



«ETTORE MAJORANA» FOUNDATION AND CENTRE FOR SCIENTIFIC CULTURE
TO PAY A PERMANENT TRIBUTE TO ARCHIMEDES AND GALILEO GALILEI, FOUNDERS OF MODERN SCIENCE
AND TO ENRICO FERMI, THE "ITALIAN NAVIGATOR", FATHER OF THE WEAK FORCES



INTERNATIONAL SCHOOL OF NEUROSCIENCES «SIR JOHN ECCLES»

8th Course: *UNDERSTANDING THE NEUROREGULATORY ACTIONS OF OXYTOCIN AND ITS POTENTIAL CLINICAL APPLICATIONS*

ERICE-SICILY: 22 – 27 MAY 2018

Sponsored by the: • Italian Ministry of Education, University and Scientific Research • Sicilian Regional Government

PROGRAMME AND LECTURERS

Neurobiology of social bonding, social loss, and empathy: Implications for autism

• L. YOUNG, Emory University, Atlanta, GA, US

Social Reward: basic mechanisms and therapeutic opportunities

• G. DOLEN, Johns Hopkins University, Baltimore, MD, US

Understanding the mechanisms of action of oxytocin in human and nonhuman primates. Implications for the treatment of autism

• A. SIRIGU, Institute of Cognitive Science, Lyon, FR

Randomised controlled trials of Bremelanotide to increase social cognition and oxytocin in humans

• A. GUASTELLA, University of Sydney, NSW, AU

Oxytocin and vasopressin: Biomarkers of and therapeutics for social impairments in a monkey model and in patients with autism

• K.J. PARKER, Stanford University, Stanford, CA, US

Oxytocin in cortical control of olfactory perception

• W. KELSCH, Interdisciplinary Center, Mannheim, DE

Oxytocin: matters of credibility

• G. LENG, The University of Edinburgh, UK

Oxytocin, maternal behavior, and synaptic plasticity

• R. FROEMKE, New York University, NY, US

Oxytocin and the development of human affiliative bonds in health and psychopathology

• R. FELDMAN, Interdisciplinary Center, Herzlia, IL

Oxytocin in infant social development. A nonhuman primate model

• P.F. FERRARI, Institute of Cognitive Science, CNRS, Lyon, FR

Oxytocin: a facilitator of long-term cooperative exchange in chimpanzees

• C. CROCKFORD, Max Planck Institute, Leipzig, DE

Translating oxytocin neuroscience to the treatment of anxiety disorders

• R. HURLEMANN, University of Bonn, DE

Genes and effects of oxytocin on autistic social behaviors and their neural underpinnings

H. YAMASUE, Hamamatsu University School of Medicine, University of Tokyo, JP

Sensory modulation of oxytocin neurones activity

• V. GRINEVICH, Max Planck, DKFZ, Heidelberg, DE

Social peptides in medaka fish

• H. TAKEUCHI, Okayama University, JP

Intranasal oxytocin effects on human brain activity during social interactions

• J. RILLING, Emory University, Atlanta, GA, US

Lessons learned from the SOARS-B randomized controlled trial: daily oxytocin or placebo treatment of 289 children, 3-17 years old, with ASD for 24 weeks

• L. SIKICH, Duke University, Durham, NC, US

PURPOSE OF THE COURSE

The purpose of the Course is to highlight new perspectives on the role of oxytocin in modulating brain activity in relation to behavior and cognition. Oxytocin has long been known to exert its influence on delivery and lactation, but it has gained tremendous new interest since the early nineties following the discovery of its effects on social behavior in rodents. The Course will cover a number of issues related to the brain mechanisms regulating its synthesis and release, and its effects on different aspects of behavior. The precise neural mechanisms of oxytocin are still debated, and it is therefore important to understand how its action could impact different neural circuitry related to reward, anxiety, attention, social perception and bonding. Another goal of the Course is that of examining the complex interactions between genes and early experience and the potential impact of oxytocin in regulating complex mother-infant social communication. We hope that a variety of animal models will be discussed, including fish, rodents, dogs and nonhuman primates in order to provide an evolutionary perspective and new insights about potential differences among species that have been adapted to specific social and ecological conditions. Lastly, the Course will foster scientific interactions with the objective to evaluate the clinical implications of oxytocin in neurodevelopmental disorders and its potential application for pharmacotherapy interventions in psychopathologies. Course will include: 1. Brain mechanisms: release and interactions with other neurotransmitters, 2. Genetics, 3. Behavioral and cognitive effects, 4. Clinical implications.

APPLICATIONS

Persons wishing to attend this Course should send a letter to the co-Director of the Course:

Professor Pier Francesco Ferrari
Institute of Cognitive Science, CNRS, Lyon, France
e-mail: pierfrancesco.ferrari@isc.cnrs.fr

PLEASE NOTE

Participants must arrive in Erice on May 22, no later than 7 p.m.

POETIC TOUCH

According to legend, Erice, son of Venus and Neptune, founded a small town on top of a mountain (750 metres above sea level) more than three thousand years ago. The founder of modern history — i.e. the recording of events in a methodic and chronological sequence as they really happened without reference to mythical causes — the great Thucydides (~500 B.C.), writing about events connected with the conquest of Troy (1183 B.C.) said: «After the fall of Troy some Trojans on their escape from the Achaei arrived in Sicily by boat and as they settled near the border with the Sicanians all together they were named Elymi: their towns were Segesta and Erice.» This inspired Virgil to describe the arrival of the Trojan royal family in Erice and the burial of Anchise, by his son Enea, on the coast below Erice. Homer (~1000 B.C.), Theocritus (~300 B.C.), Polybius (~200 B.C.), Virgil (~50 B.C.), Horace (~20 B.C.), and others have celebrated this magnificent spot in Sicily in their poems. During seven centuries (XIII-XIX) the town of Erice was under the leadership of a local oligarchy, whose wisdom assured a long period of cultural development and economic prosperity which in turn gave rise to the many churches, monasteries and private palaces which you see today. In Erice you can admire the Castle of Venus, the Cyclopean Walls (~800 B.C.) and the Gothic Cathedral (~1300 A.D.). Erice is at present a mixture of ancient and medieval architecture. Other masterpieces of ancient civilization are to be found in the neighbourhood: at Motya (Phoenician), Segesta (Elymian), and Selinunte (Greek). On the Aegadian Islands — theatre of the decisive naval battle of the first Punic War (264-241 B.C.) — suggestive neolithic and paleolithic vestiges are still visible: the grottoes of Favignana, the carvings and murals of Levanzo.

Splendid beaches are to be found at San Vito Lo Capo, Scopello, and Cornino, and a wild and rocky coast around Monte Cofano: all at less than one hour's drive from Erice.

More information about the other activities of the
«ETTORE MAJORANA» FOUNDATION AND CENTRE FOR SCIENTIFIC CULTURE
can be found on the WWW at the following address:
<http://www.ccsem.infn.it>

