Our objective in this Neuropharmacology course is to give a state of the art overview of brain neurotransmitters and their molecular partners (receptors, transporters, ...) that are responsible for central synaptic transmission; in order to understand the physiological and pathological consequences of perturbations involved in psychiatric diseases and of psychoactive drugs.

The chemical neurotransmission of the nervous message is an expanding field of research that has experienced a spectacular development these past years, leading to new insights into brain and mind physiology as well as possible therapeutic outcomes for neurodegenerative diseases.

In this context, we will focus on the physiological and pathological consequences of possible perturbations of the various neurotransmitters systems involved (monoamines, inhibitory and excitatory amino acids, neuropeptides, neurosteroids and other active lipids, etc...), through the study of the molecular targets and action mechanisms of the main classes of the psychoactive drugs, that have behavioral consequences.

Drugs tolerance, sensitization and dependency will be analyzed in light of the most recent molecular and cellular data, particularly on the functional plasticity mechanisms that are associated in the CNS to these phenomena.

With this course, every student should have a solid knowledge and understanding of today’s concepts and techniques in this research field, leading to a feeling of the possible consequences for new therapeutic strategies for neuropsychiatric diseases.