



# IISEE Newsletter



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International Institute of Seismology and Earthquake Engineering BRI Japan

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## Tohoku Study Trip

*By Mr. Takashi Yamashita, Head of IISEE Administration Division*

From November 9<sup>th</sup> (Mon.) to 13<sup>th</sup> (Fri.), 2015, S Course and E Course visited Miyagi Prefecture (Sendai, Onagawa and Ishimaki) and Niigata Prefecture (Ojiya, Nagaoka) as a study trip, and T Course visited Miyagi Prefecture (Matsushima, Ishimaki, Onagawa and Minami-Sanriku) and Iwate Prefecture (Kamaishi and Miyako).

For them, the study trip seemed very meaningful since they could observe the process of reconstruction from the Chuetsu Earthquakes in 2004 and the Great East Earthquake in 2011. For the reports by participants, please wait for the next issue.

We appreciate the support in site by the people in associated institutions and organizations. (Please see P4 for the snapshots of the study trip.)

## Microtremor Survey in and around Kathmandu, Nepal

*By Dr. Takumi Hayashida, Senior Research Scientist of IISEE*

After the occurrence of the April 25, 2015 Gorkha Earthquake (Mw7.8) in Nepal, the Japan Science and Technology Agency (JST) started research support funds "Japan-Nepal Urgent Collaborative Projects (J-RAPID Program)".

As a member of a research project "Investigation of Ground-motion to Damage Relationship in the Kathmandu Valley from Aftershock and Microtremor Observations (Principal investigators: Prof. Kazuki Koketsu at the University of Tokyo and Dr. Soma Nath Sapkota, Deputy Director General at the Department of Mines and Geology, Ministry of Industry, Nepal)" under the J-RAPID program, I visited Nepal from September 17 to 26 for field survey.



Photo1: Kathmandu basin

Our research team conducted microtremor observations (\*1) in the Kathmandu valley (city center and historical areas) and surrounding damaged areas (e.g Chautara, Bahrabise, and Dunche), and damaged school buildings (Sankhu area) using a portable microtremor sensor (\*2), to investigate the relationship between natural periods of ground and soil structure. It was a very short time for the survey, but we were blessed with fine weather and could obtain

## Earthquakes

The 2011 off the Pacific coast of Tohoku Earthquake

Reports of Recent Earthquakes

Utsu Catalog

Earthquake Catalog

## Call for Papers

IISEE Bulletin is now accepting submissions of papers for the seismology, earthquake engineering, and tsunami. Developing countries are targeted, but are not limited.

Your original papers will be reviewed by the editorial members and some experts.

NO submission fee is need.

Try to challenge!!



microtremor data at more than 70 sites. Our observed data in the Kathmandu valley show dominant peaks of microtremors in the long period range, indicating deep sediment layers.



Photo 2: Microtremor observation at the Patan Durbar Square



Photo 3: Microtremor observation with onlookers (left: Dr. Hayashida)

Unlike in Japan, many onlookers (local people) surrounded the sensor once we started measurement. However, since many Nepali people speak English as a second language, we were able to have them understand the purpose of the survey. Some people were interested in our observation and provided us valuable information such as damages caused by just after the mainshock.



Photo 4: Discussion at NSC-DMG  
Mr. Mukunda Bhattarai, Mr. Bijaya Adhikari,  
Mr. Umesh Prasad Gautam & Dr. Hayashida  
(from left to right)

We also investigated earthquake damage distributions around the sites in parallel with the microtremor observations. Many houses were collapsed in the areas northwest – northeast of Kathmandu and the sights left an impression on me.

We also visited National Seismological Centre, Department of Mines and Geology (NSC-DMG) and had a discussion with ex-participants [Mr. Mukunda Bhattarai (2004-2005 and

2013-2014 Seismology courses), Mr. Lok Bijaya Adhikari (2002-2003 Seismology course, 2013 Global course), Mr. Umesh Prasad Gautam (2010 Global course)].

They have been so busy with daily duties such as collection and provision of aftershock information and responding to inquiries from other institutes. I am grateful to them for sparing their valuable time and their cooperation.

\*1: The ground is always vibrating with very-small amplitude caused by natural phenomena such as ocean waves and wind, and human activities (microtremor, ambient vibration or seismic noise). The microtremor data observed for several and several tens of minutes has information about underground soil structure and ground motion properties of the site.

\*2: We used DATAMARK JU-310 (Hakusan corporation) for our microtremor observations. The sensor is also used for lectures of Regular (S and E) and Global courses. We borrowed the instrument from Dr. Kahiwa at the Department of Structural Engineering, BRI.

## Letter from Ex-Participant



Enjoy, Now

✉ Mr. Adisorn Foongkajorn:  
Director  
Chiang Mai Seismic Station (CHTO/IU) of Thailand  
(Thailand, Seismology Course, 1982-83)

One of our ex-participants, Mr. Adisorn Foongkajorn, kindly sent us a greeting e-mail as below:



"Dear Sir,

*I am Adisorn Foongkajorn, an ex-participant of IISEE (1982-83, Seismology). Now I am Director of Chiang Mai Seismic Station (CHTO/IU) of Thailand.*

*I would like to thank JICA, IISEE and all staff who have made me have these days. When people ask me where did I study, I proudly answer that I studied at International Institute of Seismology and Earthquake Engineering, Japan.*

*Whenever I arrive my office I never forget to think about what I got from the institute. It makes me an outstanding one in the career. And of course it makes me proud of myself. Thank you very much again for what you made me so.*

*I still got year books and newsletters from the IISEE and JICA. They make me feel close to you and follow up what are going on here.*

*Now technology on seismology is very advanced compared to the past especially on earthquake monitoring.*

*For an example we can access seismic data from CHTO realtime via an iris request form (<http://ds.iris.edu/ds/nodes/dmc/forms/breqfast-request/>). And we can also analyze the data on an application available on the internet such as DIMAS developed by USGS (<ftp://ftp.emsd.ru/private/ddv/dimas2008/>). I think these can help people monitor earthquakes in and around their homes.*

*I have not only made an article concerning the above idea to public via our office website but also explained and instructed them how to do so. Thanks to the IISEE and JICA who not only made me to get knowledge from the institute but also the public nation wide.*

*I would like to wish you all happiness and prosperity for the upcoming Christmas and New Year. I hope to visit the institute once after long time.*

*From my best regards,*

*Adisorn Foongkajorn*

*Ex-participant of IISEE."*

## Contact Us

The IISEE Newsletter is intended to act as a go-between for IISEE and ex-participants.

We encourage you to contribute a report and an article to this newsletter. Please let us know your current activities in your countries.

We also welcome your co-workers and friends to register our mailing list.

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<http://iisee.kenken.go.jp>

## Back Numbers

<http://iisee.kenken.go.jp/nldb/>

# Snapshots of Tohoku Study Trip



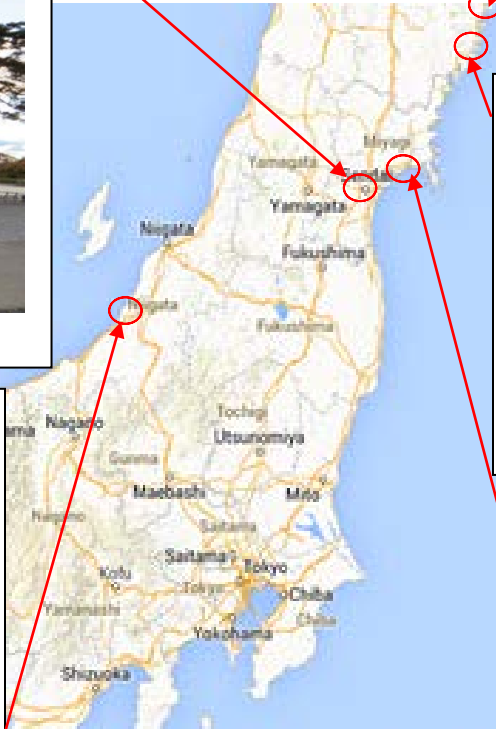
Sendai Plain (T)



Taro, Miyako City (T)



Sendaijo(castle ruin) (S&E)



Kamaishi Port (T)



Kogomo, Yamakoshi, Nagaoka City (S&E)



Zuiganji (T)



Ojiya City (S&E)



Ojiya General Hospital (S&E)



Zuiganji (S&E)