

Ettore Majorana
Foundation and Centre for Scientific Culture

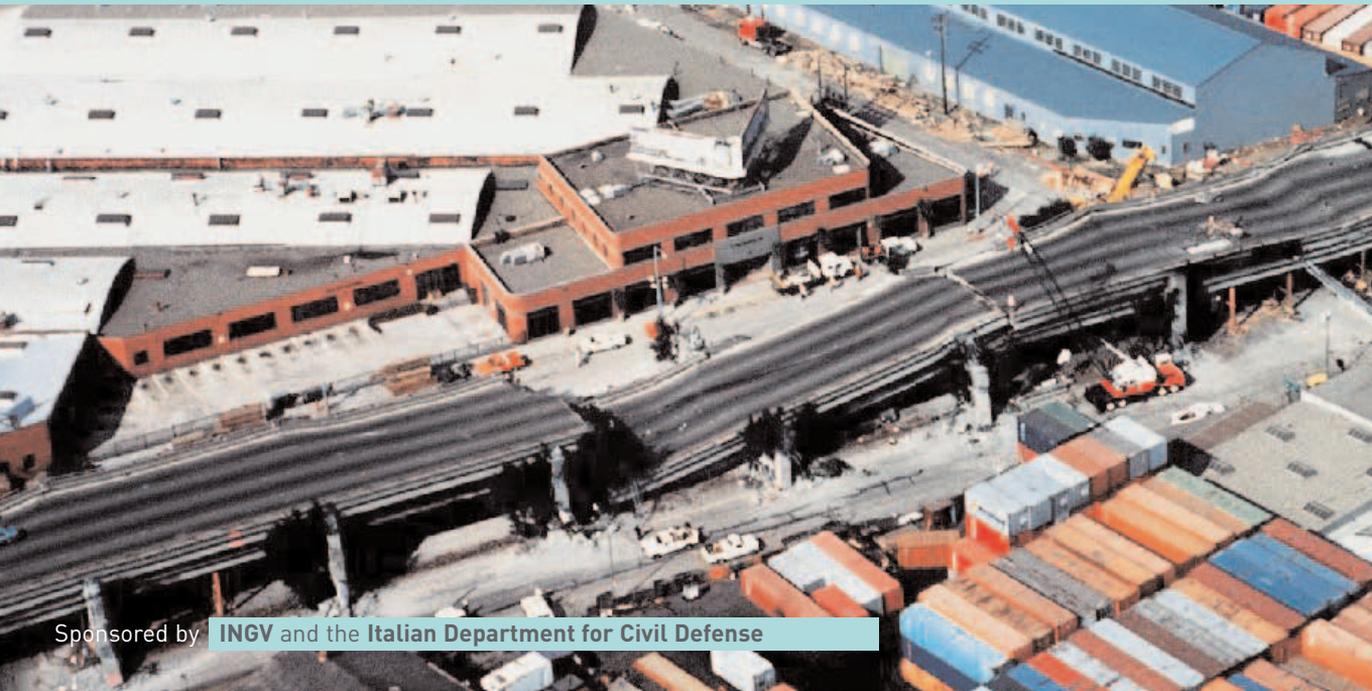
INTERNATIONAL SCHOOL OF GEOPHYSICS | Director **E. BOSCHI**
26th workshop

EARTHQUAKE AND SHAKING PROBABILITIES:
HELPING SOCIETY TO MAKE THE RIGHT CHOICE

Erice [Sicily], Italy
18 | 24 October 2006

Directors

D. Giardini, ETHZ, Zuerich | K. Shimazaki, ERI, Tokyo | M. Stucchi, INGV, Milano | G. Valensise, INGV, Roma | R. Wesson, USGS, Denver



Sponsored by **INGV** and the Italian Department for Civil Defense

SCOPE OF THE WORKSHOP



The mitigation of seismic risk is based on obtaining new and more accurate insight on potentially destructive earthquakes and their shaking effects. Several recent scientific accomplishments in seismology, active tectonics and seismic hazard assessment (SHA) are leading to a better understanding of the seismic cycle and of the potential for destructive earthquakes. Modern societies, however, are increasingly faced with the need to bridge the gap between forefront research developments and the expectations by the authorities and the general public.

The Erice workshop aims at reviewing the state-of-the-art in the assessment of the probability for significant earthquakes and strong ground shaking, both from a time-dependent and a time-independent perspective. The workshop also intends to discuss forthcoming ideas and models and stimulate the interaction among scientists involved in similar efforts in different countries worldwide.

The workshop is sponsored by the Italian Department for Civil Defense in the framework of a new agreement with INGV. Under this agreement INGV has planned five research projects involving the entire Italian seismic hazard community. The projects are aimed at obtaining new and more accurate insight on potentially destructive Italian earthquakes and their shaking effects.

The workshop is open to 80 participants, of which about 20 are invited speakers, and will include four full working days plus one day devoted to a field trip and to panel meetings.

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STRUCTURE OF THE WORKSHOP



The core of the Workshop will be subdivided into four sections and related panel discussions:

A **first section** will discuss the raw ingredients of the elaboration of a comprehensive model of earthquake occurrence, including historical, geological and modern strain data; on their match, potential interactions and known limitations, and on new constraints that can be obtained to reduce the lack of knowledge.

A **second section** will be devoted to discussing a) current earthquake recurrence models and physical constraints on the seismic cycle; b) assessment of earthquake probabilities that may result from different models of earthquake recurrence, their reliability, their value for enforcing risk mitigation policies at local or regional scale.

The **third section** will review the present knowledge on strong ground motion and discuss how all input data are arranged for use in SHA practice and current approaches in probabilistic SHA at various scales and their mutual interactions.

In the **fourth section** the discussion will focus on the comparison between the status of SHA in different countries in response to different requests from state authorities, the industry and the general public, and on on-going and future developments in SHA methodologies and approaches.

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PARTICIPANTS

In addition to the conveners, invited speakers include:



John ADAMS

Geological Survey of Canada, Ottawa, Canada

Kelvin BERRYMAN

Inst. Geological and Nuclear Sciences, New Zealand

Roger BILHAM

University of Colorado, Boulder, Colorado, U.S.A.

Julian BOMMER

Dept. Civil Env. Eng., Imperial College of London, U.K.

Massimo COCCO

INGV, Rome, Italy

Edward FIELD

USGS, Pasadena, California, USA

Dirk HOLLNACK

Munich Reinsurance Company, München, Germany

Susan HOUGH

USGS, Pasadena, California, USA

David JACKSON

UCLA, Los Angeles, California, U.S.A.

Saburoh MIDORIKAWA

Tokyo Institute of Technology, Tokyo, Japan

Roger MUSSON

British Geological Survey, Edinburgh, U.K.

Koji OKUMURA

Dept. Geography, Hiroshima University, Japan

Mario ORDAZ SCHROEDER

Inst. Engineering, UNAM, Mexico City, Mexico

Laura PERUZZA

INOGS, Trieste, Italy

Mark PETERSEN

USGS, Denver, Colorado, U.S.A.

Frank SCHERBAUM

Inst. für Geowissenschaften, Potsdam Univ, Germany

Dario SLEJKO

INOGS, Trieste, Italy

Ross STEIN

USGS, Menlo Park, California, U.S.A.

Steven WARD

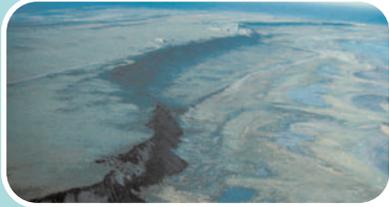
UCSC, Santa Cruz, California, U.S.A.

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WORKSHOP VENUE



The workshop will be held at the Ettore Majorana Foundation and Centre for Scientific Culture (<http://www.ccsem.infn.it/>). Over the past 43 years, the Centre hosted over eighty-seven thousand scientists from one hundred and forty nations. The EMFCSC takes its inspiration from the outstanding Italian physicist, after whom the Centre was named. Born in Sicily in 1906, his breadth of vision and the excellence of his contributions to theoretical nuclear physics moved Enrico Fermi to the following comment: "There are many categories of scientists, people of second and third rank, who do their best, but do not go very far. There are also people of first class, who make great discoveries, fundamental for the development of science. But then there are the geniuses, like Galilei and Newton. Well, Ettore Majorana was one of them".

Embracing 118 Schools, covering all branches of Science, the Centre is situated in the old pre-mediaeval city of Erice where three restored monasteries provide an appropriate setting for high intellectual endeavour. These monasteries are now named after great Scientists and strong supporters of the "Ettore Majorana" Centre.

The San Francesco Monastery is now the Eugene P. Wigner Institute where there is the "Enrico Fermi" Lecture Hall.

The San Domenico Monastery is now the Patrick M.S. Blackett Institute where there is the "Paul A.M. Dirac" Lecture Hall.

The San Rocco Monastery is now the Isidor I. Rabi Institute where there is the "Richard P. Feynman" Lecture Hall, the Directorate and the main Secretariat of the Centre.

There are living quarters in all three Institutes for people attending the Courses of the Centre.

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HISTORICAL AND 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.) and the escape on the sea towards the West, said that the Elymi - founders of Erice - were survivors from the destruction of Troy. 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.

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APPLICATIONS



Senior scientists, young scientists and students who wish to attend the workshop may apply to its directors by sending a written request and a CV to the e-mail address: erice2006@ingv.it. Participation fee is 600 Euros, which includes full lodging, meals and pick-up from/to Palermo airport. Accommodation is provided in one of the rooms of the ancient monasteries that form the EMFCSC. INGV has agreed to supply funding that will allow several deserving students to waive the participation fee, but they will still have to cover the airfare from their city of residence to Palermo with their own resources. Preference will be given to younger applicants from developing countries.

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