



International Society for Soil Mechanics and

Geotechnical Engineering

Message to ISSMGE Members

**Professor Michael C R Davies, Vice President for Australasia
and First Vice President ISSMGE**

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It is a pleasure, through this article in the Bulletin, to be able to address members of the ISSMGE in order to provide some insight into the activities of the Australasia region of the ISSMGE. In terms of the number of member societies Australasia is the smallest of the six ISSMGE regions. However, if the numbers of individual members in the two societies that constitute the region are considered, the region is the fourth largest; with Australia and New Zealand having the fourth and eleventh largest number, respectively, of ISSMGE members of the 87 member societies. In his Message to ISSMGE Members, published in this bulletin last year¹, Professor Roberto Terzariol, Vice President for South America, presented an analysis of the ratio of numbers of ISSMGE members in each society to the number of millions of inhabitants of each country. From this analysis he demonstrated that the median value of this ratio for the Australasia region - at 64 ISSMGE members per million inhabitants - was some three times greater than that of the region with the next highest ratio, which was Europe with a median of 20. This analysis indicates that, relative to the other ISSMGE regions, in terms of attracting members to the ISSMGE the two societies in the Australasia region have been highly successful. Whilst I am sure that the strength of the Australian Geomechanics Society (AGS) and the New Zealand Geotechnical Society (NZGS) has been the result of the hard work and enthusiasm of the officers and members of the two societies over many years, it is also a reflection of the importance for the society in Australia and New Zealand of there being good practice in geotechnical engineering.



To some extent the importance of geotechnical engineering in both Australia and New Zealand is for similar reasons but there are specific national conditions that prevail. For example, in both countries there is a requirement to deal with natural hazards that have large scale detrimental effects on society. However, whilst slope stability presents geotechnical challenges to engineers on both sides of the Tasman Sea - which separates the two countries - New Zealand is located at the boundary of the Australian and Pacific tectonic plates and has, therefore, a much higher risk of major earthquake hazards than Australia, which is not

¹ ISSMGE Bulletin, Volume 5, Issue 2, April 2011

Message to ISSMGE Members (Continued)

Professor Michael C R Davies, Vice President for Australasia

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located on any major tectonic plate boundaries. Australia has an extensive mining industry that requires the expertise of geotechnical engineers. This industry is contributing to a relatively strong economy in Australia and the growth in its population. This, in turn, has resulted in major opportunities for infrastructure development. There is a demand in both countries, therefore, for practitioners with a wide range of expertise across the range of geotechnical engineering; including engineering geology, rock mechanics and soil mechanics. It is not surprising, therefore, that both the AGS and the NZGS are the national societies for the IAEG and the ISRM as well as the ISSMGE, although in both cases ISSMGE members represent the largest group.

Australian Geomechanics Society (AGS)²

The AGS is the largest Technical Society within Engineer's Australia. Its membership currently stands at 1381 and of these members 873 (63%) are affiliated to ISSMGE. In addition, the society currently has 45 corporate members that represent a wide range of consulting and contracting organisations³. The society is managed by a National Committee and Sam Mackenzie was elected recently as Chair of the AGS National Committee. Dr Mark Jakska serves on the National Committee as AGS Liaison Officer for the ISSMGE.

The AGS is represented in the States and Territories of the Commonwealth of Australia by seven Chapters. Each of these Chapters has its own regional committee and organises a vibrant technical programme. A major feature of these programmes is a series of lecture tours by distinguished geotechnical engineers. In recent years these have included Rankine lecturers Professor Tom O'Rourke and Professor Chris Clayton, together with former president of the International Association of Engineering Geology, Professor Paul Marinos, and Serge Varaksin, Chair of ISSMGE TC211 on Ground Improvement.

Australian Geomechanics is the "official" journal of the AGS, which is published quarterly, in March, June, September and December, by the Institution of Engineers Australia. It is edited and produced by the Australian Geomechanics Society and is distributed to all members of the AGS. At the end of 2009 the AGS published a DVD which contains copies of all papers published in *Australian Geomechanics* from 1971 to the end of 2009. The Australian Geomechanics Society has also developed and published a series of benchmark guidelines on landslide risk management and slope management and maintenance. These were published in the *Australian Geomechanics* Journal in March 2007 and built on previous guidelines published in 2000. In the first half of 2011, through its network of local Chapters, the AGS supported a "National Landslide Risk Management Roadshow" to disseminate the new "Geoguides" to relevant end users. The roadshow (which became known as the "Risky Roadshow") provided information to a large number of local government officers and practitioners about the Landslide Risk Management guidelines and geoguides.

² <http://australiangeomechanics.org>

³ <http://australiangeomechanics.org/corporate/>

Message to ISSMGE Members (Continued)

Professor Michael C R Davies, Vice President for Australasia

The Australian Geomechanics Society has recently commenced an 18 month preliminary study to consider the content for an updated national standard for Site Investigations. The preliminary study will aim to identify the components of the standard that need to be updated. The AGS has also instituted courses in Engineering Geology - designed for engineering geologists and geotechnical engineers involved in civil and mining projects who have a working knowledge of geology and wish to develop their engineering geological skills - and, most recently, laboratory testing in geotechnical engineering.

New Zealand Geotechnical Society (NZGS)⁴

Founded in 1958, the Society became the first technical group of the Institution of Professional Engineers New Zealand (IPENZ) in 1965. In recent years the NZGS has seen a steady rise in membership. The last four years has seen an increase of 20% in the number of members, bringing this to 760 of whom 440 (58%) are members of the ISSMGE. As I have indicated above, this is a very high number relative to the population of New Zealand (4.4 million) - the highest for any of the 87 ISSMGE regions - and possibly reflects the increased requirement for geotechnical engineers in a geologically active developed region of the world.

The NZGS is overseen by a Management Committee which is chaired by David Burns who was elected to his position in 2011. The society has six branches located throughout the country each of which has its own programme of technical events. This includes a range of international speakers, who usually present their lecture or deliver a short course in a number of centres. Recent international presenters include Clyde Baker (presenting his Terzaghi Lecture), Professor Wong Kai Sin, and Rankine lecturers Professor John Atkinson, Professor Antonio Gens and Professor Chris Clayton.

The New Zealand Geotechnical Society publishes a biannual magazine, *The Geomechanics News*, for its members in June and December of each year. The magazine, which contains papers reporting geotechnical research and practice in or directly relevant to New Zealand as well as news about the society and its members, has grown significantly of late and now averages just over 100 pages per issue. The distribution of the magazine continues to grow too. As well as being provided to the 760 members (in New Zealand and internationally) the magazine is sent to a number of other overseas professional societies, academics, universities, and industries. As with the AGS the NZGS also develops and publishes guidelines for its members. The most recently completed of these is the "Geotechnical Earthquake Engineering Practice" guideline. This was published in July 2010 and, as the first of a number of modules on geotechnical earthquake engineering practice, is a guideline for the identification, assessment and mitigation of liquefaction hazards. It aims to provide authoritative material to help engineers address geotechnical issues related to the design of buildings and structures in conjunction with national building codes. Good progress is being made with the second module which deals with the seismic assessment and design of retaining walls.

The four large shallow earthquakes in Christchurch (which, with a population of 390,300, is the second largest city in New Zealand) on 4 September 2010 (M7.1), 22 February 2011 (Christchurch M6.3), 13 June 2011 (M6.3) and, most recently, 23 December 2011 (M6.0) together with the numerous subsequent aftershocks, Figure 1, have been a major concern for geotechnical engineers in New Zealand, in general, and the NZGS, in particular. In response to a request from the Institution of Professional Engineers New Zealand the NZGS, together with the New Zealand Society for Earthquake Engineering, contributed to the development of fact sheets which give an overview of the Canterbury Earthquakes and the performance of engineered systems, liquefaction and the building safety evaluation process. ISSMGE members from the NZGS and from a number of other national societies have been heavily involved in the reconnaissance following the major earthquakes and some of these findings have been published in previous editions of the Bulletin⁵.

⁴ <http://www.nzgs.org/>

⁵ Suguru Yamada, Rolando Orense and Misko Cubrinovski. "Geotechnical Damage due to the 2011 Christchurch, New Zealand, Earthquake", ISSMGE Bulletin, Volume 5, Issue 2 (2011)

Message to ISSMGE Members (Continued)

Professor Michael C R Davies, Vice President for Australasia

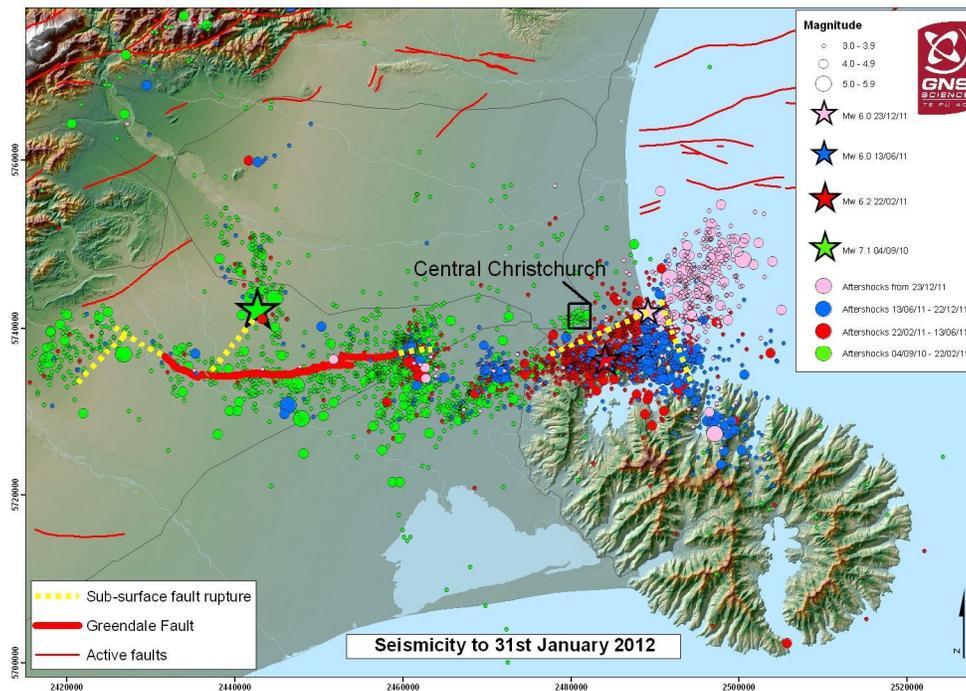


Figure 1. Map showing the Darfield mainshock, the February M6.3 (Christchurch), the June M6.3 and the December M6.0 earthquakes, together with aftershocks above magnitude 3 and fault ruptures in Canterbury (Graphic by Rob Langridge and William Ries, GNS Science)

Contributions to the wider ISSMGE

In 2000 the Australian Geomechanics Society hosted the highly successful international conference GeoEng 2000. This was organised by the AGS on behalf of the ISSMGE together with the International Society for Rock Mechanics (ISRM) and the International Association of Engineering Geology and the Environment (IAEG). However, whilst both the ISRM and the IAEG have held their major quadrennial international conference in the Australasia region, neither the AGS nor the NZGS have yet had the privilege to host the ICSMGE on behalf of the ISSMGE. As a successful and vibrant ISSMGE region, members are eager to be awarded this distinction in the near future.

Both societies in the region, however, regularly host or sponsor well supported specialty conferences, symposia, seminars and workshops in addition to the four yearly ISSMGE regional conferences. The 11th Australia New Zealand Conference on Geomechanics (ANZ 2012)⁶ is to be held in Melbourne from 15 to 18 July 2012. The theme of the conference is "Ground Engineering in a Changing World". The worldwide community is facing great change; a changing financial system, a changing climate, a changing legislative environment and changing community perceptions and awareness. There are a host of risks and opportunities associated with this change and this conference seeks to explore and better understand those changes and the risks and opportunities they present to our profession. This will include challenges and risks associated with the changing coastline morphology, changing weather patterns, different modes of living, new materials and constructions methods, new methods for generating power and new ways to recycle or manage waste.

⁶ <http://anz2012.com.au/>

Message to ISSMGE Members (Continued)

Professor Michael C R Davies, Vice President for Australasia

During the regional conference there will be a series of talks to mark the 75th Anniversary of the ISSMGE. This will be the last in a series of similar celebratory sessions that have taken place at the ISSMGE regional conferences in the last year and which started with a special session at the Sixth International Congress on Environmental Geotechnics, which was held in New Delhi during November 2010. In keeping with the celebratory sessions in the other conferences there will be presentations from a distinguished senior member of the society, a young geotechnical engineer and the Regional Vice President; who will be speaking about the ISSMGE in the region in the past, the future and the present, respectively. The 9th ANZ Young Geotechnical Professionals Geotechnical Conference will take place in Melbourne on 11 to 14 July 2012, immediately prior to ANZ 2012.

ISSMGE members of the AGS and NZGS are active in the Society's Technical Committees. Two TCs are chaired by members from the region: Professor Christophe Gaudin (Physical Modelling in Geotechnics TC104) and Dr Mark Jaksa (Geo-engineering Education TC215). The region is also preparing to host three ISSMGE speciality conferences. In 2014 both the TC104 8th International Conference on Physical Modelling in Geotechnics and the TC215 7th International Congress on Environmental Geotechnics are to be held in Australia (in Perth and Melbourne, respectively). In 2015 the TC203 5th International Conference on Earthquake Geotechnical Engineering will be held, most appropriately, in Christchurch, New Zealand.

It is a great privilege to have been selected as the Vice President for Australasia and to represent such an active region on the Board of the ISSMGE. In July of this year the Board will be meeting in Melbourne in association with ANZ 2012 and I am looking forward to welcoming our President, Professor Jean-Louis Briaud, and other colleagues from the Board to the Region. I hope that at the conference I will also have the opportunity to welcome many other ISSMGE members from around the world to the Australasia Region.

MESSAGES FROM ISSMGE PRESIDENT

Professor J-L. Briaud

ISSMGE President 820 days progress report

Distinguished Colleagues, Dear Friends,

This is my twenty seventh progress report after 820 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 your Season Greetings, the next webinar, the page allocation for papers at the 2013 ICSMGE in Paris, a report on the ISSMGE Foundation, and an update on the ISSMGE song.

Well wishing notes for Christmas and New Year. I have received a very large quantity of cards and emails wishing me well for Christmas and the New Year. The quantity was beyond my ability to respond to all of you individually but I want to tell you how much I appreciate your thoughtfulness for me and my family. With this much good wishes packed in my suitcase, I start the year full of energy and good will. Thank you very much for your support.

Webinar: Our next ISSMGE webinar will be on the topic of Risk Assessment in Geotechnical Engineering. The 90 minute webinar will take place on 24 February 2012 at 15h00 UTC. The speakers will be Zenon Medina-Cetina of Texas A&M University, USA and Marco Uzielli of Georisk Engineering, Italy. The following webinar will be on the behavior of composite liners for waste disposals and the following one on unsaturated soils for the practicing engineer. Some of the topics are very broad and we are considering having series of webinars on one topic rather than limiting it to only one. As always your comments are most welcome so we can respond better to your needs. For more information on webinars contact my assistant Hanna Prichard at hprichard@civil.tamu.edu.

Page allocation for the 2013 ICSMGE in Paris: This is a reminder for the Member Societies leaders who have received a letter from Neil Taylor explaining what the allocation to their society is for the proceedings of the Paris ICSMGE. The letter stated the allocation and explained that Member Societies can request additional pages if they feel that their allocation is insufficient. The deadline for this request is 23 Jan 2012. The additional pages come from the Presidential special allocation and I will make a decision shortly after 23 Jan 2012. As you can imagine it is unlikely that I will be able to satisfy all requests but I will try to be fair to all.

Update on the ISSMGE Foundation: Harry Poulos along with Paloma Peers and Hanna Prichard prepared a report on the ISSMGE Foundation. It was published in the December 2011 Issue of this Bulletin but here is a brief summary. We have raised a total of US\$ 121,401 contributed by 14 organizations and individuals. Their names are acknowledged in the report as well as on the ISSMGE website, in the Bulletin, and in all my presentations about ISSMGE. I am very appreciative of our donors generosity. Over the last year, the Foundation has helped 7 people from 4 countries with a grant total of US\$2317.34. I consider the ISSMGE Foundation to be underutilized at this time. The application form and guidelines are on the ISSMGE website at <http://www.issmge.org/web/page.aspx?refid=563>. If you know someone who might need help, please relay that information to them. If you know someone who wishes to contribute, please ask them to contact me.

Song: Our friend Jana Frankovska was not satisfied with the quality of the first recording so she sent me a new one which we uploaded on You Tube with a more complete series of photos of you taken during my trips to various parts of the world. Here is the new link; <http://www.youtube.com/watch?v=ga82VfjN8dg>.

MESSAGES FROM ISSMGE PRESIDENT (Continued)

Professor J-L. Briaud

ISSMGE President 850 days progress report

Distinguished Colleagues, Dear Friends,

This is my twenty eighth progress report after 850 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 our upcoming webinar, about some new developments on GeoWorld, and about the International Journal of Geoenvironmental Case Histories.

Webinar: Our next webinar will be free of charge and will take place on 24 February 2012 at 15h00 UTC. The speakers will be Zenon Medina-Cetina (USA) and Marco Uzielli (Italy). The topic is Risk Assessment in Geotechnical Engineering. It is sponsored by the ISSMGE Technical Committee on Engineering Practice of Risk Assessment & Management chaired by K.K. Phoon (Singapore). The main objective of the webinar is to provide a sound overview of the principles, methods, and implications of Quantitative Risk Assessment in Geotechnical Engineering Practice. That sounds very interesting to me and I will be listening. Here is the registration link (<https://issmge.webex.com/issmge/k2/j.php?ED=4145397&UID=0&HMAC=a66f81130bf328312a86bc4a4e4d4d51a2f5b2e0&RT=MIM3>). If you have any questions, please email Hanna Prichard (hprichard@civil.tamu.edu).

Geomap from GeoWorld: I wanted to draw your attention to GeoMap, the latest innovation related to GeoWorld developed by Geoengineer.org and ISSMGE under the shrewd leadership of Dimitris Zekkos, Chair of IDC. GeoMap (<http://www.mygeoworld.info/pg/map>) is an interactive world map that positions all members (individuals, companies, and organizations) of GeoWorld. GeoMap allows you to identify and contact geoprofessionals near you or anywhere else in the world that might be of interest to you. If you are a member of GeoWorld, you can click on each location on the map and view the relevant info about the GeoWorld member. GeoMap is another reason to join GeoWorld and there are more than 1400 members and 80 organizations which already belong to it. GeoMap also includes the geographic locations of all case histories published in the ISSMGE International Journal of Geoenvironmental Case Histories. Click on them, and you will be able to see more information about the case history and visit the website to freely download the paper. There is even more information right here: http://mygeoworld.info/GeoWord_Tip_7.html.

ISSMGE International Journal of Geoenvironmental Case Histories, IJGCH (<http://casehistories.geoengineer.org>): IJGCH has just published another issue (Vol. 2, Issue 2) that is available here: <http://casehistories.geoengineer.org/volume/volume2/issue2/issue2.html>. The ISSMGE journal focuses entirely on the practice of our profession and the documentation of case histories. All papers published in this journal are freely available and typically downloaded thousands of times. The entire process from submission to final publication may last only four months. Published papers include color photos and the figures are accompanied by an excel datasheet of the data presented; an excellent way to maximize the impact of a case history! I strongly encourage the members of our technical committees and all of you to submit a case history paper to this journal. I have done so myself, and you will find that your papers will be widely circulated. For submission guidelines, visit: <http://casehistories.geoengineer.org/submission.html>. Note also that AWAC, the ISSMGE Awards committee lead by Francois Schlosser (France) and Esve Jacobs (South Africa) is developing an award to recognize on a regular basis the best paper published in IJGCH. This award will be among 10 awards given at the ISSMGE Conference Paris, 2013.

Best wishes,
Jean-Louis Briaud
President, ISSMGE

ACTIVITY REPORT FROM MEMBER SOCIETY

Indian Geotechnical Society (IGS)

Indian Geotechnical Society (IGS) initially called The Indian National Society of Soil Mechanics and Foundation Engineering was established in the year 1948, soon after the Second International Conference on Soil Mechanics and Foundation Engineering held at Rotterdam and is a member society of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) since the formation of IGS.



Indian Geotechnical Society (IGS) holds a prestigious annual Conference known as Indian Geotechnical Conference or IGC every year in the month of December through one of its 33 Chapters spread across the country. Recently IGC-2011 was held during December 15-17, 2011 at Kochi, Kerala, India. A record number of nearly 700 delegates attended the Conference. Prof. Askar Zussupbekov, Vice President, Asian Region, ISSMGE participated in the Conference besides other invited Speakers from Japan, Korea, Iran, Kazakhstan, U.K., USA and Australia. The Conference also hosts every year an Annual Lecture which is delivered by an eminent member of IGS on his/her topic of expertise. The annual lecture during IGC-2011 was delivered by Prof. Manoj Datta, on "Geotechnology for Environmental Control at Waste Disposal Sites". Two volumes of proceedings of IGC-2011 containing 684 papers were published both in electronic format (in CD) and hard copies.

Preceding the IGC-2011, an Indo-Japanese Workshop was held with about 100 delegates attending and 13 speakers from Japan and India also attended. The Workshop theme was 'Earthquake Geotechnical Engineering' highlighting the 2011 March 11th massive earthquake in Tohoku, Japan and 2011 September 18th severely damaging Sikkim India earthquake. The Japanese delegation was lead by Prof. Osamu Kusakabe, President, Japanese Geotechnical Society. Thirteen lectures were delivered on relevant Earthquake Engineering topics by eminent speakers from Japan and India.

The next Indian Geotechnical Conference IGC-2012 will be hosted by Delhi Chapter of IGS at IIT Delhi, and followed by Indian Geotechnical Conference IGC-2013 hosted by Roorkee Chapter of IGS at IIT Roorkee.

IGS has MOUs for joint co-operation with Geo-Institute (GI), ASCE, USA, Japanese Geotechnical Society (JGS), Japan and Korean Geotechnical Society (KGS), Korea.

Indian Geotechnical Society (IGS) has long association and direct active participation in ISSMGE activities, committees etc. Currently the following 28 members of IGS are serving at various Technical Committees (TCs) of ISSMGE during 2010 - 2013.

- (1) TC 101 - Lab Testing: Member Dr. J. T. Sahu, IIT Delhi, India.
- (2) TC 102 - In-situ Testing: Member Dr. G. V. Ramana, IIT Delhi, India.
- (3) TC 102 - In-situ Testing: Member Prof. G. Venkatachalam, IIT Bombay, India.
- (4) TC 103 - Numerical Methods: Member Dr. K. Rajagopal, IIT Madras, India.
- (5) TC 104 - Physical Modelling: Member Prof. B.V.S. Viswanadham, IIT Bombay, India.
- (6) TC 106 - Unsaturated Soils: Member Dr. S. Sreedeeep, IIT Guwahati, India.
- (7) TC 203 - Earthquake Geotechnical Engg: Member Dr. Deepankar Choudhury, IIT Bombay, Mumbai, India.
- (8) TC 203 - Earthquake Geotechnical Engg: Member Dr. A. Muralikrishna, IIT Guwahati, India.
- (9) TC 204 - Underground Construction: Member Dr. V. M. Sharma, AIMIL, India.
- (10) TC 204 - Underground Construction: Member Prof. K. G. Sharma, IIT Delhi, India.
- (11) TC 207 - Soil-Structure Interaction: Member Dr. V. Balakumar, India.
- (12) TC 207 - Soil-Structure Interaction: Member Dr. G. Madhavi Latha, IISc Bangalore, India.
- (13) TC 207 - Soil-Structure Interaction: Member Prof. N. K. Samadhiya, IIT Roorkee, India.

ACTIVITY REPORT FROM MEMBER SOCIETY (Continued)

Indian Geotechnical Society (IGS)

- (14) TC 208 - Landslides: Member Prof. G. Ramaswamy, IIT Roorkee, India.
- (15) TC 208 - Landslides: Member Prof. K. S. Rao, President IGS, IIT Delhi, India.
- (16) TC 210 - Dams: Member Er. M. Bidasaria, Former IGS President, India.
- (17) TC 211 - Ground Improvement: Member Prof. A. Boominathan, IIT Madras, India.
- (18) TC 212 - Deep Foundations: Secretary Prof. Deepankar Choudhury, IIT Bombay, Mumbai, India.
- (19) TC 212 - Deep Foundations: Member Dr. V. T. Ganpule, Mumbai, India.
- (20) TC 213 - Soil Erosion: Member Prof. P. K. Basudhar, IIT Kanpur, India.
- (21) TC 213 - Soil Erosion: Member Mr. Jai Bhagwan, Former IGS Secretary, India.
- (22) TC 215 - Geo-Environmental: Member Dr. Dali Naidu Arnepalli, IIT Madras, India.
- (23) TC 215 - Geo-Environmental: Member Prof. Manoj Datta, IIT Delhi, India.
- (24) TC 302 - Forensic Geotechnical: Chairman Dr. V. V. S. Rao, Nagadi, India.
- (25) TC 302 - Forensic Geotechnical: Secretary Prof. G. L. Sivakumar Babu, IISc Bangalore, India.
- (26) TC 303 - Hurricanes and Floods: Member Prof. S. R. Gandhi, IIT Madras, India.
- (27) TC 304 - Risk Management: Member Dr. Kishor Kumar, India.
- (28) TC 305 - Megacities: Member Dr. A Juneja, IIT Bombay, India.

Indian Geotechnical Society (IGS) has signed a significant agreement for publication of its prestigious journal namely Indian Geotechnical Journal [ISSN: 0046-8983 (print version), ISSN: 2277-3347 (electronic version)] with M/s Springer publication. IGS has been publishing this quarterly Journal IGJ which is in its 41st volume in 2011 and 42nd volume will appear in 2012 from Springer. With this publishing arrangement with Springer, Indian Geotechnical Journal (IGJ) hopes to reach more international audience/readers. The first issue of IGJ published by Springer will start from the first quarter issue of 2012. The details about the guideline for submission of papers for IGJ, Springer can be obtained in the following website:

<http://www.springer.com/engineering/civil+engineering/journal/40098>

The present editors and editorial board of Indian Geotechnical Journal (IGJ) consists of following eminent geotechnical professionals.

Editor-in-Chief: Sivakumar Babu G L, Indian Institute of Science, Bangalore, India.

Associate Editor: Madhavi Latha G, Indian Institute of Science, Bangalore, India.

Editorial Advisory Board: Rao K S, President, Indian Geotechnical Society, New Delhi, India; Madhav M R, Former Vice President Asia of ISSMGE, Hyderabad, India.

Editorial Board: Anand Puppala, University of Texas, Arlington, USA; Béatrice A Baudet, University of Hong Kong, Hong Kong; Chandan Ghosh, NIDM, New Delhi, India; Deepankar Choudhury, IIT Bombay, Mumbai, India; Dinesh R Katti, North Dakota State University, USA; Gautam Bhattacharya, Bengal Engineering College, Kolkata, India; Gopal Madabhushi, Cambridge University, UK; Hemanta Hazarika, Kyushu University, Japan; Jit Sharma, University of Saskatchewan, Canada; Krishna R Reddy, University of Illinois Chicago, USA; Maheshwari B K, IIT Roorkee, India; Muni Budhu, University of Arizona, USA; Rajagopal K, IIT Madras, Chennai, India; Rajinder Bhasin, Norwegian Geotechnical Institute, Norway; Ramamurthy T, Rtd. Professor, IIT Delhi, India; Robinson R G, IIT Madras, Chennai, India; Sai Vanapalli, University of Ottawa, Canada; Sarvesh Chandra, IIT Kanpur, India; Shobha Bhatia, Syracuse University, USA; Singh D N, IIT Bombay, Mumbai, India; Sitharam T G, Indian Institute of Science, Bangalore, India; Sivakugan Siva, James Cook University, Australia; Sivakumar V, University of Belfast, Ireland; Sridharan Asuri, Rtd. Professor, Indian Institute of Science, Bangalore, India; Viswanadham B V S, IIT Bombay, Mumbai, India.

Reported by

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TECHNICAL ARTICLE

Landslides in landfills

By A.O. Landva¹ and S.J.E. Dickinson²

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ABSTRACT

In general, MSW is a non-textbook material, being highly fibrous, heterogeneous, erratic, highly compressible, and displaying significant long-term settlement caused by plastic creep and decomposition. Its strength is significantly affected by its fibrosity and its degree of decomposition. Neither undisturbed sampling nor field testing of shear strength is practical. Laboratory testing of more or less undecomposed MSW can be carried out meaningfully only in large-scale equipment developed specifically for geotechnical tests such as consolidation, simple shear, ring shear and tension tests. The effects of decomposition cannot, however, be accounted for by such tests, unless the test specimens represent truly decomposed MSW. The present study suggests that a weakened zone may often develop along the base of MSW landfills as a result of advanced decomposition there. If the material has been tested in its more or less undecomposed state, which seems always to be the case, it is likely that the measured strength is not relevant, being too high and thus leading to unrealistically high factors of safety.

1 INTRODUCTION

The geotechnical behaviour of municipal solid waste (MSW) has attracted increased attention over the past two or three decades as a result of several catastrophic landfill failures worldwide. For example, a waste slide in the Philippines in 2000 claimed more than 220 lives, with an estimated 200-800 people missing. In 1996, a failure of a landfill in La Coruna, Spain, led to more than 100,000 tonnes of MSW sliding nearly a kilometre, coming to rest at a short distance from the Atlantic Ocean and narrowly avoiding what could have been one of the greatest environmental disasters in history. Although widely separated geographically, these events had much in common. Both landfills were large and their ages (approximately 30 years) were comparable. The age issue is particularly interesting since, whereas one would expect the foundation soils to gain strength with time due to consolidation beneath the waste, it appears that the opposite is the case with MSW material, i.e. the material in the basal failure zones seems to become weaker with time as it continues to decompose.

Most of the as-placed constituents in waste fill have a high to extremely high aspect ratio (greatest dimension ÷ least dimension), i.e. the "degree of fibrosity" is generally high. The undecomposed MSW therefore behaves much like a reinforced material, having discontinuous "fiber" reinforcement generally oriented in a direction parallel to the bedding of the material as placed.

Since MSW material is subject to decomposition, its geotechnical properties will change with time. The amount of time involved will vary considerably, depending on the nature of the MSW constituents, from a few years to perhaps several hundred or even one thousand years. Weakening of the landfill will also result if (i) the MSW material is mixed with compost or other weak materials, (ii) if it is subject to smouldering fires, not uncommon in landfills, or (iii) if it has been subject to scavenging and thus removal of reinforcing elements such as construction debris.

TECHNICAL ARTICLE (Continued)

Landslides in landfills

The fiber resistance of MSW accounts for the frequently observed phenomenon of high vertical (or near vertical) cuts in landfills. Since, however, MSW decomposes with time, unsupported slopes cannot be expected to remain stable indefinitely. The stability of the slope will therefore gradually deteriorate, and this must eventually lead to failure.

2 MODES OF FAILURE

The conventional approach to the analysis of slides in landfill is to treat MSW as a mineral soil and to model such slides on the basis of regular soil mechanics principles, such as shown in Fig. 1. For example, Merry et al. (2005), on analyzing the 2004 Payatas, Philippines, slide described in the review below, considered the section shown in Fig. 1 to be representative of the failed MSW slope. The factor of safety was calculated using Spencer's method. The shear strength parameters for the MSW used in the effective stress analysis were a cohesion intercept of 19 kPa and a friction angle ϕ' of 28°. Their analysis was thus based on a conventional soil mechanics approach. As such, and as indicated in Fig. 1, the displacement during a conventional slide would come to a stop when the final configuration and soil strength combine to produce a factor of safety just exceeding 1.0. In this connection, reference is also made to the well-known 1916 Gothenburg Harbour slide (e.g. Tschebotarioff 1951, p. 178).

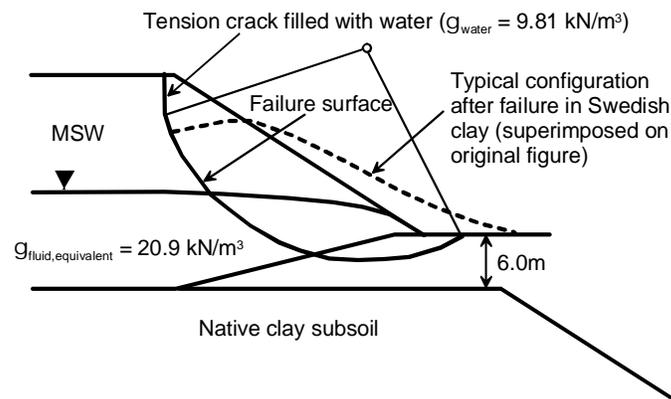


Fig.1 Two-dimensional cross section of slope evaluated in stability analyses (Merry et al. 2005).

In the present paper, attention is drawn to the many peculiarities affecting MSW geotechnical behaviour, such as fiber reinforcement, decomposition, scavenging, smouldering fires, and mixing with weaker fill materials. Also important is the observation that landfills are often located on incompetent or sloping (or both) foundation soils.

Scavenging can be expected to accelerate decomposition significantly. In this connection, reference is made to Merry et al.'s (2005) description of scavenging, one result of which is that "items such as wood or metal building materials, cardboard, and intact bottles are quickly segregated and reused or recycled, leaving a waste stream that is predominantly organic matter".

The most critical zone of older landfills would be their bottom (i.e. the oldest) portion, which is the portion that is exposed to the highest pressure and temperature, has the highest moisture content, the lowest permeability, and a high content of anaerobic micro-organisms enhancing bacterial activity. Despite its low permeability, drained conditions may prevail even in this bottom zone as the material is decomposing. However, in the event of a sudden addition of fill above or as a result of an excessive rainfall, high pore pressures may be induced there, which may in turn cause undrained failure and a flow slide. Such a flow slide would not come to an immediate stop (such as in Fig.1 or in the Gothenburg slide), but would continue flowing downhill for a considerable distance (such as the Payatas failure).

TECHNICAL ARTICLE (Continued)

Landslides in landfills

3 REVIEW OF SIX MSW CASE RECORDS

Rumpke: MSW Slope Failure

A landslide involving in excess of one million cubic metres of MSW occurred in 1996 at the Rumpke Sanitary Landfill near Cincinnati. Landfill operation personnel first noticed cracks in the cover on the top of the landfill. The cracking continued over the next five days, at which time cracking of the cover as well as soil slippage was observed at the toe of the slope. Several of the cracks were expanding at or near the top of the landfill and larger-scale horizontal movements were occurring at the toe of the slope.

This failure is widely considered to have been a translational retrogressive slide along a weak layer of "brown native soil" directly beneath the bottom of the waste (e.g. Schmucker and Hendron, 1998, Stark et al. 2000, Eid et al. 2000).

The descriptions of this slide certainly indicate a translational retrogressive type of failure, occurring along a plane of weakness at the bottom of the landfill as described by Schmucker and Hendron and Eid et al. However, the present authors believe that this zone of weakness likely existed in the waste itself and not in the native soil beneath. It is possible for such a material to decompose to the state of a slime, in which case its strength could become extremely low.

The disposal at the site began in the 1930's as part of the operation of a swine farm (Schmucker and Hendron 1998). Landfilling operation, which initially consisted of pushing waste over the edge of an existing ravine, began in 1955 for the purpose of disposing waste compost remaining from the hog-raising operations. The initial operation of the landfill involved little excavation or compaction of waste and relied on the in-situ clays as a natural liner.

According to Schmucker and Hendron's account of the failure, there were substantial quantities of fluid flowing from the toe area of the landfill, and photographs indicated that the leading edge of the landslide was completely soaked with "watery-grey" mud. A large volume of leachate (black fluid) was observed to be flowing under high pressure through cracks that had formed in the solid waste materials that were moving horizontally across the access road at the toe of the slope. Post-failure photographs taken of the landslide indicated that the leading edge of the landslide was essentially liquefied waste. It was reported that "a pickup truck carried with the leading edge of the landslide was completely soaked with watery-grey mud". At the top of the slide, steam was emanating from cracks in the landfill.

It seems clear from these descriptions that there must have been a zone of highly decomposed MSW material near the bottom of the landfill, probably underlain by or mixed with waste from the hog-raising operation. That operation may have taken place over a period of twenty years in which case a large amount of very weak, decomposable waste may have been present. The descriptions also indicate excessively high pore water (leachate) pressures to be involved.

Schmucker and Hendron's analysis of the main slide gave an average required friction angle ϕ' (for $F = 1.0$) of 15° to 19°, depending on the assumed leachate level at the time of the slide.

Leuwigajah Dump Site, Bandung, Indonesia, 2005

In February 2005, the Leuwigajah dumpsite in Bandung, Indonesia, collapsed causing an avalanche of some 2.7 million cubic metres of waste, killing 147 people (Kölsch et al. 2005). The geometry used by Kölsch et al. in their analysis is shown in Fig. 2 (based on their figs. 3 to 5). The groundwater (or leachate) level used in their study (GWL1) corresponded to a pore water pressure of approximately 150 kPa, as shown. It seems clear that the failure occurred within a thin, very weak layer near the base of the landfill.

TECHNICAL ARTICLE (Continued)

Landslides in landfills

Kölsch et al. concluded that the Leuwigajah failure most likely was “triggered by water pressure in the soft subsoil in combination with a severe damage of reinforcement particles due to a smouldering landfill fire”. However, in view of the fact that the subsoil had been consolidated under considerable overburden stress, ranging between 500 and 1000 kPa, for about 30 years, it is unlikely that the seat of failure was located within this zone.

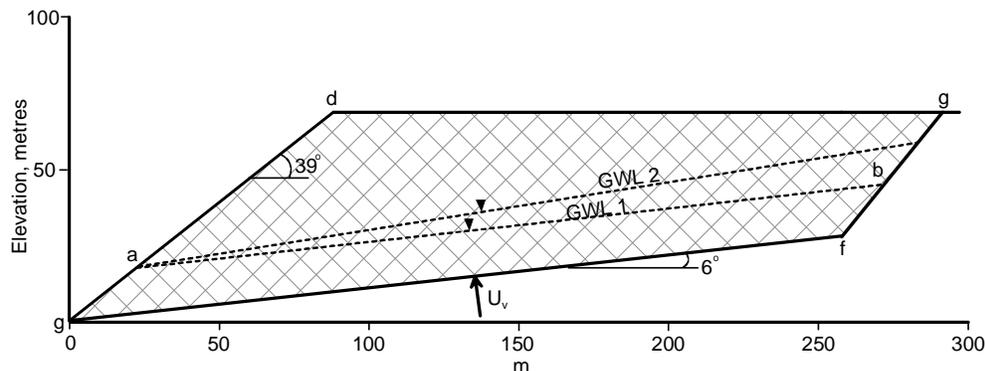


Fig.2 Section through Leuwigajah dumpsite, Bandung (Kölsch et al. 2005)

On the other hand, considering that precipitation in the area of the slide is between 1500 and 2000 mm/year and that heavy rainfall and thunderstorms are common during the wet season, there seems little doubt that a high pore water pressure was the critical factor. However, as with the Rumpke slide, the weak zone was in all probability located within the decomposing waste, and not in the mineral soil beneath the landfill base. If the groundwater level was located at GWL 2, a mobilized angle of friction of 15° could have just triggered a slide along the weak zone.

Witnesses to the slide report “a roll of thunder somehow like an explosion... observations indicate that the waste came down quite similar to an avalanche”. In this connection, reference is made to Merry et al.’s (2005) description of scavenging, one result of which is that “items such as wood or metal building materials, cardboard, and intact bottles are quickly segregated and reused or recycled, leaving a waste stream that is predominantly organic matter”.

Ümbaniye Dump Site, Istanbul

A major failure was experienced at the Ümbaniye Dump Site in Istanbul in 1993. The failure was very sudden and the decomposed waste mass moved down the valley at a high speed for approximately 500 metres. The topography of the failure and the critical cross section are shown in Fig. 3.

The failure was translational in nature and involved the movement of 470,000 m³ of waste. The section in Fig. 3 is what was used by Koerner and Soong (2000) and labelled “critical 2-D cross section after the failure”. The sliding waste buried numerous homes in its path and resulted in the loss of 27 lives. Excessive leachate level buildup within the old decomposed waste caused by water infiltrating from adjacent surface water ponds was likely the triggering mechanism of the failure (Koerner and Soong, *ibid*).

The mode of failure, as described above suggests that the waste mass was moving on a wet lubricated layer, e.g. on a zone of highly decomposed, mostly organic waste material. With a groundwater level such as that shown in Fig. 3, a mobilized angle of friction of 17° would correspond to a factor of safety of 1.0.

TECHNICAL ARTICLE (Continued)

Landslides in landfills

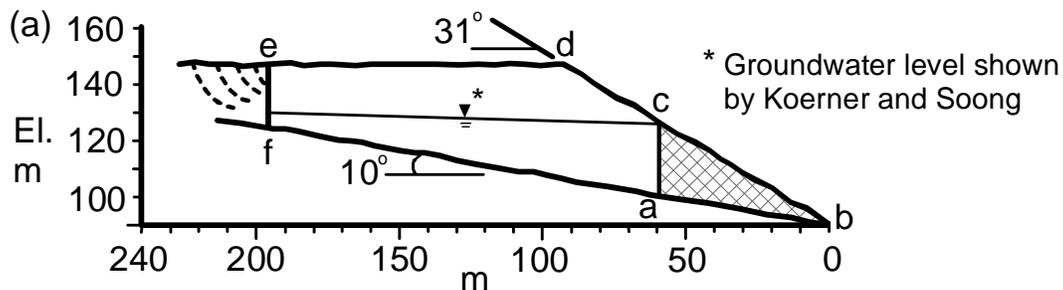


Fig. 3 Ümbaniye Dump Site, Istanbul, section of fill involved in the slide (Koerner and Soong, 2000)

La Coruna, Spain

In October 1996, a massive waste slide occurred at the Bens municipal dump near La Coruna, Spain. The following comments are in reference to this failure and are quoted from TIME (7 October 1996), Financial Times (12 October 1996) and from Genske (2003).

"... a landslide that some locals had predicted for years. The avalanche began when deep fissures appeared in the Bens municipal dump.... Heavy rains are being blamed for the instability. The top has always leaked streams of foul-smelling liquids ... a great heaving mass ... poured down the valley, swallowing sheds and vehicles... with a huge roar, part of the giant tip overlooking O Portino broke off, and a wall of rubbish 50 m high slid down to the rocky Atlantic seafront... sites like this, without facilities for drainage ... the site ... has been operating for 17 years, accumulating rubbish from the metropolitan area's 400,000 residents...an estimated 100,000 tonnes of garbage sheared off the edge of the tip which, swollen with 22 years of refuse, had risen to a 14-storey skyscraper...the avalanche flattened everything it met as it careered downhill for the best part of a kilometre to the sea, coming to rest a short distance from the Atlantic Ocean and narrowly avoiding what would have been one of the greatest environmental disasters in history".

Again, this mode of failure seems to be that of a waste mass moving on a weakened layer of decomposed MSW material.

Payatas, Philippines

"In the Payatas slide, more than 220 people were found dead and an estimated 200-800 persons were still missing in 2004. The major reason for the failure was considered to be the low waste density resulting from the composition of the waste, which was characterized by a high proportion of plastics and organics and a total absence of other materials, such as paper, glass and metals. The impact of low waste density was amplified by heavy rainfall, which is characteristic for tropical locations" (Kölsch and Ziehmman 2004). 13,000 to 16,000 m³ of waste was involved in the slide (Merry et al. 2005). The waste stream consisted predominantly of organic matter, i.e. there was little if any cardboard, plastic, copper wire, glass bottles, wood and metal building materials for shanty homes, or any edible items.

At daybreak, there were loud cracking sounds and water was observed leaking from cracks in the landfill. A large mass of waste came down the hillside similar to a debris flow, covering all the homes and people in its path.

TECHNICAL ARTICLE (Continued)

Landslides in landfills

It seems highly unlikely that the mechanism of this slide as described above can be represented by a circular failure surface such as that shown by Merry et al. (2005). Such failures, originally introduced by Fellenius et al. (1922) in connection with numerous failures in Swedish marine clays, could not in any way be considered to be representative of flow slide failures in landfills such as, for example, this failure.

Another indication of the nature of the Payatas failure is the description by Kölsch and Ziehmann as a large mass of waste coming down the hillside: "On 10 January around 5 a.m. ... a 'garvalanche' (i.e. garbage avalanche) buried the scavengers' cottages and part of the Payatas & settlement area under 10 m of waste. An area of around 30,000 m² in front of the toe of the slope was completely covered by waste and debris."

Ano Liossia, Athens

The MSW of the Greek capital Athens is disposed of at several landfills, one of these being the landfill at Ano Liossia. The area of this landfill is about 50 ha (about 125 acres) and its height varies between 60 and 80 metres. The site is surrounded by chains of hills.

In March 2003 the eastern slope of the landfill failed, covering the 20-metre deep notch between the slope and the recycling facilities behind with waste. Approximately 800,000 m³ of waste moved, leaving a 300 to 400 m wide gap in the slope behind.

According to Kölsch and Ziehmann (2004) "water was very likely the cause as it is in all cases of landfill failures, but no significant water outlet from the failing slope had been reported by the operator...it has not become finally clear why the slope failed...it may also be a consequence of a fire which occurred two weeks before in the landfill stretch concerned."

The combination of heavy rainfalls, no significant water outlet, the high proportion of organics, the thickness and age of the landfill, and the loss of any reinforcing constituents by fire, in all probability led to the existence of a highly decomposed layer of MSW at the base of the waste, as described in the sections above. Such decomposition seems to fully explain the nature of the slide, including the non-existence of any significant water outlet from the failing slope.

LESSONS LEARNED

In their final chapter, entitled "Lessons learned", Schmucker and Hendron (1998) listed the following four lessons learned from the Rumpke landfill slide:

1. It is important to quantitatively understand the relationship between pore pressures in the landfill and factor of safety of specific landfill slopes.
2. MSW is a strong material under static and unsaturated conditions.
3. It is important as well to understand the actual geometry of the slope in making the slope stability calculations.
4. Large landslides in landfills may occur very suddenly; initial surface manifestations of the impending failure may not be very significant and could be misunderstood. Consider installation of instrumentation.

Lessons Nos. 1, 3 and 4 have certainly been confirmed by the present study of several landslides in landfill. Lesson No. 2, however, has been found to apply only to undecomposed MSW above the ground water (leachate) level. The flow-slide behaviour during actual landfill failures demonstrates that the material involved in these failures behaves more like a liquid, the slide occurs very suddenly and the sliding body moves at a considerable speed over a distance of several hundred meters.

TECHNICAL ARTICLE (Continued)

Landslides in landfills

One major and very important conclusion that can be drawn from this study is that the critical portion of a landfill with respect to stability appears to be the bottom (i.e. the oldest) portion of it, which is the portion that is exposed to the highest pressure and temperature, has the highest moisture content, the lowest permeability, and a high content of anaerobic micro-organisms enhancing bacterial activity. Meaningful geotechnical investigations of landfills should therefore concentrate on this zone rather than on the upper less decomposed portions of the fill. One example of advanced decomposition of the bottom portion is the Fresh Kills landfill, opened by New York City in 1948 on Staten Island. The following are excerpts from a description by Rathje (1991) of the Fresh Kills refuse:

“The refuse near the top looked normal...but within 8 to 12 metres of the level of the stream...things changed...all the excavated debris was moist and newspapers were damp...another 5 metres down and the refuse was dripping wet...still another few metres there was only gray slime, studded with lumber remnants...metal cans, bottle glass, plastic jugs and utensils and toys...but no food debris or yard wastes, and practically no paper...the gray slime had to be the result of biodegradation.”

SUGGESTED GEOTECHNICAL INVESTIGATION OF OLD LANDFILLS

Undisturbed sampling of MSW is impracticable. Conventional field investigations such as SPT, vane testing, CPT etc. are also impracticable. However, much can generally be learned from obtaining the following information:

1. Determine the original ground from topographical maps of the area
2. Determine the age of the MSW
3. Determine the method of placing and the type of MSW placed
4. Check the existence of old borings and descriptions of any samples taken
5. Check into the history of the landfill, particularly with respect to any scavenging
6. Obtain a record of rainfalls over the period since placing started
7. Carry out a topographical survey of the landfill
8. Inspect the landfill surface for fissures, cracks, any movements
9. Inspect for any leachate leakages and any foul odours
10. Obtain samples of the MSW by bucket augering or sonic drilling, particularly from the bottom portion
11. Determine the thickness of the MSW
12. Determine the pore pressures in the lower portion of the landfill

Items 1 to 9 do not require any special equipment and can probably be done without undue cost for most, if not all, landfills. Items 10 and 12, on the other hand, definitely would require special and costly equipment and would only be carried out if items 1 to 9 should indicate a high risk of failure.

SUMMARY AND CONCLUSIONS

Several characteristics set MSW materials apart from conventional inorganic soils: fibre reinforcement, high aspect ratios, high compressibility, long-term plastic creep, long-term decomposition, and raveling. In its undecomposed state MSW - as placed - is a discontinuously reinforced material, the reinforcement generally being parallel to the direction of the bedding.

TECHNICAL ARTICLE (Continued)

Landslides in landfills

One major difference between MSW and conventional inorganic soils is that undecomposed MSW is a reinforced material. Another is that it is subject to decomposition. And a major difference between MSW landfills and conventional embankments such as highways and dams is that - more often than not - MSW landfills tend to be located on incompetent foundation soils.

Other problems are (i) the mixing of the MSW with compost or other weak materials, such as in the case of the Rumpke landfill, (ii) the occurrence of smouldering MSW fires (such as in the case of the Ano Liossia landfill) which by consuming combustible constituents will weaken the MSW, and (iii) the effects of scavenging, which tends to result in the removal of reinforcing elements and leaving material that decomposes more readily, i.e. eventually leaving unreinforced slimy material of low strength.

As existing landfills continue to decompose, landfill failures can be expected to continue to occur, particularly if the landfills are located on sloping impervious ground (such as the Ümbaniye failure) or if they are located in an area receiving excessive rainfalls. Failures may initially occur in the form of gradual shear deformations. Eventually, a flow slide type of failure along this layer can be expected to occur as the height of the landfill increases, as the decomposition at the base continues, and as heavy rainfalls are experienced.

Analyses of landfill slides on the basis of conventional soil mechanics principles are not applicable, considering the highly unconventional behaviour of MSW materials.

Cases of high and very steep, but stable, landfill slopes are sometimes reported in the literature. The stability of such slopes is a function of the considerable fibrous (tensile) resistance of the more or less undecomposed MSW constituents. Such slopes will therefore not remain stable indefinitely, but will start to fail as the MSW material starts to decompose.

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APPENDIX

With the permission of the authors, the editor of ISSMGE Bulletin adds photographs of the Leuwigajah landfill in Indonesia that were taken in 2006 after its failure in 2005.



Photo 1 Top scarp of failed landfill



Photo 2 Flow and deposit of waste

CONFERENCE REPORT – 1

Indian Geotechnical Conference (IGC-2011)

The Golden Jubilee conference of the Indian Geotechnical Society (IGS), namely, Indian Geotechnical Conference, IGC-2011 (Geochallenges) was held at Gokulam Convention Centre, Kochi, Kerala, India during 15-17 December, 2011. Indian Geotechnical Conference (IGC) is an annual event of the national society i.e. IGS. It is usually held at various parts of India and organized by local chapters of IGS by rotation. Latest IGC 2011 was organized jointly by the Indian Geotechnical Society Kochi Chapter and Cochin University of Science and Technology (CUSAT), Kochi, Kerala. This is the first time in the history of IGS, an IGC was conducted in Kerala, that too, by one of the youngest Chapters of the national society which was formed about two years back.

The inaugural ceremony of IGC-2011 was held on December 15, 2011 at the Terzaghi Hall of the Gokulam Convention Centre, Kochi, India. The conference was inaugurated by Vice Admiral K. N. Sushil PVSM, AVSM, NM, ADC, Flag Officer Commanding-in-Chief of the Southern Naval Command, Kochi, India who spoke on the complex nature of the Kochi soft soil and expressed his appreciation on the selection of the main theme of the conference as ‘Soft Clay Engineering’ as most appropriate to the challenges faced by the geotechnical engineers in coastal belt of Kerala, India. The Guest of Honour, Mr. A.P.M. Mohammed Hanish, IAS, Managing Director of the Roads and Bridges Development Corporation of Kerala Ltd., India also pointed to the need for deliberations and solutions of complex geotechnical problems faced in the state while releasing the souvenir of the Indian Geotechnical Conference-2011. The Proceedings and CD containing the Technical papers were released by Prof. A. Sridharan. Felicitations were offered by Mr. Cherian Varkey, National President of the Builders Association of India and Mr. Arvind Verma, CMD of AIMIL Ltd., the leading geotechnical instrumentation company.

The Technical exhibition was inaugurated by Prof. Askar Zhussupbekov, Vice President of Asia region of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE). All facets of Civil Engineering discipline was on display at the exhibition with good representation from the natural geotextile sector. Immediately after the inaugural session, 33rd IGS Annual Lecture - 2011 was delivered by Prof. Manoj Datta on the topic ‘Geotechnology for environmental control at waste disposal sites’. A record number of 681 delegates participated in IGC -2011.

The conference proceedings in two volumes contain invited papers and 254 contributory papers selected by a streamlined review process in 4 stages from 381 abstracts received, covering the various themes such as Soft clay engineering, Developments in geotechnical laboratory testing, Field investigations in difficult sub-soil conditions, Foundations in problematic soils, Rehabilitation of foundations of old structures, Earthquake engineering, Innovations in ground improvement, Geosynthetics with natural and synthetic fibers, Deep excavations, Earth retaining structures, Landslides and Slope stability, Environmental Geotechnics, Remote sensing and GIS applications, Numerical and physical modeling, Rock engineering, Tunneling and underground constructions and Case studies in geotechnical engineering. The most significant and note-worthy aspect of this conference is that all the 254 contributed papers have been reviewed by a panel of 65 experts from India and abroad under the chairmanship of Prof. A. Sridharan.

IGC - 2011 had total 14 invited speakers from India, Japan, Korea, Iran, Kazakhstan, UK, United States and Australia. All the 14 invited papers were presented in 5 plenary sessions held in the Terzaghi Hall. These 14 invited lectures were delivered by Prof. Ikuo Towhata from Japan, Prof. Askar Zhussupbekov from Kazakhstan, Prof. K. S. Rao from India, Prof. Y. S. Jang from Korea, Prof. Vijay K. Puri from USA, Prof. M. R. Madhav from India, Dr. Yoichi Watabe from Japan, Mr. Karl Snelling from UK, Prof. S. R. Gandhi from India, Prof. P. V. Sivapulliah from India, Prof. Abbas Soroush from Iran, Prof. K. Prakash from India, Er. Hitesh H. Desai from India and Dr. J. S. Vinod from Australia. Total 254 published contributory technical papers were presented orally in 14 parallel technical sessions held in three different halls, viz. the Terzaghi Hall, the Rankine Hall and the Casagrande Hall over three days.

CONFERENCE REPORT – 1 (Continued)

Indian Geotechnical Conference (IGC-2011)

The first day of the conference, witnessed the signing of the technical collaboration agreement between the Indian Geotechnical Society (IGS) and the Korean Geotechnical Society (KGS), signaling a new era of international co-operation in R&D, similar to the agreement already in force with the Japanese Geotechnical Society (JGS) who had brought a good delegation to IGC-2011 and one of the important event like Indo-Japan workshop on 14th December 2011 at Kochi, India.

The programme on the first day ended with a Banquet Dinner and a musical evening of Gazals held at the picturesque Bolgatty Palace Hotel, in the middle of the Kochi backwaters. A cultural programme representing the fine arts of Kerala was organised on the evening of the second day of the conference followed by Conference Dinner. The three day conference concluded with a valedictory function in the evening of 17th December 2011.

On behalf of the Organising committee, I thank each and everyone for their whole hearted support and cooperation for making the Indian Geotechnical Conference IGC-2011, a success.

Reported by

Benny Mathews Abraham¹ and Deepankar Choudhury²

¹Organising Secretary of IGC - 2011

²EBM of ISSMGE Bulletin, Secretary of TC-212 and Member of TC-203, ISSMGE

Photo Album of Indian Geotechnical Conference (IGC - 2011) held at Kochi, Kerala, India during 15th to 17th December 2011



Inaugural session of Indian Geotechnical Conference (IGC - 2011)

CONFERENCE REPORT – 1 (Continued) Indian Geotechnical Conference (IGC-2011)



Address by the Conference Chairman of IGC - 2011



Inauguration by lighting lamp as per Indian culture



Release of conference proceedings of IGC - 2011 by Prof. A. Sridharan, Technical Chairman



Signing of MOU between Indian Geotechnical Society (IGS) and Korean Geotechnical Society (KGS)



A view of delegates during one of the sessions



Inauguration of exhibition stalls by Prof. Askar Zhussupbekov, Vice President Asia, ISSMGE

CONFERENCE REPORT – 1 (Continued) Indian Geotechnical Conference (IGC-2011)



One of the invited lecture by Prof. M. R. Madhav, Former Vice President Asia, ISSMGE



One of the Technical sessions Chair and Co-chair



A glimpse of Indian classical dance performed during cultural programme



Indian martial art shown during cultural programme



A view of delegates during lunch time



Valedictory session of IGC - 2011 with organizers

CONFERENCE REPORT – 2

Indo–Japan Workshop in Earthquake Geotechnical Engineering

The First Indo - Japan Workshop in Geotechnical Engineering organized jointly by the two of Asia's oldest geotechnical societies, Japanese Geotechnical Society (JGS) and Indian Geotechnical Society (IGS) was the outcome of several decades of interaction that culminated in to official MOU signing ceremony between the two societies in Hong Kong on 23rd May 2011 during the 14th Asian Regional Conference 2011. The MOU was signed by Prof. K. S. Rao, President of IGS and Prof. Osamu Kusakabe, President of JGS in the presence of other senior members of the two societies. India and Japan have always enjoyed excellent relationship and interaction in every field and this new venture will reinforce the activities in the field of geotechnical engineering in the two countries.

As the first activity of MOU between the two societies, it was proposed to hold a joint workshop in 2011 and IGS took initiative to host the First Indo Japan Workshop just before the national Indian Geotechnical Conference (IGC 2011) at Kochi, Kerala, India on December 14th, 2011. Japan has been affected by frequent earthquakes, among many past events, the super earthquake on 11th of March 2011, with Mw=9.0, was a nightmare. India has had its share of bad luck due to earthquakes on 18th September 2011 with Mw=6.9 Sikkim earthquake that was the most recent to hit India. Hence, appropriately, the theme for this workshop was "Earthquake Geotechnical Engineering".

The workshop began with a formal inauguration. Prof. K. S. Rao, Prof. M. R. Madhav, Prof. Babu T. Jose, Prof. Osamu Kusakabe and Prof. Ikuo Towhata were on the dais. While Prof. Rao and Prof. Osamu Kusakabe spoke about their respective societies, their aims and future vision, Prof. M. R. Madhav explained about the importance and usefulness of this Indo - Japan tie-up. Prof. Ikuo Towhata emphasized the relevance of Earthquake Geotechnical Engineering. Prof. Babu T Jose, Chairman of IGC 2011 spoke about the Indian Geotechnical Conference IGC 2011 that was starting on the next day and welcomed all the delegates to join the grand show. Table 1 shows the list of invited speakers and their respective topics in the order of presentation.

There were 13 invited presentations. Each speaker had about 20 minutes for presentation. The details of presentation titles and speakers are given in Table 1. The summary of presentations is as follows.

1. Live experience of two of the recent earthquakes 2011 Great East Japan Earthquake and Sikkim Earthquake of September 18, 2011.
2. Performance of geotechnical structures such as quay walls, pile foundation, earth slopes during earthquake.
3. Microzonation and Liquefaction Hazard Assessment with discussions on microzonation of Indian Mega cities, Liquefaction hazard analysis and site response for Delhi, Mumbai and Vijayawada.
4. Earthquake resistant design and technology with discussions on steel technology and algorithm for sliding displacement of quay wall.
5. Ground modification methods with discussion on innovative method to counter liquefaction hazard, use of light weight backfill to enhance seismic performance of retaining walls.

Furthermore, panel discussion was given an equal importance. The following were the topics of those panel discussions;

1. Microzonation and its relevance
2. Codal provisions and design requirements
3. Performance Based design
4. Performance of Geotechnical structures such as foundations, embankments, retaining walls, slopes and tunnels.
5. Disaster management
6. Cooperation between JGS and IGS

CONFERENCE REPORT – 2 (Continued)

Indo–Japan Workshop in Earthquake Geotechnical Engineering

Table 1 List of invited speakers and topic of presentation during the event

Sl. No.	Speaker	Topic of Presentation
1	Dr. Osamu Kusakabe, Japan	Lessons Learned from the 2011 Great East Japan Earthquake
2	Dr. K. S. Rao, India	Seismic Microzonation of Indian Mega Cities
3	Dr. Ikuo Towhata, Japan	Validation and Strategy of Early Warning Instrument for Mitigation of Precipitation-Induced Slope Failure
4	Dr. M. R. Madhav, India	Seismic Risk Mitigation of Loose Saturated Sands with Granular Inclusions
5	Dr. Yoichi Watabe, Japan	Seismic Performance of Caisson Quay Wall with Lightweight Backfill
6	Dr. A. Boominathan, India	Lateral Dynamic Response and Effect of Weak Zone on the Stiffness of Full Scale Single Piles
7	Dr. Hemanta Hazarika, Japan	Damage to Waterfront Structures in Northern Tohoku Area due to the March 11, 2011 Tsunami
8	Dr. Deepankar Choudhury, India	Seismic Liquefaction Hazard and Site Response for Design of Piles in Mumbai
9	Er. Hiroyasu Ishii, Japan	Effectiveness of Liquefaction Countermeasures in the 2011 M=9 Gigantic Earthquake, and an Innovative Soil Improvement Method
10	Dr. B. K. Maheshwari, India	Geotechnical Aspects of Recent Sikkim Earthquake of September 18, 2011
11	Er. Yoshitake Oka, Japan	Earthquake Resistant Technology Applying Steel Products Based on a Study of the Damage of The 2011 off the Pacific Coast of Tohoku Earthquake
12	Dr. Neelima Satyam D, India	Liquefaction Hazard Assessment Using SPT and VS for Two Cities in India
13	Dr. S. K. Prasad, India	Sliding Displacement of Quay Wall during Earthquake for Performance Based Design

Members conducting the discussion included Prof. Hemanta Hazarika (Moderator), Prof. Ikuo Towhata, Prof. Osamu Kusakabe, Dr. Yoichi Watabe and Er. Hiroyasu Ishii from Japan and Prof. Chandan Ghosh (Moderator), Er. Suresh S., Prof. K. S. Rao and Prof. M. R. Madhav from India.

The following are some remarks from the technical presentations and panel discussion.

1. Microzonation was considered important, especially for Indian cities. Analysis of site effect and ground behavior is one aspect, but, precise evaluation of ground properties with depth is the other challenge. Available methods such as SPT, CPT, SASW and MASW etc. should be utilized judiciously for this purpose.
2. Design procedures need constant revision according to seismic activities in the region. For instance, the super earthquake of March 11, 2011 in Japan has enhanced the target of design acceleration. In India, work on evolving target acceleration for design purpose in different regions needs a more rational and rigorous approach.
3. Performance Based Design should be given more importance. For geotechnical structures, it is more rational to design based on deformation rather than strength based approach.
4. Disaster management is the most important aspect in earthquake engineering. Both the countries suffer from different disasters and methodologies to reduce damaging effects from disaster need to be evolved. These methodologies cannot be unique and may vary according to geographic location, economic and social standing, and policy of government among others.

CONFERENCE REPORT – 2 (Continued)

Indo–Japan Workshop in Earthquake Geotechnical Engineering

5. Cooperation between JGS and IGS has started in a positive manner. There is a need to organize more joint seminars, sharing of resources, exchange of researchers etc. for which more precise planning will be evolved.
6. Performance of geotechnical structures such as foundations, retaining walls, earth slopes etc. during 2011 Great East Japan Earthquake and Sikkim Earthquake of September 18, 2011 were discussed and it was inferred that available design aids and codal provisions need improvement to incorporate new findings and new observations.

The workshop was sponsored by the following organizations.

1. AIMIL Limited, Bangalore, India
2. HEICO Limited, New Delhi, India
3. FERROCO Limited, Indore, India and
4. XPLOER CONSULTANCY SERVICES Pvt. Ltd., New Delhi, India

The financial assistance from them is highly appreciated.

The venue for the workshop was Hotel Park Central in Kochi, Kerala, India. The auditorium and infrastructure for the workshop were excellent. The workshop attracted a large number of participants from academia, research organizations, industry and governmental organizations numbering more than 120 participants that included 9 Japanese experts. After the inaugurations, there were three technical sessions. In the first two sessions, technical presentations were made alternatively from Japan and India by the invited speakers and the last session was devoted for panel discussion.

Prof. S. K. Prasad, Er. S. Suresh, and Prof. Hemanta Hazarika were the coordinators of the workshop. The workshop was appreciated by all the delegates who participated in it especially for time & financial management and technical content.

The following pictures provide the glimpse of workshop. Further, more pictures can be viewed from the picasa web album whose link is detailed below.

https://picasaweb.google.com/113414362584455062408/WORKSHOP_INDOJAPAN_KOCHI_141211_SNAPS?authuser=0&authkey=Gv1sRgCNbAsr2Us8b1Uw&feat=directlink

Reported by

Dr. S. K. Prasad, Er. S. Suresh and Dr. Hemanta Hazarika

Organizing Secretaries

First Indo-Japan Workshop

Kochi, India.

CONFERENCE REPORT – 2 (Continued) Indo-Japan Workshop in Earthquake Geotechnical Engineering

Photo Album of First Indo Japan Workshop held at Kochi, India on 14th December 2011



Dignitaries on dais during the inauguration



Lighting the lamp to symbolize the start of workshop in Traditional Indian fashion



A view of delegates during the sessions



A glimpse of lunch time



Invited speakers and coordinators of the workshop



Members of panel discussion during deliberations

UPCOMING CONFERENCE – 1

International Symposium on Design and Practice of Geosynthetic-Reinforced Soil Structures

14-16 October, 2013, Bologna, Italy

This symposium is held to honor the research achievement of Prof. Dov Leshchinsky. He is a world-renown researcher and educator on reinforced soils and has been a professor of geotechnical engineering at the University of Delaware for more than 30 years.

The symposium will be held under the auspices of:

- the International Geosynthetics Society
- the Italian Geotechnical Association
- TC 101 & TC 305 of the International Society of Soil Mechanics and Geotechnical Engineering
- Department of Civil, Environmental and Materials Engineering (DICAM), University of Bologna
- Japanese research institutes (Public Works Research Institute, Railway Technical Research Institute and National Institute for Rural Engineering).

Symposium topics:

- Geosynthetic-reinforced soil retaining walls
- Geosynthetic-reinforced soil slopes
- Construction of reinforced embankments over soft soil
- Geotextile tubes
- Geosynthetic-reinforced soil structures for railways and highways
- Properties of backfill soils, geosynthetics, and soil-geosynthetic interaction

Special and keynote lectures:

- Leshchinsky, D. (USA): Design approaches to geosynthetic-reinforced walls and slopes
- Cazzuffi, D. (Italy): Geosynthetics engineering
- DiMaggio, J.D. (USA): Geosynthetic-reinforced soil walls and slopes: Best practices in design and construction and reality: Why they differ
- Koseki, J. (Japan) & Shibuya, S. (Japan): Mitigation of disasters by earthquakes and rains/floods by means of geosynthetic-reinforced soil retaining walls
- Nicola Moraci (Italy): Soil-geosynthetic interaction: Design parameters from experimental and theoretical analysis
- Tatsuoka, F. (Japan): Laboratory stress-strain tests for developments in geotechnical engineering research and practice (Bishop Lecture revised for Geosynthetics Engineering)

Abstracts should be submitted online with further instructions available at

<http://www.civil.columbia.edu/bologna2013>.

The deadline of abstract submission: **May 31, 2012**.

Organizing Committee

Fumio Tatsuoka, Tokyo University of Science, Japan
Guido Gottardi, University of Bologna, Italy
Hoe I. Ling, Columbia University, USA
Jie Han, University of Kansas, USA

UPCOMING CONFERENCE – 1 (Continued)
International Symposium on
Design and Practice of Geosynthetic-Reinforced Soil Structures

14-16 October, 2013, Bologna, Italy



UPCOMING CONFERENCE – 2

II PBD Taormina 2012: Second International Conference on Performance Based Design in Earthquake Geotechnical Engineering

28-30 May, 2012, Taormina, Italy

This conference is going to take place from 28th to 30th of May, 2012 in Sicily of Italy. This event is organized by the collaboration of Technical Committee of Geotechnical Earthquake Engineering and Associated Problems (TC203) of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) and the Italian Geotechnical Association (AGI). Following the footsteps of the most successful first PBD conference held in Tokyo in 2009 and the 5th International Conference in Geotechnical Earthquake Engineering held in 2010 in Santiago, Chile, the Taormina PBD 2012 conference will offer 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 of structures. For details, please visit the conference website at <http://www.2pbd-taormina.org>. Some attractive landscapes of the conference venue are addressed in the photographs shown below. The conference program is available in the next page.

Prof. Kyriazis Pitilakis, Prof. Stefano Aversa, and Prof. Michele Maugeri



Cloister



Conference room



View of Conference venue



Entrance of Conference venue

UPCOMING CONFERENCE – 2 (Continued)

II PBD Taormina 2012: Second International Conference on Performance Based Design in Earthquake Geotechnical Engineering

28-30 May, 2012, Taormina, Italy

PROGRAMME

MONDAY March 28, 2012			
09:00 - 09:45	WELCOME OPENING CEREMONY		
09:45 - 10:30	STATE OF ART LECTURE 1 Kenji Ishihara: New Challenges in Evaluating Liquefaction-Induced Damage		
10:30 - 11:00	KEYNOTE LECTURE 1 Atilla Ansal: Site Specific Response Analysis and Design Earthquake Characteristics	KEYNOTE LECTURE 5 Paul W. Mayne: Field and Laboratory Testing	KEYNOTE LECTURE 6 Steve Kramer: Performance-Based Design Methodologies
11:00 - 11:30	Coffee Break		
Oral Presentations			
11:30 - 13:00	SESSION 1a Case histories on Ground Motion and site effects	SESSION 3 Dynamic Characterisation and modeling	SESSION 4 Methodologies for PBD
13:00 - 14:00	Lunch		
14:00 - 14:45	STATE OF ART LECTURE 2 Michele Jamiolkowski : Role of Geophysical Testing in Geotechnical Site Characterization		
14:45 - 15:15	KEYNOTE LECTURE 2 Anastasios Anastasiadis: Site Classification and spectral amplification for seismic code provisions	KEYNOTE LECTURE 7 Ahmed Elgamal: Large-Scale Modeling of Ground and Soil-Structure Earthquake Response	KEYNOTE LECTURE 8 Ross W. Boulanger: Liquefaction-induced strength loss and deformation: Simulation and design
15:15 - 16:45	SESSION 2a Soil Investigation and laboratory testing	SESSION 5 Physical Modeling by Shaking Table Tests and Centrifuge Tests	KEYNOTE LECTURE 4 Takaji Kokusho: Aging effect of Sand Liquefaction observed during Recent earthquake and Basic Laboratory Studies
			SESSION 6a Liquefaction
16:45 - 17:15	Coffee Break		

UPCOMING CONFERENCE – 2 (Continued)

II PBD Taormina 2012: Second International Conference on Performance Based Design in Earthquake Geotechnical Engineering

28-30 May, 2012, Taormina, Italy

17:15 - 18:30	Oral Presentations		
	KEYNOTE LECTURE 3 Kenneth H. Stokoe: Dynamic Characterisation	WORKSHOP Round Robin Tunnel Centrifuge Test Convenor: Francesco Silvestri	KEYNOTE LECTURE 9 Jonathan D. Bray: Liquefaction-Induced Building Movements
	SESSION 1b Case Histories on Ground Motion and site effects	Panelist Presentations Panelist Presentations (continued)	SESSION 6b Liquefaction
TUESDAY March 29, 2012			
09:00 - 09:45	STATE OF ART LECTURE 3 Gian Michele Calvi: Seismic displacement based design of structures: relevance of soil structure interaction		
09:45 - 10:30	STATE OF ART LECTURE 4 George Gazetas: Nonlinear Soil-Foundation-Structure Interaction		
10:30 - 11:00	KEYNOTE LECTURE 10 Ellen M. Rathje: Probabilistic assessment of the performance of slopes	KEYNOTE LECTURE 11 Ikuo Towhata: Seismic Performance of River Levees; Experience and Prediction	KEYNOTE LECTURE 20 Sebastiano Rampello: Predicting the seismic behaviour of the Messina Bridge foundations
11.00 - 11.30	Coffee Break		
11:30 - 13:00	Oral Presentations		
	SESSION 8 Slopes	SESSION 9 Embankments, Landfills and Dams	SESSION 7 Numerical Analysis for PBD
13.00 - 14.00	Lunch		
14:00 - 14:30	KEYNOTE LECTURE 13 Kohji Tokimatsu: Liquefaction-induced damage to buildings in the 2011 Tohoku Pacific Ocean earthquake	SPECIAL SESSION 1 The 2009 Abruzzo Earthquake Convenors Stefano Aversa Michele Maugeri	SESSION 2b Soil Investigation and laboratory testing
		Panelist Presentations	

UPCOMING CONFERENCE – 2 (Continued)

II PBD Taormina 2012: Second International Conference on Performance Based Design in Earthquake Geotechnical Engineering

28-30 May, 2012, Taormina, Italy

14:30 - 15:00	KEYNOTE LECTURE 21 Rodolfo Saragoni: Earthquake Performance Design of Dams using Destructive Potential Factor		
15:00 - 16:30	SYMPOSIUM IN HONOR OF PROFESSOR SHAMSHER PRAKASH Chairman: Pedro Seco e Pinto Co-Chairman: Michele Maugeri Invited Speaker Presentations		
16.30 - 17.00	Coffee Break		
17:00 - 18:30	SPECIAL SESSION 2 The 2011 Tōhoku Earthquake and Tsunami Convenors: Kenji Ishihara, Takaji Kokusho, Susumu Yasuda Panelist Presentations		
20.30 - 23.00	Gala Dinner		
WEDNESDAY March 30, 2012			
09:00 - 09:45	STATE OF ART LECTURE 5 Kyriazis Pitilakis: Performance and seismic design of underground structures		
09:45 - 10:15	KEYNOTE LECTURE 14 Susumu Yasuda Allowable settlement and inclination of houses defined after the 2011 Tohoku - Pacific Ocean Earthquake in Japan	KEYNOTE LECTURE 12 Claudio di Prisco: Seismic response of shallow footings: a promising application for the macro-element approach	KEYNOTE LECTURE 16 Alain Pecker The role of non-linear dynamic soil-foundation interaction on the seismic response of structures
10.15 - 10.45	KEYNOTE LECTURE 15 George Bouckovalas Kinematic interaction of piles into laterally spreading soil	SESSION 11a Pile foundations	SESSION 12a Soil Structure interaction
10:45 - 11:15	Coffee Break		
11:15 - 13:00	Oral Presentations		
	SESSION 10 Shallow foundation	SESSION 11b Pile foundations	SESSION 12b Soil Structure interaction

UPCOMING CONFERENCE – 2 (Continued)
II PBD Taormina 2012: Second International Conference on
Performance Based Design in Earthquake Geotechnical
Engineering

28-30 May, 2012, Taormina, Italy

13.00 - 14.00	Lunch		
14:00 - 14:30	KEYNOTE LECTURE 17 Michele Maugeri Displacement versus Pseudo-static Evaluation of the Seismic Performance of Retaining Walls	KEYNOTE LECTURE 18 Yoshihisa Miyata Performance of Reinforced Soil Walls during the Recent Great Earthquakes in Japan and Geo-Risk based Design	KEYNOTE LECTURE 19 Edward Kavazanjian Performance Based Design for Seismic Design of Geosynthetics-Lined Landfills
14:30 - 16:00	SESSION 13 Retaining wall	SESSION 14 Earth Reinforced retaining wall	SESSION 15 Underground Structures
16.00 - 17.30	SPECIAL SESSION 3 The 2011 New Zealand Earthquake Convenors: Michael Pender, Misko Kubrinovski Panelist Presentations		
17.30 - 18.00	CLOSING CEREMONY		

ANNOUNCEMENT – 1

2012 Young Researcher Award of TC 203 ISSMGE

The Technical Committee of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE), TC203 “Earthquake Geotechnical Engineering and Associated Problems”, recognizes early-career scientists and engineers who have exceptional promise of excellence in research and significant contribution in the field of Geotechnical Earthquake Engineering.

The award is presented biennially at Conferences organized by Technical Committee of ISSMGE TC203. Candidates must not exceed the age of 40 by December 31 of the year the award is given.

The Recipient receives an award plaque and the registration fee will be waived for the conference at which the Award will be presented. The recipient will be invited to give a theme lecture at the conference.

The first Award will be presented during the 2nd International Conference on Performance-Based Design in Earthquake Geotechnical Engineering in Taormina, Italy in May 28-30, 2012.

<http://www.2pbd-taormina.org/>

Nominations will be evaluated by a committee of five members of the Technical Committee TC203 of the ISSMGE and will be announced by March 30, 2012.

A nomination package must consist of a letter of nomination, a brief CV containing in synopsis of the candidate’s achievements and contributions to the field and a list of refereed publications.

Please submit information to: Professor Ellen Rathje, University of Texas at Austin, email:e.rathje@mail.utexas.edu (All materials must be received by 15 March, 2012. Award will be announced by March 30, 2012)

Reported by
Kyriazis Pitolakis,
Chairman of TC-203, ISSMGE

ANNOUNCEMENT – 2

2012 Shamsheer Prakash Research Award

Shamsheer Prakash Foundation solicits nomination (no application) for the 2012 SHAMSHER PRAKASH RESEARCH AWARD for young engineers, scientists and researchers (40 years or younger, Date of Birth 03-31-72 or later) from all over the world. Nominations are invited so as to reach the Honorary Secretary on or before March 31, 2012. The candidates should be specialists in Geotechnical Engineering and/or Geotechnical Earthquake Engineering and it is necessary that they have significant independent contributions and show promise of excellence in research.

The Award consists of cash prize US \$1100.00 and a plaque. The nominations may be made on a plain paper and submitted electronically.

All nominations will be reviewed by a Judging Committee of International Experts from Canada, Australia, Hongkong, Japan, and United States and the award will be announced by September 30, 2012. Suitable arrangements will be made for making the award at a function/event which the awardee may choose.

*For nominations from India, please contact Registrar, Indian Institute of Technology Roorkee, Fax 91-1332-273560, E-mail: deanalumni@iitr.ernet.in or adap@iitr.ernet.in

For SP Award of Excellence in the Practice of Geotechnical Engineering, please see details on the website [www.yoga10.org](http://yoga10.org) <<http://yoga10.org/index.html>>

PARTICULARS FOR NOMINATION

(Please note the new cut-off date)

Please send only ONE complete nomination package in PDF format (Max:5MB) to the Foundation electronically and 1 CD-R by mail. The following information must be included in this order in each folder:

1. Name of the Candidate with complete postal address and telephone, fax number, E-mail, date of birth, age on March 31, 2012.
2. Letter of Nomination including a statement of 500 words of the Significant Contributions and/or international impact and future potential.
3. Two to Four or more letters of recommendation.
4. Chronology of education.
5. Chronology of jobs held.
6. Area of specialization.
7. Complete list of refereed publication in journals only (please attach not more than three (3) significant recent publications).
8. One 5" x 7" color digital photo with citation for listing, if winner.
9. Any other relevant information.

Please make sure to put all the above information in a single PDF file only not to exceed 5MB size.

For any further information, please contact: Sally Prakash <<mailto:prakash@mst.edu>>, Honorary Secretary or Shamsheer Prakash <<mailto:prakash@mst.edu>>, 1707 Jackson Circle, Rolla, MO-65401, USA Email: prakash@mst.edu

Previous Years Research Award Winners <http://yoga10.org/ra_old_winners.html>
Award Ceremonies <http://yoga10.org/award_ceremony_new.html>

Shamsheer Prakash
Shamsheer Prakash Foundation (www.yoga10.org)

CALL FOR JOURNAL PAPERS

Géotechnique Letters Themed Issue

Rapid publication themed issue: abstract deadline 23 March 2012: Géotechnique Letters will publish a themed issue this summer on the topic of 'Geomechanics across the scales'. Please find its Call for Papers below.

Themed issues editors: Professor Itai Einav, The University of Sydney, Australia, and

Professor Boris Jeremić, University of California, Davis, USA

Deadline for abstracts (ben.ramster@ice.org.uk): 23 March 2012.

Deadline for papers (to <http://www.editorialmanager.com/glett>): 20 April 2012.

First peer-review decisions: late May.

Acceptance of revised papers: June

Publication: July 2012.

Geomaterials are rich in features interacting across the scales - from asperity size to grain size, from the length of force chains to the thickness of shear bands, and from laboratory samples to the full engineering dimension. Large-scale geotechnical engineering could gain so much from accurate description of the relevant features presented in the finer-scales.

In-situ and laboratory measurements have an important role in detecting the true physical origins of geotechnical failures. Rational theories are required to underpin this physics in terms of predictive tools, while numerical computations are useful for extending theoretical work, allowing for the analysis of geomaterials with all their complexities variabilities and uncertainties.

The Advisory Panel invites technical papers detailing experiments, models or computations that deal with the connection of large-scale observations to the finer-scales and the inherent variability and uncertainty of behaviour of geomaterials. Papers are sought on in-situ field characterisations, presenting new knowledge originating from the finer-scales. A focus will be placed on the usefulness of the presented theories, findings and results and the brevity of the presentation, as expected from Géotechnique Letters' 2000-word papers.

Topics might include:

- **HOMOGENISATION METHODS LINKING THE SCALES:** Formulae developments expressing parameters in terms of averages and/or their distributions of finer-scale features. Applications can range from defining fundamental material properties to applied geotechnical results.
- **EXPERIMENTAL OBSERVATIONS LINKING THE SCALES:** Measurements detailing the material topology (e.g., particles, cements, fluid menisci, discontinuities and interfaces), variability and observations revealing how large-scale problems nucleate or interact with finer scales phenomena.
- **IN-SITU EVIDENCES LINKING THE SCALES:** Field data demonstrating how large-scale geotechnical failures can be connected to finer-scale phenomena, and the role played by the inherent variability and uncertainty in those failures.
- **COMPUTATIONAL METHODS:** Developments and application of computational methods that lead to significant new understanding of geomaterial behaviour (e.g., FEM models enriched with fine-scale topologies, particle-based methods such as the DEM, cellular model automata, stochastic/probabilistic FEM, etc.).
- **OTHER METHODS:** Characterisation tools benefiting from assumed energy balance criteria (e.g., describing the opening of cracks and crushing of particles), and dimension analyses providing powerful scaling laws.

[Guidelines for authors: <http://www.icevirtuallibrary.com/upload/LettersGuidelines.pdf>].

NEWS**Request for Monitoring of Soils and Foundations Journal**

Sign up today to receive free online access through Volume 52, Numbers 1-2 to Soils and Foundations.

Soils and Foundations will be published online in partnership with Elsevier via ScienceDirect. The first issue to be published online will be the February 2012 issue. To commemorate the launch of online availability, Soils and Foundations is pleased to offer those who are not subscribing Soils and Foundations yet the chance to register for a free online trial of the first two issues, Numbers 1 and 2 of the 2012 Volume. This offer is only valid until the end of May, 2012.

To sign up, send e-mail to: monitor_sandf@jiban.or.jp.

Please note that the 5th issue in October 2012 will be a Special Issue on 'The 2011 Great East Japan Earthquake'. This issue will have completely open public access; that is, access to this issue online will be free and will not require any registration.

We sincerely hope that you will make the decision to subscribe to Soils and Foundations after participating in the free trial. Subscription details can be found at our journal web site:
<http://www.jiban.or.jp/e/subscription-rates/>

Akira Murakami
Professor of Kyoto University
Editor, Soils and Foundations

OBITUARY**Professor Wilson H. Tang**

Written by Charles W. W. Ng

On Thursday, January 5, 2012, Professor Wilson H. Tang, aged 68, passed away peacefully in the company of his loving family in Chicago after a long and courageous battle with his illness. Born in Hong Kong, Professor Tang pursued further studies in the US after completing his high school education at La Salle College. He earned his Bachelors (1966) and Masters (1967) from the Massachusetts Institute of Technology, and completed his Doctorate from Stanford University (1969), all in Civil Engineering. He taught at the University of Illinois at Urbana-Champaign for 27 years before joining the Hong Kong University of Science and Technology as Chair Professor and Head of the Department of Civil Engineering in 1996. Under his leadership, the department evolved into one of the best in Asia. He retired in 2009, but remained active in research, teaching and public service.



Professor Tang had an extremely distinguished academic career in which he made significant contributions in the areas of safety and reliability analysis in Civil Engineering. He was a world leader in promoting the use of reliability based methods for risk mitigation and design in various areas, geotechnical engineering in particular. His expertise covered application of probability methods to the wide area of civil infrastructure engineering/management. He had over 250 technical publications and his co-authored books (with A. H-S Ang) including "Probability Concepts in Engineering Planning & Design," recently revised, have been widely adopted by top universities worldwide. The books have also been translated into five languages. Professor Tang had led several major international boards and committees. He was a long-term member of ISSMGE and served as vice chair of TC32 Risk Assessment and Management between 1997 and 2001. More importantly, he encouraged his colleagues and students to join ISSMGE. His distinguished career is evident by the highest honors that he received worldwide including the State of the Art Award, Fellow and Distinguished Member from the American Society of Civil Engineers, the highly respected T.K. Hsieh award from the Institution of Civil Engineers in the UK, the US Offshore Energy Center's Hall of Fame and Guggenheim Fellow, and Fellow and Vice President of the Hong Kong Academy of Engineering Sciences.

NEW BOOKS

Information from the Institution of Civil Engineers: www.icevirtuallibrary.com

- (1) ICE Manual of Geotechnical Engineering.
ISBN 9780727736529, publishes Feb 2012

Many civil engineers leave university with some knowledge of applied mechanics, geology and some soil and rock mechanics but often a limited grounding in geotechnical engineering. A good geotechnical engineer needs to appreciate the balance between theoretical principles, practical experience and the uncertainties present when dealing with the ground in its natural state. This manual is intended to address this need.

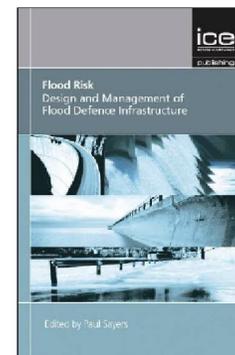
£200.00, Hardbound, 2 volumes.



- (2) Flood Risk: Design and Management of Flood Defense Infrastructure
edited by P. Sayers.
ISBN 9780727741561, publishes June 2012

This publication is a practical handbook on design and maintenance of flood defenses, providing a coherent and focused reference for best practice. Coverage includes the design of fluvial, coastal and urban flood defenses as well as guidance on relevant legislation, lessons learned from the past disasters and means of improving the environment while managing flood risk.

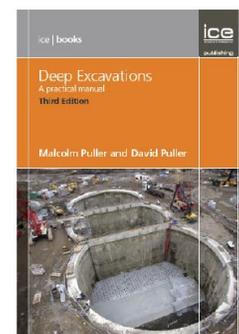
£75.00, Hardbound



- (3) Deep Excavations, 3rd Edition by M. Puller and D. Puller.
ISBN 9780727741172, publishes December 2012

This manual assembles the practical rules and details for the efficient and economical execution of deep excavations. The third edition uses international case examples, including the Nicholas Highway, Singapore, the Silken Hotel, Aldwych, and others. New material has been included on basic reasons behind deep excavations, typical design calculations for basement excavation support and for cofferdams, underpinning and ground freezing in design of soil support, risk of deep cofferdams in soft ground, CTRL cut and cover and well formulae, and computer programs available.

£120.00, Hardbound



Event Diary

ISSMGE EVENTS

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

2012

Second International Conference on Performance-Based Design in Earthquake Geotechnical Engineering

Date: 28 - 30 May 2012

Location: Conference Center , Taormina, Italy
Language: English

Organizer: ISSMGE TC-203

- Contact person: Dr. Claudio Soccodato
- Address: Associazione Geotecnica Italiana (AGI), viale dell'Università, 11, 00185 Roma, Italy.

- Phone: 39 064465569

- Fax: 39 0644361035

- E-mail: agiroma@iol.it

Website: www.2PBD-taormina.org

TC 211 International Symposium & Short Courses "Recent Research, Advances & Execution Aspects of GROUND IMPROVEMENT WORKS"

Date: 30 May - 1 June 2012

Location: IS: Crowne Plaza Brussels , Brussels, Belgium

Language: English

Organizer: TC 211 Ground Improvement

- Contact person: BBRI - Carine Godard

- Address: Avenue P. Holoffe 21
B-1342 Limelette, Belgium.

- Phone: 32 2 655 77 11

- Fax: 32 2 653 07 29

- E-mail: carine.godard@bbri.be

Website: www.bbri.be/go/IS-GI-2012

12th Baltic Sea Geotechnical Conference

Date: 31 May - 2 June 2012

Location: Stadhalle (Town Hall) Rostock, Rostock, Germany

Language: English

Organizer: German Geotechnical Society

- Contact person: German Geotechnical Society

- Address: Gutenbergstr. 43
45128 Essen, Germany.

- Phone: 49 201 78 27 23

- Fax: 49 201 78 27 43

- E-mail: service@dggt.de

Website: www.12bsgc.de

Shaking the Foundations of Geo-engineering Education (SFGE) 2012

Date: 4 - 6 July 2012

Location: NUI Galway, Galway, Ireland

Language: English

Organizer: ISSMGE

- Contact person: Dr. Bryan McCabe

- Address: Civil Engineering, National University of Ireland, Galway (NUI Galway)
Galway, Ireland.

- Phone: 353 91 492021

- Fax: 353 91 494507

- E-mail: bryan.mccabe@nuigalway.ie

Website: www.sfge2012.com

11th ANZ 2012 Geomechanics Conference

Date: 15 - 18 July 2012

Location: Crown Promenade Hotel, Melbourne, Victoria, Australia

Language: English

Organizer: Leishman Associates

- Contact person: Leishman Associates

- Address: 113 Harrington Street
7000 Hobart, Tasmania, Australia.

- Phone: 61 36234 7844

- Fax: 61 6234 5958

- E-mail: nicole@leishman-associates.com.au

Website: www.anz2012.com.au

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

Event Diary (continued)

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

• 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/

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

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

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

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

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

Event Diary (continued)

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: glsc@civil.iisc.ernet.in

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 Ingeniería Civil &
Ambiental, Bogotá, Colombia.

- Phone: 571 3324312
 - Fax: 571 3324313
 - E-mail: panamunsat2013@uniandes.edu.co
- Website: www.panamunsat2013.uniandes.edu.co

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

5th International Symposium on Geotechnical Engineering, Disaster Prevention and Reduction, and Environmentally Sustainable Development

Date : May 15-17 May 2013

Location : Incheon, South Korea

Language : English

Contact person : Prof. Eun Chul Shin, University of Incheon, Korea

E-mail : ecshin@incheon.ac.kr

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/

Event Diary (continued)

2014

8th European Conference on Numerical Methods in Geotechnical Engineering (NUMGE14)

Date: 18 - 20 June 2014
 Location: Delft University of Technology, Delft, Netherlands.
 Language: English
 Organizer: Prof. Michael Hicks
 • Contact person: Mrs. Hannie Zwieters
 • 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

• Phone: 1.703.295.6015
 • E-mail: rschweinfurth@asce.org
 Website: www.geocongress2012.org

NGM 2012. 16th Nordic Geotechnical Meeting

Date: 9 - 12 May 2012
 Location: Tivoli Congress Center, Copenhagen, Denmark
 Language: English
 Organizer: Danish Geotechnical Society
 • Contact person: Morten Jorgensen
 • Address: Sortemosevej 2
 DK-3450 Allerød, Copenhagen, Denmark.
 • Phone: +45 4810 4207 ; +45 4810 4207
 • Fax: +45 4810 4300
 • E-mail: moj@niras.dk
 Website: www.ngm2012.dk

NON-ISSMGE SPONSORED EVENTS

2012

PARAM-GEO 2012

Date: 15 - 16 March 2012
 Location: Riu Palace OCEANA 5*, Hammamet, Hammamet, Nabeul, Tunisia
 Language: Francais
 Organizer: ATMS - Tunisie
 • Contact person: Mehrez Khemakhem et Wissem Frikha
 • Address: ATMS : Ecole Nationale d'Ingénieurs de Tunis, BP 37, Belvédère, 1002 Tunis, Tunisia
 • Phone: 216 98656012
 • Fax: 216 71872729
 • E-mail: mehrez.khemakhem@isetsf.rnu.tn ad awissef.frikha@enit.rnu.tn
 Website: atms.goya-tn.com/Application_Goya/Actualites2/doc_s/1329312897.pdf

11th International & 2nd North American Symposium on Landslides

Date: 3 - 8 June 2012
 Location: Fairmont Banff Springs Hotel , Banff, Alberta, Canada
 Language:
 Organizer: CGS, AEG, JTC1
 • Contact person: Wayne Gibson, P.Eng. Conference Manager
 • Address: c/o Gibson Group Association Management, 8828 Pigott Road, V7A 2C4 Richmond, BC, Canada.
 • Phone: 1 (604) 241-1297
 • Fax: 1 (604) 241-1399
 • E-mail: info@isl-nasl2012.ca
 Website: www.isl-nasl2012.ca/index.php?lang=en

Geo-Congress 2012

Date: 22 - 25 March 2012
 Location: Oakland, California, United States
 Language: English
 Organizer: Geo-Institute of ASCE
 • Contact person: Rob Schweinfurth
 • Address: 1801 Alexander Bell Drive
 Reston, VA 20191, United States.

Event Diary (continued)

Third International Conference on New Developments in Soil Mechanics and Geotechnical

Date: 28 - 30 June 2012

Location: Near East University , Nicosia, North Cyprus, Turkey

Language: English

Organizer: TNCSMGE, NEU

- Contact person: Cavit Atalar
- Address: ZM2012 Organising Committee Chair, Third International Conference on New Developments in Soil Mechanics and Geotechnical Engineering, Department of Civil Engineering, Near East University, Nicosia, North Cyprus, Mersin 10, TURKEY.

• Phone: 90 392 223 6464

• Fax: 90 392 223 6461

• E-mail: zm2012@neu.edu.tr;

zm2012@kibris.net

Website: zm2012.neu.edu.tr

34th International Geological Congress (34th IGC)

Date: 5 - 10 August 2012

Location: Convention and Exhibition Ctr , Brisbane, Queensland, Australia

Language: English

Organizer: IUGS

- Contact person: For full contact details see - <http://www.34igc.org/congress-manager.php>

• Address: 34th IGC, PO Box 177 Redhill, Queensland 4059, Australia.

• Phone: 61 7 3368 2644

• Fax: 61 7 3369 3731

• E-mail: info@34igc.org

Website: www.34igc.org/index.php

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

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>

Event Diary (continued)

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

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

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

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
ISSMGE WEBSITE

<http://addon.webforum.com/issmge/index.asp>

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NORWAY



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Transportation Division
Geotechnology Section
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BELGIUM



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Corporate Headquarters
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Exton PA 19341, United States



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TURKEY



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Fabrikstrasse 13-15
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Germany



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Merkez Mah. Resadiye Cad. No. 69/A
Alemdag, Umraniye
İstanbul, 34794 TURKEY



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GERMANY



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P.O.Box: 166129 Achrafieh
Beirut, LEBANON

Corporate Associates (continued)



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



Construtora Norberto Odebrecht
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Pinheiros CEP-05402-600
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Paulo/SP
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Lane Cove West
NSW, 2066
AUSTRALIA



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



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São Paulo/SP - 05533-000
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Dasan Consultants Co. Ltd
Dasan B/D
107 Mujeong-dong, Songpa-gu,
Seoul 138-200, Korea



Brasfond Fundacoes Especiais SA
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Cep: 04551-000 Vila Olímpia
São Paulo / SP
BRAZIL



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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



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



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

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.

Message from Corporate Associate:
Arjuna Consulting Inc.



Arjuna Consulting is a geotechnical consulting firm that is based in Kurukshetra City of Paradioland 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, Arjuna Consulting has got recently a special award from the King of Paradioland.



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

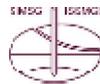
Example of Corporate Associate page

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/>



- **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



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



Foundation Donors (continued)

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

- **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 for 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.

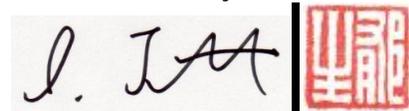
Examples of desired type of articles in recent issues have addressed "*Soil Improvement under New Levees in New Orleans*" and "*Development of New Cone Penetrometer*" as well as "*Harbour Construction in Australia*." For more idea, you can freely download past issues of the bulletin from the website of ISSMGE; <http://www.issmge.org/web/page.aspx?refid=430>

Because the Bulletin is an electronic publication, there is no page limitation. Colour 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 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

The image shows a handwritten signature in black ink that reads "I. IAA". To the right of the signature is a vertical black line, followed by a red square seal containing stylized Japanese characters.

Ikuo Towhata