grant from Fondazione CaRiPaRo.

Her main research interest is centered on the field of neuroplasticity, studying the neural mechanisms underlying the capability of the brain to rewire itself in response to environmental pressures and focusing on the hippocampus and neocortex.