The Abdus Salam
International Centre for Theoretical Physics

United Nations
Educational, Scientific
and Cultural Organization

International Atomic
Energy Agency

Workshop on the Conduct of Seismic Hazard Analyses for Critical Facilities

15 - 19 May 2006
(Miramare - Trieste, Italy)

The Abdus Salam International Centre for Theoretical Physics, in collaboration with the International Atomic Energy Agency (IAEA), will organize a Workshop on the "***Conduct of Seismic Hazard Analyses for Critical Facilities***". The Workshop will be held in Miramare, Italy, from ***15 – 19 May 2006*** and will be co-directed by Messrs. Aybars Gürpinar and Antonio Godoy (IAEA). Prof. G.F. Panza (Dept. of Earth Sciences, University of Trieste/ICTP, Trieste) will be the Local Organizer.

The IAEA recently (2002) published the second revision of the Safety Guide on "Evaluation of Seismic Hazards for Nuclear Power Plants". The new revision is based on the feedback from the seismic safety review services of the IAEA to different nuclear installations over the past decade (approximately 100 reviews), findings from recent major earthquakes, incorporation of new methods of research (such as paleoseismology) and recent trends in regulatory approaches. The Workshop will also address new initiatives in dealing with the evaluation of earthquake intensities based on terrestrial manifestations. In this context the INQUA intensity scale will be introduced to the participants and, in particular, its uses will be discussed in the estimation of maximum magnitudes.

The Workshop will emphasize synergies between the evaluation of seismic hazard in relation to the protection of nuclear installations and other critical infrastructure and facilities.

Recent trends include an increased emphasis on risk informed decision making and consequently probabilistic tools for the assessment of hazards. Therefore, probabilistic seismic hazard analysis (PSHA) is being utilized more and more by Member States as an input to the Probabilistic Safety Assessment (PSA) studies. The IAEA is in the process of developing guidance on Probabilistic Seismic Hazard Analysis.

The programme will cover the following topics:

- Requirements for the seismic hazard analysis for critical facilities (deterministic and probabilistic approaches)
- Quantification and treatment of uncertainties
- Estimation of maximum magnitudes and intensity distributions
  - Introduction and discussion of the INQUA intensity scale
  - Topical perspectives (geological, geotechnical, seismological, engineering)
  - Geographical perspectives (desert areas, tropical forests, Mediterranean region, mountain belts, oceanic areas)
- Attenuation relationships – new data (also including site response)
- Results of the recent IAEA coordinated research programme on the safety significance of near field earthquakes

Keynote lectures

Ways of controlling and decreasing uncertainties in seismic hazard analysis through acquisition and treatment of seismological data (Giuliano Panza, DST/ICTP)

Recent developments at the IAEA in relation with seismic hazard analysis (Aybars Gürpinar, Antonio Godoy, IAEA)

Introduction of the INQUA Intensity Scale (Alessandro Michetti, Università dell'Insubria, Leonello Serva, APAT)

Scientists and students from all countries that are members of the UN, UNESCO, or IAEA may attend the Workshop. The main purpose of the Centre is to help researchers from developing countries through a programme of training activities within a framework of international co-operation. However, students and post-doctoral scientists from developed countries are also welcome to attend. As the Workshop will be conducted in English, participants should have an adequate working knowledge of that language. A degree in Civil engineering, Mechanical engineering, Computer Science and/or similar disciplines is required.

As a rule, travel and subsistence expenses of the participants should be covered by the home institution. Every effort should be made by candidates to secure support for their fare (or at least half fare). However, limited funds are available for some participants who are nationals of, and working in, a developing country, and who are not more than 45 years old. Such support is available only for those who attend the entire activity. There is no registration fee for attending the Workshop. For logistic reasons, connected with the number of Personal Computers available, the total number of participants in the Workshop is limited.

The **Application Form** is obtainable from the ICTP WWW server: http://agenda.ictp.it/smr.php.1747 which will be constantly up-dated, or from the activity Secretariat. It should be completed and returned before **30 January 2006** to the following address:

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Seismic Hazard Analyses

DIRECTORS

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***Deadline*:**

30 January 2006