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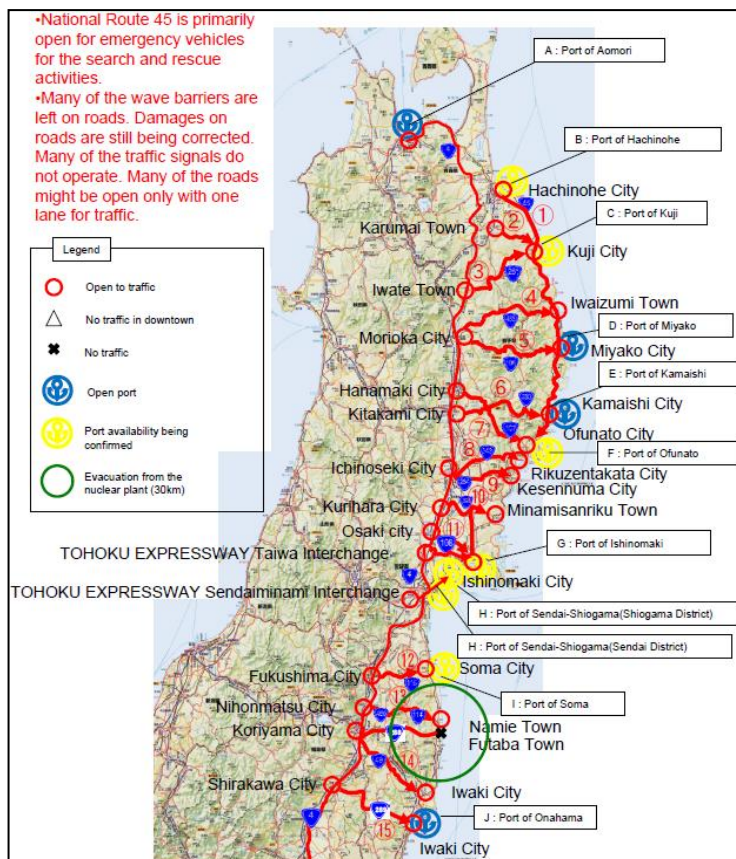
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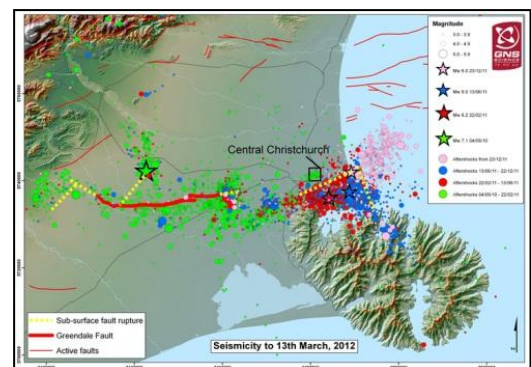
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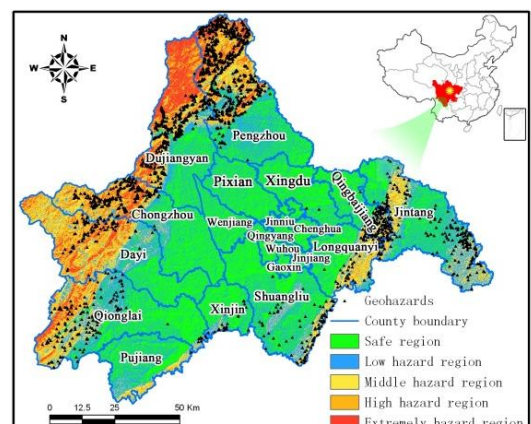
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PREFACE

I would like to express my deep respect to the geotechnical colleagues in Southeast Asia who have been publishing this prestigious journal for more than 40 years. It is very important that a regional engineering community maintains its own place of publication and is able to freely express its own idea of importance and value. I wish this journal to continue its contribution for a long time from now on.

When I was asked in 2011 to take care of a special issue on geotechnical earthquake engineering, I felt reluctant. This was because of my domestic situations after the gigantic earthquake on March 11, 2011, after which I have been working on such a variety of urgent issues as liquefaction vulnerability of subsoil, causative mechanisms of river levee damage, and post-earthquake public appeal among many others. Then fortunately two capable people started to jointly work with me for all the aspects of the publication of this issue. Upon this occasion, I would like to express my sincere appreciation to my Co-Guest Editors, Prof. Der Wen Chang and Dr. Ivan Gratchev without whom the editing and publication of this issue will not be impossible.

The mitigation of natural disaster is an important but difficult task. This is partially because we do not fully understand what happens during disasters. We can scarcely eyewitness the occurrence of a natural disaster. We can only visit sites of damage after the event and report the observation to colleague engineers. It is certainly possible that important and essential keys for mitigation are still overlooked or unknown. In this regard, the study of disaster mitigation is important and fascinating to capable and ambitious people.

In my personal opinion, earthquake problems deserve attention of capable people most significantly in mountain areas. In the mountain areas where many slope failures are triggered by earthquake shaking, not only the seismic shaking but also the ground condition is uncertain or not well known for design purposes. Accordingly, many unexpected things happen. This is the reason why many papers in this issue address earthquake-rainfall interaction, which is called the combined effects, as well as the long-term effect of past earthquakes. These new problems are not studied in details yet and the practice does not know how to deal with them. Conventional approach of geotechnical engineering such as limit equilibrium and factor of safety is too expensive because the action is combined and rare. Consequently, there is no practical approach yet and ambitious people are waited to start positive action to solve the problem. As the chief editor of this issue, I strongly expect such people to read this issue and be stimulated. I am confident that there are many challenges in this field of study that deserve deep devotion of good people. It is desired that this special issue would pave a road to solution of geotechnical earthquake problems that appear abundant in Southeast Asia and have not been well investigated.

Guest Editor
Ikuro Towhata

GEOTECHNICAL ENGINEERING

ACKNOWLEDGEMENT

The June 2012 Issue on Geotechnical Earthquake Engineering has Prof. Ikuo Towhata, Prof. Der Wen Chang and Dr. Ivan Gratchev as Guest Editors. Prof. Towhata has written a comprehensive and scholarly book in this discipline; see *Geotechnical Earthquake Engineering*, 2008: publisher Springer. We also had great guest editors for the 2011 Issues as: Jie Han; Tatsunori Matsumoto, Der Wen Chang; Chang Yu Ou and Dariusz Wanatowski. The March 2012 Issue had Prof. Charles W. W. Ng and Dr Apiniti Jotisankasa as Guest Editors.

We are most grateful to Prof. Ikuo Towhata, Prof Der Wen Chang and Dr. Ivan Gratchev for helping with the editorial works of the current issue. There are ten contributions as received from authors in Bangladesh, New Zealand, China, Iran, Japan and Chinese Taipei. The Authors are: Tahmeed M. Al-Hussaini, Tahsin R. Hossain and M. Hayeem Al-Noman; RP Orense, MJ Pender and LM Wotherspoon; Yingbin Zhang, Guangqi Chen, Jian Wu, Lu Zheng and Xiaoying Zhuang; Z. Yang, J. Qiao, H. Tian, D. Huang, M. Wang and H. Meng; Abbas Galandarzadeh and Alireza Ahmadi; Hirofumi Toyota M. Kazama, T. Noda, T. Mori and J. Kim; Meei-Ling Lin and Yu-Hung Shu; Ikuo Towhata; and Hongling Tian, Jianping Qiao, Taro Uchimura and Lin Wang.

The material contained in this issue relates to earthquakes in Canterbury (New Zealand), Tohoku, Chi-Chi in Taiwan and Northwest Chengdu, China. Geotechnical hazards including soil liquefaction and seismically induced slope failures are also the topics presented in this issue. Laboratory studies on soil liquefaction resistance and the role of tension-shear mechanism failure in numerical simulation of seismic slope stability are also presented. Changes to building codes incorporating geotechnical earthquake provisions are also described. These contributions will be of great interest to engineers and researchers who are dealing with challenges in geotechnical earthquake engineering.

The guest editors are thanked sincerely for their dedicated contributions. Prof. Der Wen Chang in co-ordination with Prof. Ikuo Towhata and Dr. Ivan Gartchev has worked in a meticulous manner in making this issue feasible and to be released in time. We now look forward to the September and December 2012 Issues as edited by Prof. Malek Bouazza and Tom Lunne and Prof. de Groot respectively.

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March 2012 ISSUE ON GEOTECHNICAL EARTHQUAKE ENGINEERING

Guest Editors: Prof. Ikuo Towhata, Prof. Der Wen Chang & Dr. Ivan Gratchev

Prof. Ikuo Towhata

Prof. Ikuo Towhata had his engineering education at the prestigious Tokyo University in Japan and is currently a Professor in the Department of Civil Engineering. Tokyo University is traditionally very strong in Soil Dynamics, Machine Foundations and Geotechnical Earthquake Engineering now for several decades. Also recently, Prof. Towhata has written a comprehensive and scholarly book in this discipline (see *Geotechnical Earthquake Engineering*, 2008: publisher Springer). Prof. Towhata was also the Editor in Chief of the well-known Journal, *Soils and Foundations*. He is an active member of several national and international committee on landslides, earthquake engineering. Recipients of several prestigious awards, Prof. Towhata's interests in Geotechnics is very wide and are on deformation characteristics of sands, dynamic analysis of earth structures, soil improvement by densification and grouting, stability of slopes and seabeds under static and dynamic conditions, landslides and debris flows, seismic performance based design of geotechnical structures. Author of more than 250 publications, Prof. Towhata has lectured in many leading universities in most continents.

Prof. Der-Wen Chang

Prof. Der-Wen Chang teaches at The Department of Civil Engineering of Tamkang University (TKU), Taipei, Taiwan for over 19 years. He received Ph.D. in Civil Engineering at The University of Texas at Austin in 1991 and MS in Civil Engineering at Michigan State University in 1987. Prof. Chang has supervised there search work of over 60 Master Thesis and 3 Ph.D. Thesis at TKU, and published more than 160 articles as the Journal, Conf. papers and reports. Nearly all his research studies are related to numerical modeling and dynamic analyses for the geotechnical structures. His research experiences include NDT methods on pavements, seismic behaviors of the pile foundation, constitutive modeling of the soils, and recent study on the performance based design for the earth structures. Prof. Chang is also the visiting Professor at University of Washington at Seattle, US in 2008 and LN Gumilyov Eurasian National University at Astana, Kazakhstan for research studies in 2010. Other than there search works, Prof. Chang devotes himself a great deal to serve the communities. He involves heavily and indeed shows his good performance in the public works related to education and constructions. Prof. Chang is now serving as the Secretary General of Chinese Taipei Geotechnical Society, GC member of SEAGS, Editorial Panel for SEAGS/AGSSEA J. of Geotechnical Engineering, Committee members for Public Construction and Hazard Prevention in Taipei City and Taipei County governments. He will continue to work in the academia and hoping that his studies can better improve the civil engr. technologies.

Dr. Ivan Gratchev

Dr. Ivan Gratchev has spent the last ten years conducting research in the areas of geotechnical and geoenvironmental engineering in Japan, in particular earthquake-induced liquefaction and landslides. He qualified to receive a prestigious scholarship sponsored by the Japanese Government to complete his master and doctoral courses at Kyoto University. After receiving a PhD degree in 2007, he was selected for a highly competitive fellowship by the Japan Society for the Promotion of Science (JSPS) to conduct postdoctoral research at the University of Tokyo. His expertise in field investigation and laboratory testing led to his selection for several reconnaissance teams to assess structural damage and slope failures follow in recent earthquakes in Japan as well as the 2008 Sichuan Earthquake in China, and the 2009 earthquake in Sumatra. Since 2010, Dr. Gratchev has been a lecturer at Griffith University, one of the fastest growing universities in Australia. He has produced more than 30 publications in refereed journals, international proceedings, as well as book chapters on research topics such as slope stability, liquefaction, and cyclic behavior of fine-grained soils as well as the effects of contamination on the geotechnical properties of soil.

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Special Issue on Geotechnical Earthquake Engineering

Guest Editors: Prof. Ikuo Towhata, Prof. Der Wen Chang & Dr. Ivan Gratchev

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