



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



INTERNATIONAL SCHOOL OF ETHOLOGY

24th Course: THE INEVITABLE LINK BETWEEN HEART AND BEHAVIOR: NEW INSIGHTS FROM BIOMEDICAL RESEARCH AND IMPLICATIONS FOR CLINICAL PRACTICE

ERICE-SICILY: 27 SEPTEMBER – 2 OCTOBER 2007

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

TOPICS AND LECTURERS

Welcome

• D. MAINARDI, University of Venezia, I

NEUROVISCERAL INTEGRATION OF EMOTION: CARDIOVASCULAR IMPLICATIONS

Neurovisceral integration: implications for research and clinical practice

• J. THAYER, Columbus University, OH, USA

Emotional triggering of cardiac events

• A. STEPTOE, University of London, UK

BRAIN, AUTONOMIC NERVOUS SYSTEM AND CARDIOVASCULAR FUNCTION

The inevitable link between immune response in the brain and cardiovascular pathology

• J.F. PATON, University of Bristol, UK

Assessment of autonomic nervous system function to evaluate the link between heart and behavior

• N. MONTANO, University of Milano, I

ANIMAL MODELS OF SOCIAL STRESS: ACUTE AND LONG-TERM CARDIOVASCULAR RESPONSES

Cardiac autonomic and neuroendocrine responses to social challenge: lessons from studies in wild type rats

• A. SGOIFO, University of Parma, I

Social stress, depression and coronary artery atherosclerosis in monkeys

• C.A. SHIVELY, The Wake Forest University, Winston-Salem, NC, USA

ANIMAL MODELS OF DEPRESSION AND CARDIOVASCULAR DYSFUNCTION

Sadness may break your heart: understanding the comorbidity of depression and heart disease using animal models

• A.J. GRIPPO, University of Chicago, IL, USA

Serotonin 1A receptors as a potential link between mental and cardiac disorders

• E. NALIVAICO, Flinders University of South Australia, Adelaide, SA, AUS

NUTRITION, EXERCISE AND THE CARDIOVASCULAR SYSTEM

Sympathetic nervous system behavior in human obesity: insights from microneurographic recordings

• K. DAVY, Polytechnic Institute and State University, Blacksburg, VA, USA

Individual responses to physical exercise: the contribution of cardiovascular autonomic regulation

• A. HAUTALA, University of Oulu, FIN

MOOD, COGNITION AND COPING: NEUROENDOCRINE AND CARDIOVASCULAR ASPECTS

The role of cholesterol in the pathophysiologic mechanisms of depression and coronary artery disease

• A. TROISI, University of Roma, I

Coping with social stress: neuroendocrine responses and cognitive function

• A. SALVADOR, Valencia, ES

BEHAVIOR, SOCIAL ENVIRONMENT AND CARDIOVASCULAR PATHOLOGY

Social dominance and blood pressure in dyads: traits, behaviors, relationship structures, and the puzzle of gender

• T.L. NEWTON, University of Louisville, KY, USA

Population perspective: promises and pitfalls in large scale cardiovascular epidemiology

• H. HEMINGWAY, University College, London, UK

PURPOSE OF THE COURSE

Heart and behavior have long been described as two tightly interlaced entities. The activity of the heart allows the most complex behavioral patterns to take place, as well as behavior dramatically conditions cardiovascular function. For instance, changes of blood delivery to the brain may affect temporarily or permanently motor, sensory or cognitive performances of an individual. At the same time, stress conditions that imply a high emotional involvement, especially when chronic and/or characterized by a low degree of controllability, may hamper the adaptive capacity of the heart and circulation. As a matter of fact, variations of basic cardiovascular parameters - e. g. increments or reductions of heart rate and blood pressure - still represent reliable markers of the impact of an emotional stress or a complex cognitive performance on the organism physiology. The new frontiers of research and clinical practice in cardiology, even the most recent and sophisticated developments embracing genetics and molecular biology, cannot neglect the approach of neurocardiology and behavioral/psychological cardiology. On the contrary, it is not only useful but rather highly recommended to integrate in a more systematic manner knowledges and techniques of modern cardiology with those in the field of ethology, psychology and psychiatry. We believe that this integrated approach is the only one that allows to pose - and try to answer to - a number of questions of high clinical relevance such as: what is the impact of different acute and chronic stress conditions on cardiocirculatory function? Why do subjects of different social status exhibit different cardiovascular vulnerability? How much does cardiovascular health depend on different strategies of coping with everyday social environment? How much do psychological traits like dominance, aggression or hostility increase the risk of atherosclerosis, hypertension or sudden cardiac death? Do mental disorders - like depression - and cardiovascular pathologies - like atherosclerosis - represent a vicious circle? Besides pharmacological and genic therapies, which are the most appropriate behavioral interventions? How far can social support improve cardiovascular pathology prognosis?

This Course aims at integrating biomedical studies with different approaches (molecular-genetic or systemic, pharmacological or psychosomatic), focussing on both humans and animal models. For this reason, the intent of the present Course is to gather scientists who, although belonging to different disciplines, share a common interest in the tight and unescapable relationship between brain, behavior, and cardiovascular (dys)function.

APPLICATIONS

Persons wishing to attend the Course are requested to write to:

- Professor Danilo MAINARDI
Dipartimento di Scienze Ambientali - Università di Venezia
Campo della Celestia, 2737/B Castello - 30122 VENEZIA, Italy
e-mail: mainardi@unive.it

They should specify:

- (i) full name, address, age, nationality
- (ii) present position and affiliation and curriculum studiorum.

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 «Ettore Majorana» Foundation and Centre for Scientific Culture can be found on the WWW at the following address:
<http://www.ccsem.infn.it>

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<http://hb2007.biol.unipr.it>

Closing Date for Applications: July 31, 2007