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A Note from TC303 (Floods) Chairman

Professor Susumu Iai

INSIDE THIS ISSUE

EDITORIAL BOARD

The Technical Committee 303 addresses the issues on "Coastal and River Disaster Mitigation and Rehabilitation". As a chairman of this TC, I am pleased to write this short note addressed to ISSMGE members.

Global sustainability is the greatest long term challenge of our time. The breadth of disciplines that need to work together and the long duration over which action must be coordinated is unprecedented in the history of engineering. In geotechnical engineering and earthquake geotechnics in particular, we are unused to the challenge of working with other disciplines to address such problems, which have been far removed from our daily practice to date.

Apart from the geotechnical engineering and earthquake geotechnics, sustainability may be more clearly defined when we try to define the inverse concept of the sustainability: i.e. unsustainability. The TVs and newspapers reported a few years ago incidents of a parent(s) killing his or her own children and a child killing his or her own parent(s) in Japan. Self centered attitude for fulfilling his or her own needs, commonly found in human minds, may be the primary triggering mechanism to those abnormal incidents. Given that the common elements of human minds are the cause of these incidents, our future society might accept these incidents just as daily routine incidents. Ultimately, our future society will be heading into an unstable society that will eventually collapse.

United Nations Brundtland commission published Our Common Future in 1987, in which, "sustainable development" is defined as: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The next generations cannot express their strong opinions against the current generations because the next generations have not yet been born or fully grown up. If the current generation uses up all the natural environment and energy, there will be no sustainable society.

A Note from TC303 (Floods) Chairman (Continued)

Professor Susumu Iai

INSIDE THIS ISSUE (CONTINUED)

Let us try to answer a question "what is the most fundamental and important strategy towards achieving the sustainable society?" The answer to this question is obvious to Mr. Ryusho Kobayashi, a Buddhism priest, Enryaku-ji temple, Mount Hiei, Kyoto (Open symposium, Kyoto University, 2007). "The most fundamental and important strategy is a mind revolution from the current self centered demand and take-away attitude to a returning and give-away attitude with gratitude." Mr. Kobayashi follows his lecture and strikes the mind of the audience; "go back to your home and look at your face. Your face is not made instantaneously but has been formed through a long and cumulative process of your life over years. If your mind revolution has been continuing to aim at achieving the returning and give-away attitude, your face will certainly look radiant."

Back to the engineering, an initial, bold step towards approaching this challenging subject from the discipline of geotechnical engineering and earthquake geotechnics was taken through the fourteen contributions by world leading experts. A special seminar was held in Kyoto, Japan, hosted by the Kyoto Sustainability Initiative, from January 12-14, 2010, which brought a number of experts together to discuss the opportunities for geotechnical engineering and earthquake geotechnics as we face up to this global challenge. The seminar generated intensive and stimulating discussions on a wide range of topics from the purely technical to government policy. Following the seminar, each of the experts was invited to set down their thoughts, from which a book entitled "Geotechnics and earthquake geotechnics towards global sustainability" has been prepared.

TC303 organized an international gathering under the name of Kyoto Seminar in 2010. A book was published (Iai, 2011) and I made a statement therein as what follows; "*Soil in one form or another covers most of the surface of the planet, and yet soil mechanics as such does not seem to be a big factor in global sustainability. The subjects covered by the international experts include an overview of global sustainability, geotechnical challenges in counteracting natural hazards, the role of geotechnical engineering in creating a low carbon society, world heritage, lifelines in megacities, coastal protection, exploring non-gravity geotechnics, designing for sustainability and more. We hope that these contributions from the Kyoto Seminar 2010 will stimulate debate over the role of geotechnics in achieving a more sustainable future for the world*."

The compilation and editing of the conference publication coincided with the initial phase of activities of TC303 of ISSMGE created for the period 2009-2013 under the wider theme of 'Impact on Society'. TC303 continues the work of the former TC39 'Geotechnical Engineering for Coastal Disaster Mitigation and Rehabilitation', which was focused on tsunami risk following the 2004 Sumatra earthquake in Indonesia. The editing of the publication reflected the activities of TC303 (for details of TC303, refer to https://sites.google.com/site/tc303issmge/home).

Another new challenge posed to our daily practice is the aspect of combined hazards. State-of-the-art geotechnical earthquake engineering is typically based on site-by-site detailed analysis. However, directly applying cutting edge earthquake engineering is difficult for a long coastal protection line.

A Note from TC303 (Floods) Chairman (Continued)

Professor Susumu Iai

Thus, a new methodology should be developed; an example, which has been developed via the collective efforts of the author and their associates, has been adopted for coastal areas in Japan and is briefly reviewed below.

The seismic performance of geotechnical structures, which extend over 70 km of coastline along the Osaka Bay area, is evaluated (Fig. 1). The northern part of the coastal protection line is slightly inland from the sea, whereas the southern part of the coastal protection line is directly exposed to the sea. Geotechnical conditions along the coastal protection line were compiled based on boring data, which was originally obtained at 100 to 500 m intervals for the construction of the Hanshin Bay Area Highway.

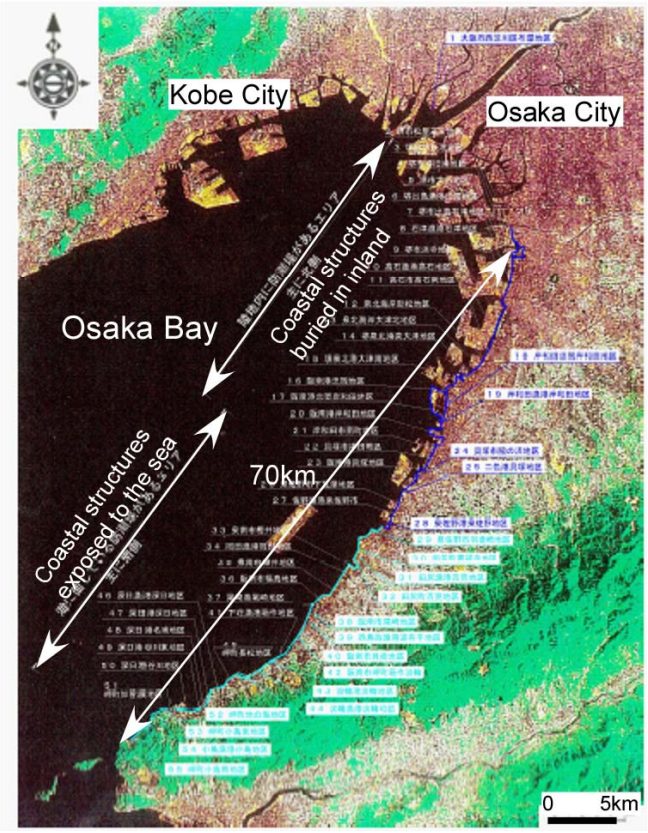

Fig. 1. Investigated coastal protection line for Osaka Bay Area, Japan.

The primary objective of this assessment was to avoid combined hazards such as those that occurred during the 2004 Sumatra, Indonesia, earthquake (Fig. 2). The performance grades of the coastal structures reflect the consequences of failure and were based on importance categorized by land use and the elevation of the ground relative to the sea level. Highly industrialized zones with low ground water level are assigned the highest performance requirements for protection of the coastal zone.

Instead of performing effective stress analysis on a site-by-site basis, a set of design charts has been developed based on a comprehensive set of parametric studies on embankments and gravity structures. The design charts are incorporated into a spreadsheet format. Required input data are (1) the basic parameters defining the cross section of the structures, (2) geotechnical conditions as represented by the SPT N-values, and (3) earthquake data represented by the wave form, peak ground acceleration, or distance and magnitude from the seismic source. These design charts can conveniently and efficiently assess the vulnerability of coastal geotechnical structures that extend a long distance such as tens of kilometers over variable geotechnical and structural conditions.

A Note from TC303 (Floods) Chairman (Continued)

Professor Susumu Iai

The results of the seismic assessment of the coastal protection line in the Osaka Bay Area are compiled in terms of the settlements of the coastal protection facilities due to earthquake shaking. The areas with smaller margin to the acceptable level of settlements are not robust against the expected effect of Tsunami. The assessment successfully indicated the areas less likely to protect the land from a tsunami and must be strengthened or improved in preparation.

Fig. 2. Coastal area of Banda Aceh, Indonesia, before (above) and after (below) the Indian Ocean-Sumatra earthquake of 2004 (after Quickbird).

Reference

Iai, S (ed.) (2011): Geotechnics and Earthquake Geotechnics towards Global Sustainability, Springer

ISSMGE President 1000 Days Progress Report – 9 July 2012

Professor J-L. Briaud

Distinguished Colleagues, Dear Friends,

This is my thirty third progress report after 1000 days as your President. Note that previous reports are on the ISSMGE web site (http://www.issmge.org/) under "From the President" if you need them. In this report, I would like to talk to you about upcoming webinars, copyrights for our publications, our new web site, and the 15July2012 ISSMGE Board meeting in Australia.

Webinar: Tomorrow Monday 9July2012 at 3:00 pm, GMT Summer Time (London, GMT+01:00) Eduardo Alonso presents a wonderful webinar on Unsaturated Soils: Basic Concepts and Applications. Do not miss this unique chance to learn from one of the best in the world. It is free and you can register on line at https://issmge.webex.com/issmge/k2/j.php?ED=9483317&UID=50198427&HMAC=66368495394d8d4bb08116d00d58771c6ee3a65e&RT=MiMyMQ%3D%3D&FM=1

If you need further help, contact my assistant, Theresa Taeger, at ttaeger@civilmail.tamu.edu. The next webinar will be presented by Frank Rausche on pile driving analysis on 18 Sept 2012 followed by Ikuo Towhata on earthquake geotechnical engineering.

Copyrights and fairness: an ISSMGE Task Force has been set up to look into this broad issue. It is lead by Rainer Massarsch in Sweden with the help of the Swedish Society and Bengt Fellenius in Canada. Part of the issue is as follows. Many of us write engineering articles which we submit for free to publishers, these articles are reviewed by volunteers who also work for free, then we release the copyrights to the publisher who turns around and makes money by selling this work. I don't know about you but I don't think that this is fair. When we write books we get something like 15% royalties. I think that we should get 15% royalty on our article publications as well. What do you think?

New web site: a few months ago we contracted with Geoengineer.org to develop our web site so it would have new capabilities consistent with current needs. The new web site is already up and running. If you visit it (http://www.issmge.org) you will see no change because we aimed at a smooth transition but the infrastructure is much more powerful and will allow us to serve you better. Dimitris Zekkos is overseeing this effort and I will have a short report on new capabilities in an upcoming progress report. If you have any thoughts or ideas to improve our web site please submit them for consideration.

Best wishes,

Jean-Louis BRIAUD
President of ISSMGE

ISSMGE President 1030 Days Progress Report-10 August 2012

Professor J-L. Briaud

Distinguished Colleagues, Dear Friends,

This is my thirty fourth progress report after 1030 days as your President. Note that previous reports are on the ISSMGE web site (http://www.issmge.org/) under "From the President" if you need them. In this report, I would like to talk to you about the Terzaghi Orator, the result of the ISSMGE Board meeting in Australia, the next webinar, and the ISSMGE Awards.

Terzaghi Oration: I have made my decision regarding the Terzaghi Orator. I received several suggestions from member societies and individual members. I completed the list with the names of other giants in our field and ended up with a list of 16 names. I then organized the names in a table with various considerations including contributions to the advancement of our field, international stature, speaking ability, contributions to ISSMGE, and many others. I attributed a value for each candidate and each factor in the table and decided on a weighing factor for each attribute. This helped me come up with 6 outstanding names. I then agonized over the ranking of these 6 truly outstanding geotechnical engineers. The choice was very difficult because while each one was unique, there was so little difference among them. After studying the problem for 6 months, in the end I made a decision. I know that all of you will agree with me that this person is truly outstanding even if it is not the person you supported.

This person worked in three different countries and every time rose to the top of the geotechnical world. President in one country, Member of the National Academy of Engineering in another, Director of one of the best geotechnical groups in a third one, this person truly exemplifies the very best we have in geotechnical engineering. She represents the ideal blend of academician and practitioner, the perfect mix of theories and experiments, a demonstrated devotion to her profession, and all this with a very friendly and approachable attitude. The ISSMGE 2013 Terzaghi Orator is Dr. Suzanne Lacasse. I have talked to Dr. Lacasse and she has accepted my invitation. Please join me on congratulating Dr. Suzanne Lacasse on what we might consider to be the Nobel Prize of Geotechnical Engineering.

ISSMGE Board meeting in Melbourne, Australia: let me start by saying how much the Board has appreciated the outstanding hospitality that we received from Michael Davies, Sam McKenzie, Stephen Tyson, and their team. The Board met for a full day meeting, and here are some of the decisions which may be of most interest to you:

Webinars: as you know, webinars started one year ago and have been offered free of charge. Nevertheless ISSMGE faces expenses associated with the organization and delivery of the webinars (about $20,000/year). The plan was to start charging $200 per computer connected for the webinars to cover the expenses. The Board decided that webinars will continue to be free of charge until September 2013 as a service to our members.

Foundation: Harry Poulos, Chair of the Foundation, visited with the Board. Grants from the Foundation will be reviewed 4 times a year rather than 2 times a year to improve response time and provide more opportunities for applicants.

CAPG: the Corporate Associates Presidential Group is alive and well. Sukumar Pathmanandavel of Coffey in Australia gave a report on the Tasks their group is working on after a recent meeting hosted by Michael Lisyuk, Chair of CAPG, in St Petersburg, Russia. The number of CAs is increasing steadily thanks to the work of many. We welcome two new Corporate Associates: Vibropile and GHD. Please help us continue to grow this underrepresented group in ISSMGE.

Copyright and fairness: the ISSMGE position which is developing is that authors would give to the publisher the permission to publish but would retain the copyrights. Send any comments to Rainer Massarsch in Sweden. More on this later.

ISSMGE President 1030 Days Progress Report (Continued)
Professor J-L. Briaud

Member societies: the application of 2 new member societies were overwhelmingly approved by the Board: Belarus and Bosnia-Herzegovina.

International Seminars: the International Seminar in the South East Asia region was approved.

Next webinar: the topic of the next webinar will be Pile Driving and the presenter will be Frank Rausche. Dr. Rausche is a pioneer in the pile driving business and a prominent authority in that field. The webinar is scheduled for Tuesday 18 September 2012 at 3:00 pm, GMT Summer Time (London, GMT+01:00). As mentioned above, webinars will continue to be free of charge until Sept 2013. To register, go to https://issmge.webex.com/issmge/k2/j.php?ED=12427737&UID=0&HMAC=0ab5aa1d97574d2c1102f78b7299e1edd656df94&RT=MiM3

Awards: don't forget to nominate your worthy colleagues for the ISSMGE Awards. Most nominations must come through your member society. The deadline is 31Aug2012. You can find the details about the awards and the nomination package at http://www.issmge.org/en/issmge-awards. The nomination package needs to be sent to the Secretary General's office atissmge@city.ac.uk. The awards will be presented at the Awards Lunch in Paris at the 18th ICSMGE on 1-5Sept2013.

If you have any issues you wish me to address in my progress report, let me know.

Best wishes to all of you.

Jean-Louis BRIAUD

President of ISSMGE

TECHNICAL ARTICLE

Preliminary Understanding of the Seti River Debris-Flood in Pokhara, Nepal, on May 5th, 2012

— A Report based on a Quick Field Visit Program —

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1. BACKGROUND

First and foremost, this report consists of the details and understanding from a two-day field visit program of a recent high-altitude rock slope failure-induced debris-flood disaster in Nepal as a part of ATC3 activities. ATC3 is one of the technical committees of Asian member societies of ISSMGE, and it concerns geotechnical issues of natural hazards, particularly in the Asian nations. This committee is currently chaired by Ikuo Towhata for a 4-year term, and is primarily working on slope problems. On 16-20 May 2012, one of the committee members, the third author of this report visited the disaster-hit area in Nepal and conducted a quick field survey together with two members of Nepal Geotechnical Society, the first and second authors of this report.

On 5 May 2012 (referred to 1255 hereinafter in this report), one of the most popular tourist destinations of Nepal, the city of Pokhara, witnessed a devastating debris flow in the upstream and a heavy debris-mixed flood in the downstream of Seti River (Fig. 1), also known locally as Seti Khola, which literally means a white river owing to the fact that the river water is usually grayish white. According to the Home Ministry of Nepal, which also looks after the disaster-related issues in the nation, 71 people are believed to have been killed in the disaster, but the confirmed death toll has only remained somewhere at 31 while the rest are still in missing status (Kathmandu Post, 2012). Except for three Ukrainian tourists, this number mainly includes local people, some of whom were picnicking at one of the popular picnic spots in the river upstream (i.e., Kharpani area, Fig. 1), some 20 km north of central Pokhara. This area was also popular for a hot spring, which on the day of the disaster is believed to have attracted more than 30 locals. Various media reported that the international tourists from Ukraine were also on a trekking tour to the hot spring area, which is locally known as Tatopani.

On the 5th May morning, around 8:55AM, a Russian pilot (Capt. Alexander Maximov) of an ultra light aircraft owned and operated by Avia Club Nepal in Pokhara for the purpose of pleasure flights over the Pokhara Valley and Annapurna range of mountains, while flying close to the Mt. Macchapucchre area, witnessed a cloud of dust over the Annapurna Greater Depression (Dahal et al. 2012; Fig. 1), also known in scientific community as Sabche Cirque (Skermer and VanDine, 2005). He seems to have immediately suspected of a massive snow avalanche in the area and to have also decided to inform of the possible danger to the Pokhara Airport control tower. According to a brief interview taken by the authors, Capt. Maximov seems to have first landed at Pokhara airport and then to have flown again to the same area with another passenger, but to witness that the Seti River was full of massive debris flow and flood in the upstream. This led him to communicate with the control tower immediately and inform of a possible disaster in the Pokhara City, which fortunately helped many people escape the disaster in the downstream area. The information provided and its immediate dissemination to public through FM radios and cell phone messages largely helped many people stay alert as well as capture live scenes of the debris flow and flood in their still and video cameras including cell phones, which were and are still available in the internet (i.e., through YouTube, Facebook, and various websites).

SETI RIVER DEBRIS-FLOOD (Continued)

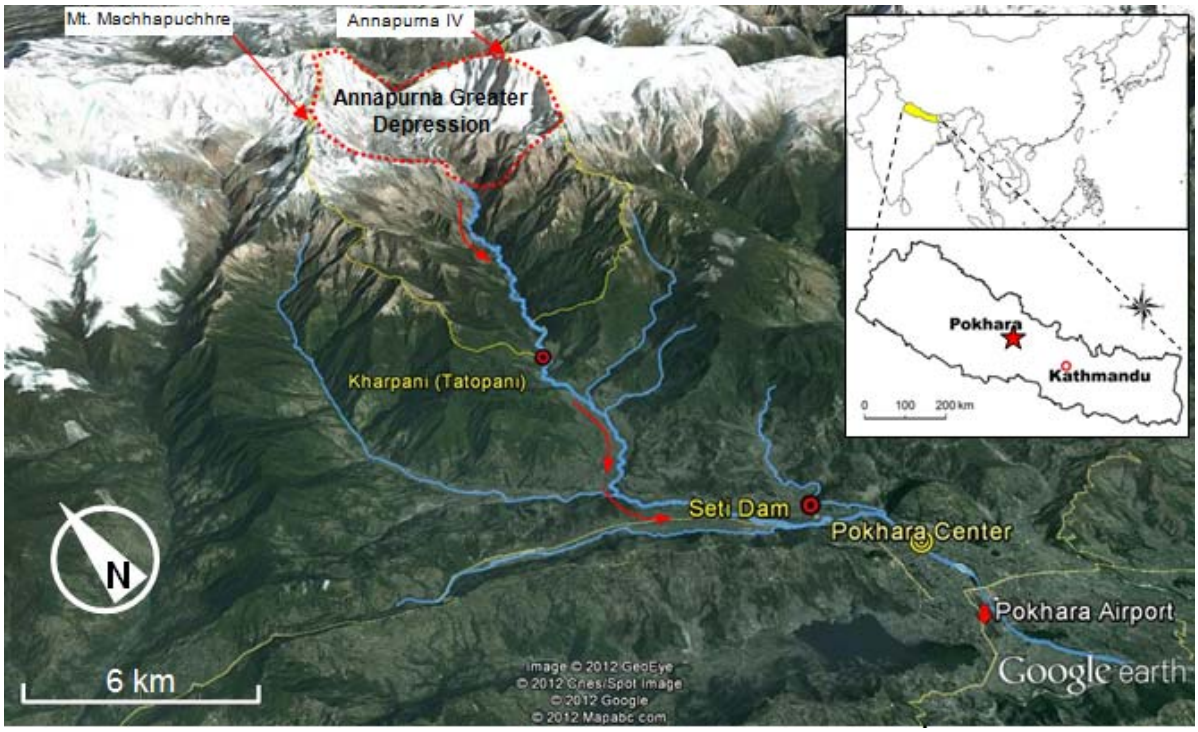

Fig. 1: A bird's eye view of Seti River, Pokhara City, and Annapurna Range (Google earth, Imagery date: 2012.1.29).

Initially believed and largely reported to have been a glacier lake outburst flood (abbreviated and commonly known as GLOF), it was again falsely reported to have been a landslide dam outburst flood (abbreviated as LDOF) (ICIMOD 2012a, 2012b, 2012c) based on speculations and visual confirmation of comparatively fresh landslide failure near the right bank slope of the river at a location close to the river source. The speculations of GLOF were rumored by the public and non-scientific community mainly because the risk of GLOF in recent years, owing particularly to climate change and global warming, has significantly increased with the swelling of glacier lakes in the Nepal Himalaya. Later, ICIMOD (International Center for Integrated Mountain Development) experts clarified that the possibilities of GLOF in this particular region, where there are very few glaciers and most of them do not form glacier lakes, were little (Kathmandu Post, 2012b), which probably led them to speculate the mechanism of landslide dam outburst flood (LDOF) for the debris and flood event witnessed in a completely dry time. Although it is not unusual to see a flood or debris flow in Nepal even in summer and dry periods, according to various reports, Pokhara area has witnessed this kind of debris and flash flood disaster in the Seti River in about 60 years.

As one of the interesting but less understood disaster phenomena, this flash flood event in the Seti River of Pokhara Valley and devastating debris flow in the river upstream has attracted many national and international researchers. Immediately after the disaster, many different speculations were made to understand the real cause. Difficult accessibility and less understood fragility of the mountains in the source area were probably the main reasons behind unconfirmed and only speculated interpretations of the disaster mechanism. So, in order to understand a little more about the damage process and finding out the exact cause of debris flow and flash flood, the authors' team headed for a field survey after two weeks from the disaster day. Efforts are made in this report to present a post-disaster scenario of the major disaster-hit areas and the general findings out of an inspectional field investigation program.

SETI RIVER DEBRIS-FLOOD (Continued)

2. DISASTER AREA OUTLINE

2.1. Human Settlement

Pokhara Valley is situated at the foot of the Annapurna Range of the High Himalayan Mountains (as shown in Fig. 1). The city of Pokhara currently accommodates about 250,000 registered inhabitants (Wikipedia, 2012; as of 2009) and the valley accommodates nearly half a million people (estimated figure), who have primarily settled over terraced deposits of the Seti River transported in the long geological past by glaciers and glacial debris (referred in Skermer and VanDine, 2005). The Seti River flows through almost the middle of the city, and in the heart of the city it narrows down to a few meters of width and several tens of meters of depth in the form of a gorge. If dammed up somewhere in the downstream, the risk of inundation at several locations of the Pokhara City are very high. A 3D view and elevation information of the Pokhara Valley and Seti River watershed are presented in Fig. 2.

2.2. Historical Evidences of Glacial/Debris Material Deposit

Pokhara Valley sits over the gigantic debris fan of a cataclysmic flashflood which geologists say was caused by the Seti River bursting through a landslide or avalanche dam in its headwaters below Annapurna IV about 800 years ago. They have found a soft conglomerate layer on top of granite bedrock behind Machhapuchhre (Fig. 1), which they say is where the rockfall, probably caused by an earthquake, occurred in the 15th century.

As also mentioned above, the geology of the disaster area is characterized basically of terraced glacial debris deposits, which are adequately cemented due to presence of calcium carbonate produced out of calcareous rock mass in the Annapurna mountain range. Because of this cementation, at many locations through the course of the Seti River, especially in the upstream, the river banks measure more than a hundred meters and are terraced in 3-4 layers (Fig. 3).

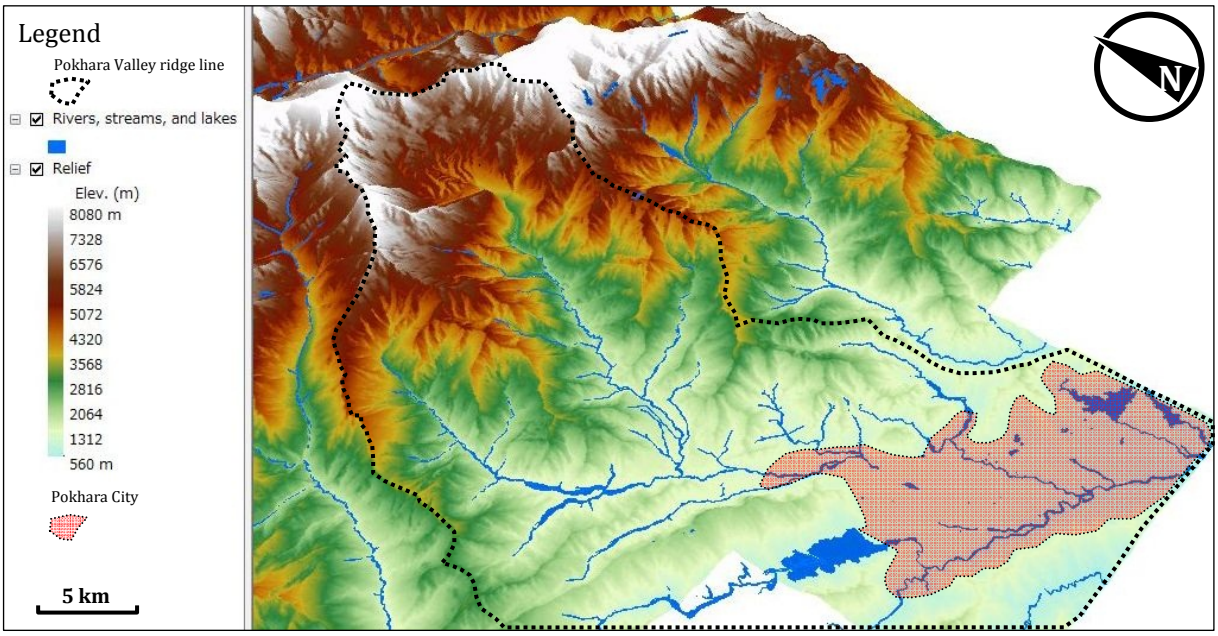

Fig. 2: A 3D view of the Pokhara Valley and Seti River watershed.

SETI RIVER DEBRIS-FLOOD (Continued)

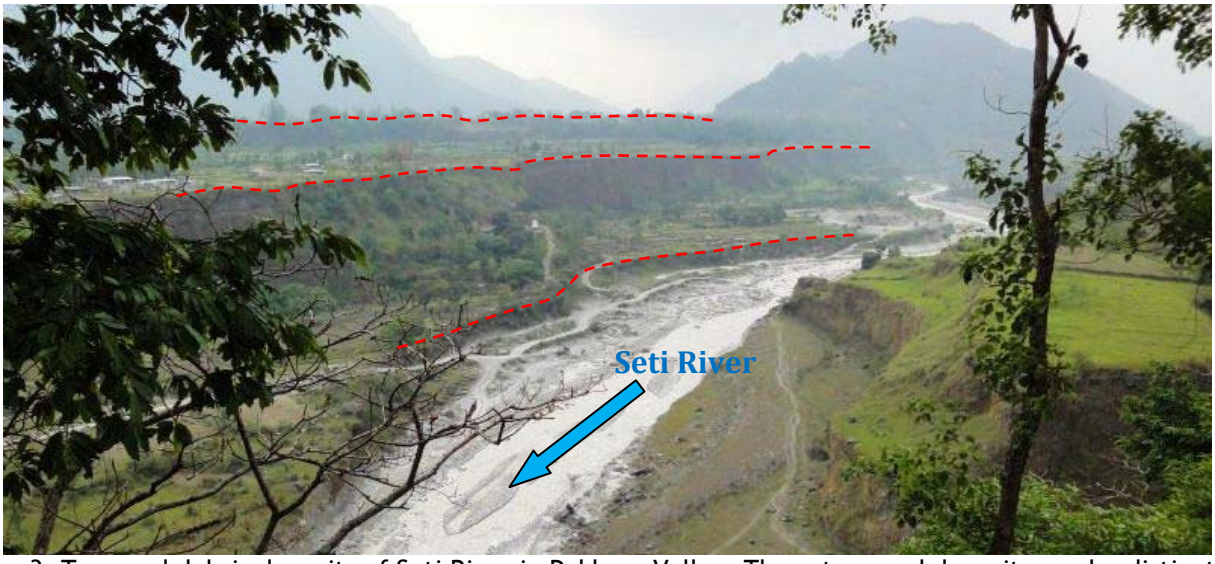

Fig. 3: Terraced debris deposits of Seti River in Pokhara Valley. These terraced deposits can be distinctly seen in the upstream but in fact, the present city of Pokhara also sits over such deposits (The location of this figure is indicated in Fig. 4).

2.3. Main Disaster-hit Areas

According to media reports and the authors' brief communication with the heads of the rescue and rehabilitation teams composed of Nepalese Army and Armed Police Force of Nepal, the main disaster-hit area, in terms of fatal loss as well as infrastructure and property damage, is Kharpani (Tatopani area).

3. DISASTER OUTLINE

Nepal usually suffers from water-induced disasters in monsoon period, which begins in June through September every year. Occasionally, however, these natural phenomena take place in peak summer as well, mainly because of the accelerated melting of the snow cap over the high Himalayan Mountains. This disaster probably has very little relation with the melting of snow and swollen river water. According to Petley and Stark (2012), the sole cause of the debris-flood is more or less confirmed to be rock slope failure (rather rock wedge fall) from an altitude of about 6,700 m on the southwest flank of the Annapurna IV (later discussed in detail in Section 5), which turns into a rock avalanche, probably mixed with the snow, and abruptly surges the Seti River water leading to powerful debris flow in the upstream and flash flood in the downstream.

As also stated in the beginning, the extent of disaster was heavily reduced by the voluntary efforts of Capt. Maximov. Yet, the fatal loss of more than 70, infrastructure and property loss of hundreds of millions of Nepalese Rupees (Note: 87 Rupees is equivalent to 1 US dollar), and higher possibilities of inundation at certain locations in Pokhara City significantly drew the concern of public, government, and national and international experts. Besides the 71 reported human deaths (including 40 unconfirmed deaths), the debris-flood swept away or destroyed 4 houses, 2 local temples, 16 temporarily erected sheds. 2 suspended trail bridges, 7 tractors, 3 mini trucks, and 1 van. Livestock loss including 52 goats and 17 cow and buffaloes was also reported (the data is based on the information provided by the rescue team). As people in the downstream were well informed of possible disaster, there was no fatal loss near the densely populated city area, but on the downstream of Kharpani, the flood swept several temporary sheds. In most occasions, the local people spent much of their time in the river for various purposes, e.g., collecting stones and sand, washing activities, dead body cremation, etc. Had there been no pre-information of the flash flood in the downstream area, the loss could have been unimaginably high. By the time the debris and flood water passed over the Set Dam (Fig. 1), what was flowing in the river visibly was muddy water with tree logs and smaller stone boulders. Most of the bigger rock and stone boulders that

SETI RIVER DEBRIS-FLOOD (Continued)

hit the Kharpani area were probably crushed into smaller pieces or might have stopped rolling in the midway, which led to reduced strength of the debris flood in the downstream. Except for a few people who were reported to have been swept away by the muddy flood water during their efforts to pull the tree logs out for the purpose of firewood or even handmade furniture near the Seti Dam, most people are believed to have been killed at Kharpani area itself. As such, there was very little damage in the downstream area, close to the Pokhara City.

4. FIELD VISIT PROGRAM

We headed for the disaster area on 18 May 2012 for the purpose of preliminary visual inspection of the debris source and disaster-hit areas of Kharpani and downstream locations (as indicated in Fig. 4). On the first day, we went up to Kharpani area, some 20 km upstream from central Pokhara and about 20 km downstream from the Annapurna Greater Depression (or Sabche Cirque), where most human casualties of this disaster are believed to have occurred in the debris mass of depth as much as 30 meters and width about 60 meters that travelled at an estimated speed of about 40 km/h through the section of Kharpani suspended trail bridge (Fig. 5). Also inspected on the same day were three other sections on the downstream: 1) about 1 km downstream from Kharpani, 2) about 8 km downstream from Kharpani, and 3) Seti dam (barrage) site, as indicated in Fig. 6.

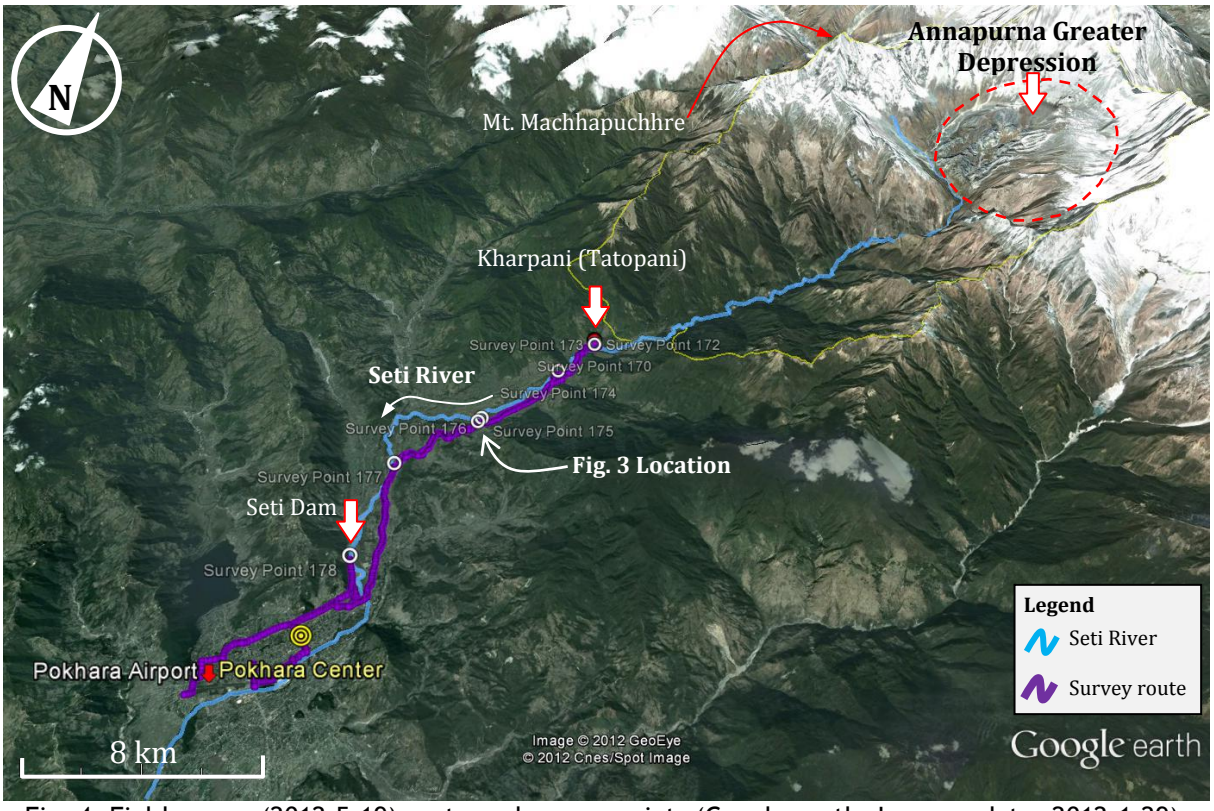

Fig. 4: Field survey (2012.5.19) route and survey points (Google earth, Imagery date: 2012.1.29).

On the second day (i.e., 19 May 2012), we conducted a one-hour aerial survey over the Seti River channel and the debris source area in the western slope of the Annapurna IV using a two-seater ultra light aircraft, which could fly at an altitude of 4,500 m. The flight course is shown in Fig. 7. Circling over the southern part of the Annapurna Greater Depression for about 10 times allowed us to capture some amazing scenes of the Annapurna IV southwest slopes, flow path of the debris-ice avalanche, and unbelievably beautiful sharp-edged ice-capped mountain ranges and pointed peaks of grayish white glacial flour (Fig. 8; the term ‘glacial flour’ has been adopted from Dahal et al. 2012).

SETI RIVER DEBRIS-FLOOD (Continued)

During the aerial survey, we could see no traces of landslide damming (as initially speculated by ICIMOD, 2012a, 2012b, and 2012c) in the upstream, but the gorge near the source (close to the point of confluence, Fig. 8) was so deep that no water could be seen from the sky. It might be possible however that the initial mass of avalanche debris suddenly filled the gorge and surged the water, which was powerful enough to cause the massive debris flow. The time difference between the first scene of the dust clouds over the Annapurna IV southwest slopes and the arrival of the debris flood in Kharpani area is more than evident that no landslide damming and its bursting could be so destructive in merely 40 minutes. According to Capt. Maximov, he first saw the dust clouds around 9:00AM (5 May 2012), and a photo taken by one of the picnicking college boys (Shiva Acharya, as reported by a vernacular national daily of Nepal, the Nagarik Daily; Nagarik 2012) at Tatopani area (Kharpani Area) just a few seconds before the debris flood hit the suspended trail bridge indicates that it was taken at 9:38AM. A simple calculation out of this reveals that the debris flood travelled about 20km (elevation difference: about 1,800m) in about 35 minutes, which is a very justifiable speed of a debris flow (mean gradient: 5 degrees, average speed: 10 m/s).

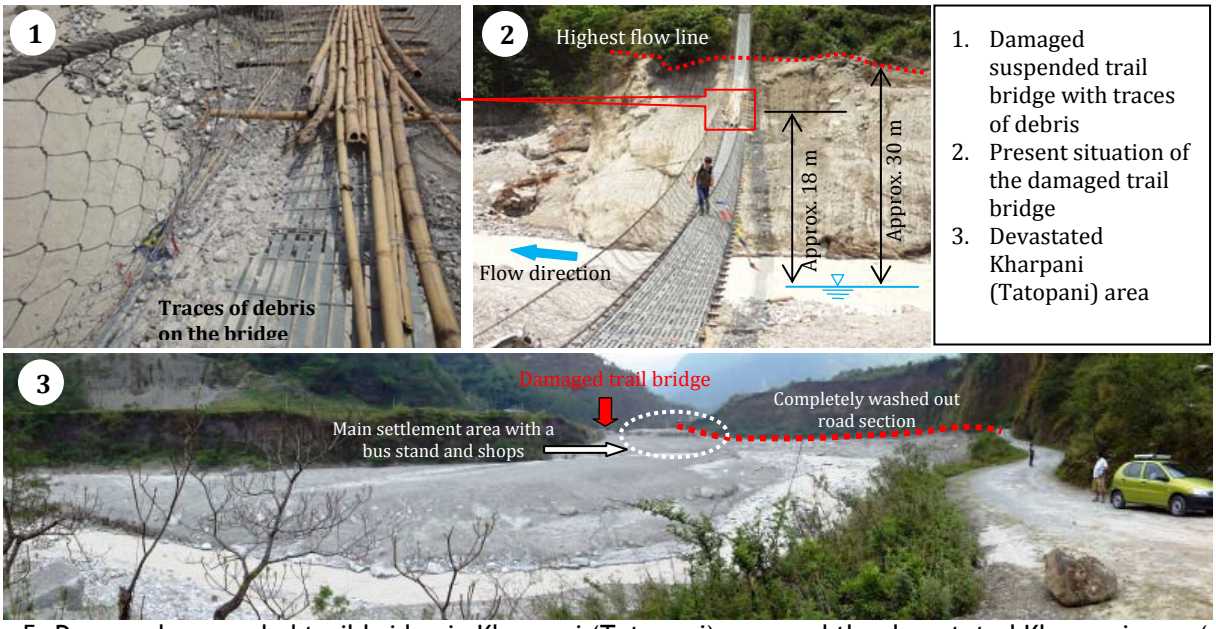

Fig. 5: Damaged suspended trail bridge in Kharpani (Tatopani) area and the devastated Kharpani area (see Fig. 4 for the location).

Fig. 6: Seti Dam area, about 4 km upstream from Pokhara city center (most live videos and photos of the flood freely available in the net were taken at this point). The dam structure has sustained the damage, mainly because at this point the debris was composed of less destructive material such as tree logs and finer particles.

SETI RIVER DEBRIS-FLOOD (Continued)

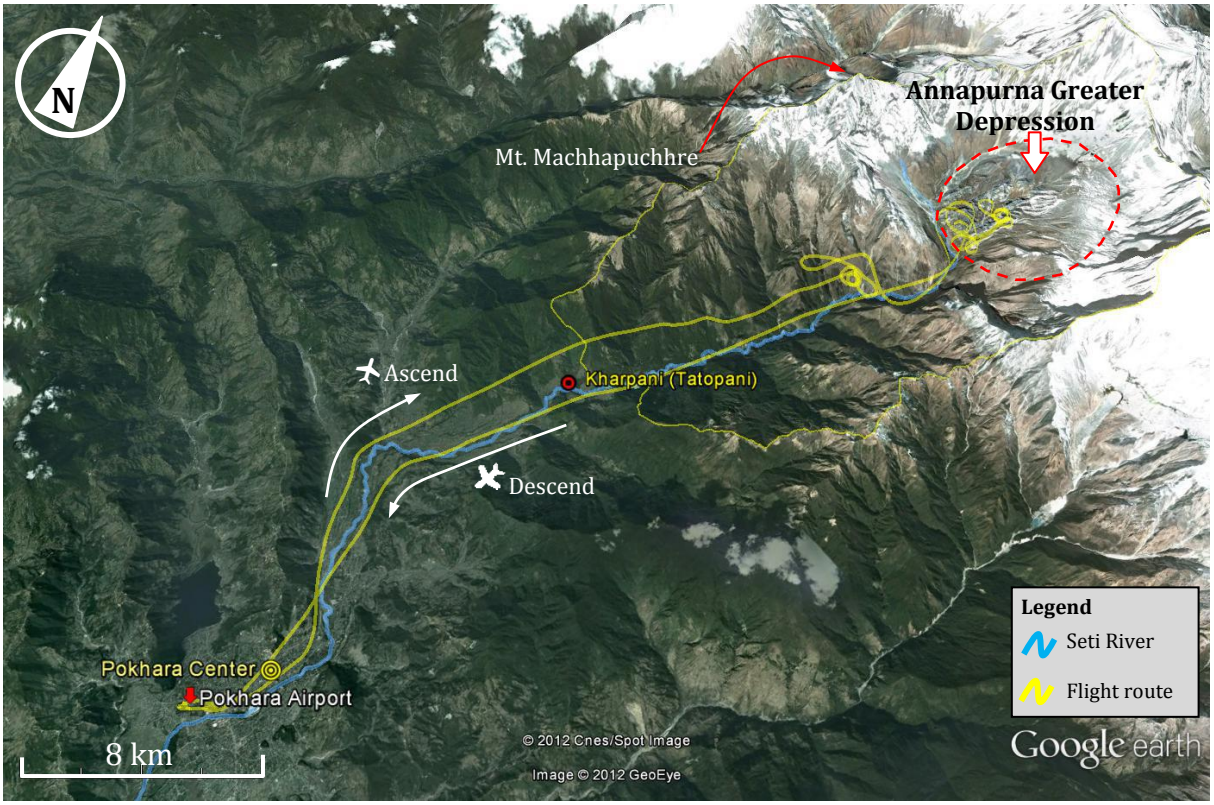

Fig. 7: Aerial survey route (2012.5.19) over the Seti River, up to the source area of Annapurna Greater Depression (Google earth, Imagery date: 2012.1.29).

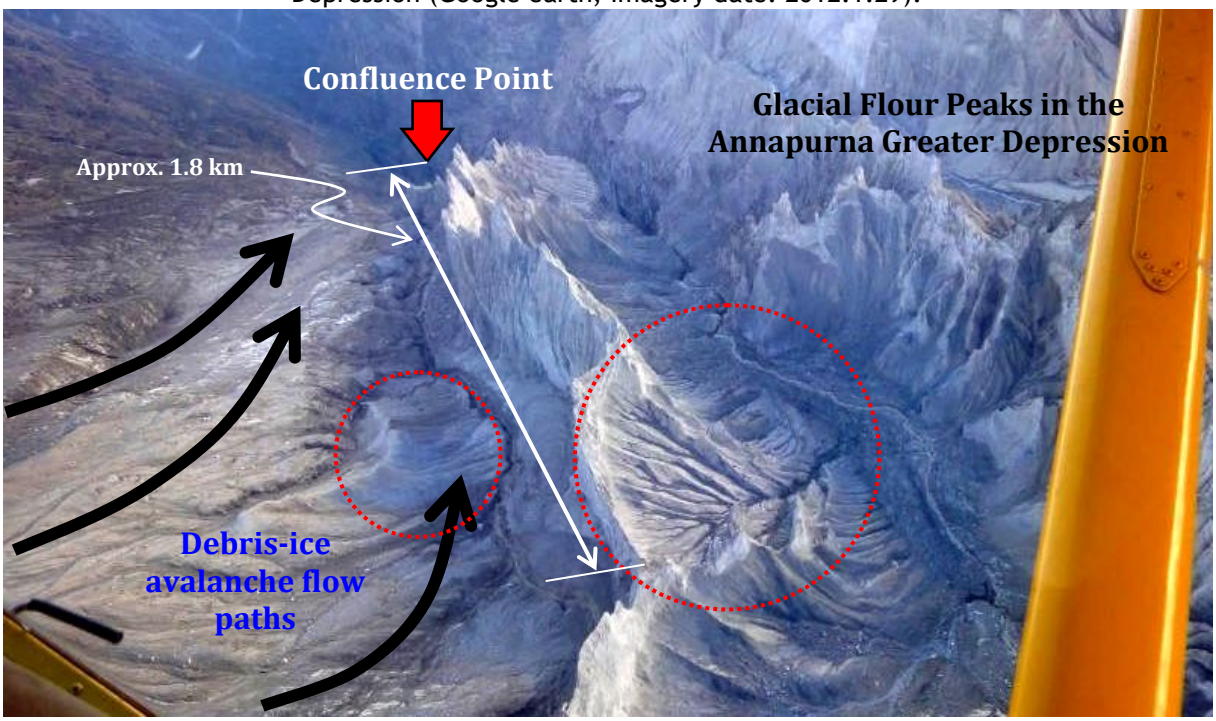

Fig. 8: Sharp-ridged ice-capped glacial flour mountains in the Annapurna Greater Depression and the flow path of the debris-ice avalanche. The big dotted circle shows wet gullies (rather valleys), which evidence that the ice caps (i.e., the whiter mass on the top) over the mountains are melting while the small circle indicates a portion of the frozen debris mass (whiter than the surrounding), which may help speculate that it was not only debris avalanche but also ice/snow mixed avalanche of debris.

SETI RIVER DEBRIS-FLOOD (Continued)

6. SCIENTIFIC ASPECT

Speculations made by various quarters led probably to wrong understanding of the mechanism involved in inducing the debris-flood in preliminary stage, but by tracing back the origin of seismic signals recorded in the global seismic network, Dr. Colin Stark of Columbia University (USA), who was closely working with Dr. David Petley of Durham University (UK), concluded that the seismic signals were generated by a massive landslide near the Annapurna IV (Petley, 2012a). Then, with the help of pre- and post-disaster satellite images Petley and Stark (2012) confirmed that the trigger of the debris-flood was rock slope failure of an estimated volume of 22 million cubic meters in the southwest flank of the Annapurna IV (also available in NASA 2012a; Petley 2012b; Petley 2012c). The Petley and Stark (2012) interpretation that the rock slope failure triggered the debris-flood in Seti River has also been confirmed by us through the comparison of a few pre- and post-disaster photographs taken by ourselves and provided by Avia Club Nepal (Fig. 9). Based on this interpretation, we have illustrated the process from rock slope failure to flow of disintegrated debris mass, probably mixed with ice and snow, into the Seti Gorge at the point of confluence in Fig. 10.

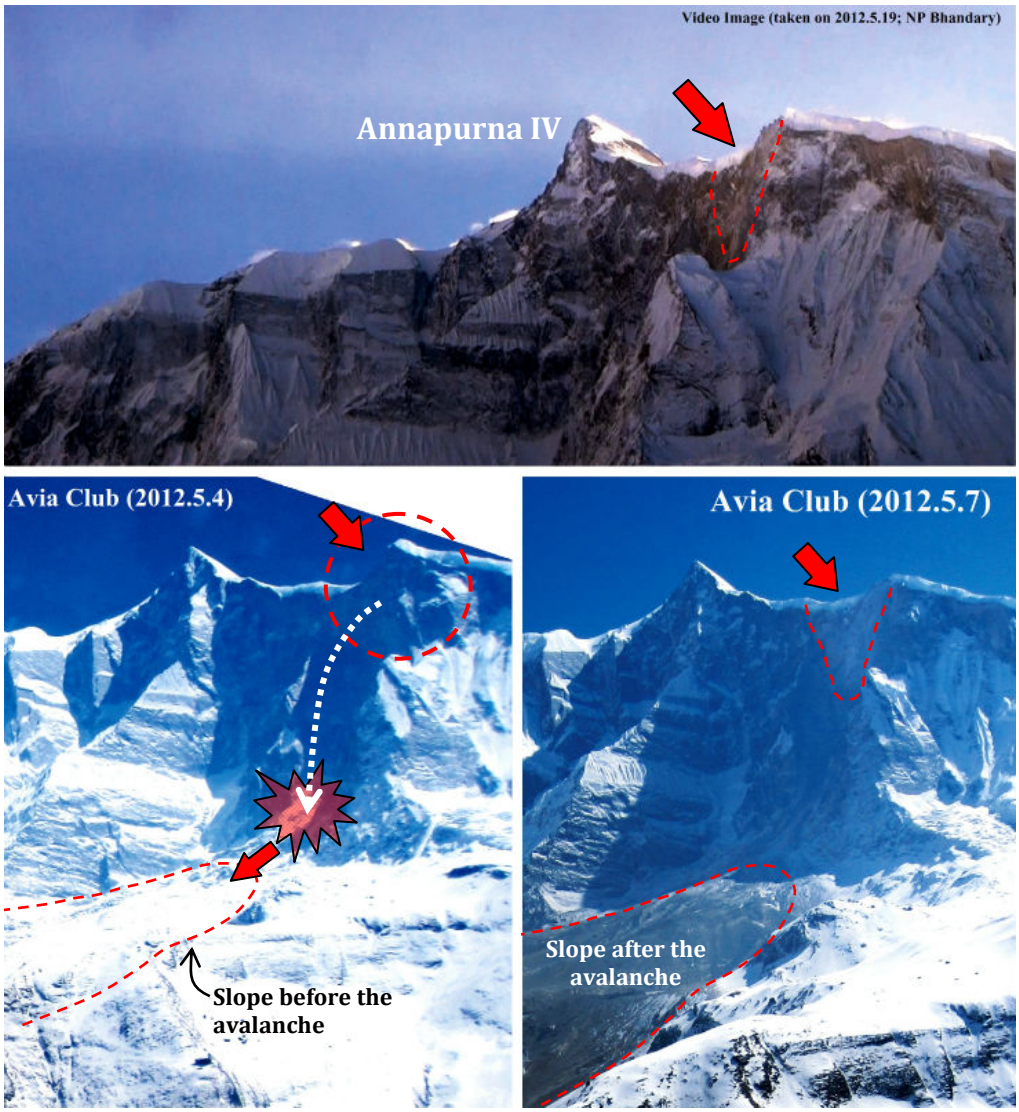

Fig. 9: Comparison of pre- and post-failure states of Annapurna IV southwest flank captured on 4th May, 7th May, and 19th May images. The tip of the ridge seen on 4th May image (circled) is missing on 7th and 19th May images, which was first confirmed by Petley et al. (2012) through satellite images and later confirmed with the help of the Avia Club-provided photo of 7th May.

SETI RIVER DEBRIS-FLOOD (Continued)

Thus, based on the above interpretation, the scientific aspects of the 1255 Seti River disasters can be discussed in three stages: 1) rock slope failure at an altitude of about 6,700 m and its fall off a height of about 1,500 m (Fig. 10), 2) breakage of the failed rock mass into pieces and debris (probably mixed with the snow and ice mass) travel through the Annapurna IV southwest slopes up to the river confluence (see Fig. 8 and Fig. 10), and 3) generation of debris slurry at the confluence point and its flow downstream. In the first process, many different factors may be involved in preparing and inducing the failure, such as contraction and expansion of rock mass due to climate change effects, annual temperature variations, stress release due to reduction in snow/ice cover, tectonic activities and resulting uplift of the rock mass, expansion of ice mass in the rock mass joints, external forces of frequent imperceptible earthquakes and amplitude excitation at higher altitudes, etc. The second process can also be explained from impact energy principle. The extensive potential energy of the failed rock mass over a height of about 1,500 meters could have been unimaginably high to break the failed rock wedge, which might have been partly disintegrated due to the factors listed in the first process, into pieces or even to pulverize it. As the southwest slopes of the Annapurna IV (see Fig. 10), where the failed rock mass is supposed to have disintegrated into pieces producing a large amount of dust clouds, have an average gradient of about 18 degrees, the debris mass with boulders as big as several meters of effective diameter might have slid or rolled over thick ice mass or even over the glaciers at a very high speed. Chances are also high that the ice/snow cover on the slope also failed in the form of a debris-ice avalanche, and due to great frictional heat produced because of the debris movement, the ice or snow mass might have melted in a very short time leading to even accelerated movement of the debris towards the point of confluence (Fig. 8 and Fig. 10). A few things in the second process remain unconfirmed, but more or less through the image analysis, the failed rock mass has been confirmed to have traveled from the point of impact to the point of confluence by ordinary mechanism of material movement over a mountain slope although the mechanism of abrupt disintegration or pulverization of the failed rock mass needs to be addressed more scientifically.

The third process however still remains unclear, mainly because the amount of water that flowed in Seti on the day of disaster was so high that the ordinary flow, which was roughly estimated by the authors to be around 10 m^3/s on 18 May 2012 at Kharpani area and it could have been even less in the upstream on 5 May 2012, cannot be expected to turn into a flood unless and until the flow is dammed up for several days or weeks. The time difference of only about 38 minutes from the first witness of the dust clouds over Annapurna IV southwest slopes and arrival of the debris-flood at Kharpani (a distance of about 25 km), as already mentioned, confirms that the river water was probably never dammed up. The only speculations that could be made for this particular process may be: 1) the debris avalanche turned into a debris-ice avalanche and in the process of flow, the whole ice/snow mass over the Annapurna IV southwest slopes melted due to frictional heat by the time the avalanche arrived at the point of confluence or after falling into the gorge bottom at this point (authors' speculation), or 2) near the point of confluence, there are hidden huge pockets of water, which might have been broken by the debris mass (speculated by Shrestha et al., 2012a, 2012b), or 3) there was a large hidden lake beneath the point of confluence or a little below this point, which was suddenly filled out by the debris leading to surged water (somewhat similar to Shrestha et al. 2012a, but speculated by the authors), or 4) a mixed process of the above three speculations. We hope our future investigation programs will reveal further the mechanism behind the above three processes of the Seti River debris-flood disasters.

SETI RIVER DEBRIS-FLOOD (Continued)

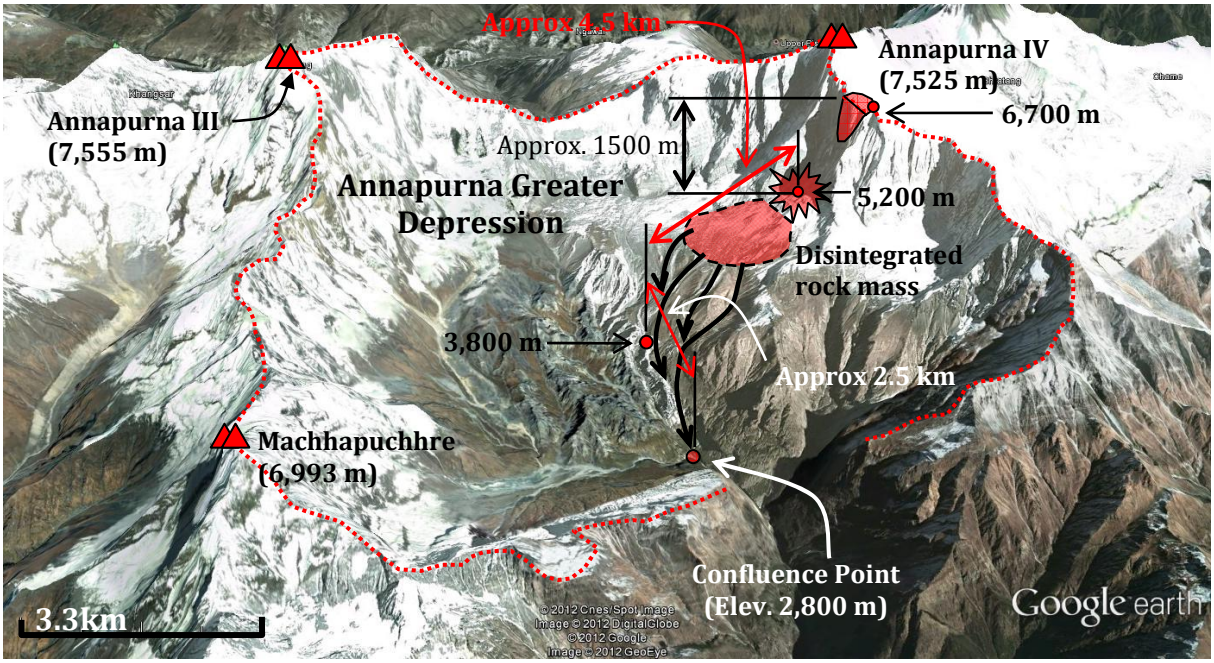

Fig. 10: Illustrated rock slope failure in the southwest flank of Annapurna IV including approximate fall height and distances traveled until the failed and disintegrated or probably pulverized rock mass entered the Seti gorge at the point of confluence. (Google earth, Imagery date: 2011.12.30).

7. CONCLUDING REMARKS

Based on the visual survey we conducted and on available pre- and post-disaster images and reports, we have also confirmed that the debris-flood in the Seti River was triggered by the high-altitude massive rock slope failure. However, we still largely speculate that it was debris-ice avalanche generated out of the failed rock mass at the southwest flank of the Annapurna IV, which caused the debris-flood in the Seti River. The mechanisms involved in this type of debris flow and flash flood have certainly drawn a great interest of scientific community, not only for the purpose of understanding the disaster mechanism and mitigating future losses in similar hazardous zones in Nepal and the Himalaya, but also as a science involved in one of the amazing natural processes in the High Himalayas.

Global warming and climate change have also been time and again talked of to have extended significant impact on the melting rate of snow cover and glaciers on the Himalayan Mountains leading to largely swollen volumes of glacier lakes. Although the cause of this particular disaster event may not be directly attributed to climate change effects, the process of rock slope failure, probable melting of the snow/ice on the slope or its immediate transformation into snow/ice avalanche triggered by the rock mass failure, or accelerated melting of the debris-ice mix may be somehow related to the gradual effect of climate change on the Himalaya.

Moreover, the effects of climate change on the Himalaya in the last 10-15 years have been only talked of in terms of the risk of glacier lake outburst floods (GLOF). This particular disaster however has alarmed us of many similar disasters in future. It may not only happen in Pokhara, but many other areas in Nepal Himalaya may also be prone to witnessing a similar disaster in future. This largely necessitates some urgent plan to assess similar hazards in Nepal as well as the Himalaya. Furthermore, to mitigate potential disaster risk in Pokhara as well as other identified places, some early warning mechanism must be established. Particularly in Pokhara which feeds Nepal through its significant contribution in tourism sector a debris-flood disaster early warning system is of immediate need.

SETI RIVER DEBRIS-FLOOD (Continued)

ACKNOWLEDGEMENTS

First of all, the cooperation received from ATC3 Chairman Prof. Ikuo Towhata of the University of Tokyo for making this investigation program a part of the ATC3 activities is sincerely acknowledged. President of Nepal Geotechnical Society Mr. Tuk Lal Adhikari also helped in making it a joint effort of with the ATC3 and provided some preliminary information to the authors. Avia Club Nepal Manager Mr. Pravin Gauchan fully cooperated with the authors during the negotiations for the aerial survey, and Capt. Alexander Maximov and Capt. Stephen Shrestha made all their great efforts to show the authors the Annapurna Greater Depression, the Seti River source, and the avalanche origin, Rescue Team of the Nepalese Army and Armed Police Force of Nepal is also appreciated for explaining to the authors the devastated situation of the Kharpani area.

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OBITUARY

ROBERT V. WHITMAN *1928-2012*

ROBERT V. WHITMAN, Professor Emeritus of Civil and Environmental Engineering at the Massachusetts Institute of Technology (MIT), died of Parkinson's disease on February 25, 2012, at his home in Lexington, Massachusetts at age 84. He was world-renowned for his expertise and leadership in soil dynamics and geotechnical earthquake engineering, as an engineering educator, and for his dedication to public service.

Bob Whitman was born of academic parents on February 2, 1928, and raised in a small town near Pittsburgh, PA. After earning a BS degree (1948) in civil engineering from Swarthmore College, Bob attended MIT for his graduate studies in civil engineering, first in hydraulics and structural engineering (SM 1949), completing his doctorate (ScD) in structural dynamics in 1951. He joined Professor Donald Taylor's geotechnical group as a Research Associate/Engineer and was appointed as an Assistant Professor of Civil Engineering in 1953. Apart from two years serving as an officer in the US Navy Civil Engineer Corps (1954-1956), Bob remained on the MIT faculty for the next 40 years, retiring as Professor Emeritus in 1993.

Whitman's initial work with Taylor dealt with the effects of nuclear blasts on underground structures and marked the beginning of an illustrious career in the new discipline of soil dynamics. This included service on Air Force advisory panels for the design of hardened missile complexes and stable foundations for long-range radar stations. His research then expanded to the general problem of designing foundations with vibrating loads. Two ASCE papers co-authored with the late F.E. (Bill) Richart, Jr. in 1967, which treated the problem as a dynamically-loaded rigid disk resting upon an elastic half-space, represented a fundamental breakthrough in the understanding of foundation dynamics. Bob became one of the pioneers and leading experts in the area and generations of MIT students benefited from extensive drafts of his book on soil dynamics.

The devastating 1964 earthquakes in Alaska and Niigata, Japan, stimulated research on the effects of ground shaking on soil liquefaction and the associated damage to buildings and related infrastructure. Bob's initial technical contributions to this new discipline of geotechnical earthquake engineering included developing the analytical method that was adopted for the well known and still widely used Newmark "sliding-block analysis" to estimate the movement of earth slopes during earthquakes. He then went on to: independently develop a method similar to the "Seed-Idriss Simplified Procedure" to predict the potential for soil liquefaction based on using in situ tests for assessing the sand's resistance to shaking; draw the first national earthquake hazard maps utilizing probabilistic predictions developed by the U.S. Geological Survey (USGS); and draft the 1985 National Research Council (NRC) report *Liquefaction of Soils During Earthquakes* that still serves as a general guide for earthquake liquefaction analyses. Bob also served for five years as chair of ASCE's Technical Council on Lifeline Earthquake Engineering and received its C. Martin Duke Award (1992).

During Whitman's transition period between soil dynamics and earthquake engineering, he co-authored with MIT colleague Professor T. William (Bill) Lambe the classic textbook *Soil Mechanics* (1969). It had a unique organization developed by Bob with three principal parts treating: dry soil, wet soil with steady state flow, and wet soil with transient flow (e.g., consolidation). Of Bob's many accomplishments, he was "probably proudest of that book", which many believe provides even today the best reference for teaching and learning the fundamental principles of soil mechanics.

Bob pioneered the application of probability-based risk analyses to earthquake engineering by considering the uncertainties in both the occurrence and magnitude of earthquakes and in the resulting damage as a function of building type and local soil conditions. This approach was initiated in cooperation with Bob's MIT colleague, the late C. Allin Cornell, who had unique expertise in using stochastic models to represent earthquake loadings on and damage to buildings. Together, they developed "damage probability matrices" that ingeniously integrated the likelihood of occurrence of seismic events and the resulting levels of damage to different types of buildings. This new seismic-design decision-analysis framework enabled rational risk assessments to mitigate the damage. This approach formed the basis for new seismic provisions in building codes, the first outside California being the 1975 Massachusetts code headed by Bob,

OBITUARY (Continued)

and eventually led to the current probability-based design practice. Awards recognizing this work include Bob's election to the National Academy of Engineering in 1975. Bob was one of the brightest stars in the Earthquake Engineering Research Institute (EERI), which was established in 1948 by the late George W. Housner and several others to promote earthquake engineering and now has some 3000 members. He was the only person, other than Housner, to have been EERI's President (1985-87), Distinguished Lecturer (1994), Honorary Member (1997) and Housner Medal recipient (2010). Bob used his term as President to further promote a *nationally applicable*, standardized methodology for estimating losses from earthquakes because prior work had been largely confined to California. He chaired the NRC panel that prepared the 1989 report *Estimating Losses from Future Earthquakes*, which laid the groundwork for the new loss methodology structure. Bob then led the committee that oversaw the development of the computer-based software program called HAZUS Earthquake. This program, funded by U.S. Federal Emergency Management Agency (FEMA), was intended to guide governmental agencies in both earthquake mitigation (i.e., seismic provisions in building codes) and in disaster response planning, but was soon also adopted in engineering practice. The program calculates the seismic hazard, evaluates the likely damage to buildings and other infrastructure facilities, and estimates both direct and indirect losses resulting from this damage. Bob's technical and policy contributions played a key role in developing HAZUS, which has now been expanded by FEMA to also include floods and hurricanes.

Bob Whitman made numerous other significant contributions to geotechnical engineering including development of one of the first computer programs for slope stability analyses; pioneering the application of probabilistic concepts for risk analysis in geotechnical engineering (Karl Terzaghi Lecture, 1981); and leadership in establishing centrifuge testing facilities in the U.S. for geotechnical research. His other honors included: the ASCE Karl Terzaghi Award (1987) for contributions to geotechnical engineering, the ASCE Croes Medal (1994) recognizing an outstanding paper from all civil engineering disciplines, and the ASCE Seed Medal (2007) for contributions to geotechnical earthquake engineering; and an Honorary Doctorate from his alma mater, Swarthmore College (1990).

Bob Whitman was widely admired for his leadership and commitment to public service. His brilliant analytical and insightful mind enabled him to identify key issues, express them clearly and then present viable solutions to problems ranging from the highly technical to largely political. Bob's leadership at the national level included over 40 years of near-continuous service on committees, advisory boards and panels-workshops for numerous high level governmental, research and defense agencies, in addition to the EERI and ASCE roles cited above. At MIT, he served as head of the geotechnical and structural groups and was well known for his role as parliamentarian at Institute faculty meetings, especially during the Vietnam War-era student uprisings. And for his hometown of Lexington, MA, Bob spent countless evenings over four decades as an elected member of the annual Town Meetings and as Chairman of either the Zoning Board of Appeals or the Permanent Building Committee. When once asked why he engaged in so many activities, Bob replied: "they were interesting challenges and I couldn't stay away from them".

Bob was also a very modest and private individual. Few knew the full extent of his activities and contributions. However, the faculty and alumni fondly remember Bob and Betsy Whitman's gracious hospitality and warmth in hosting annual parties for the geotechnical group and their generosity in welcoming new students to share holiday meals.

In addition to his wife of 57 years, Elizabeth (Betsy) née Cushman, Bob is survived by two daughters, Jill and Gwen, and four grandchildren.

This obituary was edited for ISSMGE from an original prepared by Charles C. Ladd for the U.S. National Academy of Engineering.

Andrew J. Whittle
Cambridge, Mass.
August 2012

NEWS
2012 SHAMSHER PRAKASH RESEARCH AWARD WINNERS

2012 SHAMSHER PRAKASH RESEARCH AWARD has been won by:

1) Ioannis Anastasopoulos, Assistant Professor, Civil Engineering at the National Technical University of Athens (NTUA).

Ioannis Anastasopoulos has recently been elected Assistant Professor in the School of Civil Engineering at the National Technical University of Athens (NTUA). His research spans many areas of geotechnical earthquake engineering with emphasis on soil–structure interaction. Combining numerical analysis with physical modeling, he has published 45 Journal papers and more than 100 in Books and Conference Proceedings, and has been the driving force behind the development of a new Experimental Facility for Simulation of Soil-Structure Systems at NTUA. He has participated in several European research projects, and served as a Consultant in a variety of engineering projects in Greece, the US, U.A.E., and Qatar. Recently, he was selected by the ISSMGE as the inaugural recipient of the Young Researcher Award in Geotechnical Earthquake Engineering.

Journal publications:

Anastasopoulos, I., Kourkoulis, R., Gelagoti, F. and Papadopoulos, E. (2012) Metaplastic Rocking Response of SDOF Systems on Shallow Improved Sand: an Experimental Study, *Soil Dynamics and Earthquake Engineering*, Vol. 40, pp. 15–33.

Anastasopoulos, I., Gazetas, G., Loli, M., Apostolou, M. and Gerolymos, N. (2010) Soil Failure can be used for Earthquake Protection of Structures, *Bulletin of Earthquake Engineering*, Vol. 8, No. 2, pp. 309–326.

Anastasopoulos, I., Gazetas, G., Bransby, M.F., Davies, M.C.R. and El Nahas, A. (2009) Normal Fault Rupture Interaction with Strip Foundations, *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 135, No. 3, pp. 359–370.

2) Dominic Assimaki, Associate Professor, School of Civil and Environmental Engineering, Georgia Institute of Technology.

Dr. Dominic Assimaki's research focuses on the numerical simulation of nonlinear soil response to seismic loading, on dynamic soil-structure interaction, and on inverse problems in near-surface geophysics. Research results include the development of novel simulation tools for 1D nonlinear site response analyses and their integration in broadband ground motion simulations, studies on 2D and 3D topography effects including nonlinear soil response, formulation of macroelements for soil-structure interaction at liquefiable sites implemented for the design of waterfront structures and offshore wind foundations, as well as linear and nonlinear soil characterization algorithms based on full waveform inversion of downhole array recordings. **(This chapter was reproduced from Prof. Shamsher Prakash's announcement.)**

Journal publications:

Varun, V. and Assimaki, D. (2012) A Generalized Hysteresis Model for Biaxial Response of Pile Foundations in Cohesionless Soils, Soil Dynamics and Earthquake Engineering, Vol. 32, No. 1, pp. 56-70.

Assimaki, D. and Li, W. (2012) Site- and ground motion-dependent nonlinear effects in seismological model predictions, Soil Dynamics and Earthquake Engineering, Vol. 32, No.1,pp. 143-151.

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NEWS

CANDIDATE FOR 2012 SHAMSHER PRAKASH ANNUAL PRIZE FOR EXCELLENCE IN TEACHING OF GEOTECHNICAL ENGINEERING

The Shamsher Prakash Foundation solicits nomination (no application) for the "2012 SHAMSHER PRAKASH PRIZE FOR EXCELLENCE IN TEACHING OF GEOTECHNICAL ENGINEERING" for young teachers (less than 40 years old). Nominations are invited so as to reach the Honorary Secretary on or before **October 31, 2012**. The candidate's area of expertise should be Geotechnical Engineering and/or Geotechnical Earthquake Engineering. The candidate must have significant record of teaching excellence and show promise of continued excellence. The Prize consists of US $1100.00 and a plaque. The nominations may be made on plain paper. The age may be relaxed in exceptional cases at the discretion of the judging committee.

All nominations will be reviewed by a Judging Committee of International Experts from Canada, India, Japan, Ireland, UK, and the United States. The award will be announced by December 31, 2012. Suitable arrangements will be made for awarding the Prize at an appropriate ceremony in the country of residence of the winner.

PARTICULARS FOR NOMINATION

Please send a complete nomination package in PDF format to the Foundation electronically and 1 CD-R by mail. The following information must be included in the order listed below:
NOTE: Since teaching excellence can be demonstrated in many different ways, the nominator and referees are requested to clearly state the criteria they used to justify their nominee's teaching excellence.

1. Name of the Candidate with complete mailing address, phone number, fax number, E-mail address, date of birth, and age as of December 31, 2012
2. Nomination letter including a statement of 500 words outlining Significant Contributions towards Excellence in Teaching. (SEE NOTE ABOVE)
3. Two to Four more letters of recommendation (SEE NOTE ABOVE)
4. Chronology of education received
5. Chronology of jobs held
6. Area of specialization
7. List of refereed publications and grants related to teaching
8. One color digital photo (at least 300 dpi) with citation for listing
9. Any other relevant information.

Please make sure to put all the above information in a single PDF file of size less than 5MB.

For any other further information, please contact: Professor Shamsher Prakash (email: prakash@mst.edu).

NEWS ON RECENT CONFERENCE

SECOND INTERNATIONAL CONFERENCE ON PERFORMANCE-BASED DESIGN IN EARTHQUAKE GEOTECHNICAL ENGINEERING

This conference was held in Taormina, on the 28th, 29th and 30th of May 2012, in a fantastic monastery environment of the San Domenico Hotel in Taormina of Sicily, Italy (Photos 1, 2 and 3). This conference was organized by Prof. Michele Maugeri under the auspices of ISSMGE, TC203 on Geotechnical Earthquake Engineering and Associated Problems (Prof. Kyriaziz Pitilakis as the chairman), and AGI (Italian Geotechnical Association).

Following the footsteps of the most successful PBD Conference held in Tokyo in 2009 and the 5th International Conference in Geotechnical Earthquake Engineering held in Santiago (Chile) in 2010, the Taormina PBD 2012 Conference offered an ideal forum to present and discuss the most recent advances and progresses in Geotechnical Earthquake Engineering and in particular in the Performance Based Design. The Conference was organized around 5 State-of-the-Art, 21 Keynote Lectures, 4 Invited Lectures given by distinguished international experts and 100 presented papers on different topics over 141 selected ones; 3 Special Sessions were devoted to the mega Tohoku 2011 earthquake in Japan, and the two large devastating earthquakes in New Zealand (2011) and the Abruzzo 2009 earthquake in Italy (totally 14 speakers). Furthermore, one Workshop was organized on RRTT, Round Robin Tunnel Centrifuge Test (totally 6 speakers) and one Symposium in honour of Prof. S. Prakash (totally 5 speakers). Finally, a replication of Rankine Lecture was delivered by Prof. Malcom Bolton (University of Cambridge, UK) on the Performance-Based Design on Geotechnical Earthquake Engineering.

Totally, there were 155 speakers and 365 authors came from 29 countries. As concerns the SOA and the Keynote Lectures, the 26 speakers were: 7 from USA, 6 from Japan, 6 from Italy, 4 from Greece, 1 from Turkey, France and Chile.

The number of participants of the conference was in total 235, coming from 32 countries. Apart from the hosting country Italy (93 delegates), the most numerous participants came from Japan (26), together with Greece (21), USA (16), U.K. (10), Turkey (8), Canada (7), Germany (7), Portugal (5), India (4) and New Zealand (4).

The conference was opened with the addresses by prof. Pedro Seco e Pinto (on behalf of the President of ISSMGE), Prof. Kyriazis Pitilakis (Chairman of the Conference Scientific Committee), Prof. Michele Maugeri (Chairman of the Conference Organizing Committee), and Prof. Stefano Aversa (President of AGI, Italian Geotechnical Society).

The State-of-Art Lecturers were: K. Ishihara (Chuo University, Tokyo, Japan), M. Jamiolkowski (Politecnico of Torino, Italy), G. M. Calvi (University of Pavia and EUCENTRE, Pavia, Italy), G. Gazetas (National Technical University of Athens, Greece), and K. Pitilakis (Aristotle University of Thessaloniki, Greece).

Photo 1 Main entrance of the conference venue


Photo 2 Technical exhibition in patio

NEWS ON RECENT CONFERENCE (Continued)

The Keynote Lecturers were: A. Ansal (Boğaziçi University, Turkey), A. Anastasiadis (Aristotle University of Thessaloniki, Greece), K. H. Stokoe (University of Texas, USA), T. Kokusho (Chuo University, Tokyo, Japan), S. Foti (Politecnico of Torino, Italy), S. Kramer (University of Washington, USA), A. Elgamal (University of California, San Diego, USA), R. W. Boulanger (University of California, Davis, USA), J. Bray (University of California, Berkeley), E. Rathje (University of Texas, Austin, USA), I. Towhata (University of Tokyo, Japan), C. Di Prisco (Politecnico di Milano, Italy), K, Tokimatsu (Tokyo Institute of Technology, Japan), S. Yasuda (Tokyo Denki University, Japan), G. Bouckovalas (National Technical University of Athens), R. Paolucci (Politecnico of Milano, Italy, on behalf of A. Pecker), E. Cascone (University of Messina, Italy, on behalf of M. Maugeri), Y. Miyata (National Defense Academy of Japan), E. Kavazanjian (Arizona State University, USA), S. Rampello (University La Sapienza, Rome, Italy). R. Saragoni (University of Chile) was not available to present orally his keynote lecture.

Photo 3 Ongoing session in the main hall

Photo 4 Malcom Bolton, Rankine lecturer 2012, and Michele Maugeri, the conference organizer

NEWS ON RECENT CONFERENCE (Continued)

Detailed information on sessions is provided in the table shown below. Moreover, the participants were able to learn about experiences and lessons obtained from recent two big earthquakes in Japan and New Zealand. One more session was devoted to respect the long contribution of Prof. Shamsher Prakash to this field of study.

Session No.	Chair persons	Topic
1	Chairman: A. Ansal (Boğaziçi University, Turkey) Co-Chairman: A. Anastasiadis (Aristotle University of Thessaloniki, Greece)	Case histories on ground motion and site effects
2	Chairman: K. H. Stokoe (University of Texas, USA) Co-Chairman: S. Foti (Politecnico of Torino, Italy)	Soil investigation with field and laboratory testing
3	Chairman: M. Cubrinovski (University of Canterbury, New Zealand) Co-Chairman: S. Lanzo (University La Sapienza, Rome, Italy)	Dynamic characterization and modelling
4	Chairman: S. Kramer (University of Washington, USA) Co-Chairman: D. Chodhury (Indian Institute of Technology, India)	Methodologies for performance-based design and codes
5	Chairman: J. Koseki (University of Tokyo, Japan) Co-Chairman: F. Silvestri (University Federico II of Napoli, Italy)	Physical modelling by shaking table tests and centrifuge tests
6	Chairman: R. W. Boulanger (University of California, Davis, USA) Co-Chairman: S. Yasuda (Tokyo Denki University, Japan)	Liquefaction
7	Chairman: A. Elgamal (University of California, San Diego, USA) Co-Chairman: C. Vrettos (Technical University of Kaiserslautern, Germany)	Numerical analyses for performance-based design
8	Chairperson: E. Rathje (University of Texas, Austin, USA) Co-Chairman: S. Rampello (University La Sapienza, Rome, Italy)	Slopes
9	Chairman: P. Seco e Pinto (University of Coimbra, Portugal) Co-Chairman: I. Towhata (University of Tokyo, Japan)	Embankments, landfills and dams
10	Chairman: G. Gazetas (National Technical University of Athens, Greece) Co-Chairman: R. Paolucci (Politecnico of Milano, Italy)	Shallow foundations and invited Lecture by A. Papadimitriou (University of Thessaly, Greece)
11	Chairman: W. D. L. Finn (University of British Columbia, USA) Co-Chairman: A. L. Simonelli (University of Sannio, Italy)	Pile foundations and invited lecture by G. Mylonakis (University of Patras, Greece)
12	Chairman: M. Maugeri (University of Catania, Italy) Co-Chairman: A. Papadimitriou (University of Thessaly, Greece)	Retaining wall and wharf structures
13	Chairman: S. Prakash (University of Missouri, Rolla, USA) Co-Chairman: E. Cascone (University of Messina, Italy)	Retaining wall and wharf structures
14	Chairman: D. Cazzuffi (CESI, Italy) Co-Chairman: P. Carrubba (University of Padova, Italy)	Earth reinforced retaining wall and invited lecture by J. Koseki (University of Tokyo, Japan)
15	Chairman: K. Pitilakis (Aristotle University of Thessaloniki, Greece) Co-Chairman: F. Silvestri (University Federico II, Napoli, Italy)	Underground structures
Special session	Replication of the Rankine Lecture	Delivered by Prof. Malcom Bolton (Cambridge University, UK) (Photo 4)

Reported by
Francesco Castelli (General Secretary of the Organizing Committee),
Michele Maugeri (Chairman of the Organizing Committee), and
Ikuo Towhata (Chief Editor of ISSMGE Bulletin)

Event Diary

Please refer to the specific conference website for full details and latest information.

2012

22nd European Young Geotechnical Engineers Conference 2012
Date: 26 - 29 August 2012
Location: Chalmers Univ of Technology , Gothenburg, Sweden
Language: English
Organizer: Swedish Geotechnical Society
• Contact person: Victoria Svahn
• Address: Swedish Geotechnical Institute
412 96 Gothenburg
Sweden
• Phone: 46-31-7786568
• E-mail: eygec2012@sgf.net
Website: www.sgf.net

6ICSE - 6th International Conference on Scour and Erosion
Date: 28 - 31 August 2012
Location: Ecole des Arts et Métiers, Paris, France
Language:
Organizer:
• Contact person: contact@icse6-2012.com
Website: www.icse-6.com

Advances in Multiphysical Testing of Soils and Shales
Date: 3 - 5 September 2012
Location: EPFL , Lausanne, Switzerland
Language: English
Organizer: L. Laloui, A. Ferrari
• Contact person: Barbara Tinguely
• Address: EPFL-ENAC-LMS
1015 Lausanne
Switzerland
• Phone: 41 21 693 23 15
• Fax: 41 21 693 41 53
• E-mail: amtss@epfl.ch
Website: amtss.epfl.ch

Advances in Multiphysical Testing of Soils and Shales - Workshop
Date: Monday 03 September 2012 - Wednesday 05 September 2012
Location: EPFL, Switzerland
Language: English
Organizer: TC101, L. Laloui, A. Ferrari
Contact person: Barbara Tinguely
Address: EPFL-ENAC-LMS, 1015 Lausanne, Switzerland
Phone: +41 21 693 23 15
Fax: +41 21 693 41 53
E-mail: amtss@epfl.ch
Website: http://amtss.epfl.ch

Event Diary (Continued)

Baltic Piling Days 2012
Date: Monday 03 September 2012 - Thursday 06 September 2012
Location: Tallinn, Estonia
Language: English
Organizer: Estonian, Latvian, Lithuanian and Finnish Geotechnical Societies
Contact person: Mait Mets; Rauno Raudsepp; Priit Ilves
Address: Peterburi tee 2F,
11415, Tallinn
Estonia
Phone: + 372 5019567
Fax: + 372 622 1361
E-mail: balticpiling@gib.ee
Website: http://www.issmge.org/en/component/jevents/icalevent.edit/0

2nd International Conference on Transportation Geotechnics
Date: 10 - 12 September 2012
Location: Hokkaido University, Sapporo, Hokkaido, Japan
Language: English
Organizer: ISSMGE (TC202) and JGS
• Contact person: Dr. Tatsuya Ishikawa
• Address: Faculty of Engineering, Hokkaido University Kita 13, Nishi 8, Kita-ku
060-8628 Sapporo
Hokkaido
Japan
• Phone: 81-706-6202
• Fax: 81-706-6202
• E-mail: tc3conference@eng.hokudai.ac.jp
Website: congress.coop.hokudai.ac.jp/tc3conference/index.html

7th International Conference in Offshore Site Investigation and Geotechnics: Integrated Geotechnologies, Present and Future
Date: 12 - 14 September 2012
Location: Royal Geographical Society, London, United Kingdom
Language: English
Organizer: TC209, SUT - OSIG
• Contact person: Peter Allan
• Address: Geomarine Ltd, A2 Grainger Prestwick Park
NE20 9SJ NEWCASTLE UPON TYNE
England
• Phone: 44 (0) 191 4537900
• E-mail: peter.allan@geomarine.co.uk; zenon@tamu.edu

Event Diary (Continued)

The Seventh Asian Young Geotechnical Engineers Conference (7AYGEC)
Date: 12 - 14 September 2012
Location: The University of Tokushima , Tokushima, Tokushima, Japan
Language: English
Organizer: Japanese Geotechnical Society
• Contact person: Prof. Ryosuke Uzuoka
• Address: Dept. of Civil and Environmental Engineering, The University of Tokushima
2-1 Minamijyousanjima-cho
770-8506 Tokushima
Tokushima
JAPAN
• Phone: 81-88-656-7345
• E-mail: uzuoka@ce.tokushima-u.ac.jp
Website: sites.google.com/site/7aygec/

ISC'4 - 4th International Conference on Geotechnical and Geophysical Site Characterization
Date: 18 - 21 September 2012
Location: Porto de Galinhas, Pernambuco, Brazil
Language:
Organizer: TC102
• Contact person: Executive Secretary
• Address: Rua Ernesto de Paula Santos 1368, salas 603/604
Boa Viagem; Recife - PE CEP: 51021-330
Brazil
• E-mail: isc-4@factos.com.br
Website: www.isc-4.com/index.php

13th International Conference: Geotechnika 2012 Geotechnics (26-28 Sept)
Date 26 – 28 September 2012
Location: Grand Hotel BELLEVUE,Horný Smokovec,High Tatras,Slovakia
Language:
Organizer: Civil Engineering Technical University, Ostrava
Contact person: FURTHER DETAILS BY E-MAIL, PHONE OR BY FAX : ORGWARE - Ing. Nora BADÍKOVÁ Továrenská 12 P.O.Box 52 900 31 STUPAVA Slovak Republic Phone / FAX : ++421 - (0)2 – 502 44 475 MOBI

International Conference on Ground Improvement and Ground Control: Transport Infrastructure Development and Natural Hazards Mitigation
Date: 30 October - 2 November 2012
Location: University of Wollongong, Wollongong, New South Wales, Australia
Language: English
• Organizer: The Centre for Geomechanics and Railway Engineering, University of Wollongong, Australia, and the Australian Geomechanics Society (AGS)
. Contact person: Dr. Jayan Vinod
. Address: Centre for Geomechanics and Railway Engineering, Faculty of Engineering,
University of Wollongong,
2522 Wollongong,
New South Wales,
Australia.
. Phone: 61 02 4221 4089
. Fax: 61 02 4221 3238
. E-mail: icgi_2012@uow.edu.au
. Website: www.icgiwollongong.com

Event Diary (Continued)

IV Panamerican Landslides Symposium (31 Oct - 2 Nov)
Date: 31 October - Friday 02 November 2012
Location: Paipa Convention Center,Paipa, ,Boyacá,Colombia
Language: English and spanish
Organizer: Colombian Geotechnical Society
Contact person: Colombian Geotechnical Society, Juan Montero Olarte
Address: Calle 14 No. 8-79, Of 51
Bogotá
Colombia
Phone: 57-1-3340270
Fax: 57-1-3340270
E-mail: scg1@colomsat.net.co
Website: http://www.scg.org.co/web%20IVSPD/HTML/index.html

Third African Young Geotechnical Engineering Conference (3AyGEC'12)
Date: 16 - 18 November 2012
Location: Engineering Auth'y Guest House, Cairo, Egypt
Language:
Organizer: Egyptian Geotechnical Soc
• Contact person: Dr. Fatma Baligh, Dr. Nagwa El-Sakhawy, Ms Yvonne Hanna
• Address: 62 El - Orouba St.
Heliopolis,
11361 Cairo
Egypt
• Phone: 202 24156573
• Fax: 20 1220071671
• E-mail: aygec3@yahoo.com

2013

4th International Seminar on Forensic Geotechnical Engineering
Date: 10 - 12 January 2013
Location: Atria Hotel , Bangalore, Karnataka, India
Language: English
Organizer: Indian Geotechnical Society
• Contact person: Prof. G L Sivakumar Babu
• Address: Department of Civil Engineering,
Indian Institute of Science, Bangalore
560012 Bangalore
KA
India
• Phone: 918022933124
• Fax: 918023600404
• E-mail: gls@civil.iisc.ernet.in

Event Diary (Continued)

First Pan-American Conference on Unsaturated Soils (Pam-Am UNSAT 2013)
Date: 20 - 22 February 2013
Location: Convention Center, Cartagena de Indias, Colombia
Language: English
Organizer: UniAndes, UniNorte, Unal, Col
• Contact person: Diana Bolena Sánchez Melo
• Address: Carrera 1 Este No. 19A-40
Edificio Mario Laserna Piso 6
Departamento de Ingenieria Civil & Ambiental
Bogotá
Colombia
• Phone: 571 3324312
• Fax: 571 3324313
• E-mail: panamunsat2013@uniandes.edu.co
Website: www.panamunsat2013.uniandes.edu.co

Experimental Micromechanics for Geomaterials
Date: Thursday 23 May 2013 - Friday 24 May 2013
Location: The University of Hong Kong,Hong Kong,,China (Hong Kong S.A.R.)
Language: English
Organizer: TC101, TC105, HKGES, HKU
Contact person: Ms Bridget Lam
Address: Department of Civil Engineering,
The University of Hong Kong,
Pokfulam
Hong Kong (Hong Kong SAR)
Phone: (852) 2859 2666
Fax: (852) 2559 5337
E-mail: owlam@hku.hk

Fifth International Geotechnical Symposium
Date: 22-24 May 2013
Location: International Conference Hall, University of Incheon,
Incheon, Republic of Korea
Language: English
Organizer: ATC3, ATC10, and KGS
•Contact person: Prof. Eun Chul Shin
University of Incheon, Republic of Korea
•Address Department of Civil and Environmental Engineering,
University of Incheon,
12-1, Songdo-Dong, Yeonsu,Gu, Incheon, 406-772
•E-mail: ecshin@incheon.ac.kr
Website: www.igs5.or.jp
Submission of abstract is due on Sept 30, 2012

Second International Symposium on Geotechnical Engineering for the Preservation of Monuments and Historic Sites
Date: 30 - 31 May 2013
Location: Conference Centre Federico II , Napoli, Italy
Language: English
Organizer: AGI and TC 301
• E-mail: secretariat@tc301-napoli.org
Website: www.tc301-napoli.org

Event Diary (Continued)

TC215 ISSMGE - International Symposium on "Coupled Phenomena in Environmental Geotechnics (CPEG) - from theoretical and experimental research to practical applications"
Date: 1 - 3 July 2013
Location: Politecnico di Torino , Torino, Italy
Language: English
Organizer: AGI and ISSMGE TC 215
• Contact person: Guido Musso - Andrea Dominijanni
• Address: Politecnico di Torino
Corso Duca degli Abruzzi 24
10129 Torino
Italy
• Phone: 39 011 0904837
• E-mail: guido.musso@polito.it; andrea.dominijanni@polito.it

18th International Conference for Soil Mechanics and Geotechnical Engineering
Date: 1 - 5 September 2013
Location: Paris International Conf. Ctr , Paris, France
• Contact person: Violaine Gauthier
• Address: Le Public Système,
38, rue Anatole France –
92594 Levallois-Perret Cedex
France
• Phone: 33 1 70 94 65 04
• E-mail: vgauthier@lepublicsysteme.fr
Website: www.issmge2013.org/

2014

8th European Conference on Numerical Methods in Geotechnical Engineering (NUMGE14)
Date: 18 - 20 June 2014
Location: Delft University of Technology, Delft, Netherlands, The
Language: English
Organizer: Prof. Michael Hicks
• Contact person: Mrs. Hannie Zwiers
• Address: Delft University of Technology, Faculty of Civil Engineering & Geosciences
Stevinweg 1
2628 CN Delft
The Netherlands
• Phone: +31 15 2788100
• E-mail: info@numge2014.org
Website: www.numge2014.org

Event Diary (Continued)

NON-ISSMGE SPONSORED EVENTS

2012

The 3rd International Workshop on Modern Trends in Geomechanics (IW-MTG3)
Date: Tuesday 04 September 2012 - Wednesday 05 September 2012
Location: National College for School Leadership, Nottingham,Nottingham,,United Kingdom
Language: English
Organizer: Nottingham Centre for Geomechanics
: Contact person: Dr Alec Marshall
Address: University of Nottingham
Department of Civil Engineering,
University Park,
NG7 2RD,
Nottingham, UK
Phone: +44 (0)115 951 3908
Fax: +44 (0)115 951 3898
E-mail: EZ-geomechanics2012@exmail.nottingham.ac.uk
Website: www.nottingham.ac.uk/ncgconference

XXI Congreso Argentino de Mecánica de Suelos e Ingeniería Geotécnica (CAMSIG XXI)
Date: 12 - 14 September 2012
Location: Salón Terrazas del Parana, Rosario, Santa Fe, Argentina
Language: Spanish
Organizer: Soc Argentina Ing Geotecnica
• Contact person: Ing Virginia Sosa
• Address: Boulevard Oroño 1572 Planta Baja
2000 Rosario
Santa Fe
Argentina
• E-mail: secretaria@camsig2012.com.ar
Website: camsig2012.com.ar

IS-Kanazawa 2012, The 9th International Conference on Testing and Design Methods for Deep Foundations
Date: 18 - 20 September 2012
Location: Kanazawa Bunka Hall , Kanazawa, Ishikawa, Japan
Language: English
Organizer: Japanese Geotechnical Society
: • Contact person: Associate Prof. Shun-ichi Kobayashi
• Address: Kanazawa University
920-1192 Kanazawa
Ishikawa
Japan
• E-mail: office@is-kanazawa2012.jp
Website: is-kanazawa2012.jp

Event Diary (Continued)

International Symposium on Coastal Engineering Geology (IS-Shanghai 2012)
Date: 20 - 21 September 2012
Location: Tongji University , Shanghai, Shanghai, China
Language: English
Organizer: Tongji University
• Contact person: Feifan Ren
• Address: Department of geotechnical engineering,
1239 Siping Road
200092 Shanghai
China
• Phone: 21-65983715
• Fax: 21-65983715
• E-mail: is.shanghai2012@hotmail.com
Website: www.is-shanghai2012.org/

4th Central Asian Geotechnical Symposium: Geo-Engineering for Construction and Conservation of Cultural Heritage and Historical Sites - Challenges and Solutions
Date: 21 - 23 September 2012
Location: Samarkand, Uzbekistan
Language: English
Organizer: Uzbekistan Geotechnical Societ
• Contact person: Zokhir Hasanov
• Address: Lolazor St/70
140147 Samarkand
Uzbekistan
• Phone: 998- 66 220-2825
• Fax: +998-66 237-0016
• E-mail: uzssmge@gmail.com
Website: http://conference.geotechnics.uz

37th Annual Conference on Deep Foundations: Foundations and Ground Improvement Techniques: Adapting them to an Ever Changing Environment
Date: 16 - 19 October 2012
Location: The George R. Brown Convention , Houston, TX, United States
Organizer: DFI
• Contact person: 2012 Program Chair c/o Deep Foundations Institute,
• Address: 326 Lafayette Avenue
07506 Hawthorne, NJ
United States
Website: www.dfi2012submissions.org

Event Diary (Continued)

GA2012 - Geosynthetics Asia 2012 - 5th Asian Regional Conference on Geosynthetics
Date: 10 - 14 December 2012
Location: Centara Grand, Bangkok Conv Ct , Bangkok, Thailand
Language: English
Organizer: IGS-Thailand
• Contact person: GA2012 Secretariat
• Phone: +66-2-524-5523
• Fax: +66-2-524-6050
• E-mail: igs-thailand@ait.ac.th or acsig@ait.ac.th
Website: www.set.ait.ac.th/acsig/GA2012 /

2013

3rd International Conference on Geotechnical Engineering (ICGE'13
Date: 21 - 23 February 2013
Location: Hotel Médina , Hammamet, Nabeul, Tunisia
Language: English and French
Organizer: URIG ENIT
• Contact person: Dr Wissem FRIKHA
• Address: Ecole Nationale d'Ingénieurs de Tunis
Unité de Recherche Ingénierie Géotechnique,
1002 BP 37, Le Belvédère 1002 .
Tunis
Tunisia
• Phone: 216 98 594 970
• Fax: 216 71 872 729
• E-mail: frikha_wissem@icge13.com or frikha.wissem@gmail.com
Website: www.icge13.com

International Conference on "Landslide Risks" (14-16 March)
Date: Thursday 14 March 2013 - Saturday 16 March 2013
Location: Ain Draham ,Tabarka,,Tunisia
Language: English
Organizer: Civil Engineering Laboratory (National Engineering School of Tunisia)
Contact person: Professor Mehrez Jamei
Address: National Engineering School of Tunis, The Civil Engineering Laboratory, BP 37, Le Belvédère,1002,Tunis,Tunisia
Phone: +216 (98) 665 556
Fax: +216 (71) 872 729
E-mail: mehrez.jamei@enit.rnu.tn
Website: http://www.iclr13.com/#HOME_PAGE.A

International Conference on Installation Effects
Date: Sunday 24 March 2013 - Wednesday 27 March 2013
Location: Rotterdam, The Netherlands
Language: English
Organizer: TU Delft
Contact person: Marti Lloret
Address: Stevinweg 1
PO-box 5048,
2628 CN Delft ,
The Netherlands
Phone: +31 1527 84009
E-mail: geoinstall@tudelft.nl
Website: http://geo.citg.tudelft.nl/geoinstall/

Event Diary (Continued)

Seventh International Conference on Case Histories in Geotechnical Engineering
Date: 29 April - 4 May 2013
Language: English
Organizer: Missouri S&T
• Contact person: Kay Tillman
• Address: Missouri S&T,
Distance & Continuing Ed.,
216 Centennial Hall,
300 W. 12th St.
65409 Rolla. MO
United States
• Phone: 573-341-6222
• Fax: 573-341-4992
• E-mail: 7icchge@mst.edu
Website: www.7icchge.mst.edu

18th Southeast Asian Geotechnical Conference cum Inaugural AGSSEA Conference
Date: Wednesday 29 May 2013 - Friday 31 May 2013
Location: Singapore
Language: English
Organizer: Geotechnical Society of Singapore
Contact person: Office of Professional Engineering & Executive Education
Address: Faculty of Engineering,
National Univ of Singapore,
Block E1 #05-15,
3 Engineering Drive 2,,
17578 Singapore
Phone: +65 65165113
Fax: +65 68745097
E-mail: 18seagc@nus.edu.sg
Website: http://www.18seagc.com

International Symposium on Design and Practice of Geosynthetic-Reinforced Soil Structures
Date: 14 - 16 October 2013
Location: Faculty of Engineering , Bologna, Italy
Language: English
Organizer: Tatsuoka, Gottardi, Ling, Han
• Contact person: Hoe I. Ling
• Address: 500 West 120th Street,
Columbia University
10027 New York, NY
USA
• Phone: 12128541203
• Fax: 12128546267
• E-mail: ling@civil.columbia.edu
Website: www.civil.columbia.edu/bologna2013/

FOR FURTHER DETAILS, PLEASE REFER TO THE WEBSITE OF THE SPECIFIC CONFERENCE

Corporate Associates

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Avenida de Europa 18
Parque Empresarial La Moraleja
28108 ALCOBENDAS MADRID, SPAIN

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BP 35 - 78114 MAGNY LES HAMEAUX
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2260 AA Leidschendam, NETHERLANDS

Deltares
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2600 AB Delft, NETHERLANDS

Georeconstruction Engineering Co
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N-0806 OSLO
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Cunningham Court
Shadsworth Business Park
Blackburn, BB1 2QX, UK

Terre Armée
1 bis rue du Petit Clamart
Bâtiment C BP 135 78148 Velizy CEDEX
FRANCE

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Transportation Division
Geotechnology Section
7 Avenue Ariane B-1200, BRUSSELS
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Corporate Headquarters
685 Stockton Drive 7710,
Exton PA 19341, United States

Geoteknik SA
Dolapdere cad. 255, Şişli - İstanbul 80230
TURKEY

Huesker Synthetic GmbH
Fabrikstrasse 13-15
48712 Gescher
Germany

Zetas Zemin Teknolojisi AS
Merkez Mah. Resadiye Cad. No. 69/A
Alemdag, Umraniye
Istanbul, 34794 TURKEY

Siemens Energy
Kaiserleistrasse10
63067 Offenbach
GERMANY

International I.G.M. s.a.r.l.
P.O.Box: 166129 Achrafieh
Beirut, LEBANON

Corporate Associates (continued)

TenCate Geosynthetics
9, rue Marcel Paul
B.P. 40080
95873 Bezons Cedex
FRANCE

Construtora Norberto Odebrecht
Av. Rebouças, 3970 - 31° andar
Pinheiros CEP-05402-600
São Paulo/SP
BRAZIL

Coffey Geotechnics
8/12 Mars Road
Lane Cove West
NSW, 2066
AUSTRALIA

Tecnogeo Engenharia e Fundações Ltda
Av. Eliseu de Almeida nº 1415 - Butantã
São Paulo/SP - 05533-000
Brazil

Brasfond Fundacoes Especiais SA
Rua Olimpiadas, 200, 13° Andar
Cep: 04551-000 Vila Olímpia
São Paulo / SP
BRAZIL

A.P. van den Berg
źzerweg 4
8445 PK Heerenveen
The Netherlands

Huesker Ltda
Attn: Flavio Teixeria Montez
Rua Romualdo Davoli, 375
Cond. El Dorado
CEP 12238.577 São José dos Campos SP
BRAZIL

AECOM Asia Company Ltd
Attn: Dr Axel KL Ng
8/F, Tower 2, Grand Central Plaza
138 Shatin Rural Committee Road
Shatin, NT
Hong Kong

Novatecna Consolidações e Construções S/A
Attn: Giorgio GuatteriRua Banibás 142São Paulo/SP
Brasil

OFFICINE MACCAFERRI S.p.a.
Via Kennedy 10
40069 Zola Predosa (Bologna) Italy

Dasan Consultants Co. Ltd
Dasan B/D
107 Mujeong-dong, Songpa-gu,
Seoul 138-200, Korea

Dongha Geological Engineering Co. Ltd
1033-2 Guseo Dong
Geumjeong-gu, Busan, Korea

Saegil Engineering and Consulting Co Ltd
Hyunmin Building 6F
101 Ogeumno, Songpa-gu
Seoul 138-828, Korea

Vibropile Australia
Attn: Serhat Baycan
PO Box 253
Mulgrave, VIC 3170
AUSTRALIA

Corporate Associates (continued)

Dear ISSMGE Corporate Associates,

The International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) is eager to express its deepest gratitude for your continuous support of the society's many activities world-wide. One of the benefits offered by the MPAC (Membership, Practitioners, and Academicians Committee) in conjunction with the Editorial Board of the ISSMGE Bulletin, is a one-page article in the Bulletin as described below (An example is attached to this e-mail for reference).

The ISSMGE Bulletin is an official publication of the society, and as such has a potential readership of over 19,000 individuals. Currently, 6 issues are produced and distributed a year. Corporate associates will be invited to use one page of the bulletin once a year, in order to highlight their achievements (technical, environmental, social, etc) or maybe give an indication of any current recruitment programmes. As long as the content meets the general mission of ISSMGE, details can be decided by individual corporate associates.

You can make a draft WORD file and send it to the chief editor (Ikuo Towhata at Towhata@geot.t.u-tokyo.ac.jp) at any time. One request is that your one-page draft does not exceed approximately 300 kB in its file size so that the total size of the bulletin remains manageable. Please feel free to consult the editor, however, if you have any questions or problems.

The ISSMGE Bulletin is published with Trebuchet MS font (minimum 10 points). But you can use bigger fonts if you like. The page size is A4 and the margin size is 60 mm at the top and 20 mm at left, right, and bottom.

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Message from Corporate Associate:
Arjuna Consulting Inc.

Arjuna Consulting is a geotechnical consulting firm that is based in Kurukshetra City of Paradiseland where infrastructure construction is very active. Its majoring fields are planning of field investigation, interpretation, and application to design of foundation. Some of its recent achievements are illustrated in the pictures below. In recognition of its remarkable contributions to the public welfare for decades, Ajuna Consulting has got recently a special award from the King of Paradiseland.

Position vacancies: We currently want Project Supervisor, Financial Director, Specialist of Numerical Analysis (Nonlinear FEM), and Geophysicist.

Contact person: Dr. Ashwathama at ashwathama@pandavas.arjunacon.co.qq
Address: P.O.Box 777, Kurukshetra, Kuru Province, 939-3704, PARADISELAND
http://www.arjunacon.co.qq

Example of Corporate Associate page

Foundation Donors

The Foundation of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) was created to provide financial help to geo-engineers throughout the world who wish to further their geo-engineering knowledge and enhance their practice through various activities which they could not otherwise afford. These activities include attending conferences, participating in continuing education events, purchasing geotechnical reference books and manuals.

- **Diamond: $50,000 and above**
  - **a.** ISSMGE-2010 http://www.issmge.org/

- **Platinum: $25,000 to $49,999**
  - a. Prof. Jean-Louis and Mrs. Janet Briaud
    https://www.briaud.com and
    http://ceprofs.tamu.edu/briaud/

- **Gold: $10,000 to $24,999**
  - a. International I-G-M
    http://www.i-igm.net/
  - b. Geo-Institute of ASCE
    http://content.geoinstitute.org/
  - c. Japanese Geotechnical Society
    http://www.jiban.or.jp/
  - d. The Chinese Institution of Soil Mechanics and Geotechnical Engineering – CCES
    www.geochina-cces.cn/en

- **Silver: $1,000 to $9,999**
  - a. Prof. John Schmertmann
  - b. Deep Foundation Institute
    www.dfi.org
  - c. Yonsei University
    http://civil.yonsei.ac.kr
  - d. Korean Geotechnical Society
    www.kgshome.or.kr

Foundation Donors (Continued)

e. CalGeo – The California Geotechnical Engineering Association
www.calgeo.org

f. Prof. Ikuo Towhata http://geotle.t.u-tokyo.ac.jp/
towhata@geot.t.u-tokyo.ac.jp

g. Chinese Taipei Geotechnical Society www.tgs.org.tw

h. Prof. Zuyu Chen http://www.iwhr.com/zswwenglish/index.htm

i. East China Architectural Design and Research Institute ECADI
http://www.ecadi.com/en/

- **Bronze: $0 to $999**

a. Prof. Mehmet T. Tümay http://www.coe.lsu.edu/administration_tumay.html
mtumay@eng.lsu.edu

b. Nagadi Consultants (P) Ltd www.nagadi.co.in

c. Professor Anand J. Puppala
University of Texas Arlington
(http://www.uta.edu/ce/index.php)

Message from ISSMGE Foundation

The ISSMGE Foundation is requesting donations from industries as well as individuals. The donated fund is spent to financially support promising geotechnicians who intend to further their geotechnical engineering knowledge and enhance their practice through various activities which they could not otherwise afford. These activities include attending conferences, participating in continuing education events, purchasing geotechnical reference books and manuals. All our ISSMGE members can contribute to the ISSMGE Foundation by sending President Briaud an email (briaud@tamu.edu). If you wish to apply for a grant, on the other hand, you can download the form
(http://www.issmge.org/web/page.aspx?pageid=126068),
fill it, and send it to the general secretary of ISSMGE at issmge@city.ac.uk. A request for grant above $2000 is unlikely to be successful. Smaller requests especially with indication of cost sharing have the best chance.

FROM THE EDITOR

Invitation to submission of article to ISSMGE Bulletin

ISSMGE Bulletin always welcomes contribution from readers who are interested in submitting technical and event articles. The number of subscribers in the world is more or less 19,000.

Bulletin is not an academic journal. It aims to increase the interest of readers in what are going on at the earth's surface as an interaction between human and our planet. Examples of desired type of articles in recent issues have addressed "*Soil Improvement under New Levees in New Orleans,*" "*Development of New Cone Penetrometer,*" "*Harbour Construction in Australia*" and "Preliminary Understanding of the 1255 Seti River Debris-Flood in Pokhara, Napal" as well as "Development of Small-Scale Exciter for Condition Rating of Retaining Structures" among many others. For more idea, you can freely download past issues of the bulletin from the website of ISSMGE;

http://www.issmge.org/web/page.aspx?refid=430

In particular, the editor is waiting for submission on recent great technical achievements such as foundation of big buildings under difficult natural conditions and tunneling through Alps, for instance.

Because the Bulletin is an electronic publication, there is no page limitation. Color photographs and illustrations are highly welcome. Moreover, you can submit draft by a WORD file and there is no fixed format; the editing team will take care of formatting.

There is no fixed due date of submission. Submission is certainly free of charge. There is no peer review because the bulletin is not an academic journal but a newsletter. Only one request to authors is that the article has to be clear and easily understandable for practitioners. It is very advisable to use nice photographs and illustrations.

I am happy to acknowledge the support provided by the editorial board member, Dr. Imen Said to bring out this issue of the Bulletin.

I would like to express my sincere thanks for you to consider this invitation in a positive manner and send me a reply at your earliest convenience. Please take this good opportunity to demonstrate to the world **HOW GOOD YOU ARE**.

Yours sincerely

Ikuo Towhata