INTERNATIONAL SCHOOL OF GEOPHYSICS

24th Course

IONOSPHERIC PHYSICS AND APPLICATIONS: PRESENT AND FUTURE

ERICE-SICILY: 24 - 29 SEPTEMBER 2004

Sponsored by:
- European Office of Aerospace Research and Development of the USAF (EOARD)
- Italian Ministry of Education, University and Scientific Research
- National Institute of Geophysics and Volcanology, Italy (INGV)
- Sicilian Regional Government

TOPICS AND LECTURERS

Effects of the Ionosphere on Satellite Navigation Systems
- M. K. MILLIGAN, EOARD, London, UK

Modern Radio Techniques for Probing the Ionosphere
- L. KERSLEY, University of Wales, Aberystwyth, UK

Ionospheric Tomography for Earth-Space Communication in the 21st Century
- S. KOURIS, Aristotelian University of Thessaloniki, GR

Plasma Effects on Trans-Ionospheric Propagation and Radio Waves
- R. LEITINGER, Karl-Franzens-Universität, Graz, A

From the Solar Wind to the Earth Magnetic Field
- A. MELONI, National Institute of Geophysics and Volcanology, Rome, I

• L. J. R. CANDER, Rutherford Appleton Laboratory, Chilton, UK
• C. BIANCHI, National Institute of Geophysics and Volcanology, Rome, I
• G. DE FRANCESCHI, National Institute of Geophysics and Volcanology, Rome, I
• A. DE SANTIS, National Institute of Geophysics and Volcanology, Rome, I

Ionospheric Modelling: Data Assimilation and Data Ingestion
- P. WILKINSON, IPS Radio and Space Services, Sydney, AUS

Ionospheric Radio Propagation and Services Around the World
- B. ZOLESI, National Institute of Geophysics and Volcanology, Rome, I

The Establishment of a European Digital Upper Atmosphere Server – DIAS Project
- E. BOSCHI

Ionospheric Propagation Project in the EU Frameworks
- A. ZICHICHI

PURPOSE OF THE COURSE

At the beginning of the new millennium, ionospheric physics and its applications to new technologies are at a point of significant change and new development. From the ionospheric studies in the past leading to traditional use in broadcast and terrestrial radio propagation communications, it has become clear, in recent years, that the understanding of the ionosphere, as a part of the upper atmosphere, is central to the design of modern communication, navigation and positioning systems. An important additional role has also been recognized in the Space Weather Science and Service. The Course will consist of several sessions and will highlight those specific scientific investigations that are relevant to present and future activities in this field. Those activities will be presented not only through tutorial lectures but also with oral and/or poster presentations from young scientists to whom this Course is primarily devoted.

GENERAL INFORMATION

Persons wishing to attend the School are requested to write to the Co-Director of the Course:
- Dr. Bruno ZOLESI
  c/o Silvia Nardi and Loredana Porto
  Istituto Nazionale di Geofisica e Vulcanologia
  Viale di Vigna Murata, 605
  00143 ROMA, Italy
  Fax ++39.06.51860397
  e-mail: nardi_s@ingv.it – lproto@ingv.it

They should specify:
1) date and place of birth, together with present nationality, current address and telephone number;
2) degree and other academic qualifications;
3) present position, place of work, and current research activities.

Closing date for application: June 30, 2004

• PLEASE NOTE
  Participants should arrive in Erice on September 24, not later than 5 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 Sicilians all together they were named Elymians: 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.), Polibius (~200 B.C.), Virgil (~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 Centre can be found on the WWW at the following address:
http://www.cssem.infn.it

L.J.R. CANDER - B. ZOLESI
DIRECTORS OF THE COURSE

A. ZICHICHI
DIRECTOR OF THE CENTRE

E. BOSCHI
DIRECTOR OF THE SCHOOL