

**Coordinator: Prof. Filippo Drago**

# **SYNAPTIC FUNCTION AND DYSFUNCTION: NEW TARGETS FOR BRAINDISEASES PHARMACOLOGY**

**Hotel Villa Paradiso dell'Etna  
Catania, Italy  
16-20 July, 2018**

## **CISSN 2018 TOPIC**

Synapses are the major sites of information processing in the brain. The complexity of the synapse has been described in the past few years in great molecular details and major achievements have been made in the understanding of networks of proteins occurring at the pre-synaptic cytomatrix and the postsynaptic compartment of both excitatory and inhibitory synapses. Synaptic dysfunction is a central aspect of many brain disorders ("synaptopathies") and synapses are and potentially will be the main target of drugs for brain diseases. Synapses integrate complex signals through temporal and spatial codes and undergo rapid structural and functional changes (synaptic plasticity) that underlie the formation of engrams in the brain. Maladaptation of such processes can lead to aberrant perception, cognitive dysfunction or neurodegeneration. The study of the molecular mechanisms of synaptic function and -plasticity are the key to understanding how the brain works and what goes wrong in brain disease. The International PhD Program of Neuroscience, University of Catania organizes the third Catania International Summer School of Neuroscience, CISSN (July 16-20, 2018), focused on "SYNAPTIC FUNCTION AND DYSFUNCTION: NEW TARGETS FOR BRAIN DISEASES PHARMACOLOGY". The main aim of the CISSN 2018 is to bring together junior European neuroscientists and principal investigators working on synaptic functions and synaptopathies and to provide a forum for new directions and ideas in synapse research. This serves to create a research community with an active role in promoting synaptic research and its funding. The meeting will combine research lectures by leading neuroscientists from Europe and aims to encourage lively discussions and the free exchange of information and ideas.

*CISSN Coordinator*  
**Prof. Filippo Drago**  
BIOMETEC  
University of Catania (Italy)

*CISSN 2017 Scientific Director*  
**Prof. Monica Di Luca**  
Department of Pharmacological and Biomolecular Sciences  
University of Milan, Milan, Italy