

Earthquake Hazard and Risk and Strong Ground Motion Commission  
Report regarding the  
IASPEI 2013 General Assembly

**I. Report on the implementation of past decisions of the SHR commission:**

**1. Preparation for publication of the book on “Earthquake Hazard and Risk Assessment Methods”**

Half of the Chapters are ready, the part which was the responsibility of Prof. Charles Scawthorn has not been delivered, despite his promise of delivery by end of 2012. He has emphasized on 25<sup>th</sup> of July 2013 that he would like to continue. If he does not fulfill his obligation within the next few months, it is recommended that SHR chair in consultation with the Secretary General will appoint another co-editor or the SHR chair take the full responsibility and finishes that book within next year.

**2. Establishment of Joint Working Group on “Dialogue Among Seismologist and Earthquake Engineers” (WG-DSEE)**

The IASPEI President attended the IAEE Board of Directors Meeting during 15<sup>th</sup> World Conference on Earthquake Engineering in Lisbon, 2012, and presented the IASPEI willing for the continuation of the cooperation between two societies. The IAEE Boards have endorsed this cooperation and called for the continuation of joint Working Group.

It is recommended that a similar session in 14WCEE should be held either during 10NCEE in Alaska and/or during IUGG 2015 in Prague. IASPEI should try to invite at least 2 Keynote lecture from Earthquake Engineering side to the IASPEI General Assemblies in order the express the engineering demand from the seismologist and vice versa. The WG activities would be on the:

- Develop a mechanism for starting the critical and in-depth discussion among the earthquake related scientist.
- Hazard and risk workshop with basic applications to simple and non-engineered structures.
- Hazard and risk assessment for highly hazardous structures – need for strong co-operation.
- Support and cooperate with the GEM project
- Joint effort for outreaching the public and government, probably through WSSI.

**3. Report on Strong Ground Motion Sessions (S201):**

Based on the SHR commission recommendation in 2011, the following sub-sessions with 67 papers (29 oral and 38 posters) were held:

- S201a: Strong Motion Monitoring and Record Selection For Engineering Design  
In this session, 7 oral and 2 poster papers had been presented.
- S201b: Ground Motion Prediction Equations  
In this session, 7 oral and 2 poster papers had been presented.

- S201c: Earthquake Scenarios  
In this session, 7 oral and 11 poster papers had been presented.
- S201d: Site effects  
In this session, 8 oral and 23 poster papers had been presented.

The number of papers and participants were very impressive, especially in comparison with the previous IASPEI meetings in 2009 and 2011.

#### **4. Report on “Rotational Seismology Sessions” (S202)**

Based on the SHR commission recommendation in 2011, the sessions were held with 10 papers (9 oral and 1 poster). Considering the importance and considerable effect of the rotational strong ground motion on the structural response and limited understanding of the rotational motion, it is recommended that seismological society consider this for the future studies. Also the rotational SGM measurement and instrumentation is highly recommended.

#### **5. Report on Advances in Global Hazard and Risk Analysis Sessions (S203)**

Based on the SHR commission recommendation in 2011 and along with the extensive activities of GEM project, the session with 10 oral papers were held during 2 sessions.

## **II. Program of Future Activities**

The SHR commission, at its 24<sup>th</sup> of July 2013 meeting during the IASPEI Conference in Gothenburg, Sweden, has appreciated the ongoing efforts and proposed the following activities and meetings for the year of 2013 to 2015:

1. IASPEI would write a request to the IAEE President and 10 US National Earthquake Engineering Conference (10NCEE, 2014) and 16WCEE (2016) organizing committee and propose the joint organization of the some or all of the following sessions or workshops:
  - ✓ Working Group meeting on “Dialogue Among Seismologist and Earthquake Engineers” (WG-DSEE)
  - ✓ IAEE-IASPEI Joint Session on:
    - Rotational Strong Ground Motion and its Effect on Structural Response,
    - Strong Ground Motion Databases and SGM Record Selection
    - Strong Ground Motion Data processing and databases; and
    - Strong Ground Motion Site Effect
  - ✓ IASPEI-IAEE-GEM Seismic Hazard and Risk Forum. To present the GEM achievements, contribution and results.
2. The SHR activities during the IUGG-IASPEI General Assembly 2015 will be as follows:
  - ✓ Organizing Working Group meeting on “Dialogue Among Seismologist and Earthquake Engineers” (WG-DSEE) by inviting the WG members.
  - ✓ IASPEI-IAEE Joint Session on:

- Rotational Strong Ground Motion and its Effect on Structural Response,
  - Strong Ground Motion Databases and SGM Record Selection
  - Strong Ground Motion Data processing and databases; and
  - Strong Ground Motion Site Effect
- ✓ IASPEI-IAEE-GEM Seismic Hazard and Risk Forum. To present the GEM achievements, contribution and results.
3. SHR Commission encouraged to recruit and to involve young members to fulfill its objective duties. For this reason an announcement will be posted on the IASPEI website.
4. It was decided that Mohsen Ghafory-Ashtiany will continue as the Chair of SHR for another term.