International Symposium "Toward Constructing Earthquake Forecast Systems for Japan"

Last modified: 28 May 2009

Date and time: 27 May 2009 (9:30-17:30)

Place: The 2nd meeting room in the 2nd building, Earthquake Research Institute, University of Tokyo, 1-1 -1 Yayoi, Bunkyo-ku, Tokyo 113-0032, Japan

Japanese version webpage

Participant list

Purpose

One of the newly-introduced main activities under the current national "Observation and Research Program for Prediction of Earthquake and Volcanic Eruption (2009-2013)" is to construct forecast systems of earthquake occurrence for Japan. Our approach to this construction is as follows:

> First, to develop the Testing Center, a framework that can support to assess the validity of submitted earthquake forecast methods;
> Second, to conduct comparative testing experiments within this framework multiple times in determining which of the registered forecast models are best for their forecast accuracy;
> Third, to aim at the creation and buildup of sophisticated forecast models, based on results obtained from the multiple experiments.

For this purpose, the 1st earthquake forecast testing experiment for Japan will be carried out this academic year. This research activity is in collaboration with the global CSEP (Collaboratory for the Study of Earthquake Predictability) project that is modeled after the California RELM (Regional Earthquake Likelihood Models) project (Refer RELM special issue (Seismol. Res. Lett., 78(1), 2007) and the CSEP website). The aim of the Symposium is to provide a forum for mutual understanding among participants of the 1st Japanese testing experiment. In order to make use of knowledge obtained from the CSEP testing experiments worldwide, we invite researchers from the US and Italy. Further, the Symposium is also devoted to explore the possibility of creation of next-generation testable models. For this exploration, we also invite several worldwide and Japanese researchers associated with such topic. The program will focus on the following four points.

> Existing Testing Center
> Proposed or submitted earthquake forecast models and evaluation methods
> Exploring the possibility of next-generation testable models
> Panel discussion on the 1st testing experiment

The Symposium is open to the public. However, the talks are by invitation only and the panelists have been already assigned. All presentations and discussions in the Symposium must be made in English. Approximately 30 scientists are expected to participate.

Program

Moderators: K. Z. Nanjo & H. Tsuruoka (ERI)

9:30-9:40　　Introduction: N. Hirata (ERI)

Existing Testing Center

9:40-10:00　　Collaboratory for the Study of Earthquake Predictability: D.Schorlemmer (USC)
10:00-10:10　　Result of "Call for earthquake forecast models, test regions & forecast evaluation methods": K. Z. Nanjo (ERI)

Proposed or submitted earthquake forecast models and evaluation methods

10:10-10:25　　b-value Forecast Model for Japan: D. Schorlemmer (USC)
10:25-10:40　　A double branching model for earthquake forecasting: W. Marzocchi (INGV)
10:40-10:55　　Online forecasting and offline optimization: daily earthquake forecasts by using a model that requires heavy computation: J. Zhuang (ISM)
10:55-11:10　　Modeling temporal variations of seismicity parameters to forecast earthquake rates in Japan: C. Smyth (DPRI)

Break (11:10-11:30)

11:30-11:45　　Space-time ETAS model for forecasting seismicity in and around Japan: Y. Ogata (ISM)
11:45-12:00　　A simple smoothed seismicity forecast for prospective testing in Japan: J. Zechar (LDEO)
12:00-12:15　　Method for prediction of off Ibaraki M7 characteristic earthquakes based on seismicity change: S. Matsumura (NIED)
12:15-12:30　　Application of the RI model to forecasting future large earthquakes in Japan: K. Z. Nanjo (ERI)
12:30-12:45　　Statistical tests for evaluating predictability experiments in Japan: J. Zechar (LDEO)
12:45-13:00　　Conventional N- L- and R- tests using no simulated catalogues　M. Imoto (NIED)

Lunch (13:00-14:00)

Exploring the possibility of next-generation testable models

14:00-14:20　　Data assimilation based approach: S. Miyazaki (DPRI)
14:20-14:40　　Spatial Correlation between Strained Regions and Large Shallow Crustal Earthquakes in Japan: Which is the cause ?: T. Ishibe (ERI)
14:40-15:00　　Combined approach using the electromagnetic precursory phenomena and critical phenomena for a short-term earthquake prediction: T. Nagao (Tokai U.)
15:00-15:20　　Experiences in rockburst prediction: G. van Aswegen (ISS)

Break (15:20-15:40)

Panel discussion
15:40-17:25　　Details on the 1st earthquake forecast testing experiment
　　Panelists　D. Schorlemmer (USC), J. Zechar (Lamont), W. Marzocchi (INGV), N. Hirata (ERI), H. Tsuruoka (ERI), M. Imoto (NIED), and B. Enescu (NIED)
　　Moderator: K. Z. Nanjo (ERI)

17:25-17:30   Summary: N. Hirata (ERI)

Contact

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