



**Information about activity of Commission on
Earthquake sources: Modeling and monitoring for Prediction
during IASPEI General Assembly in Melbourne, Australia,
Jun. 28 – Jul. 7, 2011.**

Business meeting of Commission was held on Saturday, July 2, 2011 in the room MR213 in Melbourne Convention and Exhibition Center (MCEC).

The following persons have taken part in this meeting:

1. Alexey Zavyalov (Russia) – commission chair,
2. Antonella Peresan (Italy).
3. Alexander Ponomarev (Russia)
4. Wolfango Plastino (Itali)
5. Arcady Dyskin (Australia)
6. Graziano Ferrary (Italy)

Agenda of the meeting was so:

1. Activity Report 2007-2010 of Commission to IASPEI.
2. Scopes of the Commission for the next two years.
3. Suggestions to the scientific program for the IASPEI 2013 General Assembly in Gothenburg, Sweden.
4. Miscellanea.

1. Activity Report 2007-2010 of Commission on Earthquake Sources: Modeling and Monitoring for Prediction was placed on IASPEI web site:

http://www.iaspei.org/commissions/CESMMP/CommissionEQS-MMP_Activity_report_2007-2010_ver20110422.pdf

in June 2011.

The data for this report were presented by

- Prof. Ian G. Main, Edinburgh, Scotland;
- Prof. Gennady A. Sobolev, Moscow, Russia;
- Prof. Alexander V. Ponomarev, Moscow, Russia;
- Prof. Alexey A. Lyubushin, Moscow, Russia;
- Prof. Eleftheria E. Papadimitriou, Thessaloniki, Greece;
- Prof. Vassilis G. Karakostas, Thessaloniki, Greece;
- Prof. Tamaz L. Chelidze, Tbilisi, Georgia;
- Prof. David Rhoades, Wellington, New Zealand;
- Prof. Giovanni Martinelli, Emilia Romagna, Italy;
- Prof. Kakharbay N. Abdullabekov, Tashkent, Uzbekistan;
- Prof. Jnana R. Kayal, Calcutta, India;
- Prof. Gerassimos Papadopoulos, Athens, Greece;
- Dr. Makhira T. Usmanova, Tashkent, Uzbekistan;
- Dr. Vadim A. Saltykov, Petropavlovsk-Kamchatsky, Russia;
- Dr. Antonella Peresan, Trieste, Italy;
- Eng. Andrew Patonin, Moscow, Russia.

2. The scope of Commission was renovated at the end of 2007 and lay out on IASPEI web-site. In the new scope the basic attention is concentrated on researches of physics of destruction

process at different scales, since experiments in laboratory on rock samples and finishing researches of a seismic regime.

Nobody suggested any changes for the Commission Scope for next two years.

3. Commission discussed suggestions from members, working in the frame of Commission Scope, to the scientific program for the IASPEI 2013 General Assembly in Gothenburg, Sweden. 6 suggestions were proposed:

Proposal from Alexey Zavyalov (Russia): “*Earthquake Sources: Modeling and Prediction*” with the purpose of the further strengthening of attention to physics of seismic process through laboratory experiment and field observation.

Possible conveners: Alexey Zavyalov (*Russia*).

Proposal from Tamaz Chelidze (Georgia): “*Synchronization and Triggering: from Fracture to Earthquake Processes*”.

Possible conveners: Tamaz Chelidze (*Georgia*), Valerio de Rubeis (*Italy*), Roman Teisseyre (*Poland*), Gennady Sobolev (*Russia*).

Proposal from Boris Levin (Russia): “*Global seismicity: observation and understanding*”

Possible conveners: Boris Levin (*Russia*), Alik Ismail-Zadeh (*Germany*).

Proposal from Ragnar Steffanson (Iceland): “*Earthquake prediction and society*”

Possible conveners: Ragnar Steffanson (*Iceland*).

Proposal from Mikhail Rodkin (Russia): “*Specific and Non-specific Earthquake Precursors*”

Possible conveners: Mikhail Rodkin (*Russia*).

Scope:

The cases of development of instability occurring in different systems are believed to obey the universal scenarios. The occurrence of a strong earthquake is treated ordinary as a typical example of an instability development. Both fore- and aftershock anomalies increase approaching the moment of the mainshock as a logarithm of time interval remaining before the mainshock occurrence. A number of other anomalies were shown to have a similar type of behavior in the close vicinity of strong earthquake. Such type of behavior agrees well with the critical type of behavior and the SOC model. These prognostic features should be attributed as non-specific precursors. These precursors correspond to the common features of instability development, but they do not point out the particular physical mechanism of development of the instability. The precursors that characterize the physical mechanism of the instability occurrence can be named specific precursors. The earthquake precursors connected with the deep fluid regime, the hypothetical ionospheric precursors are examples of specific precursors. It seems desirable the algorithms of earthquake prognosis were based both upon non-specific and specific precursors.

Proposal from Wolfango Plastino (Italy): “*Nuclear Physics and Solid Earth Physics: New Methodologies and Techniques for probing Earth's interior*”

Possible conveners: Wolfango Plastino (*Italy*), Steve Dye (*USA, Hawaii*).

All suggestions were adopted by Commission and should be recommended for inclusion in scientific program of IASPEI 2013 General Assembly.

4. In miscellanea Alexey Zavyalov suggested discuss an idea:

Create collection of the data concerning earthquake prediction cases. This should not be prediction in advance but after.

Questions:

1. Will this job useful for scientific community?

2. Who will be coordinator of this job?

Commission decided postpones resolution of this issue.