



«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  
**THE WORLD YEAR OF PHYSICS 2005**



# INTERNATIONAL SCHOOL ON COMPLEXITY

## 2nd Course

### SEMIOTIC DYNAMICS, LANGUAGE, AND COMPLEXITY

ERICE-SICILY: 11 - 15 DECEMBER 2005

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

#### TOPICS AND LECTURERS

##### ISSUES and CHALLENGES

- L. STEELS, Sony CSL, Paris, F and University of Brussels, VUB, B
- P. FABBRI, University of Venice, I
- T. FITCH, University of Saint-Andrews, Edinburgh, UK

##### SEMIOTIC DYNAMICS ON THE WEB

- C. CATTUTO, Centro Enrico Fermi, Rome, I
- S. STAAB, University of Koblenz-Landau, D
- L. van AHN, Carnegie Mellon University, Pittsburgh, PA, USA

##### HUMAN LANGUAGE DYNAMICS

- S. GARROD, University of Glasgow, UK
- A. STEFANOWITCH, University of Bremen, D
- B. VICTORRI, CNRS, Paris, F

##### COMPLEX SYSTEMS MODELS

- J. CRUTCHFIELD, University of California, Davis, CA, USA
- G. PARISI, University "La Sapienza", Rome, I
- L. PIETRONERO, University "La Sapienza", Rome, I
- R. FERRER I CANCHO, University "La Sapienza", Rome, I
- V. LORETO, University "La Sapienza", Rome, I
- A. BARRAT, University of Paris South, F
- L. ADAMIC, University of Michigan, Ann Arbor, MI, USA

##### ATELIERS

###### *Semiotic dynamics on the Web*

- C. CATTUTO, Centro Enrico Fermi, Rome, I
- A. BARONCHELLI, University "La Sapienza", Rome, I

###### *Language games on robots*

- M. LOETZSCH, Sony CSL, Paris, F
- J. De BEULE, University of Brussels, VUB, B

###### *Statistical Linguistics*

- A. STEFANOWITCH, University of Bremen, D

#### PURPOSE OF THE COURSE

Semiotic Dynamics studies how the relations between language, concepts expressed by language, and the objects language is about evolve in populations of agents. Recently, social tagging sites and other types of community software systems are showing a very vital new form of semiotic dynamics. Millions of users now participate in tagging objects and in coordinating tags and the categories they imply.

From a scientific point of view, these developments are very exciting because they can be tracked in real time and the tools of complex systems science and cognitive science can be used to study them.

This Erice School is the first School ever to focus on these phenomena. Lecturers will report on the phenomena themselves, on human semiotic dynamics that can be a source of inspiration for creating new types of social sharing, and on tools that can be used to model and study the phenomena, particularly their statistical properties.

The School also features hands-on workshops to quickly enter into this exciting new field and opportunities for participants to present their own work.

#### APPLICATIONS

Persons wishing to attend to the School should apply by e-mail to the Directors of the Course Professor Vittorio Loreto and Professor Luc Steels:

e-mail: [tagora2005@csl.sony.fr](mailto:tagora2005@csl.sony.fr)

specifying:

- full name(s), address, age, nationality;
- academic qualifications, present position and affiliation and/or a short CV;
- the atelier(s) they wish to attend;
- their specific interest in the meeting.

#### • PLEASE NOTE

Participants must arrive on December 11, not later than 7 pm.

#### 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>