

ORGANIZING COMMITTEE

Prof. Luiz Alberto Mendes Victor
Prof. Carlos Sousa Oliveira
Prof. António Ribeiro
Engº Rui Correia
Engº José Vieira de Lemos

SCIENTIFIC COMMITTEE

ALL MEMBERS OF THE GTPS (GRUPO DE TRABALHO DE PREVISÃO SÍSMICA - 25 EXPERTS)

Dr. António Gomes Coelho
Prof. António Mineiro
Prof. António Ribeiro
Prof. Carlos Sousa Oliveira
Engº Eduardo Cansado Carvalho
Engª Ema Coelho
Engº Fernando Carrilho
Prof. João Cabral
Prof. João Fonseca
Prof. João Luis Gaspar
Prof. Joaquim Pagarete
Engº José Vieira de Lemos
Prof. José Eduardo Madeira
Engº José Oliveira Pedro
Prof. Luis Matias
Prof. Luiz Alberto Mendes Victor
Profª Maria Ana Baptista
Engº Mário Castanheta
Prof. Miguel Miranda
Prof. Mourad Bezzeghoud
Profª Paula Teves-Costa
Engº Pedro Sêco e Pinto
Prof. Raimundo Delgado
Engº Rui Correia
Drª Teresa Sacadura D'Orey

And

Prof. Giuliano F. Panza
Prof. Max Wyss
Dr. Badaoui Rouhban
Prof. Jacques Zlotnicki
Prof. Michel Bouchon
Prof. Jean Paul Toutain
Prof. George Purcaru
Heiko Woith
Tom Rockwell



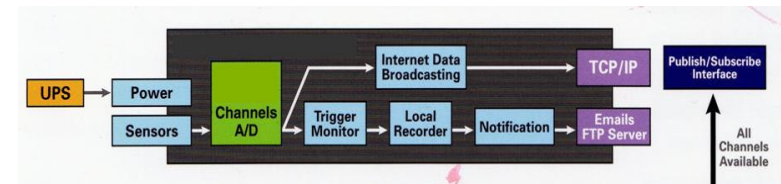
THE YEAR OF THE PLANET EARTH



SECOND INTERNATIONAL SEMINAR ON PREDICTION OF EARTHQUAKES

LISBON, PORTUGAL,
29-30 APRIL, 2009

2ND ANNOUNCEMENT



Under the auspices of the
Portuguese Academy of Engineering

ORDEM DOS ENGENHEIROS
AV. SIDÓNIO PAIS, 4-E – LISBOA

GENERAL

Dear Colleagues,

On behalf of the Portuguese Academics we invite you to attend the **2nd International Seminar on Earthquake Prediction** to be held in Lisbon, April 29-30, 2009, evocating the 100th anniversary of the Benavente (Lower Tagus) 1909 earthquake. This International Seminar will be an excellent opportunity to bring together international research and development, to share the knowledge and the latest achievements and practices in Earthquake Prediction.



PROGRAMME

The First International Seminar on Prediction of Earthquakes was organized in Lisbon in 1988 under the sponsorship of UN and the EC (ECE at the time).

20 years upon the 1988 meeting, the great development introduced with new research lines, the new technologies for earthquake observation and monitoring, recommends the organization of a Second International Seminar.

The Organization intends to clarify the different approaches performed by many colleagues, using scientific methodologies developed in specific geological environments and so the following future objectives will be included:

- To provide a platform for meetings, discussions and exchange of views between specialists in earthquake forecasting;
- To identify the most promising lines of research;
- To examine the improvement of international co-operation in the field of earthquake prediction.

The program will be covering the following topics and invited conveners:

SEISMIC TOPIC – *Giuliano Panza* (panza@units.it)

The Seminar is motivated by the critical importance of advances in earthquake prediction research, both for frontier fundamental science and for reduction of earthquake-induced disasters, which threat is already unacceptable and keeps growing rapidly. The Seminar will review existing paradigms related to earthquakes and explore practical realistic approaches to the earthquake prediction problem. Statements on unpredictability of earthquakes will be challenged. Key-note presentations will introduce (i) the recent advances in understanding predictability of earthquakes, including related structures, driving forces, and observable fields; (ii) scenarios of response to predictions; (iii) avenues of further progress in the field arising from yet untapped data, modelling, and theories; and (iv) implications for general concepts of non-linear dynamics, including predictability of extreme events other than earthquakes. Presentations on different theoretical and practical aspects of earthquake prediction are welcome.

ELECTROMAGNETIC TOPIC – *Jacques Zlotnicki* (jacques.zlotnicki@wanadoo.fr)

The following items are welcome: Advanced studies in the Electromagnetics related to active faulting. Electric, magnetic, and electromagnetic methods related to earthquakes, tsunamis, landslides volcanic eruptions and geothermal activities. Integration of multi-technique monitoring. Cross-correlation between ground and satellite observations. Generation and propagation mechanism of EM signals, and related laboratory experiments. Study of ionospheric perturbations, GPS based measurements. Imaging active faults, landslides and geothermal fields by EM methods. Integration of other methods: geophysical, geochemical, geological etc.

GEOCHEMISTRY – *Heiko Woith* (radon@gfz-potsdam.de)

In this topic contributions are invited to include everything that is related to Water level & -temperature, Fluid pressure, Water and gas geochemistry, Radon and other gases, Trace elements, REE and Isotopes.

MULTI-PARAMETER AND GEODESIC CASE STUDIES – *Max Wyss* (wapmerr@maxwyss.com; author@maxwyss.com)

Multi-parameter and geodetic studies are two pillars of hope in the quest to come up with an earthquake prediction capability. To have a clue from more than one parameter that a preparation process for a major earthquake may have started would be important because of the many uncertainties in measuring and interpreting a single parameter. However, it is a difficult and somewhat costly task to run and maintain a Multi-parameter Observatory. In addition, multi-parameter data may significantly contribute to our understanding of tectonic processes in the Earth's crust, even if the ultimate goal of predicting earthquakes may not be reached immediately.

Geodetic observations are of particular importance because they record part of the strain cycle that leads to earthquakes, whether or not we can derive a prediction from the part that we measure. Also, the hypothesis that accelerated deformation may precede major earthquakes is one of the most plausible precursor hypotheses. In addition, advances in techniques to measure crustal deformation have been most spectacular during the last several decades. The GPS technique has been refined to provide highly accurate position measurements in near-real-time and the InSAR technique allows mapping of crustal deformations in unprecedented detail, if the local surface is suitable.

This session invites contributions concerning the design of experiments, the methods used, the data collected and the hypotheses formulated based on multi-parameter and geodetic studies.

PALEOSEISMOLOGY – *Tom Rockwell* (trockwell@geology.sdsu.edu)

"Applications of paleoseismology in the long-term forecasts of large earthquakes". We invite papers that develop and use paleoseismic and slip rate data to forecast future large seismicity. In particular, we are interested in a range of items that include: (i) the use of short versus long paleoseismic records, and how they can bias forecasts. (ii) Comparisons between slip rate-based forecasts and paleoseismic event-based forecasts. (iii) Repeatability of earthquake ruptures in time and space. (iv) The application of paleoseismology of faults in intraplate or cratonic areas (such as Portugal and the rest of Europe), with the specific question as to whether this class of faults ever behaves in a quasi-periodic fashion (ie, predictable) or whether clustering is the rule. As part of this topic, studies that address the relationships between the timing of earthquakes within and between clusters, including the effects of fault interaction on recurrence, are greatly encouraged. (v) Can study of a fault system improve long-term forecasts (as opposed to the study of just one or two elements of the system). (vi) What are the best probability models to be used for a forecast (this likely depends on the tectonic setting, slip rate, amount of data, and other factors).

ORGANIZATION

The inclusion of the Seminar in the framework of the Year of the Planet Earth is certainly matter of interest. Also, the Evocation of the 100th anniversary of the Benavente Earthquake, Portugal, occurred in 23 April 1909 is a motivation for organizing this Seminar. It will be the occasion to make a session in honor of Úlpio do Nascimento, the founder of GTPS. This proposal under the auspices of the **Portuguese Academy of Engineering** (www.academia-engenharia.org), is supported by the following national entities:

- Sciences Academy of Lisbon (Academia das Ciências de Lisboa)
- Portuguese Committee on International Unions of Astronomy and Geodesy and Geophysics
- Geological Society of Portugal (Sociedade Geológica de Portugal)
- Portuguese Society of Geotechnics (Sociedade Portuguesa de Geotecnia)
- Portuguese Society of Earthquake Engineering (Sociedade Portuguesa de Engenharia Sísmica)
- Geographical Society of Lisbon (Sociedade de Geografia de Lisboa)

Registration Forms – 13/03/2009

Abstracts/Papers–
13/04/2009