

The Minutes of Business Meeting on the IASPEI/IAEE Joint Working Group on ESG

Date : July 11, 2003
Time : 10:00 a.m. - 12:00 a.m.
Place : Room 'ELM', KKR Sapporo

Attended by K. Kudo (Japan), H. Kawase (Japan), A. Pitarka (USA), R. W. Graves (USA), I. Oprsal (Czech), T. Iwata (Japan), K. Irikura (Japan), P. G. Somerville (USA), J. Chen (China), Z. Wu (China), P-Y. Bard (France), T. Sasatani (Japan), and S. Higashi (Japan): Recorder.

1. Reports on the recent activities of JWG-ESG (chaired by K. Kudo)

Dr. Kudo briefly reported the recent activities of JWG-ESG after the 2nd ESG symposium held in 1998:

- An informal meeting for discussing on the future activities was held at 12WCEE, New Zealand in 2000.

- A meeting attended by mainly members of Japan and Taiwan was held at Taipei in September 2000 after the memorial workshop on the 1999 Chi-chi earthquake. At the meeting, Dr. Loh introduced a research project along the resolution of the PEER-MCEER-NCREE Trilateral Workshop on Center-to-Center Cooperative Research held on September 16-17. He suggested that the JWG-ESG was expected to cooperate with the basin effect topics in the project. Dr. Wen mentioned that they were ready to propose the Taipei basin as one of ESG test sites. Profs. Loh and Wen agreed to prepare and serve the precise planning and data for the project. However, the activities of the JWG-ESG on the Taipei basin have not developed since then.

- In 2001 Dr. Kudo submitted a proposal for ESG session to be convened by JWG-ESG to Drs. Schenk and Engdahl. Unfortunately during the course of the IASPEI restructuring, the JWG-ESG was eliminated from the IASPEI organization and the session idea was included in the session of 'Strong Ground Motion, Seismic Hazard, and Risk (SHR)'.

- In 2001, Dr. Kawase discussed on the necessity of JWG-ESG activities with U.S. members at AGU 2001. Those consulted by Dr. Kawase all agreed the idea of reformation and continuation of JWG-ESG.

- The re-establishment of JWG-ESG and the new chairperson of the IASPEI WG-ESG, that is Dr. Kawase, were approved at the SHR commission meeting held during IUGG2003 on July 8, 2003.

- Dr. Kudo also reported the related content in the IASPEI Handbook, part B, which will be published in this summer. JWG-ESG activities from 1986 to 1998 are described in the report, but those after the 2nd symposium are not included in the article.

After Dr. Kudo's report, Dr. Bard asked whether the WG-ESG is still continued as a joint working group. Dr. Kudo answered that he thought that it would be better to keep it as a joint working group. He expects that IASPEI will officially ask IAEE to participate the WG-ESG and he will follow such an official contact.

2. Scope, future activities and new membership (chaired by H. Kawase)

Dr. Kawase, the new chairperson of IASPEI WG-ESG, described his proposals for the new JWG-ESG. He proposed that the activity will not be limited to ESG and should be broadened to include 'Strong Motion Prediction (SMP).' He also listed the remaining issues not only on ESG but also on SMP and showed the scope of JWG-ESG/SMP.

Dr. Graves asked why we should not put more emphasis on SMP than ESG. In reply, Dr. Kawase said that SMP can include everything from source to ESG but ESG is the most important factor in SMP so that we may explicitly use ESG in parallel to SMP. Dr. Graves introduced the SCEC project for the qualification of seismic codes. Dr. Somerville added that five codes were tested and qualified in the project. They pointed out the importance of checking calculation techniques as one of the activities of JWG-ESG/SMP. In addition, Dr. Irikura suggested having a project for characterization of 3D model for strong motion prediction. It was agreed that the verification for qualification should be done as done in the prediction experiment.

As for the blind/open prediction experiment, it was confirmed that it should be done even if heavy burden would be expected to organize and/or participate. After Dr. Kawase showed the possible test sites for prediction experiment, Dr. Bard offered to add Grenoble Basin, France, as one of new test sites.

Dr. Somerville also emphasized the importance of close cooperation between seismology and earthquake engineering because the themes were interdisciplinary between them. In terms of joint working

group, Dr. Chen proposed a two-level testing program for strong motion prediction; 1) simulation of strong-motion parameters such as PGA, PGV, etc., and 2) simulation of waveforms. It was confirmed that the IASPEI working group needed to be jointed with IAEE so that seismologists and engineers could communicate with each other.

In order to exchange knowledge, information, and data, Dr. Somerville suggested that a website should be needed like SCEC project. Dr. Bard and Dr. Oprsal introduced the state of their test sites, respectively. Although it was agreed that the JWG-ESG would develop a website, the issue of maintaining the website, especially the budget, was discussed and remained to be facilitated.

As for the ESG Symposium, Dr. Kawase expressed his hope to have the third one in a near future with strong leadership of a host country with new test sites. In response Dr. Bard promised that he would discuss the matter with his colleagues and investigate the possibility to have the next one in France. Taiwan was also suggested as the other possible region for the third symposium, but unfortunately we could not have Dr. Wen this time because of SARS effects and so we could not discuss the matter in any detail.

Dr. Kawase proposed a draft of the membership of the JWG-ESG/SMP and some researchers were added to the candidate list.

As conclusions of the business meeting, followings were approved.

SCOPE

Purpose of the JWG-ESG/SMP

- 1) Provide an international forum on the subject to exchange information.
- 2) Provide the opportunity to compare different techniques for quantitative evaluation of uncertainty.

Activity

- 1) Organize STS in IASPEI, WCEE, WPGM, etc. specifically designed for the subjects on ESG and SMP.
- 2) Organize pre-and post-conference workshop.
- 3) Organize international conference as ESG98.
- 4) Promote international test site construction.

BLIND/OPEN PREDICTION EXPERIMENT

- Provide an opportunity to see different trials.
- Provide ultimate measures of verification.
- Although burden to organize and participate is heavy, it is worth performing.

A BETTER WAY OF PREDICTION EXPERIMENT

Develop a website for model information

- A website with geological and geophysical information, in addition to strong motions
- Standardized basin structure format.
- Easy addition feature of new information.

Organize three step prediction experiment

- Compulsory tasks as a qualify exam.
- Simulation of strong motion parameters (e.g., PGV)
- Simulation of waveforms.

POSSIBLE SITES FOR PREDICTION EXPERIMENT

1) Taipei Basin

Many earthquakes, sufficient geological information, large size.

2) EUROSEISTEST

Not so many earthquakes, sufficient geological information, small size.

3) Grenoble Basin

Weak motions, sufficient geological information, small size.

4) LA Basin + Newport/Inglewood? (prediction only)

5) Osaka Basin + Nankai? (prediction only)

MEMBERSHIP

1) Chairpersons

Kawase (Japan) and one from IAEE side

2) Recommended and Accepted

Iwata (Japan), Graves (USA), Bard (France), Oprsal (Czech), Wen (Taiwan), Pitilakis (Greece)

3) Candidates

Bielak (USA), Sherbaum (Germany), Moczo (Slovakia), Faeh (Switzerland),
Erdik (Turkey), Romanelli (Italy), Ding (China), Chavez-Garcia (Mexico),
Adams (NewZealand)

The meeting was adjourned at 12:00 a.m.