



«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

## 25th Course: *THE PRIMATE MIND: BUILT TO CONNECT WITH OTHER MINDS*

ERICE-SICILY: 3 – 7 JUNE 2009

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

### TOPICS AND LECTURERS

#### FROM UNDERSTANDING OTHERS' ACTIONS TO IMITATION AND CULTURE

*Mirroring Other Minds in Monkeys: From Development of Mimicry to Intersubjectivity*

• P.F. FERRARI, University of Parma, IT

*The Human Mirror Neuron System*

• M. IACOBONI, UCLA, Los Angeles, CA, US

*The Evolution of Imitation: What Do the Capacities of Nonhuman Animals Tell Us About the Mechanisms of Imitation?*

• L. HUBER, University of Vienna, AT

*Neurobiology of Civilization: Evolution through Primates' Social Interaction*

• A. IRIKI, Riken, Saitama, JP

*Learning How to Forage: Socially Biased Individual Learning and "Niche Construction" in Capuchin Monkeys*

• E. VISALBERGHI, CNR, Rome, IT

*Copying, Conformity and the Scope of Culture in Monkeys, Apes and Humans*

• A. WHITEN, University of St. Andrews, UK

#### EMPATHY, PERSPECTIVE-TAKING, AND COOPERATION

*The Empathy/Imitation Continuum in Monkeys and Apes*

• F.B.M. DE WAAL, Emory University, Atlanta, GA, US

*Do Rhesus Monkeys Represent Others' Knowledge and Beliefs?*

• L. SANTOS, Yale University, New Haven, CT, US

*Human Empathy and Cognitive Perspective-Taking Through the Lens of Social Neuroscience*

• T. SINGER, University of Zurich, CH

*How Much of our Cooperative Behaviour is Human?*

• B. HARE, Duke University, Durham, NC, US

*Empathy and Foetal Testosterone*

• S. BARON-COHEN, Cambridge University, UK

#### MEMORY, EMOTIONS AND COMMUNICATION

*Neurological Foundations of Socio-Communicative Cognition in Chimpanzees*

• W. HÖPKINS, Emory University, Atlanta, GA, US

*Emotional Engagement: How Chimpanzee Minds Develop*

• K. BARD, University of Portsmouth, UK

*Stress Alleviation in Monkeys and Apes*

• F. AURELI, Liverpool John Moores University, UK

*The Roles of Memory and Environmental Context in Chimpanzee Communication*

• C. MENZEL, Georgia State University, Atlanta, GA, US

*Imitation and Memory: An Evolutionary Scenario for the Uniqueness of Human Cognition*

• T. MATSUZAWA, Kyoto University, JP

#### PURPOSE OF THE COURSE

Survival in complex societies requires advanced cognition in order to understand the actions and intentions of others, to synchronize and coordinate activities, to anticipate the behavior of others, and to learn from others. The remarkable social sophistication of the primates (including humans) is reflected in their communication, cooperation, power politics, empathic capacities, altruistic behavior, imitation, and cultural differentiation. This Course will pursue a bottom-up perspective, looking for constituent capacities that underlie larger social phenomena. There has been a tendency to focus exclusively on these larger phenomena, asking all-or-nothing questions, such as whether primates possess a theory of mind, have self-awareness, or have culture. A bottom-up approach rather asks what are the underlying cognitive processes, some of which may be very basic and widespread and emerge early in development. How do primates perceive and interpret each others' motor actions, how do they perceive and interpret each other's emotional states and situations, and how does this information in turn influence complex social interaction? Which are the developmental landmarks of these processes? Are there neural structures and mechanisms that underpin all of these processes? Scientists from a variety of fields will address these problems employing different approaches and tools of analysis, ranging from observation, experimentation, developmental psychology, and neuroimaging. Thus, ethologists, primatologists, psychologists, and neuroscientists will interact with the intent to produce a coherent comparative framework of the mechanisms that make up the primate mind, especially as it relates to understanding of and interacting with others.

Sessions will cover the following five themes: Motor mimicry, imitation, and tool use; Emotional contagion and empathy; Understanding of others and perspective-taking; Communication and perception of emotions; Altruism and cooperation.

#### 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](mailto: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 Sicilians 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>

- PLEASE NOTE

Participants must arrive on June 3, not later than 7 pm.