

IGS NEWS



NEWSLETTER OF THE INTERNATIONAL GEOSYNTHETICS SOCIETY

Dedicated to the scientific and engineering development of geotextiles, geomembranes, related products, and associated technologies

VOLUME 31, No. 2

2015

President's Corner	2	Members Pietro Rimoldi and Chao Xu	22
General Information for IGS Members	2	IGS UK Chapter - Geosynthetics in Pavement Engineering: Working Towards 2025	22
IGS Students Awards: 2013 to 2016	2	Rencontres Géosynthétiques 2015	23
Awarded Work of IGS Award Winners 2014	3	Geomembranes Installation Workshop in Brazil	25
Young IGS Member Achievement Award.....	3	5 th IGS Brazil Annual Meeting / Geosynthetics in Agenda	25
Behavior of Geosynthetics and Geosynthetic-Reinforced Soil Retaining Walls through Model Testing and Advanced Numerical Analysis	5	IGS Netherlands Chapter Suzanne van Eekelen received her PhD on Basal Reinforced Piled Embankments.....	27
Technical Committees IGS-TC	8	Playing with Geosynthetics IV - Workshop IGS-Netherlands 14 April 2015: Sustainable Geosynthetic Constructions.....	28
XVI European Conference on Soil Mechanics and Geotechnical Engineering (ECSMGE)	8	IGS Chapter Australasia GNA Newsletter	31
IGS TC Reinforcement Workshop:.....	9	The new corporate identity of GIGSA the South African Chapter of IGS.....	31
IGS TC-B Workshop on Geosynthetics Barrier Systems	10	IGS Chapter of Panama established in 2014	32
IGS TC-H Open Meeting on Hydraulic Applications	11	Report from the "Educate the Educators on Geosynthetics" in Portugal, 29 - 30 June 2015	33
IGS TC Barrier Systems Activities Report	11	1 st International Seminar of IGS Colombia	34
IGS TC-Reinforcement Activities Report	12	Geosynthetics for soil reinforcing: Embankments on soft foundations, steep slopes, and very steep slopes ("walls").....	34
Announcements of Regional Conferences of IGS .13		List of IGS Chapters	35
GeoAmericas 2016 3 rd Pan-American Congress on Geosynthetics.....	13	Official Journals of the IGS	37
EuroGeo6 6 th European Regional Conference on Geosynthetics	14	Geosynthetics International	37
GeoAsia6 6 th Asian Regional Conference on Geosynthetics	15	Geotextiles & Geomembranes	38
Announcements of Conferences under the Auspices of IGS	16	Corporate Membership	40
15 th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering (15ARC).....	16	Case studies – use the chance!	40
News from the IGS Chapters and the Membership 16		Stabilised access route to flood prone Muchelney Village, Somerset, UK, 2014	40
The 5 th Chinese Geosynthetic Reinforcement Conference & IGS Ambassador Meeting	16	Corporate Members of the IGS	41
Nicola Moraci is the new President of the Italian Geotechnical Society (AGI)	19	Corporate Profile – SKZ German Plastics Center ..	47
5 th IAGIC Conference	20	IGS News Publisher, Editor and Chapter Correspondents	48
Italian Chapter AGI-IGS: New Officers Board elected	21	IGS Council	49
TRB Best Paper 2015 Award for IGS Council		IGS Officers	49
		IGS Membership Application	50
		Calendar of Events	51

President's Corner



Russell
Jones

Dear members of the IGS,

Welcome to the second edition of IGS News for 2015. Gerhard Bräu, and his team of reporters and contributors have again put together a comprehensive set of announcements and reports of IGS activities that make interesting reading.

Of particular note are the recent and planned activities of the IGS Technical Committees. It is very pleasing to see that the TC Barriers has organised sessions at the Geosynthetics 2015 conference in Portland and the CRAMSG 16th conference in

Tunisia already this year. I am particularly grateful to all the TC chairs as there has been great progress made over the last 12 months and lots of activity.

I must also point out the TC activity at the upcoming 16th European Conference on Soil Mechanics and Geotechnical Engineering to be held in Edinburgh in September. TC Reinforcement has organised a workshop on geosynthetic-soil interaction and design models on Sunday 13 September which boasts presentations from 16 researchers and practitioners. There is also to be an open meeting of TC Hydraulics on the morning of Monday 14 September, and TC Barriers has organised a workshop to be held in the afternoon of the same day. Those of us who attended the successful EuroGeo4 in Edinburgh in 2008 will remember the whisky tasting tour in the exhibition hall, and I'm reliably informed that the conference organisers have a similar activity planned for their conference. I hope to see many IGS members at Edinburgh. Sláinte!



D. Russell V. Jones
IGS President

General Information for IGS Members

IGS Students Awards: 2013 to 2016

The success of the IGS Student Award program will continue, now with its seventh award period of 2013 to 2016.

The Awards will be assigned in the year 2016-2017 and all successful candidates will be invited to attend one of the IGS regional conferences in 2016, i.e., GeoAmericas 2016, EuroGeo6 or Geosynthetics Asia2016, or GeoAfrica 2017.

The IGS student award was established to disseminate knowledge and to improve communication and understanding of geotextiles, geomembranes and associated technologies among young geotechnical and geoenvironmental student engineers around the world.

The IGS student award will consist of US\$1,000 to be used to cover travel expenses of each winner to attend a regional conference. The US\$1,000 will not be distributed without such attendance. If the student receives funding and subsequently does not attend the conference the Student's IGS Chapter will be responsible for the refund of the award. This award amount will be assigned to only one student per IGS Chapter. The selected student should have been an undergraduate, M.Sc. or Ph.D. student during the period 2013-2016.

The IGS is interested in encouraging the involvement of the students during the selection process. To ensure student representatives from each chapter participate in the program to the fullest extent possible, the chapters must accomplish the following:

- Chapters must organize a contest or conduct a nomination process to select the student candidate to represent the chapter. The process should include submission by the student candidates of abstracts and preparation of a technical paper for one of the IGS regional conferences in 2016 or 2017.
- While the IGS chapters are free to define the characteristics of the nomination/competition process, this process should be documented and provided to the IGS.
- Chapters must notify the IGS of the name of the student selected. Communication will be made by the IGS to all chapters as regards the deadlines for those two actions.
- The winner student should provide the IGS in parallel to the conference organizers with the abstract and paper submitted.

While this year's process requires careful documentation of the nomination process, the IGS Awards task force is available to help in the preparation of such process.

The IGS will transfer US\$1,000 to the student upon receipt of the draft paper. IGS Student Award winners will participate in dedicated sessions at their regional conference, where they will present their paper.

IGS Student Awards recipients will be required to submit a written report to the IGS on the regional conference and on the IGS-related conference activities. This report should also be provided by the Student Awards winners to their own chapter.

In recognition of the IGS Student Award winners and to maximize benefits to the students, the organizers of the regional conferences are required to hold a dedicated session in which the student papers will be presented. They must also provide the students with a copy of the proceedings and admission to the sessions and the exhibition. In addition, a comprehensive student program will be organized in each regional conference to maximize their exposure to geosynthetics and the IGS. This includes a recognition ceremony during the conference as well as their participation in corporate receptions, social functions, and activities specific to each conference.

Please feel free to contact the IGS Secretary, Elizabeth Peggs (elizabeth@geoindex.com) or Nathalie Touze-Foltz (nathalie.touze@irstea.fr) with questions about the IGS Student Award Program.

Reported by

Nathalie Touze-Foltz (Chair of the Awards Task Force)

Awarded Work of IGS Award Winners 2014

It is good tradition and part of the IGS Awards procedure to have summaries of the awarded work of the winners published in IGS News. The first part is published in IGS News 03/2014, two more follow in this issue and the placement will be continued.

Young IGS Member Achievement Award

Kuo-Hsin Yang

This Young IGS Member Achievement Award was given to Kuo-Hsin Yang, Associate Professor in the Department of Civil and Construction Engineering at National Taiwan University of Science and Technology (Taiwan), for his research work on GRS structures and his contribution to education and promotion on geosynthetics in Taiwan.

Research

Dr. Yang has conducted researches and projects on the analysis, design and case study of GRS structures using both numerical (limit equilibrium and finite element) and physical (centrifuge and field monitoring) modeling. The aim is to provide better understanding of the performance of GRS structures with complex geometries (narrow or multi-tier wall) or under natural disaster conditions (heavy rainfall or seismic loadings). This section summarizes the results of his research work, published in Mohamed et al. (2014, 2013) and Liu et al. (2012), focused on investigating the performance and failure mechanism of multi-tier walls with various offset distances.

GRS walls in a tiered configuration are acceptable alternatives to conventional retaining wall systems because of several benefits such as cost, stability and construction constraints, and aesthetics. In addition, drainage swales or ditches can be installed along the toe of each tier to minimize the surficial flow induced erosion and water infiltration

induced instability. A tiered wall is a transitional structure between a single wall and slope (Fig. 1) that can reduce construction costs and increase system stability compared with a single wall. Because of its configuration, the tiers interact and mutually affect each other. The upper and lower tiers interact through the equivalent surcharge from the upper tier acting on the lower tier, and the vertical and lateral deformation of the lower tier influencing the behavior of the upper tier. Consequently, this interaction can cause additional wall deformation and reinforcement loads in both the upper and lower tiers.

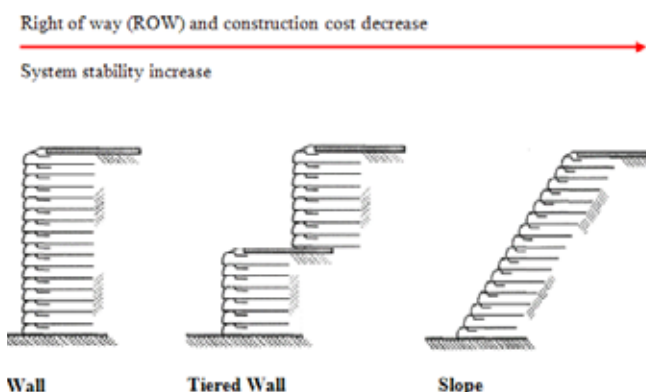


Figure 1. GRS structures with various configurations.

Current design methods for analyzing GRS multitier walls are based on the lateral earth pressure method, an extension of the design method for analyzing single tier reinforced walls. The design approaches in these guidelines are considered empirical and are geometrically derived based on the relative distance or offset distance, D , between upper and lower tiers. These guidelines do not fully address the interactive mechanism between two tiers: only consider the additional vertical stresses from the overlying wall tiers acting on the lower tiers but do not account for the influence of the lower tier on the upper tier.

The author conducted a series of numerical analyses of GRS two-tier walls with various offset distances. The objectives were fourfold: 1) to evaluate the applicability of LE and FE methods for analyzing GRS two-tier walls; 2) to investigate the performance and failure mechanism of GRS two-tier walls with various offset distance; 3) to investigate the interactive mechanism between two tiers; 4) to examine the design methods for multitier walls in current design guidelines. The FE simulations were first verified according to the centrifuge test (Fig. 2). The FE results were then used to investigate the influence of offset distance on additional vertical stress from the upper tier wall, mobilization and distribution of reinforcement tensile loads, and horizontal deformation at the wall faces.

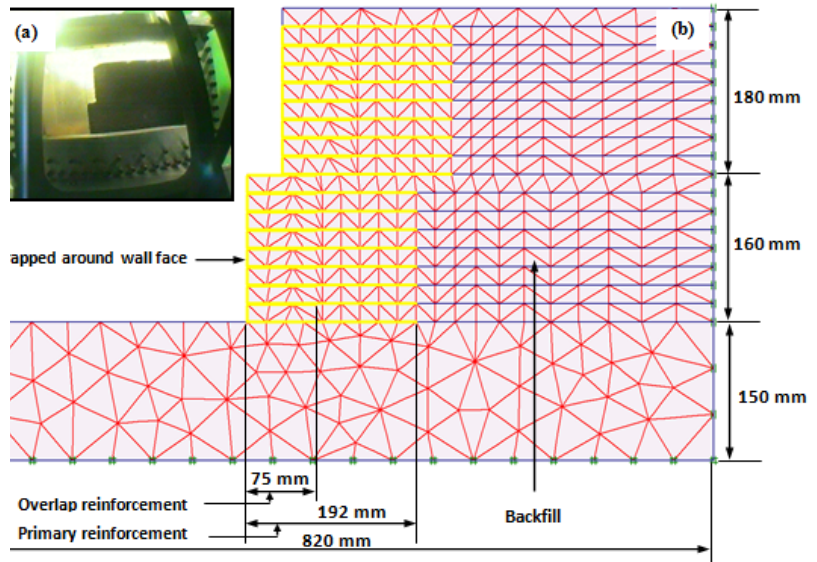


Figure 2. GRS two-tier wall model: (a) centrifuge at initial condition; (b) finite element setup and initial mesh.

The FE simulations were first verified according to the centrifuge test (Fig. 2). The FE results were then used to investigate the influence of offset distance on additional vertical stress from the upper tier wall, mobilization and distribution of reinforcement tensile loads, and horizontal deformation at the wall faces.

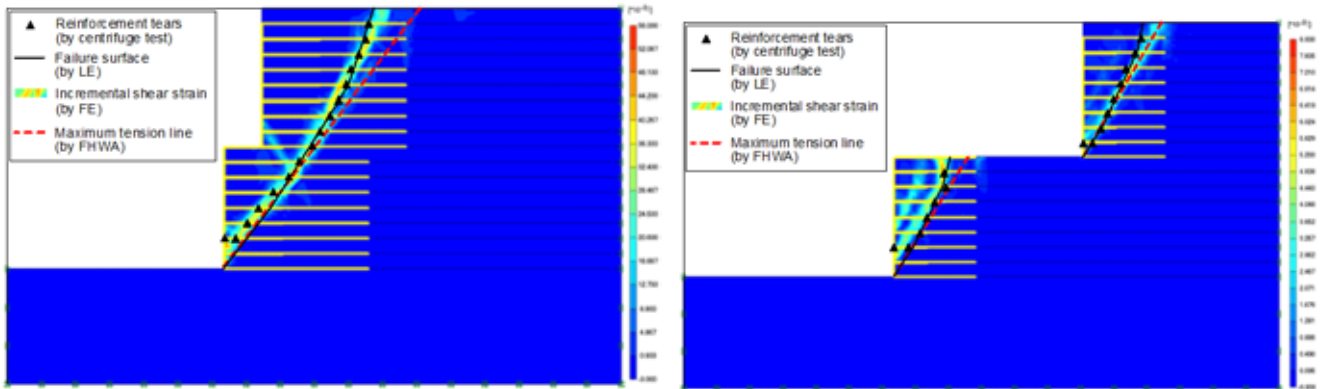


Figure 3. Predicted and measured locations of failure surfaces from two-tier wall model: (left) compound wall; (right) independent wall.

The study results demonstrated favorable agreement between FE, LE and the centrifuge model in locating the failure surface (Fig. 3). For compound wall case, the maximum tension lines in FHWA design guidelines depict failure surfaces at a long distance from the wall face, particularly for the upper part of the upper tier.

The FE results indicated that as the offset distance increased, the reinforcement tensile load and wall deformation decreased in both the upper and lower tiers, suggesting that the two tiers mutually affect each other and the interaction attenuates as the offset distance increased. The maximum tensile loads of all reinforcement layers at the wall failure predicted using FE analysis and LE method assuming uniform distribution of reinforced tensile loads were comparable. The critical offset distance D_{cr} shown in Fig. 4 is the offset distance beyond which two

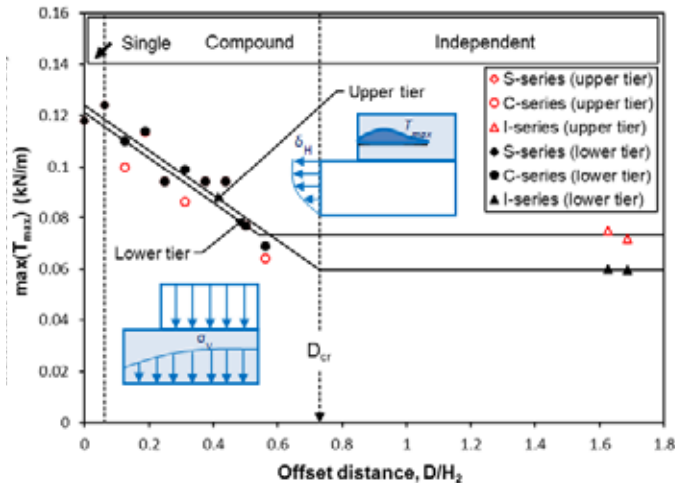


Figure 4. Effect of offset distance on maximum reinforcement tensile load

tiers act independently. In Fig.4, $D_{cr} = 0.73H_2$ (where H_2 is the height of the lower tier wall) was identified when the decreased $\max(T_{max})$ value with increased D reached a constant value. The D_{cr} value recommended by the FHWA is approximately 1.5 times greater than those determined using FE in this study. Consequently, using the D_{cr} value provided in the current design guidelines would likely result in a conservative design because of predicting a longer offset distance for two tiers to become independent.

Education

Dr. Yang regularly teaches “Design of reinforced earth retaining structures” in the graduate course and delivers a three-hour lecture for the subject of “Introduction and application of geosynthetics” in the “Soil mechanics II” course for undergraduate students. The aim is to increase geosynthetic education at both graduate and undergraduate levels in the civil engineering program in Taiwan. He also organized a small-scale paper MSE wall competition for students to let students get hands-on experience on design and build for reinforced soil structures in a fun way. Students are learning by doing and gain much confidence in their design (Fig. 5).



Figure 5. Small-scale paper MSE wall competition: (left to right) discuss on students' design; place 25kg surcharge; success after placing large loading (three people stand on the top of the paper MSE wall).

Acknowledgements

Centrifuge modeling tests was conducted by Dr. W-Y Hung at the National Central University, Taiwan. The financial support for Dr. S. Mohamed during his Ph.D. study was provided by the Taiwan Ministry of Education under the grant for “Aim for the Top-Tier University Project”. The author also thanks Dr. C-N Liu, professor at the National Chi-Nan University, for the research collaboration and valuable comments.

Reference

- Mohamed, S., Yang, K-H and Hung, W-Y, (2014) “Finite Element Analyses of Two-Tier Geosynthetic-Reinforced Soil Walls: Comparison Involving Centrifuge Tests and Limit Equilibrium Results”, *Computers and Geotechnics*, 61, 67-84.
- Mohamed, S., Yang, K-H, and Hung, W-Y, (2013) “Limit Equilibrium Analyses of Geosynthetic-Reinforced Two-Tiered Soil Walls: Calibration from Centrifuge Tests”, *Geotextiles and Geomembranes*, 41, 1-16.
- Liu, C-N, Yang, K-H, Ho, Y-H, and Chang, C-M (2012) “Lessons Learned from Three Failures on a High Steep Geogrid-Reinforced Slope”, *Geotextiles and Geomembranes*, 34, 131-143.

Behavior of Geosynthetics and Geosynthetic-Reinforced Soil Retaining Walls through Model Testing and Advanced Numerical Analysis

Hoe I. Ling, Columbia University, New York, NY, USA

Introduction

Geosynthetic-reinforced soil retaining walls (GRS-RWs) have been developing very rapidly in the past few decades, where they are used in transportation infrastructure construction. They gradually gained acceptance as permanent structures in railways and highways, as well as in the private sector. It was a natural progression for engineers to later start construct them in the earthquake-prone regions.

Japan has developed GRS-RWs with a rigid facing, while modular-block facing walls are rather popular in North America. In the 1995 Kobe earthquake, various kinds of retaining walls systems were subjected to strong earthquake shaking (and several more earthquakes in subsequent years). In North America, the popular modular-block facing reinforced soil retaining walls were subjected to minor shaking during the 1994 Northridge earthquake. We gained much confidence in the earthquake performance of GRS-RWs, but were troubled by their lack of good per-

formance during the 1999 Chi-chi earthquake in Taiwan [1].

In this short article, I would like to summarize some of our research projects related to the earthquake response of GRS-RWs. Verbal descriptions are given, and relevant publications are listed for interested readers to refer to.

Simplistic Approach

In 1994, Dov Leshchinsky and I started working on implementing a rigid-plastic stick-slip procedure to determine permanent displacement of GRS-RWs [2, 3]. By examining the different failure modes under earthquake (pseudo-static) loading, we found that the direct sliding mode of failure may become predominant under strong shaking. Comparisons of sliding displacement were made for several case histories as reported in literature. Subsequently, the study was extended to include vertical components of accelerations [4]. We noticed the effects of vertical acceleration, which increases the required reinforcement length and force when acting downward, but led to a reduced sliding stability when acting upward. A comparison was made to the sliding out for Tanata Wall during Kobe earthquake.

Seismic Response and Advanced Numerical Analysis

From the displacement obtained in a rigid-plastic analysis, we tried to move a step further by analyzing the cyclic response of GRS-RWs. While the finite element procedures have been established for the dynamic response of structures, we certainly need to have a reasonable soil model for simulating the cyclic behavior of soils and geosynthetics. The constitutive models for granular materials were formulated using generalized plasticity [5]. Constitutive modeling of sand itself is an independent subject of research and the challenging part is the pressure and density dependency of sand behavior, as well as the effects of cyclic loading – densification behavior for dry soils (likewise, liquefaction for saturated loose sand). Cyclic tensile loading tests were conducted for several types of geosynthetics [6] and their cyclic behavior was formulated using bounding surface plasticity [7]. In the modeling of cyclic behavior of geosynthetics, we tried to accommodate the nonlinear S-shape loading curve of some geosynthetic materials due to their manufacturing process. The constitutive models of sand and geosynthetics have been implemented into a special purpose geotechnical finite element program and the procedures were validated extensively with laboratory test results. We were able to validate the analysis with a series of shaking table tests conducted in a centrifuge at the Tokyo Institute of Technology [8]. Note that the wall facing used in the centrifuge was not made of modular blocks. Parametric studies have also been conducted to investigate the effects of soil properties, reinforcement layouts, earthquake motions, etc., on the wall response [9].

Large Scale Shaking Table Tests as “Benchmarks”

The physical models, especially reduced scale models, have been a traditional method of geotechnical testing in the laboratory. In order to overcome the scale effects, either enhanced gravity testing or field testing is conducted. In the enhanced gravity models such as centrifuge, simulation of prototype behavior of geosynthetics, blocks and soil-structure interaction is not fully possible. Field testing, on the other hand, does not allow for a full control of testing conditions and characterization of material properties. Thus, large scale testing is considered a good alternative to centrifuge model testing and field testing. That is, no scale reduction is needed yet the cost can still be affordable. Large scale testing is possible only at several limited facilities world wide where the shaking table is of acceptable size, which allows for actual shaking motions. We collaborated with Dr. Yoshiyuki Mohri (currently a Professor at Ibaraki University) of the National Institute of Agricultural Engineering, Japan. The shaking table is of dimensions 6 m x 4 m, having a payload of up to 500 kN, and maximum three-dimensional accelerations of 1g in each direction. A rigid steel box was fabricated that accommodated a wall of height 2.8 resting on a foundation of 0.2 m. Several series of studies were conducted on geosynthetic-reinforced soil retaining walls having modular-block facing using actual horizontal and vertical components of Kobe earthquake records. The details of the walls are summarized in the table below:

Wall #		1	2	3	4	5	6	7	
Backfill		Sand				Clayey Sand			
Earthquake Motions (Kobe JMA)	Vertical Acceleration	no		yes					
	Times of Shaking	2 (half, full intensities)			4 (half, full, full, full)				
Reinforcements	Major Layers (polyester, 35 kN/m)	2.05 m		1.68 m Double-layer reinf in Wall 4		1.68 m Lip removed for facing blocks in Wall 7			
	Top layer (polyvinyl alcohol, 20 kN/m)	2.05 m		2.52 m		2.52 m	1.68 m		
	Vertical Spacing	0.6	0.4			0.4	0.8		

The first phase of study was using sandy soil as backfill [10], whereas clayey soil was used in the second phase of

study [11]. The walls were heavily instrumented with over 100 channels: strains in geogrid layers, facing lateral displacements, backfill settlements, and earth pressures acting at the facing blocks and bottom of backfill. The tests with multiple shakings, with intensity as large as that of the Kobe earthquake, confirmed the earthquake performance of the wall system. The heavily instrumented walls also acted as the benchmarks for validation of numerical procedures. Note that in addition to modular-block facing walls, a total of 5 walls having geocell facing have also been tested in a separate study [12].

As a more economical means of studying the behavior of GRS-RWs, the previously validated numerical procedure is required. This has been achieved by comparing the analyzed results with the full-scale walls. The aim was to achieve a satisfactory agreement of the response (both in space and time) not only qualitatively, but also quantitatively [13]. The generalized plasticity model has then been unified against sand of different densities [14]. Up to this stage, we have studied numerically the response of walls having sandy soil as backfill. The benchmarks have been used by other groups of researchers in validating their numerical procedures, as discussed in [15].

Summary

A number of GRS-RW projects have been accomplished in North America using the same modular blocks and geosynthetics as described in the large-scale testing. Recently, the same wall system has been used for highway intersection project in Sofia, Bulgaria, considering high seismic load with a height of over 12 m, for a total distance of more than 2.1 km. The wall, before completion of construction, was subjected to the Pernik earthquake ($M=5.6$) in 2012. A satisfactory performance was confirmed [16].

The study on the earthquake response of GRS-RWs has become multi-disciplinary, which requires knowledge beyond traditional geotechnical engineering. It is learned that well documented studies are needed in advancing our state-of-art and state-of- practice.

Acknowledgments

The studies as described have been sponsored by a number of agencies and industries, including US National Science Foundation, Japan National Research Institute of Agricultural Engineering, Allan Block, and Huesker Synthetic GmbH. The assistance provided by the collaborators and former students, as well as the recognition by the IGS Award Committee, is especially appreciated.

References

- [1] Ling, H.I., Leshchinsky, D., and Chou, N.N.S. (2001). "Post-earthquake investigation on several geosynthetic-reinforced soil retaining walls and slopes during 1999 Ji-Ji earthquake of Taiwan." *Soil Dynamics and Earthquake Engineering*, 21(4), 297-313.
- [2] Ling, H.I., Leshchinsky, D., and Perry, E.B. (1996). "A new concept of seismic design of geosynthetic-reinforced soil structures: Permanent displacement limit." *Earth Reinforcement*, Ochiai, Yasufuku & Omine, Eds., Balkema, 797-802.
- [3] Ling, H.I., Leshchinsky, D., and Perry, E.B. (1997). "Seismic design and performance of geosynthetic-reinforced soil structures." *Geotechnique*, 47(5), 933-952.
- [4] Ling, H.I. and Leshchinsky, D. (1998). "Effects of vertical acceleration on seismic design of geosynthetic-reinforced soil structures." *Geotechnique*, 48(3), 347-373.
- [5] Ling, H.I. and Liu, H. (2003). "Pressure-level dependency and densification behavior of sand in a generalized plasticity model." *Journal of Engineering Mechanics*, ASCE, 129(8), 851-860.
- [6] Ling, H.I., Mohri, Y., and Kawabata, T. (1998). "Tensile properties of geogrids under cyclic loadings." *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 124(8), 782-787.
- [7] Ling, H.I., Liu, H.B., Mohri, Y., and Kawabata, T. (2001). "A bounding surface model for geogrid." *Journal of Engineering Mechanics*, ASCE, 127(9), 963-967.
- [8] Ling, H.I., Liu, H., Kaliakin, V., and Leshchinsky, D. (2004). "Analyzing dynamic behavior of geosynthetic-reinforced soil retaining walls." *Journal of Engineering Mechanics*, ASCE, 130(8), 911-920.
- [9] Ling, H.I., Liu, H. and Mohri, Y. (2005). "Parametric studies on the behavior of reinforced soil retaining walls under earthquake loading." *Journal of Engineering Mechanics*, ASCE, 131(10), 1056-1065
- [10] Ling, H.I., Mohri, Y., Leshchinsky, D., Burke, C., Matsushima, K., and Liu, H. (2005). "Large scale shaking table tests on modular-block reinforced soil retaining wall." *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 131(4), 465-476.
- [11] Ling, H.I., Leshchinsky, D., Mohri, Y., and Wang, J-P. (2012). "Earthquake response of reinforced segmental retaining walls backfilled with substantial percentage of fines." *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 138(8), 934-944.
- [12] Ling, H.I., Leshchinsky, D., Wang, J-P., and Rosen, A. (2009). "Seismic response of geocell retaining walls: Experimental studies." *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 135(4), 515-524.
- [13] Ling, H.I., Yang, S., Leshchinsky, D., Liu, H., and Burke, C. (2010). "Finite element simulations of full-scale modular block reinforced soil retaining walls under earthquake loading." *Journal of Engineering Mechanics*, ASCE, 136(5), 653-661.

[14] Ling, H.I. and Yang, S. (2006). "A unified sand model based on the critical state and generalized plasticity." *Journal of Engineering Mechanics*, ASCE, 132(12), 1380-1391.

[15] Ling, H.I. (2011). Discussion on: Numerical simulation of geosynthetic-reinforced soil walls under seismic shaking [Lee, K.Z.Z., Chang, N.Y., Ko, H.Y., 2010. *Geotextiles and Geomembranes* 28, 317–334], *Geotextiles and Geomembranes*, 29(2), 168-169.

[16] Alexiew, D., Leite-Gembus, F., and Jossifowa, S. (2013). "Geogrid-reinforced segmental block walls for a highway intersection project: Design and specific solutions." *Design and Performance of Geosynthetic-Reinforced Soil Structures (Symposium Honoring Research Achievement of Professor Dov Leshchinsky, Bologna, Italy)*, 283-296.

Technical Committees IGS-TC

It is a great pleasure to present the XVI European Conference on Soil Mechanics and Geotechnical Engineering in this section of IGS News, as the organizers offer a wide and extensive support of the various IGS Technical committees. Several open meetings, sessions and workshops are organized to demonstrate the great interaction of geotechnical engineering and geosynthetics. Following the announcement of the conference itself please find articles showing the activities of the IGS TC's in Edinburgh.

XVI European Conference on Soil Mechanics and Geotechnical Engineering (ECSMGE)

Geotechnical Engineering for Infrastructure and Development

Edinburgh International Conference Centre, 13 to 17 September 2015

Prior to the formal opening, the Conference will be hosting an ISSMGE Board Meeting on Saturday 12th and an ISSMGE Council Meeting on Sunday 13th. In addition, there is a full programme of Technical Committee meetings, both during the weekend and during the remainder of the week, running in parallel with the rest of the Conference. Of particular note is an all day meeting on the Sunday of the International Geosynthetics Society.

Registration for delegates opens on the Sunday, which culminates during the early evening in a Cultural Event and Welcome Reception for the official opening of the exhibition. Entertainment will be provided by Clanadonia, a Scottish "Drums & Pipes band with a difference".

Monday starts with the Opening Ceremony, carried out by the Scottish Minister of Transport, Mr Derek Mackay. In attendance will be Prof Roger Frank, President of ISSMGE, Antonio Gens, ISSMGE Vice-President for Europe, Prof Mike Winter, Chairman of the Conference Organising Committee and Dr Chris Menkiti, Chairman of the BGA.

Technical proceedings commence with Prof Kenichi Soga of Cambridge University, who will present the first Key-note Lecture on the Contribution of Monitoring to Resilient Infrastructure and Development on Monday. On Tuesday Prof António Gomes Correia of the University of Minho, Guimarães, Portugal, will present his Keynote Lecture on Geotechnical Engineering for Sustainable Transportation Infrastructure. Whilst on Wednesday Prof Giulia Viggiani of the University of Rome Tor Vergata, will present her Keynote Lecture on Recent Developments in Soil Mechanics with Applications and Case Studies.

The main sessions of the conference are titled

- Infrastructure
- Slopes, Geohazards & Problematics
- Environment, Water & Energy
- Investigation, Classification, etc.
- Parameters & Modelling
- Development



Whilst the oral presentations are in progress, there will be a wide variety of poster presentations within the Strathblane Hall. These will be on both conventional poster displays and on electronic poster boards. The electronic poster boards will provide access to all the poster presentations via an iPad interface.

The first day will culminate in a plenary session celebrating the younger members of the geotechnical community. There will be presentations selected from the European Young Geotechnical Engineers Conference (EYGEC) which is being held in Durham University at the end of the previous week (11 and 12 September) as well as from the Cooling Prize, held by BGA for young geotechnical engineers. This will be followed by presentation of the BGA awards.

For many though, a highlight may be the Whisky Tour being held in the Exhibition Hall during the early evening on Monday. An opportunity to sample a number of fine examples of Scotland's most famous drink.

A record number of delegates are expected to attend the Conference. Over 700 papers were submitted and the number of registrations is now rising fast. The response from the industry has also been beyond expectations and the exhibition halls are already almost full with only limited sponsorship items still available.

As well as a high level technical programme, there will be ample opportunity to network at the various social events, including a Whisky Tour and a sumptuous gala dinner in the historic surroundings of the Royal Museum of Scotland.

For further details about the Conference visit <http://xvi-ecsmge-2015.org.uk/>

IGS TC Reinforcement Workshop: Research on Geosynthetic-Soil-Interaction and Progress of Design Models for Geosynthetic Reinforced Soil Edinburgh International Conference Centre, Sunday, 13 September 2015

The International Geosynthetics Society has established technical committees (IGS TC) for the main technical topics related to the use of geosynthetics. These committees provide a platform for the exchange and improvement of knowledge and for increasing and passing along the experience of the field's experts. A series of stand-alone workshops and symposia organized by these TCs has been planned on a biennial basis.

The first workshop of the **Technical Committee on Soil Reinforcement (TC-R)** will be held just before the **XVI European Conference on Soil Mechanics and Geotechnical Engineering (XVI ECSMGE) September 2015 in Edinburgh, UK**. The XVI ECSMGE has provided complimentary use of a room at their venue, the Edinburgh International Conference Center, for the workshop. All delegates to the TC-R are expected to register as delegates to the XVI ECSMGE to gain access to the venue.

The TC-R workshop focuses on the interface of geosynthetics and soil mechanics. High-level presentations will be enhanced by discussions concerning:

- Actual research works that aim for a better understanding of the interaction of soil and geosynthetics. This will lead to an improved prediction of serviceability limit state and of the bearing capacity of geosynthetic-reinforced soil structures. These revelations will continue to improve the safety and cost-effectiveness of reinforced constructions while extending service lives.
- The state of regulations for geosynthetic-reinforced slopes and retaining structures. The aim of this topic is mainly to get a step further in understanding various national approaches and help find suitable solutions for how regulations are being updated, such as Eurocode 7's impending revision and inclusion, for the first time, of these geosynthetic-reinforced structures.

The **IGS TC-Reinforcement Workshop** will be held **Sunday, 13 September 2015, from 10:00 until 17:00** in the **Sidlaw Room** at the **Edinburgh International Conference Centre**.

There is a £40 registration fee for the TC-R Workshop to cover the affiliated catering cost; it is not a fee for attending the workshop itself. Registration must be made in advance so catering quantities can be correctly arranged. Only those pre-registered for the TC Reinforcement workshop will be given access to the workshop. Participants will receive downloads of the event slides after the session takes place. For the registration for the TC Reinforcement Workshop only please use this link: [REGISTRATION](#)

A lively and fruitful day of discussion is certain, and we are excited to help further the field's progress in this dynamic and in-demand segment of engineering. We look forward to gathering with geosynthetics, soil mechanics, and affiliated engineering community members at the TC-Reinforcement Workshop in Edinburgh.

For further information please contact Gerhard Bräu, Chair of IGS TC-R, (g.braeu@tum.de) or the IGS Secretariat (igssec@geosyntheticssociety.org).

Program of the Workshop

13 September 2015, 10:00 – 13:00

Geosynthetic – Soil - Interaction

- *Lackner, Christian*: Microscopic interaction effects of geogrid reinforced soil
- *Jacobs, Felix, Ziegler, Martin*: Modeling geogrid pullout with an explicit interaction model
- *Moraci, Nicola* : Pull-out testing and the related use in design of reinforced soil structures
- *Oliver, Tim, Jas, Hein*: Understanding the mechanism of geogrid-soil mechanical stabilisation
- *Perkins, Steve*: Influence of Design Variables on Layer Coefficient Ratio (LCR)

- *Vollmert, Lars, Weisemann, Ulrike, Perkins, Steve, Watn, Arnstein*: „Magic effects“ on geogrid-reinforced soil explained by triaxial testing at low strains
- *Zornberg, Jorge, Peng, X.*: Evaluation of soil-geogrid interaction using transparent soil
- *Black, Jonathan A., Tatari, Alireza*: Interaction behaviour of soil and geo-grid reinforcement in physical modelling

13 September 2015, 14:00 – 17:00

International Design Models for Reinforced Soil

- *Horgan, Graham*: Design of geosynthetic reinforced slopes and walls in accordance with British standard BS 8006:2010
- *Bezuijen, Adam, van Eekelen, Suzanne*: Reinforced structures, the Dutch design guideline and future work.
- *Naciri, Omar, Delmas, Philipp*: Reinforced steep slopes and walls using Geosynthetics - National French Design Standards.
- *Bräu, Gerhard, Herold, Andreas*: Experience with EBGeo for reinforced soil applications
- *Forsman, Juha, Koivisto, Kirsi*: Finnish national design guidelines for georeinforcements following Eurocode - first experience with regard to the design of reinforced soil retaining walls
- *Cazzuffi, Daniele, Moraci, Nicola, Recalcati, Piergiorgio, Rimoldi, Pietro*: Design of reinforced soil structures in static and seismic conditions according to Italian codes
- *Watanabe, Kenji*: Development of Geosynthetics Reinforced-soil Structure for the Japan Railway.
- *Smith, Colin, Tatari, Alireza*: Computational Limit Analysis and ULS Design of Reinforced Soil Systems

IGS TC-B Workshop on Geosynthetics Barrier Systems Edinburgh International Conference Centre, Monday, 14 September 2015

The Barrier Systems workshop, organized by the IGS Technical Committee on Barrier Systems, will be held **13:00 to 17:00 on Monday 14 September 2015 in Room Harris 2** during the **XVI European Conference on Soil Mechanics and Geotechnical Engineering** (13 - 16 September 2015) at the Edinburgh International Conference Center, Edinburgh, UK. **The TC-Barriers Workshop does not require pre-registration, but participation is restricted to fully registered attendees of the XVI ECXMG 2015 conference.**

Tentative program

- 13:30-13:45 Introduction and Workframe of IGS TC-Barriers
Kent von Maubeuge (Chair, TC-B)
- 13:45-14:15 Barriers in coal ash applications in North America
Boyd Ramsey (GSE Lining Technology, USA)
- 14:15-14:45 Durability of geomembranes in hydraulic applications
Ana Marta Noval Arango (Freelance Innovation Consultant, Spain)
- 14:45-15:15 Geosynthetics for Fukushima recovery - Storage of nuclide contaminated soil and MSW disposal
Takeshi Katsumi (Kyoto University, Japan)
- 15:15-15:45 Barrier systems for noise barriers with contaminated soils
Thomas Egloffstein (ICP, Germany)
- 15:45-16:15 Break
- 16:15-17:00 Introduction of ISO Geosynthetics Guide on Barriers – Panel Discussion
Peter Atchinson (PAGeotechnical, UK) and Kent von Maubeuge (NAUE, Germany)
- 17:00 Closure

For inquiries about this workshop, please contact:

Kent von Maubeuge (TC-B Chair, kvmaubeuge@naue.com) or
Takeshi Katsumi (TC-B Secretary, katsumi.takeshi.6v@kyoto-u.ac.jp).

IGS TC-H Open Meeting on Hydraulic Applications

Edinburgh International Conference Centre, Monday, 14 September 2015

The International Geosynthetics Society IGS has recently formed the new Technical Committee on “Hydraulic Applications: Drainage, Erosion Control, and Coastal Protection”. The new Technical Committee will be indicated with the acronym: TC-H

TC-H is dedicated to the scientific and engineering development of geosynthetics systems and associated technologies related to “Hydraulic Applications of Geosynthetics: Drainage, Erosion Control and Coastal Protection”.

It will provide a forum for active participation by the members of IGS and will promote the dissemination of knowledge, technology, research findings, design and construction methodologies related to “Hydraulic Applications of Geosynthetics: Drainage, Erosion Control and Coastal Protection” in geotechnical and geoenvironmental engineering.

Activities may include but are not limited to: workshops with affiliated societies, white papers, technical session planning and organization, compiling summaries of regulations in various countries, recommendations for geosynthetic utilization in specific applications (e.g., Drainage, Erosion Control and Coastal Protection), attracting young members to the committee, project and research monitoring, and conference and publication participation.

The present organization of TC-H is:

- - TC-H chair: Pietro Rimoldi (Italy)
- - TC-H co-chairs: Sam Allen (USA) and Chiwan Wayne Hsieh (Taiwan)
- - TC-H secretary: Ian Fraser (U.K.)

The newly formed **IGS Technical Committee on Hydraulics** will hold an open meeting during the XVI ECSMGE conference. To gain admittance to the meeting you must be fully registered with the conference. All **registered conference attendees** who are interested in learning about and participating in this committee are asked to attend. The meeting will take place on **Monday 14 September 2015 from 11:30 - 13:00 in Room Harris 2.**

Agenda

1. Introduction & Welcome
IGS Past President & Chair of TC Coordination: Jorge Zornberg
 - a. Description of the current IGS TCs and their role in the society and as a part of the geosynthetic discipline.
 - b. Introduction of the new TC – Hydraulic Applications: Drainage, Erosion Control and Coastal Protection
2. Review of Geosynthetics in hydraulic applications
IGS TC-Hydraulics Chair: Pietro Rimoldi
3. TC Hydraulics: organization, logistics and functions
IGS TC-Hydraulics Co-Chair: Sam Allen
4. Planned activities of TC Hydraulics
IGS TC-Hydraulics Chair: Pietro Rimoldi
5. Open discussion
 - Potential activities of TC-H
 - Potential deliverables of TC-H
 - Scope and structure of TC-H
6. Closing

All Attendants to XVI ECSMGE and particularly the IGS members are invited to join the meeting and contribute with ideas and proposals.

Moreover all IGS members wishing to join TCH can be registered during the meeting.

Anyway contributions from all Countries are welcome and can be submitted by email to the IGS Secretary at any time.

For inquiries regarding this meeting please contact:

Pietro Rimoldi, TC-H Chair -pietro.rimoldi@gmail.com

IGS TC Barrier Systems Activities Report

The International Geosynthetics Society Technical Committee on Barrier Systems (IGS-TC-B) has been working to promote and distribute information on the newest developments in geosynthetics as a barrier.

Following the Berlin ICG (International Conference on Geosynthetics) it was determined that the regulatory and governmental agencies were likely underrepresented at Berlin and the information and developments presented

there were perhaps not reaching those regulators and other individual who could benefit by access to that information. In an effort to address this, copies of the proceedings of Berlin are being made available to regulators and governmental officials on a no charge basis. Additionally specific papers highlighting topics of interest have been selected by an attending regulator and promotion of this effort has been sent to each IGS chapter for distribution. Chapters are welcomed to contact IGS to receive free copies for regulators in their countries

The TC-B has also been active in promoting sessions and soliciting and collecting papers on barrier topics of interest. This includes sessions (2015) as listed below:

- Geosynthetics 2015 Portland, Oregon Geosynthetics 2015 event held 15-18 February 2015
- CRAMSG 16th 2015 event held in Tunisia, 27-30 April 2015 <http://www.cramsg2015.org/?lang=en>
- 14 September 2015 in Edinburgh, Scotland during the ISSMGE European Conference (xvi-ecsmge-2015.org.uk) – The meeting room will be Harris 2 and the time is: 13:30 – 17:00
- At the 15th Asian Regional Conference of Soil Mechanics and Geotechnical Engineering (ISSMGE-15 ARC) to be held from 9 to 13 November 2015 in Fukuoka, Japan
- At the ASCE GeoCongress to be held in Chicago, Illinois 14 - 18 August 2016 and at the three regional IGS upcoming conferences in 2016, namely GeoAmericas 2016 (Miami, 10 - 13 April 2016), EuroGeo 6 (Istanbul, 25 - 28 September 2016), GeoAsia 2016 (New Delhi, 8 - 11 November 2016)

The TC-B is currently working on the preparation of a leaflet on Barrier systems. The draft is currently being revised within the TC-B board and will then be forwarded to IGS for editing and printing.

The TC-B has initiated other programs such as a compilation of regulations, an installation video and other data collection efforts, but we have been restrained by low participation by our committee membership and the IGS members in general. We urge you to support your industry organizations by engaging



Full room in the TC-B technical session during the Geosynthetics 2015 Portland, Oregon event held 15-18 February

in the activities of the technical and operational groups within IGS. Those who have supported this effort, we thank you for your participation and helping our industry to grow and prosper. Therefore we kindly ask to send current documents, links, video clips or information to kvmaubeuge@naue.com.

The TC-B has recently decided to create two new sub-groups. One on barrier systems in mining applications and another one on barrier systems for coal ash disposal. Please contact the board of the TC-B if you are interested to participate actively in these groups.

ISO/TC 221 has formed a working group WG 6 on “Design for geosynthetics”. The project group 9 is dealing with barrier systems and is under the lead of Kent von Maubeuge and Pete Atchison. The current status of this group and the working document will be presented during the panel discussion on 14 September 2015 in Edinburgh, Scotland during the ISSMGE European Conference; Tentative Programm see above!

For further information please contact:

Kent von Maubeuge – TC-B chairman (kvmaubeuge@naue.com)

Nathalie Touze-Foltz – TC-B vice chair (nathalie.touze@irstea.fr)

Boyd Ramsey – TC-B vice-chair (bramsey@gseworld.com)

Takeshi Katsumi – TC-B secretary (katsumi.takeshi.6v@kyoto-u.ac.jp)

IGS TC-Reinforcement Activities Report

There is a TC Reinforcement workshop planned in Edinburgh as already mentioned above. Furtheron there will be a great representation of the IGS TC's at the 15th Asian Regional Conference on SMGE Fukuoka, Japan: 09 - 13 November 2015. There will be three IGS related sessions:

- IGS Asia Sessions organized by Prof. Kuwano, chair of IGS Asia
 - 1) Materials and Interaction

- 2) EPS, Geocell and fiber reinforcement
- IGS TC Barrier Session organized by Prof. Katsumi, secretary of IGS TC-B.
 - 1) Mechanical and General Aspects
 - 2) Containment Performance
- IGS TC Reinforcement session organized by Yoshihisa Miyata
 - 1) Foundation Engineering with Geosynthetics
 - 2) Geotechnical Earthquake Engineering with Geosynthetics

There have been more than 40 abstracts accepted and actually the review of the full papers is undergoing.

For further information please contact:

Gerhard Bräu – TC-R chairman (g.braeu@tum.de)

Richard Bathurst – TC-R vice chair (bathurst-r@rmc.ca)

Fumio Tatsuoka – TC-R vice-chair (tatsuoka@rs.noda.tus.ac.jp)

Yoshihisa Miyata – TC-R secretary (miyamiya@nda.ac.jp)

Announcements of Regional Conferences of IGS

GeoAmericas 2016 3rd Pan-American Congress on Geosynthetics Miami Beach, USA, 11 – 14 April 2016



The 3rd Pan-American conference will continue the GeoAmericas tradition of excellence, providing a forum for engineers, practitioners and academe from the Americas to explore current and future potential applications for geosynthetics. It also offers an active marketplace for the promotion of geosynthetic products and technologies to users throughout the Americas.

GeoAmericas 2016, the 3rd Pan-American Conference on Geosynthetics, will be held at the Lowes Hotel on South Beach in Miami, Florida. The 3rd Pan-American conference will continue the GeoAmericas tradition of excellence,

providing a forum for engineers, practitioners and academe from the Americas to explore current and future potential applications for geosynthetics. It also offers an active marketplace for the promotion of geosynthetic products and technologies to users throughout the Americas.

GeoAmericas 2016 is developing a program to advance the knowledge and understanding of geosynthetics at every level, from novice to expert. All will be provided with an opportunity to gain and share knowledge. Considering the diverse range of interests and applications, the conference has chosen not to isolate a theme; rather, the event will facilitate learning and dialogue on the key issues faced by geosynthetic communities throughout the Pan-American region.

Geoamericas 2016 will be hosted by NAGS managed by Minerva-Technology and held under the auspices of IGS.

The main topics planned are:

- Mining
- Water and Wastewater
- Roads, Ports, and Railways
- Slope Stability & Reinforced Structures
- Sustainability
- Tunnels
- Durability of Geosynthetics
- Waste Management
- Testing
- Quality Control & Quality Assurance(Construction and Manufacturing)

Special Session Topics

- GeoAmericas 2016 will host some special sessions. Abstracts are welcomed for special sessions consideration. They include: Geosynthetic Stabilized Earth Walls with Clay as Reinforced Soil: Opportunities, Challenges and Experience
- Finite Element Seepage Analysis Involving Geosynthetics
- Limited Life Basal Reinforcement for an Embankment Built on Saturated Soft Clay
- Installation Aspects of Soil Reinforcement Applications
- Mechanically Stabilized Earth Walls and Embankments Adjacent to Existing Structures - Design and Construction

- Atypical Obstacles in Reinforced Earth Design
- Lessons Learned From Failures
- Geomembrane Stress Cracking Resistance Using Various Polymers
- Geosynthetics in Energy Applications
- Geomembrane Welding: What Have We Learned Over the Years
- Geosynthetic Assets: Maximizing Your Return-on Investment
- To Use or Not: Geosynthetics in Permanent Mining Structures, as Waste Dumps and Tailings Dams

Important Dates

- **01 Aug 2015:** First draft of papers due
- **15 Sep 2015:** Reviews complete
- **30 Nov 2015:** Final papers due
- **15 Jan 2016:** Authors must be registered, papers to proceedings

For more information please contact

GeoAmericas 2016, Phone: +1.561.768.9487

Email: BSlaybaugh@MinervaTRI.com

Website: GeoAmericas2016.org

EuroGeo6

6th European Regional Conference on Geosynthetics

Istanbul, Turkey, 25 – 28 September 2016



The Turkish Chapter of IGS joyfully announces that the 6th EuroGeo Conference will be held on 25 - 28 September 2016, under the auspices of the IGS, in the unique city of Istanbul. After Maastricht (1996), Bologna (2000), Munich (2004), Edinburgh (2008) and Valencia (2012), the profession will convene in Istanbul.

Congress Venue will be the Istanbul Convention Center, located in a central region, which is called by the name of Congress Valley in Harbiye. Istanbul is situated in a location that international airlines may easily reach - Atatürk Airport (recommended) on the European Side and Sabiha Gökçen Airport on the Anatolian Side. Local transport to ICC is easy with mass transportation vehicles such as metro, tram, bus and metrobus.

Naturally, the main excitement of the Conference will be in its technical contributions. Undoubtedly, the time period between now and 2016 will bring new materials and reforms to the geosynthetics industry; all of these developments will be well reflected in the scientific program of the EuroGeo6 Conference.

We are looking forward to seeing academicians, manufacturers, practitioners and designers in the geosynthetics field at EuroGeo6. We want to extend a special invitation to engineers in general contracting firms, who will widely benefit from the Conference by learning more about the extraordinary financial and technical advantages geosynthetics provide. In an environment where the number of "Design-Build" and "Build-Operate-Transfer" types of contracts all around the world is multiplying, passing on such information to general contractors becomes of great importance.

As the months leading up to the Conference unfold, you will be provided with more information. We can guarantee that the EuroGeo6 Conference in 2016 will be an opportunity for all who attend to experience a valuable technical program, a magnificent city, and warm Turkish hospitality.

Important dates

- 30 May 2015:** Abstract submission started
The online EuroGeo6 Abstract Submission System is now available with the following link:
www.eurogeo6.org
- 30 Oct. 2015:** Deadline for submission of abstracts
- 01 Nov. 2015:** Early Bird registration opens
- 15 Dec. 2015:** Notification of provisional acceptance, based on abstract
- 31 March 2016:** Deadline for paper submission
- 15 June 2016:** Notification of paper acceptance, review comments provided
- 15 July 2016:** Early registration closes
Deadline for revised paper submission
Deadline for registration of at least one of the authors for paper to be published
- 25 Sep. 2016:** Congress opens

Proposed Sessions for EuroGeo6

- Agricultural Applications
- Coastal Protection
- Direct and Life-Cycle Cost Savings
- Drainage and Filtration
- Durability
- Embankments on Soft Soils
- Environmental Benefits
- Geosynthetics as Formwork
- Hydraulic Applications
- Innovations and New Developments
- Landfills
- Lightweight Construction
- Mining
- Monitoring
- Pavements
- Physical and Numerical Models
- Polymeric and Clay Geosynthetic Barriers
- Properties and Testing
- Quality Control and Quality Assurance
- Reinforced Walls and Slopes
- Roads, Railroads and Other Transportation Applications
- Seismic Applications
- Sustainability
- Unpaved Roads
- Wastewater and Fresh Water Storage

For more information

Please consult the conference website, <http://www.eurogeo6.org/en/> for the latest announcements.

Contact info@eurogeo6.org with questions.

GeoAsia6

6th Asian Regional Conference on Geosynthetics

New Delhi, India, 8 – 11 November 2016



India is a fast developing economy requiring large scale infrastructures. Liberalization of the economy has further facilitated planning and execution of many large scale infrastructures, including roads, railways, power and water resources, which will further promote applications of Geosynthetics for infrastructural works. Spending in XII Plan (2012 - 17) in infrastructure is estimated to be USD 01 Trillion, which is expected to grow for infrastructure

activities for the XIII Plan (2017 - 2022).

6th Asian Regional Conference would be a step towards providing opportunity for exchange of experiences, practices and collaborations to facilitate flow of appropriate technology to enable successful implementation of infrastructure projects. It will be organized by the Indian IGS Chapter under the auspices of the IGS.

Main Theme of the Conference

Geosynthetics for Infrastructure Development

Sub-Themes

- Roads and Railways
- Hydraulic Applications
- Ground Improvement and Slope Stability
- Erosion Control
- Environmental Applications
- Natural Fibre Geotextiles
- Geosynthetic Testing

Call for papers

All concerned wishing to present paper(s) on sub-themes/allied sub-themes of the Conference are requested to send the synopsis(es) of their proposed paper(s) in English to the Conference Secretariat.

Only original contributions that have not been published, or presented at other events, need to be submitted.

Important Dates

Deadline for submission of abstracts	31 October 2015
Acceptance of abstracts	15 November 2015
Submission of full-length papers	15 February 2016
Submission of revised papers after review	15 July 2016

Workshops/Short Courses

IGS Training Courses and Workshops on the relevant issues of interest are planned for the days of the meetings of IGS Council and IGS Committees Meetings, preceding the conference.

Keynote and Theme Lectures

Internationally renowned experts will be invited to deliver keynote and theme lectures.

Exhibition

It is proposed to organize an Exhibition, concurrent to the Technical Sessions. Corporate Members of IGS will be given preference and allowed discount of 25% on the normal tariff.

Technical Visits

They will be planned to major Geosynthetics/Geotechnical Projects

For more information see

www.geosyntheticsasia.in

Announcements of Conferences under the Auspices of IGS

15th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering (15ARC)

Fukuoka, Japan, 9 - 13 November 2015



The 15th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering (15ARC) will be held under the auspices of the Japanese Geotechnical Society (JGS) in the City of Fukuoka, Kyushu, Japan on 9th – 13th of November 2015. The subtitle of this conference is “New Innovations and Sustainability” which indicates not only new technologies and methods in Geotechnical Engineering but also the sustainability of a better human life are the main topics of interest at this conference.

As many of you know, ISSMGE members are from both academia and those working in the field and thus the fusion of those two members is one of the most important issues for sustaining our society. In this 15ARC, we will hold a special event called “Engineering Session Day”. In addition, a discussion on the rehabilitation projects following mega disasters such as the 2011 Great Tohoku Earthquake will be featured as a work of collaboration involving groups from industry-government-academia.

The JGS has previously hosted ARC twice: once in Tokyo 1963 and once in Kyoto 1987. This means that over a quarter of a century has passed since the last conference was held in Japan. Therefore, all the JGS members take great pleasure in inviting all of ISSMGE members from Asia and all over the world to participate in 15ARC, Fukuoka, Japan in 2015. Finally, we hope that all participants will join the special event and sessions and have fruitful discussions on all kinds of geotechnical issues.

Special session on Geosynthetics Engineering will be organized in collaboration with IGS (see also page 12 of this issue).

Please check the conference official website (<http://www.15arc.org/index.html>) for more details.

News from the IGS Chapters and the Membership

The 5th Chinese Geosynthetic Reinforcement Conference & IGS Ambassador Meeting

The 5th Chinese Geosynthetic Reinforcement conference, sponsored by reinforcement committee of CTAG & CCIIGS and hosted by Southwest Jiaotong University & Taian Xiandai Geosynthetics Co.Ltd., was held on 22-25 May 2015 at Southwest Jiaotong University.

Invited reports, keynotes and technical sessions of conference were related to design, durability and safety issues of geosynthetic reinforcement. Over 300 people participated in the conference. They were from University of Dela-

ware, University of Kansas, Chinese Universities and research institutions and geosynthetic industries. Special session for students and exhibition for industries were also included



Opening of conference



Invited report by Prof. Prof. Chiwan Hsieh



Invited report by president of CCIQS, Prof. Guangxin Li



Invited report by Prof. Tatsuoaka



Invited report by Prof. Han



Invited report by Prof. Leshchinsky

IGS ambassador, Prof. Fumio Tatsuoka from Tokyo University of Science and Prof. Chiwan Hsieh from National Pingtung University of Science and Technology, presented their invited reports. Researchers and engineers had fruitful communication on theory, experiment, application and product of geosynthetics for reinforcement. Further development of geosynthetic reinforcement was also discussed.

IGS ambassador meeting was hosted by vice president of CCIGS, Prof. Chao Xu from Tongji University at 17:00 on 22 May 2015. Council member of IGS, Prof. Tatsuoka and Prof. Chiwan Hsieh attended the meeting as the IGS ambassador. Prof.



IGS ambassador meeting

Guangxin Li (president of CCIGS), Prof. Jianying Bai (secretary-general of CTAG), Prof. Guangqing Yang (vice president of CCIGS), Mr. Baohe Yang (vice president of CCIGS), Mr. Hong Zhu(vice president of CCIGS), etc.



CCIGS meeting

attended the meeting as well. Prof. Xu welcomed the arriving of IGS ambassadors. Prof. Li introduced the history and current situation of CCIGS. He also explained the communication barriers between CCIGS and IGS and AAC and looking for a positive solution in the future. Prof. Tatsuoka introduced the history of IGS including its founding, development, operation, requirement and activity of members from all over the world. Prof. Hsieh introduced the annual meeting, right of member and plan of future development. Participants had deep communication on the issues such as participation of CCIGS in IGS activity, improvement of influence of Asian scholar in IGS, etc.

CCIGS meeting was hosted by Prof. Xu in the evening of 23 May 2015. Over 20 people attended the meeting including Prof. Hsieh. Prof. Li introduced the history of CCIGS and made some requirement for the activity of CCIGS, international communication and contact between CCIGS and IGS and AAC for later on. Leader of CCIGS for next term, including president and vice president of CCIGS, secretary general and deputy secretary general. Constitution and organizational structure of CCIGS were discussed and approved. Recent work of CCIGS was discussed, including reinforcement of communication with IGS and AAC, more participation in IGS activity, improving management of IGS members and developing new members.

The 2nd national student competition of reinforced retaining wall design sponsored by BOSTD Geosynthetics Qingdao Ltd was held during the conference. This competition will be held on a regular basis, namely once per 2 years together with national Geosynthetic Reinforcement conference.

Closing of conference was on 24 May 2015 afternoon after the award ceremony for outstanding paper and competition of reinforced retaining wall design. Next conference, namely the 6th national geosynthetic reinforcement conference will be hosted by Tongji University and held in Shanghai in 2017.

Reported by Prof. Dr. Chao Xu, member of the IGS Council and Chinese Chapter member.



Competition of reinforced retaining wall design

Nicola Moraci is the new President of the Italian Geotechnical Society (AGI)

Nicola Moraci, IGS Council member, Full Professor of Geotechnical Engineering, Ph.D. and Head of Department of Civil, Energy, Environmental and Materials Engineering (DICEAM) of the Mediterranean University of Reggio Calabria, is the new President of Italian Geotechnical Society (AGI). The scrutiny for the election of the new president and for the election of the board council and the board of auditors of the Italian Geotechnical Society (AGI) took place in Rome last April 10. Nicola Moraci was elected President of the Italian Geotechnical Association with 92% of the voters. The new President took office last April 15.

The Italian Geotechnical Society (**AGI**), founded in 1947, is headquartered in Roma and has the aim to promote scientific culture in geotechnical engineering. The diffusion of geotechnical engineering and the intense activity of the society have ensured a steady increase in the number of individual members (who are now about 1000) with numerous corporate members. Official journal of the Society is "Rivista Italiana di Geotecnica", i.e. the "Italian Journal of Geotechnical Engineering", indexed on Scopus, founded in 1967. The Society organizes national and international conferences on different topics of geotechnical engineering. The first National Conference of Geotechnical Engineering was held in Naples in 1953; the last one in Baveno (close to Milano) in 2014 entitled "Geotechnics in defense of land and infrastructure from natural disasters". The AGI also organizes technical visits to particular geotechnical interest works and draws up guidelines for the design. The AGI and its President is responsible for the national representative of the International Society of Soil Mechanics and Geotechnical Engineering (**ISSMGE**) and the International Society for Rock Mechanics (**ISRM**). In this role, the association takes part in the election of the governing bodies and in the activities of the various committees of such groups. The association sends its representative members in international working groups that prepare standards and recommendations; it selects Italian papers to present to international conferences. As everybody knows, AGI hosts also the Italian Chapter of **IGS** (International Geosynthetics Society), i.e. AGI-IGS, where Nicola Moraci is Vice-President. The Italian Geotechnical Society is in contact with all scholars of geotechnical Italian universities, the National Research Council, with the Civil Protection and the Board Council of Public Works.



Nicola Moraci new President of the Italian Geotechnical Society (AGI)

In 2008 Nicola Moraci has received the IGS Award, acknowledgment for scientific research of international level, in particular on the subject of the geosynthetic-soil interaction: moreover, he owns of significant funding for scientific research in the field of industrial research. A school of excellence at the Mediterranean University of Reggio Calabria is consolidating in the international research in the field of geosynthetic and geotechnical engineering.

Nicola Moraci will lead AGI for the next six years, i.e. until spring of 2021.

We wish him all the best, on behalf of the entire geotechnical and geosynthetic engineering community!

Reported by Daniele Cazzuffi, AGI-IGS President and IGS Past President

5th IAGIG Conference

Roma, Italy 22 - 23 May 2015

The 5th edition of IAGIG (yearly Meeting of Italian Young Geotechnical Engineers) was held in Roma, on 22 - 23 May 2015. As for the previous meetings, the event aimed to gather young professionals of the various fields of Geotechnical Engineering. The participants currently work as practitioners, employees of public Institutions or Enterprises, young contractors, PhD students and research fellows.

During the event, a technical visit to the under construction Roma Underground - Line C was organized; moreover, the young engineers could round up in an informal-social dinner.

More than 220 participants attended the conference with 24 oral presentations to the audience and 34 posters discussed during two special sessions. Many contributions were delivered by young Italian geotechnical engineers working out of Italy and eager to share their recent professional experiences abroad. Members of the Italian Chapter of IGS also contributed to the thematic sessions on reinforcement and filtration problems. The short written report of each presentation or poster is shared in the IAGIG web-page (www.iagig.unisa.it). IAGIG is becoming more and more a social (Facebook) and professional (Linkedin) network.

A wide range of topics was discussed such as the performance analysis of the geotechnical structures; design criteria, construction procedures and technologies for special projects; soil improvement and reinforcement techniques including geosynthetics; and seismic Geotechnics

A blog was also created for each young engineer to update all others on his/her experiences: everyone is invited to visit and comment on <https://iagig.wordpress.com/>



Memories of IAGIG 2015, Roma (Italy)

IAGIG was organized by Giuseppe Maria Gaspari, Maria Elena D'Effremo and Sabatino Cuomo and supported by the Italian Geotechnical Society (AGI) and by the boards of Italian Professional Engineers (CNI and Ordine degli Ingegneri di Roma). Messages of greetings were sent by the all main National technical association that sponsored

the event: the National Research Institute (CNR), the Italian Tunnelling Society (SIG), the Italian Association of Engineering Consulting Companies (OICE), the National Institute for Geophysics and Volcanology (INGV), the Fastigi consortium and the Roma Underground Company (Roma Metropolitane). It was a place for discussions on issues related to both practice and the latest research findings on geotechnical engineering and it encouraged exchanges of experiences and knowledge among the young engineers.

Next edition of IAGIG will take place in May 2016.

Reported by

Laura Carbone and Sabatino Cuomo, IGS members

Italian Chapter AGI-IGS: New Officers Board elected

In spring 2015 elections took place in Italy in order to nominate the new Officers Board of the Italian Chapter AGI-IGS. The new elected Board is as following:

President	Daniele Cazzuffi
Vice Presidents	Pierpaolo Fantini, Nicola Moraci
Board members	Giuseppe Cardile (Secretary)
Young member	Paolo Carrubba, Sabatino Cuomo, Francesco Fontana, Pietro Rimoldi
Treasurer	Laura Carbone
Treasurer	Claudio Soccodato
Secretariat	Susanna Antonielli c/o Associazione Geotecnica Italiana Viale dell'Università, 11, 00185 Roma, ITALY
Tel	+39 06 4465569 or +39 06 44704349
Fax	+39 06 44361035
E-mail	agi@associazionegeotecnica.it
Web site	www.associazionegeotecnica.it



First meeting at CESI in Milano of the new Board of AGI-IGS, the Italian Chapter of IGS, on 28 May 2015. From the left: Paolo Carrubba, Francesco Fontana, Pietro Rimoldi, Daniele Cazzuffi, Piergiorgio Recalcati, Pierpaolo Fantini, Giuseppe Cardile and Sabatino Cuomo (absent : Laura Carbone and Nicola Moraci).

The following individuals left the Board: Piergiorgio Recalcati (after two consecutive terms) and Guido Gottardi (after one term).

A particular word of thanks was addressed to those experts, who greatly contributed to the success of the Chapter's activities. On 28 May 2015 at CESI in Milano there was the last meeting of the previous Board and the first meeting of the new Board: a souvenir photo is here enclosed.

Reported by

Daniele Cazzuffi, AGI-IGS President

TRB Best Paper 2015 Award for IGS Council Members Pietro Rimoldi and Chao Xu

The Transportation Research Board (TRB) Annual Meeting in Washington, D.C. has long provided some of the most influential transportation engineering discussions.

This year the TRB Annual Meeting honored the paper "Instrumented MSE Wall Reinforced with Polyester Straps" with its Best Paper 2015 Award.

The paper, which was sponsored by TRB committee AFS10 Transportation Earthworks, was co-authored by Yushan Luo, Dov Leshchinsky, Pietro Rimoldi, Giulia Lugli, and Chao Xu. Mechanically stabilized earth (MSE) walls are increasingly using polyester strap reinforcement with large concrete facing panels. The paper, using AASHTO methodology, shows how instrumentation has been used to establish extensibility in a reinforced wall system. The system is, in fact, part of a new interchange on Interstate 95 in Christiana, Delaware.

The paper is available on the TRB Website: [Instrumented MSE Wall Reinforced with Polyester Straps](#)

Partly taken from

Maccaferri website

IGS UK Chapter - Geosynthetics in Pavement Engineering: Working Towards 2025



The event was held at Loughborough University, UK in April 2015 with the bold intention of bringing geosynthetics to the forefront of the UK sustainable infrastructure agenda.

Around ninety delegates attended including the chief construction advisor to the UK government, Peter Hansford, who gave a keynote speech. The seminar had a mix of technical geosynthetics presentations along with policy and practice.

The overall aim of the symposium was to show the delegates that in 2015 and moving towards 2025 that geosynthetic construction can provide proven sustainable solutions in terms of whole life costs and carbon emissions compared to what are often considered more 'traditional' construction methods. A series of presentations were given providing the views and experiences of a main contractor, main consultant, academia, and finally, professionals from the geosynthetic and road surfacing industry, highlighting the sustainable geosynthetic solutions offered in pavement engineering.

As a result of the symposium committee members from the UK chapter have been invited to a number of high level strategic meetings from public sector client bodies.

The following presentations were given and copies are available at: www.igs-uk.org/pavement, using the password: Pavement2025

- Peter Hansford (Government Chief Construction Advisor); Government overview of Construction 2025 with an emphasis on sustain-



Participants at discussions

ability

- Prof. Jorge Zornberg (University of Texas); Overview of geosynthetics in pavements
- Dr Bachar Hakim (AECOM); Consultants view of the role of sustainability in pavement engineering
- Thomas Faulkner (Skanska Plc); Contractors view of the role of sustainability in pavement engineering
- Peter Assinder (HUESKER Synthetic GmbH); Current specification for geosynthetics in pavement engineering
- Ian Fraser (TCS Geotechnics); Sustainability of geosynthetic solutions in unbound pavement layers and drainage
- Dr Howard Robinson (Road Surface Treatments Association); Sustainability of geosynthetic asphalt solutions
- Dr Gary Fowmes (Loughborough University); Symposium Chairperson; Summary and close

The conference was supported by a number of leading manufacturers including Huesker, Tensar, ABG, Tencate, Naue, Wrekin, Bonar Maccafferri and Geosynthetics Ltd.

A big thank you to the organising committee of Peter Assinder (Huesker), Yuli Doulala-Rigby (Tensar), Andrew Belton (Coffey Geotechnics), Katarzyna Zamara (FCC Environment) and Gary Fowmes (Loughborough University)

Reported by

Gary Fowmes, IGS member and IGS News Editorial board member



Jorge Zornberg, Immediate IGS Past President

Rencontres Géosynthétiques 2015

La Rochelle, France, 24 to 26 March 2015

10th French Speaking Conference on Geotextiles, Geomembranes and Related Products

Since 1993 this conference will be organised by the French Chapter of IGS every two years. The Rencontres Géosynthétiques are the reference French speaking event for geotextiles, geomembranes and related products. They cover the whole range of applications of these materials in civil engineering and environmental protection. From the 24th to the 26th of March in La Rochelle this conference welcomed experts, engineers and technicians coming from all over Europe but also Northern Africa and Canada.

The tenth edition of the Rencontres Géosynthétiques was the occasion to make a state of the art on recommendations of use and installation and standards, through the presentation of practical cases of use. This year a focus was made on the use of geosynthetics in landfills.

The Rencontres Géosynthétiques are a unique opportunity for practitioners to meet and exchange. On the first day, as usual some short courses were given to those attendees less familiar with geosynthetics on what geosynthetics are, their basic properties and main uses in civil engineering and environmental protection.

On the second day the first keynote lecture dealt with the durability of geotextiles and the various approaches existing, including in the context of the European standardization. The second keynote lecture dealt with the use of geosynthetics in railways applications. Then various papers were presented on hydraulic works, transportation and durability. Posters were also presented in the late afternoon, when some time was dedicated in parallel to the visit of the exhibition with 30 exhibitors.

The gala dinner took place as usual in a marvellous wine-producing area, and the attendees could enjoy the taste of the famous local oysters Marennes-Oléron. They could also attend the traditional fireworks and this year a caterpillar choreography.

On the third day, the Keynote lecture dealt with the design of reinforcement by geosynthetics on cavities.

The use of geosynthetics for reinforcement applications and in landfills was then discussed through a series of papers. The 10th Rencontres Géosynthétiques, which corresponded to the 20th Anniversary of this event were once again a very successful event with about 350 attendees and 31 exhibitors. The proceedings are, as the previous ones, available for free download on the CFG website: www.cfg.asso.fr

Some of the presentations were selected and will be extended to give rise to a special day common to the French

soil mechanics society and CFG in Paris on the 30 September 2015, to share once again experiences on geosynthetics.

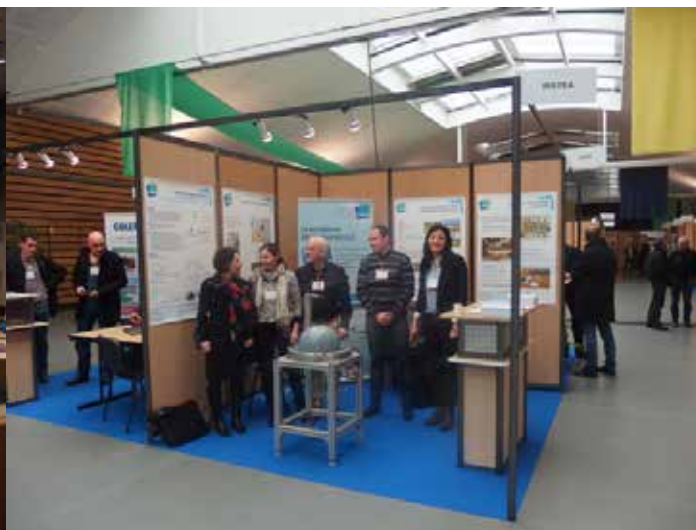
*Reported by
Nathalie Touze-Foltz, French IGS News Chapter Correspondent*



The table of “senators” at Rencontres 2015 at lunch time, from left to right Daniele Cazzuffi, Daniel Fayoux, Jean-Pierre Gourc, Audrey Huckert, Jean-Pierre Magnan (President French Chapter of IGS), Pascal Villard, Philippe Delmas



The attendance during a session



Exhibition



Choreography with a mechanic shovel after gala dinner



Aperitive and oyster tasting before gala dinner

Geomembranes Installation Workshop in Brazil

A two-day training session on geomembrane installation was organized in Brazil by Geosynthetica.net.br and took place on 9 and 10 June 2015 in São Paulo. For years the geomembrane installation market and expertise in the field was in need of improvement, as the geosynthetics field continues to expand in Brazil alongside its booming environmental protection. Indiara Giugni who has been working in this area for years also was looking for a support company in geosynthetics sector to start a regular training in order to improve the quality of geomembrane installation services in Brazil, and consequently, to raise the standard of quality in the marketplace for environmental protection. So, Elizabeth Peggs from Minerva/Geosynthetica.net realized the need and with local support from geosynthetic.br, TRI and Indiara held the first edition of the training. The organizers also aimed to provide the technical and theoretical base for participants towards obtaining International Association of Geosynthetic Installers (IAGI) certification in the near future, as IAGI also looks more into interaction with Brazil's domestic providers. The workshop was a success with 39 attendees from companies that are active in the Brazilian market in geosynthetics installation, technical welders, and installation field crew leaders, that enjoyed the training a lot. The event had financial support from the Brazilian market sponsors: Demtech/Terra Nova, Leister/ABC, NeoPlastic/Inovageo, and TDM Brasil. Expert instruction was provided by Luduik Rosales, Julio Ferreira and Indiara Giugni.

Reported by

Carolina Carvalho, Secretária - IGS Brasil

5th IGS Brazil Annual Meeting / Geosynthetics in Agenda

The 5th IGS Brazil Annual Meeting / Geosynthetics in Agenda, held in São Paulo on May 21, was attended by approximately 50 professionals of the sector gathered around a program with technical subjects and confraternization.

The winners of the IGS Brazil Student Award, IGS Student Award 2013-2016 and IGS Brazil Photo Contest were presented.

At the time was also presented and discussed the project of Recommendation 004 - Application of Geosynthetics in Waste Disposal Areas, a result of the monthly meetings of the working group coordinated by Professor Delma Vidal and the consultant Indiara Giugni.

- Title of the event: 5th IGS Brazil Annual Meeting / Geosynthetics in Agenda
- Date, location, country: May 21, at the Institute for Technological Research, São Paulo, Brazil
- Type of event: Meeting
- Number of participants: 50 participants
- Participation of IGS members and/or officials: all the board of IGS Brazil (Lavoisier Machado, Andre Estevão, Delma Vidal, Indiara Giugni, Victor Pimentel)
- Content of the technical part: Recommendation 004 - Application of Geosynthetics in Waste Disposal Areas

Student Award

A process of more than four months that involved four evaluators chosen among the most relevant professionals in the Brazilian geosynthetics industry indicated the winners of two awards focused on the promotion of young researchers.

The winner in the Master's category of IGS Brazil Student Award was Janssen Moratori, from COPPE / UFRJ, with



Janssen Moratori (left) - winner Master category - Student Award, , Mauricio Ehrlich (right) (pictures from geosynthetica.net)



Avesani Neto (right) winner Phd category - Student Award, Victor Pimentel (left) (pictures from geosynthetica.net)

the thesis "Monitoring of a wall with face in segmental blocks built with thin residual soil reinforced with PVA geogrids".

In the PhD's category and IGS Students Award won the engineer José Orlando Avesani Neto, from USP / São Carlos, with the thesis "Development of a method of calculation and numerical simulations applied in improving the load capacity of soil reinforced with geocell".

The bank examiner was composed of:

- Gisleine Campos Coelho; from the Institute for Technological Research;
- Jefferson Lins da Silva; Professor in the Department of Geotechnical Engineering, University of São Paulo
- Carlos Vinicius Benjamin Consultant Geosynthetics
- Carina Costa, Professor in the Department of Engineering at the Federal University of Rio Grande do Norte.

IGS Brazil Photo Contest

The second edition of the IGS Brazil Photo Contest awarded the four best photos inscribed by members of the Brazilian Chapter, the first three being chosen by a bank examiner and the fourth indicated by popular vote. There were a total of 34 photos of works with several geosynthetics in different applications.



IGS Brasil Photo Contest 1st: Paul Brugger



IGS Brasil Photo Contest 2nd: Emerson Ananias



IGS Brasil Photo Contest 3rd: Vinicius Rocha



IGS Brasil Photo Contest Popular Vote: Daniel Meucci

The best picture award went to Paul Brugger. In second place was the picture of Emerson Ananias and in third place was Vinicius Rocha. The winning photo by popular vote was that of Daniel Meucci. (Photos attached)

All the photos participant became part of the images bank of IGS Brazil, disseminating the works and their authors in illustration of digital and printed materials.

Reported by

Carolina Carvalho, Secretária - IGS Brasil

IGS Netherlands Chapter

Suzanne van Eekelen received her PhD on Basal Reinforced Piled Embankments

On 1 July 2015, Suzanne van Eekelen van Eekelen received her PhD. Her PhD thesis presents experiments, field studies and the development and validation of a new analytical design model for basal reinforced piled embankments.



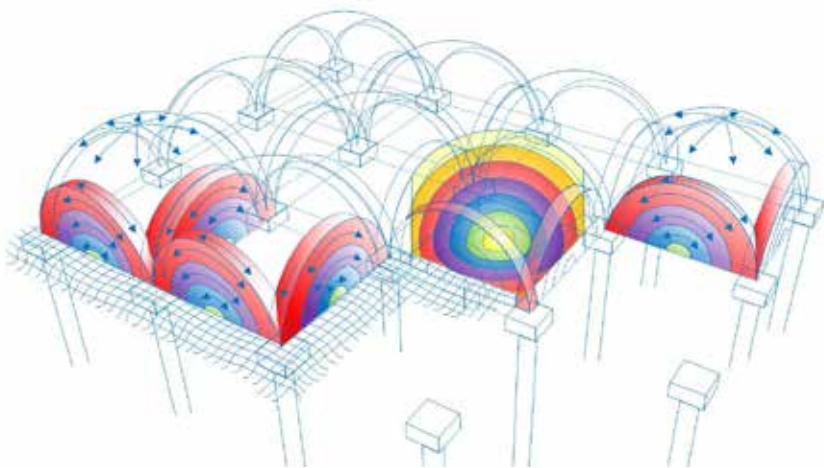
Suzanne van Eekelen, her paranymphs and her committee

For the doctorate, the Deltares laboratory carried out a series of experiments, reported in [Van Eekelen et al., 2012a](#). Based on this, Van Eekelen developed the new Concentric Arches - design model for the basal reinforcement of the piled embankment ([Van Eekelen et al., 2012b](#), [Van Eekelen et al., 2013](#)). This model was validated with measurements from seven full-scale projects and four series of scaled model experiments ([Van Eekelen et al., 2015](#)). The calculated results are almost a perfect match with the measured results.

The study improved our understanding of the load distribution in a basal reinforced piled embankment and the mechanisms that determine the GR strain resulting from the dead weight of the embankment and traffic weight. The results of the doctorate study were adopted in the 2015 update of the Dutch Design Guideline for Basal Reinforced Piled Embankments (CUR226:2015, in Dutch, downloadable after the summer of 2015 at www.sbrcurnet.nl). Suzanne and her co-authors also received several awards for this study. One of them was the 2014 IGS award.

Suzanne's PhD thesis: [S.J.M. van Eekelen, Basal Reinforced Piled Embankments \(ISBN 978-94-6203-825-7\)](#). A free paperback version can be ordered at suzanne.vaneeekelen@deltares.nl. The Concentric Arches model is available in excel: [excel file with Concentric Arches model](#).

Both PhD thesis and the associated excel can also be downloaded at www.piledembankments.nl.



The Concentric Arches model. The load is transported along the hemispheres and the 2D arches, towards the piles, the geosynthetic reinforcement and the subsoil.

References

[S.J.M. van Eekelen, 2015. Basal Reinforced Piled Embankments. PhD thesis Delft University of Technology, Netherlands. ISBN 978-94-6203-825-7.](#)

[Van Eekelen, S.J.M., Bezuijen, A., Lodder, H.J., van Tol, A.F., 2012a. Model experiments on piled embankments Part I. Geotextiles and Geomembranes 32: 69-81.](#)

[Van Eekelen, S.J.M., Bezuijen, A., Lodder, H.J., van Tol, A.F., 2012b. Model experiments on piled embankments. Part II. Geotextiles and Geomembranes 32: 82-94.](#)

[Van Eekelen, S.J.M., Bezuijen, A. van Tol, A.F., 2013. An analytical model for arching in piled embankments. Geotextiles and Geomembranes 39: 78-102.](#)

[Van Eekelen, S.J.M., Bezuijen, A. van Tol, A.F., 2015a. Validation of analytical models for the design of basal reinforced piled embankments. Geotextiles and Geomembranes. Volume 43, Issue 1, 56 - 81.](#)

Playing with Geosynthetics IV - Workshop IGS-Netherlands 14 April 2015: Sustainable Geosynthetic Constructions

The Dutch Chapter of IGS (NGO) organised a workshop on the topic “sustainability and life cycle performance of constructions, using geosynthetics” on 14 April 2015. The theme was – for the fourth time – “Playing with geosynthetics”. As the theme suggests, it was a workshop with plenty of room for creativeness and out of the box thinking.

Six teams were challenged to construct a small scale piled embankment and to brainstorm about new and existing applications of geosynthetics in roads, levees and retaining constructions. Each team consisted of at least a client, a designer, a contractor and a supplier.

The day started with two introductions. Wim Voskamp told us about the life of a geosynthetic product, which includes heavy loading, weather influences, creep, chemical degradation and construction damage. He told us about tests and analysis of excavated material and explained how test results should be interpreted and how to use reduction factors in practice.

Max Nods enthusiastically continued with sustainability and ecology. He compared constructions with and without geosynthetics. The differences are enormous; geosynthetic solutions produce less carbon foot print against lower Life Cycle Analysis costs. These advantages are achieved by less excavation, the reduction of the necessary amounts of building materials like sand, gravel, steel and concrete and the reduction in the production of waste.

Then, the teams were challenged to find existing and new solutions for 3 cases:

- A levee with piping problems
- A retaining wall
- The construction of a new road on soft soil

The organizers had given reference solutions for each case. The teams had to find solutions and estimate the differences with the reference solutions concerning the costs for construction and maintenance and difference for the carbon footprinting.

Creative with reinforcement

The teams were challenged to construct a small scale piled embankment with a certain minimum bearing capacity and a minimal impact on the environment. Each team received a sum of *IGS-carbon-footprint-euro's* to buy con-

struction materials at the local *IGS-shop*. The material costs were based on their carbon emissions.

After an extended design phase (the lunch), 5 of the 6 teams bought materials. Three teams bought 5 small piles and installed them in a triangular pattern. One team bought one large and four small piles and the fifth team tried to be environmentally friendly and used only 4 small piles.



Photo 1 The 2015 NGO Champions (the 'Last-minute buyers'): Huib Mulleneers (Trisoplast Mineral Liners), Michel Verheij (Province South Holland), Ed Berendse (Dutch Ministry of Public Works), Marco Hazenkamp (TenCate), Jorn Bronsvoot (QS), Herman-Jaap Lodder (RPS). On the right hand side: chairman of the day Wim Voskamp.

The sixth and last team arrived at the *IGS-shop* just before closing time. The team would have liked to buy four small piles but could only buy left-overs: four large piles, two bags of sand and a stack of A0 paper as reinforcement.



Photo 2 buying with IGS-money: material with more carbon footprint is more expensive.

The low material usage was remarkable in comparison to the workshops in previous years. Having to pay themselves makes civil engineers more cost conscious, apparently. Professional purchasers were apparently not present; they would have bought everything to monopolize the market.

One team used an ancient Egyptian method: trial and error. Their first mattress failed immediately after the removal of the mould. Their second try was more successful.

Two volunteers loaded the scaled models of the piled embankments to show the performance of the models. Herman-Jaap Lodder of RPS was the first, as featherweight, to load the mattresses. If the mattress could resist Herman-Jaap, the testing was continued with the 2.23 m long Rob Zwaan. Rob is project manager at the Deltares laboratory and therefore fully qualified to test the scaled model piled embankments.

Two of the six piled embankments failed immediately after the removal of the mould. Numbers 3 and 4 failed as soon as Herman-Jaap came close to them. Only the last two mattresses, the ones of the Egyptian method and the last-minute buyers,

were able to resist Rob Zwaan's shoe size 55 (17).

The Egyptian-method builders seemed to have realized the most environmental-economical friendly mattress. However, illegally obtained materials were discovered during the removal of the mattress. After paying for



Photo's 3 Two models immediately failed



Photo's 4 Two model piled embankments performed well.

these materials, they lost their first position and the last-minute buyers were declared the winners!

So, using left-overs as building material performed better than designing carefully!

After the experiments and discussions in the six teams, the three cases were discussed with the entire group under supervision of the chairman of the day, Wim Voskamp.

Case 1; a levee with piping problems

Safety first, especially for dams and levees. Then the construction costs, then the maintenance costs. And only after that the carbon footprint. This is daily practice. For a road this may be different. Furthermore, we usually construct with soil, maybe steel, and only after rejecting these solutions we may think about alternatives.

A leak proof vertical sheet makes the seepage length longer. Several examples were mentioned: for example a leak proof synthetic sheet pile wall or foil or a vertical bentonite screen with or without a geosynthetic sheet in the bentonite to be sure that the construction is leak proof.

An alternative would be a sand retaining geotextile. Wim Voskamp explained that the geotextile will remain permeable for water. Optionally, the water can be sent back to open clogged pores again. Currently, experiments in the Netherlands are being conducted to install vertical screens. Up to now, 4 meter depth is easily reached, but we need to go up to 6 or 8 metres below ground level.

Horizontal screens, in front of the levee, are normally made of clay. They make the seepage length longer too. They can easily be applied as long as there is room. In the Netherlands, this has never been done with geosynthetic sheets or bentonite so far, although this is a satisfying solution when there is limited space available.

Case II; a retaining wall

Each group proposed the most common solution nowadays: a retaining wall of reinforced soil, which gives much less carbon footprint than the steel, anchored sheet pile wall alternative.

If the retaining construction is located on soft soil, which is in the Netherlands generally the case, the stability of the construction needs special care. One team suggested applying a concrete L-wall on piles. This would result in an awfully high carbon footprint, but residual settlements or stability problems are prevented effectively. This could however also be achieved by applying a basal reinforced piled embankment underneath the retaining wall.

It was also suggested to produce synthetic gabions. Hans de Wit appeared to have brought an example: reinforcement bars of basalt fibres, with a 4 times lower carbon footprint than steel.

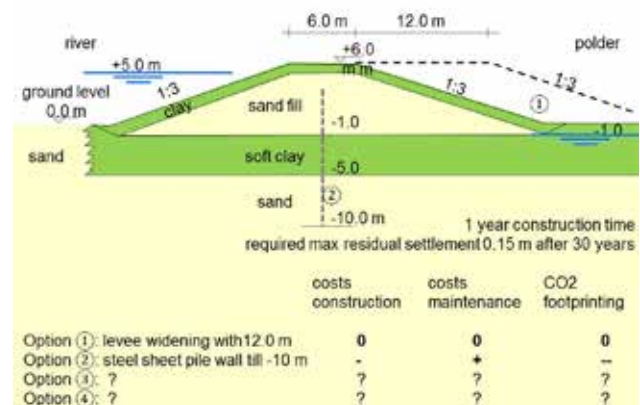


Figure 1. Case 1: a levee with piping problems

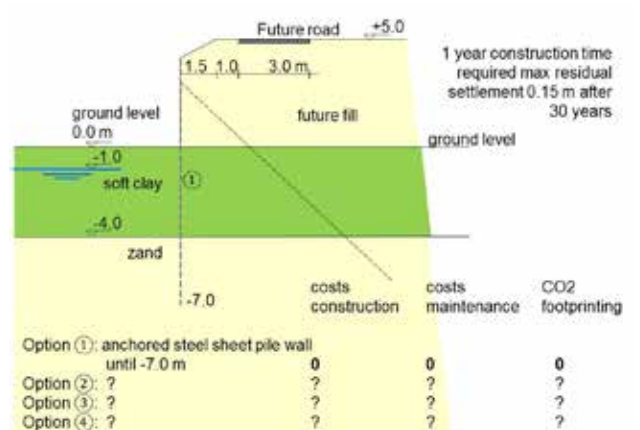


Figure 2. Case 2: a retaining wall

Case III; a new road on soft soil

Geosynthetics are already quite common in road construction. For example, vertical drainage usually consists of geosynthetic strips. Expanded polystyrene (EPS) gives a relatively large carbon footprint if applied in large quantities. A basal reinforced piled embankment is an alternative, although concrete piles also give a relatively large carbon footprint. For timber piles, this is less. Geotextile encased sand or gravel columns are an interesting alternative, not applied frequently in the Netherlands, but in some other countries such as Germany they are applied frequently. The major part of the compression of these columns occurs during the construction phase. The consolidation of the soft soil is accelerated as the columns function as vertical drainage.

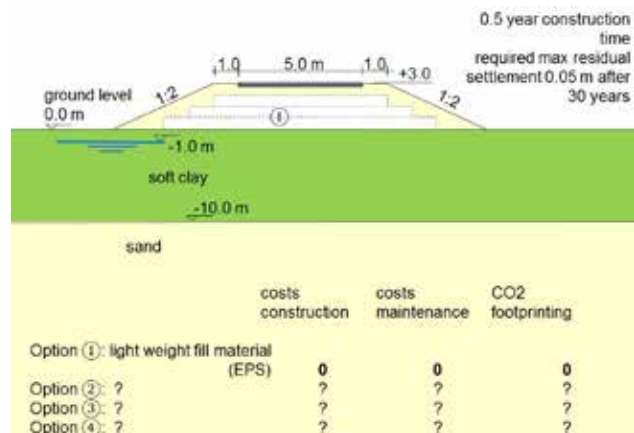


Figure 3. Case 3: a new road on soft soil

Acknowledgements

The board of the Dutch Chapter of IGS (NGO) likes to express gratitude to Huesker Geosynthetics, Voets Gewapende Grond and Geotec Solutions for the provision and transport of six wooden moulds, many tailor made wooden slats, a large number of bags of sand and paper reinforcement.

Reported by

- Suzanne van Eekelen, Deltares, chair Committee Innovation and knowledge transfer of the Dutch Chapter of IGS*
- Piet van Duijnen, Geotec Solutions, member Committee Innovation and knowledge transfer of the Dutch Chapter of IGS*
- Erik Kwast, Kwast Consult, member Committee Innovation and knowledge transfer of the Dutch Chapter of IGS*
- Wim Voskamp, Msc, Voskamp Business Consultancy*
- Max Nods, Msc, Nods Consultancy, CDR Engineering Consultancy*

IGS Chapter Australasia GNA Newsletter

ACIGS member John Scheirs is publishing the GNA Newsletter (Geosynthetic News Australia). It contains the latest news articles relating to geosynthetics from all over Australia, with always great and relevant content. There is no subscription charge and no charge to advertise or post news items.

The link for download and further information is: <http://geosyntheticnews.com.au/>

News and submissions can be sent to: john@excelplas.com

Reported by

Shelley Smith, Fabtech Australia

The new corporate identity of GIGSA the South African Chapter of IGS



Nowadays any organization is identified through their website, social media and quick and fast interactions with their members. Bearing this in mind, GIGSA has undergone at the end of 2014 through a re-design of the website and newsletter, icons of GIGSA not only in South Africa but throughout the world. The design team decided to ‘take a step backwards before going forwards’ and focused on developing a Corporate Identity for GIGSA. The ultimate aim for a corporate identity is for viewers to immediately identify that a communication belongs to a company even though the logo may not be present.

We wanted to show viewers across all mediums (print and electronic) something completely different and unexpected – a departure from the typical Geosynthetic orientated communication. We anticipated that this departure would ‘grab’ the viewer’s attention and encourage him/her to read deeper into the communication – rather than moving away from it with disinterest. The result of this process brought GIGSA to define corporate logo, a new corporate official documents template, following the same colours as well as a new website and newsletter layout. The new website and newsletter reflect latest trend in marketing and web-designing with one page approach and not make links. The corporate colours are the main domain in the layout, trying to highlight the following GIGSA position:

- Positioned in Africa
- Positioned in Southern Africa
- That GIGSA and its committee wanted to be perceived by members to be active, a force to be reckoned with, strong, independent and innovative
- We wanted the viewer to understand the above instantly and to relate this to them pictorially
- From a product (geosynthetic) point of view, we perceive that geosynthetics can relate to dams, water, land and the environment

With the above in mind, we decided to incorporate African animals in the design as African animals have to survive, are independent, active/can look after themselves and are a force to be reckoned with amongst other animals. Water is essential to survival in Africa – all our chosen animals would be depicted near water – GIGSA assists the environment with water preservation.

The new corporate style was launched in March 2014 with the website and newsletter. The new Corporate Image established for the GIGSA site has been well received and a number of people have commented on it over time. A lot of work still needs to be done on the site with regards to technical information, if it is to become the authoritative site for the geosynthetics industry in South Africa we are getting there.

To further support GIGSA members, Facebook and LinkedIn pages have been developed on the same style, where news and events are published in real time.

Find results of these efforts:

Website: www.gigsa.org Newsletter: Geo News Facebook: www.facebook.com LinkedIn: www.linkedin.com

Reported by

Edoardo Zannoni, President of GIGSA and IGS Council Member

IGS Chapter of Panama established in 2014

There are some activities that could be of interest in order to let you know our Schedule for the rest of the year:

- IGS-Panama Chapter began activities in 2015 and at planning stage the participation of students of civil engineering in the departments of Geotechnics for a contest of exhibition in geosynthetics applications is being pursued.
- On the other hand, a series of conferences has been designed to dictate to the Ministry of public projects and participate in changes to national specifications.
- In Panama, it is reactivating mining activity with two open pit mines: Minera Panama (copper and gold) and Minera Cerro Quema (gold). IGS-Panama Chapter is starting talks with the Mining Chamber of Panama to promote the use of geosynthetics in the mining works.
- We show the report of assistance to the National Congress in Peru, in which the chapter of Panama began the dissemination of their activities.



First meeting: from left to right: Alexis Vergara, Abdiel Batista, Amador Hassell y David Marciaga (Treasure)



IGS-Panama Chapter staff: from left to right: Amador Hassell (president), Abdiel Batista (Secretary), José Harris, Antonia Bern, Ernesto Herrera U. y Alexis Vergara (vice-president)

Reported by

Alexis Vergara, Vice President of the Panama IGS Chapter

Report from the “Educate the Educators on Geosynthetics” in Portugal, 29 - 30 June 2015

The second course in Europe of the Educating the Educators on Geosynthetics took place in Lisbon, Portugal, from Monday June 29th to Tuesday June 30th. The Workshop was organized by the Portuguese Chapter of the IGS under the auspice of the International Geosynthetics Society and in cooperation with the Portuguese Geotechnical Society (SPG).

The course was prepared for 43 attendees representing 9 Portuguese Universities and 9 Polytechnic Schools of Engineering. The event was sponsored by 9 companies (Atarfil, A. Bianchini, Flag, Huesker, NAUE, Quinimar, Renolit, TenCate and Sotrafa) and thanks to their economic support and the support given by IGS, the workshop represented no cost to the attendees.



Discussion of the basic class and how to incorporate it in the current civil engineering curricula.



Workshop in progress.



Group photo - Instructors and attendees of the Workshop Educate the Educators on Geosynthetics, Lisbon, Portugal.



Closing Session - Instructors and President of the Portuguese IGS Chapter.

The course was composed of several lectures given by three experts in geosynthetics engineering: Prof. Jorge G. Zornberg (University of Texas, USA and IGS Past-President), Prof. Erol Guler (Bogazici University, Turkey) and Dr.-Ing. Michael Heibaum (Federal Waterways Engineering and Research Institute, Germany). The lectures covered the following topics:

- Teaching geosynthetics at undergrad classes: objectives and philosophy of the “Educating the Educators” program
- Basic class on types, functions and applications of geosynthetic materials
- Basic properties and related tests on geosynthetic materials
- Geosynthetic reinforced walls and slopes
- Geosynthetics in dam and canal infrastructures: relevant issues on design and installation
- Geosynthetics in landfills: relevant issues on design and installation
- Geosynthetics in coastal protection: relevant issues on design and installation
- Geosynthetics in railway infrastructures: relevant issues on design and installation
- Geosynthetics in erosion control problems: relevant issues on design and installation
- Geosynthetics in road infrastructures: relevant issues on design and installation

The Portuguese IGS Chapter had a presentation by Prof. Alexandre Pinto of local Case Studies and each sponsor also had 15 minutes to present their products and projects.

At the end of these two intense and busy days, the instructors, the organizers and the attendees returned home with the feeling that it was worthwhile.

Reported by

Castorina Silva Vieira, IGS News Correspondent of Portugal

1st International Seminar of IGS Colombia Beginning a new future for geosynthetics in Colombia 22 – 23 October 2015, Bogota, Colombia



The Colombian chapter of the International Geosynthetics Society (IGS Colombia) started operating in early 2015 greatly committed to the improvement of the geosynthetics industry in Colombia, promoting best practices, and encouraging knowledge sharing at the national level and abroad. To kick off its activities in the region, IGS Colombia is proud to host its **1st International Seminar: The beginning of the future of geosynthetics in Colombia**, on October 22 and 23 of this year in the Auditorium Mario Laserna of the Universidad de los Andes in Bogotá.

This event seeks to convene renowned regional and international professionals, researchers, students and other members of industry in a series of technical lectures designed to help provide a unique platform to share current knowledge and network with colleagues. In a span of two days, the seminar will cover topics in technology, innovation, the regulatory environment, quality, and other issues related to the industry.

The seminar registration fees are 174 USD for IGS Colombia members, 199 USD for non-members, and 104 USD for students (must be registered IGS Colombia members)

Special guest speakers include:

- Richard Bathurst, Canada
- Jean Pierre Gourc, France
- Ennio Palmeira, Brazil
- Bernardo Hormaza, Colombia
- Alvaro Millán Ángel, Colombia

We firmly believe that this seminar will not only provide great technical content, but also a great opportunity for companies to showcase their products and services to members of the industry. The Organizing Committee therefore invites interested parties to take advantage of the different sponsorship opportunities available for the event.

For more information about the event and registration, please contact us at logistica@mercadeoeinformacion.com.

For more information about our chapter, please e-mail geosinteticos.colombia@gmail.com.

Reported by

Bernardo Hormaza, IGS Colombia President

Geosynthetics for soil reinforcing: Embankments on soft foundations, steep slopes, and very steep slopes (“walls”) 15 November 2015, Buenos Aires, Argentina



The IGS Argentinean Chapter has organized a pre-conference one-day short course on soil reinforcement with geosynthetics. This event will take place alongside three co-located conferences: XV Pan-American Conference on Soil Mechanics and Geotechnical Engineering, VIII South American Conference on Rock Mechanics, and the VI International Symposium on Deformational Characteristics of Geomaterials. All activities take place in Buenos Aires 15 – 18 November 2015.

The short course on soil reinforcement will be led by Dr. Robert D. Holtz (University of Washington, USA) with additional instruction from Dr. Jorge G. Zornberg (The University of Texas at Austin, USA) and Dr. Ennio M. Palmeira (University of Brasilia, Brazil).

The use of geosynthetics for soil reinforcement enables civil engineers to design and construct embankments and other structures more economically and with greater safety than is possible with traditional designs and construction methods. Because geosynthetics are relatively new in the larger civil engineering field, the course will open with a brief description of their types and manufacture, as well as discussion of properties and tests required for the

proper design, selection, and specification of reinforcement geosynthetics.

The remainder of the course focuses in detail on the three main applications of geosynthetics for soil reinforcement:

1. Embankments on soft foundations
2. Steep reinforced slopes
3. Very steep reinforced soil slopes (e.g., retaining walls and abutments)

For each application, case histories are used to illustrate important design and construction principles. Emphasis is on the material properties of the geosynthetics that are required for economical design and construction. Specifications, construction details, inspection, and suggestions for avoiding failures of each application are also mentioned.

Course materials for each application, as well as copies of the slides used in the presentations, will be made available to attendees. The schedule will allow ample time for questions and discussion.

Who should attend?

- Geotechnical and construction engineers and engineering geologists
- Consulting engineers, manufactures technical representatives, and academics
- Earthworks and other specialty contractors involved in civil construction

The fees (including technical material and coffee breaks) are as follows:

- Through 30 October 2015: Non Member USD \$350, Member USD \$300, Student USD \$150
- On site: Non-Member USD \$400, Member USD \$350, Student USD \$180

More information

MCI Argentina: ask contact information to MCI Argentina. <http://conferencesba2015.com.ar/>

IGS Argentina: secretario@igsargentina.com.ar – www.igsargentina.com.ar

List of IGS Chapters

Country	Name of IGS Chapter Year of Foundation	IGS Chapter President	webpage further email address
Argentina	Argentinean Chapter 2009	Dr. Marcos Montoro marcos_montoro@yahoo.com.ar	www.igsargentina.com.ar/
Australia and New Zealand	Australasian Chapter 2002	Dr. A. Malek Bouazza acigss@gmail.com	Amir@globalsynthetics.com.au malek.bouazza@monash.edu
Belgium	Belgian Chapter 2001	Prof. Jan Maertens jan.maertens.bvba@skynet.be	
Brazil	Brazilian Chapter 1997	Eng. Lavoisier Machado igsbrasil@igsbrasil.org.br	www.igsbrasil.org.br
Chile	Chilean Chapter 2006	Dr. Felipe Villalobos avillalobos@ucsc.cl	
China	Chinese Chapter 1990	Prof. Li, Guangxin postmaster@ccigs.com.cn	c_axu@tongji.edu.cn ligx@tsinghua.edu.cn
Chinese Taipei	Chinese Taipei Chapter of the IGS	Dr. Chou, Nelson N.S. nchou1031@gmail.com	yuancl@mail.sinotech.com.tw
Colombia	Colombian Chapter 2013	Prof. Bernardo Caicedo Hormaza bcaicedo@uniandes.edu.co	di.nerassoa@gmail.com
Czech Republic	Czech Chapter 2003	Eng. Lumír Miča igs@igs.cz	www.igs.cz
Finland	Finish Chapter 2011	Minna Leppänen igsfin.secretary@gmail.com	minna.leppanen@tut.fi
France	French Chapter 1993	Jean-Pierre Magnan francois.caquel@orange.fr	
Germany	German Chapter 1993	Dr.-Ing. Martin Ziegler service@dggt.de	www.gb.bv.tum.de/fachsektion/fs-kgeo.htm ziegler@geotechnik.rwth-aachen.de
Ghana	Ghana Chapter 2012	Prof. Samuel I.K. Ampadu skampadu.coe@knust.edu.gh	jkkemeh@hotmail.com

Country	Name of IGS Chapter Year of Foundation	IGS Chapter President	webpage further email address
Greece	HGS, Greek Chapter 2005	Prof. Dimitrios K. Atmatzidis dka@upatras.gr	under complete reconstruction!
Honduras	Honduran Chapter – Honduran Society of Geosynthetics 2013	MSc. Ing. Danilo Sierra D. sierradiscua@yahoo.com	rigo-go-berto.moncada.lopez@gmail.com
India	Indian Chapter 1988	Dr. G.V. S. Suryanarayana Raju cbip@cbip.org	dr.gvsraju@gmail.com
Indonesia	INA-IGS, the Indonesian Chapter 1992	Gouw Tjie Liong amelia.ina.igs@gmail.com	ameliamakmur@gmail.com gouw2007@gmail.com
Iran	Iranian Chapter 2013	Dr. Kazem Fakharian kfakhari@yahoo.com	hoseingh@yahoo.com
Italy	AGI-IGS, the Italian Chapter 1992	Dr. Ing. Daniele Cazzuffi agi@associazionegeotecnica.it	www.associazionegeotecnica.it/~agi/cazzuffi@cesi.it
Japan	Japanese Chapter 1985	Dr. Hiroshi Miki miki-egri@nifty.com	www.soc.nii.ac.jp/jcigs/jkuwano@mail.saitama-u.ac.jp
Kazakhstan	Kazakhstanian Chapter 2012	Zhusupbekov Askar Zhagparovich astana-geostroi@mail.ru	krasavka5@mail.ru
Korea	KC-IGS, The Korean Chapter 1993	Prof. Chungsik Yoo csyoo@skku.edu	www.kgss.or.kr/index2.asp
Malaysia	Malaysian Chapter – Pertubuhan IGS Malaysia (MyIGS) 2013	Dr. Fauziah Ahmad cefahmad@yahoo.com	dtan@solmax.com
Morocco	Moroccan Chapter 2014	Houssine Ejjaouani ejjaouani@lpee.ma	www.cmg-asso.com/
Mexico	Mexican Chapter 2006	Eng. Ignacio Narezo L. ignacioexp@gmail.com	www.igsmexico.org contacto@igsmexico.org
The Netherlands	Netherlands Chapter 1992	Dr. Ir. A. H. de Bondt mail@ngo.nl	www.ngo.nl adebondt@ooms.nl
North America	North American Geosynthetics Society (NAGS) (Canada, USA) 1986	John Henderson j.henderson@tencate.com	www.nags-igs.org bmackey@s2li.com
Norway	Norwegian Chapter of IGS 2008	Aina Anthi aina.anthi@vegvesen.no	tse-day.damtew@vegvesen.no
Pakistan	Pakistanian Chapter of IGS 2011	Tariq Ikram mr.tariq.ikram@gmail.com	
Panama	Panama Chapter 2014	Amador Hassell amador.hassell@utp.ac.pa	
Peru	Peruvian Chapter 2001	Eng. Augusto V. Alza administracion@igsperu.org	www.igsperu.org aalza@tdm.com.pe
Philippines	Philippine Chapter 2007	Mr. Mark Morales mark.k.morales@gmail.com	paul_navarro_javier@yahoo.com
Poland	Polish Chapter 2008	Dr. Jacek Kawalec jacek.kawalec@vp.pl	jakub.m.bryk@gmail.com
Portugal	Portuguese Chapter 2003	Jose Luis Machado do Vale jose.vale@carpitech.com	www.spgeotecnia.pt/igs/
Romania	Romanian Chapter 1996	Christina Feodorov cristina.feodorov@iridexgroup.ro	adiol@utcb.ro
Russia	Russian Chapter of IGS (RCIGS) 2008	Dr. Andrey Ponomaryov ofrikhter@mail.ru	andreypab@mail.ru
Slovakia	Slovakian Chapter of IGS	Dr. Radovan Baslik	

Country	Name of IGS Chapter Year of Foundation	IGS Chapter President	webpage further email address
	2011	radobaslik@gmail.com	branis-lav.prelovsky@maccaferri.sk
South Africa	South African Chapter 1995	Edoardo Zannoni ed-oardo.zannoni@maccaferri.co.za	www.gigsa.org inyirenda@gseworld.com
Spain	Spanish Chapter 1999	Angel Leiro López pabad@cetco.es	www.igs-espana.com aleiro@cedex.es
Thailand	Thai Chapter 2002	Prof. Suksun Horpibulsuk suksun@g.sut.ac.th	www.set.ait.ac.th/acsig/igs-thailand
Turkey	Turkish Chapter 2001	Dr. Fazli Erol Guler eguler@boun.edu.tr	www.geosentetiklerdernegi.org
United Kingdom	U.K. Chapter 1987	Dr, Gary J. Fowmes g.j.fowmes@lboro.ac.uk	www.igs-uk.org
Vietnam	Vietnamese Chapter – International Geosynthetics Society – Vietnam Chapter (VCIGS) 2013	Dr. Nguyen Hoang Giang giangnh@nuce.edu.vn	trantrunghieu@utt.edu.vn

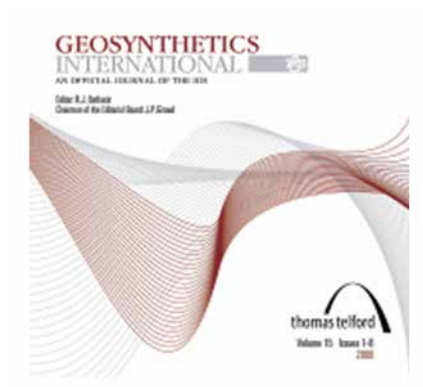
Note:

If you find your information is incorrect please contact your chapter secretary or if you are not affiliated with a chapter contact the IGS secretary. Please also advise the IGS News editor

Official Journals of the IGS

Electronic Journals Free to IGS Members

Geosynthetics International



Geosynthetics International is an official journal of the IGS and has established itself as a premier peer-reviewed journal on geosynthetics. The Journal publishes technical papers, technical notes, discussions, and book reviews on all topics relating to geosynthetic materials (including natural fiber products), research, behaviour, performance analysis, testing, design, construction methods, case histories, and field experience.

Geosynthetics International is only published electronically starting Volume 10 (2003) by ICE Publishing (Thomas Telford) and is free to IGS Members. All others, e.g., corporations, companies, and university libraries, can subscribe at a rate of £590 / US\$ 960.

Visit the Journal's web site given below for subscription information and instructions for accessing the latest issues.

Papers should be not published in full elsewhere and should be sent to:

Professor R.J. Bathurst, Editor Geosynthetics International
GeoEngineering Centre at Queen's-RMC, Civil Engineering Department
13 General Crerar, Sawyer Building, Room 2414
Royal Military College of Canada
Kingston, Ontario K7K 7B4
E-mail: bathurst-r@rmc.ca

For subscription details visit the Journal's web site at <http://www.icevirtuallibrary.com/content/serial/gein> or contact:

Sales Department, ICE Publishing 1 Great George Street, Westminster, London SW1P
3AA UK Tel: +44 (0)20 7665 2460 sales@icepublishing.com

Content of Volume: 22, Issue: 2 (2015)

[Uplift resistance of buried pipes anchored with geosynthetics](#), E.M. Palmeira; D.F. Bernal

[Unsaturated soil-woven geotextile interface strength properties from small-scale pullout and interface tests](#), K.

Hatami; D. Esmaili [A novel viscoplastic model of high-density polyethylene pipe material](#), M.S.A. Siddiquee; A.S. Dhar

[Experimental study on the seismic behaviour of geosynthetic-reinforced pile-foundation system](#), A. Taha; M.Hesham El Naggar; A. Turan

[Cyclic shear behaviour of fibre-reinforced mine tailings](#), L. Festugato; N.C. Consoli; A. Fourie

Please find the download of the articles at:

<http://www.icevirtuallibrary.com/content/issue/gein/22/2>

For the IGS members to have FREE access to the papers they MUST log in through the IGS website.

Content of Volume: 22, Issue: 3 (2015)

[Effect of high temperatures on the physical and mechanical properties of HDPE geomembranes in air](#), F. B. Abdelaal; R. K. Rowe; Y. G. Hsuan; R. Awad

[Numerical analysis of centrally and eccentrically loaded strip footing on geotextile-reinforced sand](#), E. Şadoğlu

[Experimental and analytical studies of geosynthetic tubes filled with expanded clay lightweight aggregate](#), J. Górník; P. Villard; C. Barral; Ph. Delmas; A. Watn

[Experimental studies of the behaviour of geosynthetic wrap around anchorage](#), S. H. Lajevardi; D. Dias; L. Bri-ançon

[Direct shear behaviour of residual soil–geosynthetic interfaces – influence of soil moisture content, soil density and geosynthetic type](#), F. B. Ferreira; C. S. Vieira; M. L. Lopes

Please find the download of the articles at:

<http://www.icevirtuallibrary.com/content/issue/gein/22/3>

For the IGS members to have FREE access to the papers they MUST log in through the IGS website.

Geotextiles & Geomembranes



Geotextiles and Geomembranes is dedicated to the mission of the IGS, which is to promote the scientific and engineering development of geotextiles, geomembranes, related products, and associated technologies.

The Journal publishes technical papers, technical notes, discussions, and book reviews on all topics relating to geosynthetics, research, behaviour, performance analysis, testing, design, construction methods, case histories, and field experience.

Papers should be submitted electronically as a Microsoft Word or pdf file to: kerry@civil.queensu.ca

Please ensure the text is double spaced, there is an abstract with keywords included, and tables and figures are at the end following the text. Please check the Journal's instructions for authors for additional information regarding submissions. The Journal strives to provide the authors with quick, constructive reviews, and we appreciate the author's hard work in addressing these comments and quick return of revised papers.

Geotextiles and Geomembranes is now available free in electronic format to IGS Members. To activate free access and to create your personal account, you will need your IGS Membership Number. If you do not know your Membership Number, please contact the IGS Secretariat at IGS-Sec@geosyntheticssociety.org

For instructions on how to activate access and create your personal account, go the web site provided below.

A hardcopy of *Geotextiles and Geomembranes* is available at a reduced subscription rate to individual and Corporate Members of the IGS. Individual IGS Members may subscribe at an 84% discount: US\$170 for six issues. IGS Corporate Members may subscribe at a 64% discount: US\$396 for six issues. Please indicate that you are an IGS Member when requesting the special price.

For editorial enquiries contact:

Dr. R. Kerry Rowe, Editor *Geotextiles and Geomembranes*
c/- GeoEngineering Centre at Queen's-RMC
Department of Civil Engineering
Queen's University
Kingston, ON, Canada K7L 3N6
Tel (613) 533-3113, Fax (613) 533-3128
kerry@civil.queensu.ca

For more information on obtaining electronic and hard copy subscriptions to *Geotextiles and Geomembranes* please go to the following IGS web site: www.geosyntheticssociety.org/

For direct connection to the home page of the journal with the possibility to download PDF-files of the full papers (IGS members and abonents only) please follow the link at the end of the following content listing.

Content of Volume 43, issue 3 (June 2015)

[Compressive behaviour of fibre-reinforced cemented paste backfill](#), X.W. Yi, G.W. Ma, A. Fourie

[Reinforcing overlay to reduce reflection cracking; an experimental investigation](#), Shahab Fallah, Ali Khodaii

[Evaluation of discharge capacity of geosynthetic drains for potential use in tunnels](#), Yeon-Soo Jang, Bumjoo Kim, Jin-Woong Lee

[An evaluation of the interface behaviour of rail subballast stabilised with geogrids and geomembranes](#), M. Mahdi Biabani, Buddhima Indraratna

[The effect of the particle size distribution on the mechanics of fibre-reinforced sands under one-dimensional compression](#), Luis Felipe Miranda Pino, Béatrice Anne Baudet

[Bisphenol-A extraction into water from a flexible PVC pond liner and its potential impact on artificial ponds](#), Brandon Bills, Courtney Dye, Doug Klarup

[The role of physical pretreatments on the hydraulic conductivity of natural sodium bentonites](#), Sara Puma, Andrea Dominijanni, Mario Manassero, Luciano Zaninetta

[Lessons learned from geotextile filter failures under challenging field conditions](#), Robert M. Koerner, George R. Koerner

[Corrigendum to "Required unfactored strength of geosynthetics in reinforced 3D slopes" \[Geotext. Geomembr. 42 \(6\) \(2014\) 576–585\]](#), Fei Zhang, Dov Leshchinsky, Yufeng Gao, Ben Leshchinsky

Content of Volume 43, issue 4 (August 2015)

[Field study of treatment for expansive soil/rock channel slope with soilbags](#), Sihong Liu, Yang Lu, Liping Weng, Fuqing Bai

[Dry friction behaviour of a geosynthetic interface using inclined plane and shaking table tests](#), L. Carbone, J.P. Gourc, P. Carrubba, P. Pavanello, N. Moraci

[Seismic response of reduced-scale modular block and rigid faced reinforced walls through shaking table tests](#), G. Madhavi Latha, P. Santhanakumar

[Deformation analysis of a geosynthetic material subjected to two adjacent voids](#), Shi-Jin Feng, Shi-Feng Lu

[A simplified method for predicting the settlement of circular footings on multi-layered geocell-reinforced non-cohesive soils](#), S.N. Moghaddas Tafreshi, T. Shaghaghi, Gh. Tavakoli Mehrjardi, A.R. Dawson, M. Ghardran

[Experimental study of the behaviour of different geosynthetics as anti-reflective cracking systems using a combined-load fatigue test](#), Irene Gonzalez-Torre, Miguel A. Calzada-Perez, Angel Vega-Zamanillo, Daniel Castro-Fresno

[Influence of soil confinement on the creep behavior of geotextiles](#), Leonardo De Bona Becker, Anna Laura Lopes da Silva Nunes

[Electrokinetic geosynthetic dewatering of nuclear contaminated waste](#), John Lamont-Black, Colin J.F.P. Jones, Chris White

[Stress-strain behavior of a silty soil reinforced with polyethylene terephthalate \(PET\)](#), E. Botero, A. Ossa, G. Sherwell, E. Ovando-Shelley

Please find the download of the articles at:

<http://www.sciencedirect.com/science/journal/02661144>

For IGS members to have FREE access to the G&G journal articles they MUST log in through the IGS website.

Corporate Membership

Case studies – use the chance!

All corporate members are invited to announce a case study at any time. For each issue 3 to 4 case studies are planned to be placed in (up to 1 page with pictures). If there are more announcements we will place them on a list and will use them on a “first come, first serve” basis. A corporate member may have a second case study published if the list is finished with corporate members not been considered yet. As we know that some of our corporate members are very hard-working on such a type of publication, please be aware that the only possibility to prevent a publication series by one company is to send in your own case study!

With a distribution of more than 3000 samples/downloads of IGS News this is a good promotion of the geosynthetic technique and your company. We would be happy if this chance is used frequently.

Reported by

Gerhard Bräu, IGS News Editor

Stabilised access route to flood prone Muchelney Village, Somerset, UK, 2014



Approximately 25,000m² of Tensar TriAx® geogrids and 15,000m² of Tensar uniaxial geogrids were used to support the redesigned road.

BENEFITS TO CLIENT

The use of Tensar geogrids allowed the rapid installation of the new raised level causeway to enable the residents of Muchelney to benefit from their [newly constructed road](#).

THE PROBLEM

Initially caused by a series of strong storms in late December 2013, the ordinarily picturesque the village of Muchelney and its access roads became submerged as flooding continued to worsen, making it the first village in the area to be completely cut by rising waters for months. There was a need to elevate the road levels to prevent loss of access in future.

THE SOLUTION

As part of wider flood defence measures put in place, the project consultant, Atkins, created a new design for the road. By incorporating Tensar geogrids, the road stabilised to allow construction operations to take place and achieve the required level increase above expected flood water levels, effectively creating a causeway and safe access route for the village.

PROJECT DESCRIPTION

In early 2014, the roads into Muchelney, Somerset were submerged for months cutting the village off from the outside world.

Somerset County Council (SCC) carried out a feasibility study that looked at all the routes in and out of Muchelney, and the section of Law Lane to the west offered the shortest section needing improvement, making it more cost-effective than the other options. Construction work started with the aim to complete the project in December 2014.

Time was a challenge on this project but the ground conditions added further complications. Ground investigations showed that alluvium depths varied from 5 to 10m across the site and although the alluvial crust showed strength values of 20 to 30kPa, in some areas where there was up 8m of peat the strength was halved to 10 to 20kPa. The weaker area coincided exactly where the new embankment was at its highest. The solution to these challenges came through use of geogrids from Tensar. "The conditions were challenging and we really benefitted from Tensar's design experience at an early stage with this project," said Simon White, Skanska Business Director.



Stabilised access provided by a Tensar Mechanically Stabilised Layer which enabled construction operations to proceed quickly

Tensar carried out a two-stage design to address initial access and then the embankment construction. A Tensar Mechanically Stabilised Layer (MSL) incorporating a Tensar TriAx® stabilisation geogrid was formed with a 6F5 stone to line drainage ditches, level the site and stabilise the ground for construction access before work moved onto using a mix of TriAx and Tensar uniaxial geogrid to create the soil reinforced structure of the embankment using Type 1 material as fill.

Tensar MSL's have been used in the embankment to mitigate differential settlement of the road structure, while uniaxial geogrid provides lateral restraint to prevent the sides of the embankment from slipping. Tensar's design used layers of geogrid that were overlain by the Type 1 aggregate in layers as thin as 150mm to take the embankment up to the required 1.2m height. The design is specific to the challenges at this site.



Tensar stabilised causeway nears completion

Alternative construction options were considered but the Tensar system approach was considered to be the best option to minimize the land-take while managing the differential settlement. "It was a faster, more cost-effective and robust design than the other solutions" concludes James Apted, Atkins Technical Director.

Client: Somerset County Council **Designer:** Atkins **Contractor:** Skanska

See more at: <http://www.tensar.co.uk/Projects/Somerset#sthash.3DRf21CY.dpuf>

Corporate Members of the IGS

Company Name	Country	Contact Email	Website
ABG LIMITED	United Kingdom	liz@abgltd.com	www.abgltd.com
ACE GEOSYNTHETICS CO., LTD.	Taiwan (R.O.C.)	claire.hung@geoace.com	www.geoace.com
AGRIPOLYANE	France	export@agripolyane.com	www.agripolyane.com
AGRU KUNSTSTOFFTECHNIK GMBH	Austria	office@agru.at	www.agru.at
ALYAF INDUSTRIAL COMPANY LTD	Saudi Arabia	info@alyaf.com	www.alyaf.com
ANDEX DEL NORTE S.A.	Peru	jesus.cardozo@andex.com.pe	www.andex.com.pe
AQUATAN (PTY) LTD.	South Africa	mikew@aquatan.com	www.aquatan.com
AQUATERRA CONSULTANTS LTD.	Hong-Kong, China	nigel.wightman@aquaterra.com.hk	www.aquaterra.com.hk
ASAHI GEOTECHNOLOGIES CO., LTD.	Japan	miura.nb@om.asahi-kasei.co.jp	www.asahi-kasei.co.jp
ASHIMORI INDUSTRY CO., LTD.	Japan	hiroyuki_sakuragi@ashimori.co.jp	www.ashimori.co.jp
ASSOCIATION OF RRR CONSTRUCTION SYSTEM, THE	Japan	okamoto@iqi.co.jp	www.rrr-sys.gr.jp
ATARFIL S.L.	Spain	mgirones@atarfil.com	www.atarfil.com
AXTER COLETANCHE INC.	Canada	bbreul@axtercoletanche.com	www.coletanche.com
BEAULIEU TECHNICAL TEXTILES	Belgium	kris.coen@bintg.com	www.ideal-group.com
BEIJING GEOENVIRON ENGINEERING AND TECHNOLOGY, INC.	China (People's Republic)	LiuLiqi1960@yahoo.com.cn	www.gnlining.com

Company Name	Country	Contact Email	Website
BMC GULF TRADING & CONTRACTING LLC	United Arab Emirates	info@bmc-gulf.com	www.bmc-gulf.com
BOMBAY TEXTILE RESEARCH ASSOCIATION, THE	India	btrlibrary@yahoo.co.uk	www.btraindia.com
BONAR GEOSYNTHETICS KFT. (GEO-TIPPTEX LTD.)	Hungary	tipptex@tipptex.hu	www.geotipptex.hu
BONAR TECHNICAL FABRICS N.V.	Belgium	geotextiles@bonartf.com	www.bonartf.com
CELESUR SISTEMAS DE IMPERMEABILIZACION, S.L.	Spain	calidad-medioambiente@celesur.com	www.celesur.com
CETCO LINING TECHNOLOGIES	USA	scott.solotorovsky@cetco.com	www.cetco.com
CETEAU BV	Netherlands, The	info@ceteau.com	www.ceteau.com
CIDELSA	Peru	rsantiago@cidelsa.com	www.cidelsa.com
COFRA BV	Netherlands, The	j.dijkstra@cofra.nl	www.cofra.nl
COLAS S. A.	France	gautier@campus.colas.fr	www.colas.com
CONCRETE CANVAS	United Kingdom	will.crawford@concretecanvas.co.uk	
CORIPA S.A.	Argentina	info@coripa.com.ar	www.coripa.com.ar
DAEHAN I. M. CO., LTD.	Korea	daehan@geosko.com	www.geosko.com
DAEYOUN GEOTECH CO., LTD.	Korea	kouc85@gmail.com	http://dygtex.en.ec21.com
DALIAN GEO-LINK GEOSYNTHETICS CO. LTD.	China	dothan@geo-textile.com	www.geotextile.com
DUPONT DE NEMOURS (LUXEMBOURG) SARL	Luxembourg	ro-main.diederich@lux.dupont.com	www.dupont.com
EAST COAST EROSION BLANKETS	USA	diane@eastcoasterosion.com	www.eastcoasterosion.com
ECOFIBRE s.r.l.	Italy	f.niccolai@ecofibre.it	http://www.ecofibre.it/
EDILFLOOR SPA	Italy	b.stefani@edilfloor.com	www.edilfloor.com
EUROBENT SP. Z O.O	Poland	a.kolodko@eurobent.com	www.eurobent.com
EUROIZOL GEOSYNTHETICS LLC	Ukraine	anna@euroizol.com	www.geosvit.com.ua
EXEED GEOTEXTILE LLC	United Arab Emirates	tpeters@primegeotextile.ae	www.exeed.ae
FABTECH	Australia	gfairhead@fabtech.com.au	www.fabtech.com.au
FECON - FOUNDATION ENGINEERING & UNDERGROUND CONSTRUCTION	Vietnam	info@fecon.com.vn	www.fecon.com.vn
FEICHENG LIANYI ENGINEERING PLASTICS CO.	China	geogrid@live.com	http://en.sdlianyi.com/
FILMTEx SAS	Colombia	nrodriguez@filmtex.com	www.filmtex.com
FIRESTONE SPECIALTY PRODUCTS COMPANY LLC	USA	MartinyDavid@FirestoneBP.com	www.firestonesp.com
FITI TESTING AND RESEARCH INSTITUTE	Korea	hogankim@fiti.re.kr	www.fiti.re.kr
FONTANA INTERNATIONAL GMBH	Austria	g.puehringer@fontana-international.com	www.fontana-international.com
GARWARE-WALL ROPES, LTD.	India	mvoffice@garwareropes.com	www.garwareropes.com
GAST INTERNATIONAL SA PTY LTD	South Africa	kgastjr@gast.co.za	www.gast.co.za
GEOFABRICS AUSTRALASIA PTY LTD.	Australia	b.swifte@geofabrics.com.au	www.geofabrics.com.au
GEOFABRICS LTD.	United	gdonald@geofabrics.com	www.geofabrics.com

Company Name	Country	Contact Email	Website
	Kingdom		
GEOFELT GMBH	Austria	geofelt@geofelt.com	www.geofelt.com
GEOFABRICS NZ LTD.	New Zealand	sales@maccaferri.co.nz	www.maccaferri.co.nz
GEOMAS	Turkey	coksayar@geomas.com.tr	www.geomas.com.tr
GEOPLASTEXTIL SAS	Colombia	santia-go.giraldo@plastextil.com.co	www.geoplastextil.com
GEOPOLIMEROS SAS	Colombia	geopolimerosltada@yahoo.com	www.geopolimeros.net
GEOSYNTHETIC MATERIALS ASSOCIATION (GMA)	USA	lpassus@ifai.com	www.ifai.com
GEOSYNTHETICS TECHNOLOGIES CO., LTD.	Saudi Arabia	geogrid@latifia.com	www.g-tex.net/flash_index.html
GEOSYSTEM CO. LTD.	Japan	m_aoshima@geosystem.co.jp	www.geosystem.co.jp
GEOTECHNICAL SYSTEMINDO, PT	Indonesia	info@ptgsi.com	www.ptgsi.com
GEOTEXAN	Spain	jaguilar@geotexan.com	www.geotexan.com
GIDROKOR CONSTRUCTION COMPANY LTD.	Russia	yakovlev@gidrokor.ru	www.gidrokor.ru
GLOBAL SYNTHETICS	Australia	info@globalsynthetics.com.au	www.globalsynthetics.com.au
GORANTLA GEOSYNTHETICS PVT. LTD.	India	praveen-kumar@gorantlageos.com	www.gorantlageos.com
GSE ENVIRONMENTAL LLC	USA	bramsey@gseworld.com	www.gseworld.com
GSE LINING TECHNOLOGY GMBH	Germany	sbaldauf@gseworld.com	www.gseworld.com
HAINING JIHUA Composite Material Co. Ltd.	China (People's Republic)	geosynthetics@hotmail.com	www.geojh.com
HANOI INDUSTRIAL TEXTILE JSC - HAICATEX	Vietnam	haicatex@hn.vnn.vn	www.haicatex.com.vn/
HIGH STIFFNESS POLYETHYLENE PIPES ASSOCIATION	Japan	jouji_hinobayashi@daipla.co.jp	www.kotaikyo.jp
HONGXIANG GEO-MATERIAL CO., LTD.	China	hongxiang@hongxiangchina.com	www.hxgufen.com
HUBEI NETE GEOSYNTHETICS LTD.	China (People's Republic)	netezhuhong@126.com	www.chinatexnet.com/ChinaSuppliers/22549/
HUESKER SYNTHETIC GMBH.	Germany	grandin@huesker.de	www.huesker.de
HUIKWANG CORPORATION	Taiwan (R.O.C.)	johnnie@huikwang.com	www.huikwang.com
HULS ASIA SDN BHD	Malaysia	ragu@hulsmalaysia.com	www.hulsmalaysia.com
ICA INVERSIONES S DE RL	Honduras	icainversiones@icainversiones.com	www.icainversiones.com
I-CORP INTERNATIONAL, Inc.	USA	icorp@geosynthetic.com	www.geosynthetic.com
INTEGRATED GEOTECHNOLOGY INSTITUTE	Japan	y_tamura@igi.co.jp	www.igi.co.jp
INTERMAS NETS S.A.	Spain	igutierrez@intermasgroup.com	www.intermas.com
ISTANBUL TEKNİK INSAAT	Turkey	export@istanbulteknik.com	www.istanbulteknik.com
JAPAN SPUNBOND - TORAY CORP.	Japan	zz-esaki@unitika.co.jp	
JAYLON PTY LTD.	Australia	wrees@jaylon.com.au	www.jaylon.com.au
JETSJ - GEOTECNIA, LDA	Portugal	apinto@jetsj.pt	www.jetsj.pt
JUTA A.S.	Czech Republic	vagnerm@juta.cz	www.juta.cz

Company Name	Country	Contact Email	Website
KAJIMA CORPORATION - KAJIMA TECHNICAL RESEARCH INSTITUTE	Japan	yt@kajima.com	www.kajima.co.jp
KAYTECH ENGINEERED FABRICS	South Africa	garth@kaytech.co.za	www.kaytech.co.za
KURARAY CO., LTD.	Japan	noriko_Kawasima@kuraray.co.jp	www.kuraray.co.jp
LAYFIELD ENVIRONMENTAL SYSTEMS	Canada	erangel@layfieldgroup.com	www.layfieldgroup.com
LEISTER TECHNOLOGIES AG	Switzerland	thomas.furrer@leister.com	www.leister.com/geo
MACCAFERRI (MALAYSIA) SDN BHD	Malaysia	mm@maccaferri-asia.com	www.maccaferri.com.my
MACCAFERRI DE ARGENTINA S.A.	Argentina	info@maccaferri-arg.com.ar	www.maccaferri-arg.com.ar
MACCAFERRI DE CENTROAMERICA	Costa Rica	sramirez@maccaferri.co.cr	www.maccaferri.co.cr
MACCAFERRI DO BRASIL LTDA	Brazil	maccaferri@maccaferri.com.br	www.maccaferri.com.br
MACCAFERRI INDONESIA	Indonesia	mi@maccaferri.co.id	www.maccaferri.co.id
MACCAFERRI NZ LTD.	New Zealand	sales@maccaferri.co.nz	www.maccaferri.co.nz
MAEDA KOSEN CO. LTD.	Japan	yokota@mdk.co.jp	www.mdk.co.jp
MAEDA KOSEN VIETNAM Co. Ltd.	VIETNAM	tsunoda@mdk-vn.vn	http://vtown.vn/company/maeda-kosen-vietnam.html
MANIFATTURA FONTANA S.P.A.	Italy	info@drefon.com	www.manifatturafontana.net
MAPEI S.P.A.	Italy	mapei@mapei.it	www.mapei.com
MATTEX GEOSYNTHETICS	United Arab Emirates	philippe.g@mattex.com	www.mattex.com
MEGAPLAST	India	gaurav.jain@megaplast.in	http://www.megaplast.in/
MINERVA - GEOSYNTHETICA.NET	USA	elizabeth@geosynthetica.net	www.geosynthetica.net
MITSUBISHI PLASTICS, INC.	Japan	akinaga.takuya@md.mpi.co.jp	www.mpi.co.jp
MITSUI CHEMICALS INDUSTRIAL PRODUCTS, INC.	Japan	yoko.akana@mitsui-chem.co.jp	http://jp.mitsuichem.com
NANCHANG TEAMGO NEW MATERIALS CO.	China (People's Republic)	ncteamgo@126.com	www.ncteamgo.cn
NARVIN GOSTAR PARSIAN	Iran	info@ngp-co.com	www.ngp-co.com
NAUE GMBH & CO. KG	Germany	kvmaubeuge@naue.com	www.naue.com
NEWGRIDS LIMITED.	United Kingdom	contact@newgrids.com	www.newgrids.com
NINGBO HONGHUAN GEOTEXTILE CO., LTD.	China (People's Republic)	ivan@nbhonghuan.com	www.geotextile-fabric.com
OBAYASHI CORPORATION	Japan	takahashi.shinichi@obayashi.co.jp	www.obayashi.co.jp
OFFICINE MACCAFERRI S.P.A.	Italy	UTP@maccaferri.com	www.maccaferri.com
OJSC "494 UNR"	Russia	unrmarket@prudon.ru	www.unrhs.com
OKASAN LIVIC CO. LTD.	Japan	konami@okasanlivic.co.jp	www.okasanlivic.co.jp
PIETRUCHA	Poland	export@pietrucha.pl	www.pietrucha.pl
PLATIPUS ANCHORS LIMITED	United Kingdom	darren@platipus-anchors.com	www.platipus-anchors.com
POLYFABRICS AUSTRALIA	Australia	glenn@polyfabrics.com.au	www.polyfabrics.com.au
POLYTEX S.A.	Peru	ejarufe@polytex.cl	www.polytex.cl

Company Name	Country	Contact Email	Website
PRESTO GEOSYSTEMS	USA	bill.handlos@prestogeo.com	www.prestogeo.com
PT BREMA BRATA	Indonesia	office@brema-brata.com	www.brema-brata.com
PT MULTIBANGUN REKATAMA PATRIA	Indonesia	mrpatria@indo.net.id	www.multibangunpatria.com
PT TETRASA GEOSININDO	Indonesia	office@geosinindo.co.id	www.geosinindo.co.id
RAVEN INDUSTRIES	USA	tom.stoebner@ravenind.com	http://ravenind.com/
REINFORCED EARTH COMPANY, THE	USA	rbloomfield@reinforcedearth.com	www.reinforcedearth.com
RENOLIT IBERICA	Spain	esteban.hernandez@renolit.com ; valerie.hardy@renolit.com	www.renolit.com
RKW AGRI GmbH & CO. KG	Germany	marion.link@rkw-group.com	www.rkw-group.com
ROWAD INTERNATIONAL GEO-SYNTHETICS CO.LTD	Saudi Arabia	info@rowadgeo.com	www.rowadgeo.com
SAGEOS - CTT GROUP	Canada	eblond@gcttg.com	www.sageos.com
SAMYANG CORPORATION	Korea	juhwan.ahn@samyang.com	www.samyang.com
SERVICIOS DE INGENIERIA GEOSINTETICA S.A. (SIGSA)	Costa Rica	geosigsa@ice.co.cr	
SHANDONG HOCK MINING ENGINEERING CO. LTD	China (People's Republic)	export@sdhock.com	www.sdhock.com
SHENZHEN SHENG YI ENVIRONMENTAL CO., LTD.	China (People's Republic)	shengyi@sz-shengyi.com	www.sz-shengyi.com
SIBUR GEOSINT LLC	Russia	SubbotinKA@sibur.ru	http://sibur.com/
SIPLAST ICOPAL	France	frppy@icopal.com	www.siplast-international.com/
SIVERUNE 104	Spain	direccion@siverune104.com	www.siverune104.com
SKZ-GERMAN PLASTICS CENTER	Germany	h.zanzinger@skz.de	www.skz.de
SKAPS INDUSTRIES	USA	perry@skaps.com	www.skaps.com
SOLMAX INTERNATIONAL ASIA PACIFIC SDN. BHD.	Malaysia	dtan@solmax.com	www.solmax.com
SOLMAX INTERNATIONAL, INC.	Canada	dberube@solmax.com	www.solmax.com
SOTRAFA, S.A.	Spain	geo@sotrafa.com	www.sotrafa.com
STEKLONIT MANAGEMENT, LLC	Russia	e.krashenin@steklonit.com	www.steklonit.com
STRATA	USA	lstocker@geogrid.com	www.geogrid.com
SWISS ASSOCIATION FOR GEOSYNTHETICS SVG	Switzerland	Martin.stolz@bfh.ch	http://www.geotex.ch
TAIAN MODERN PLASTIC CO., LTD	China (People's Republic)	info@tmpgeosynthetics.com	www.tamodern.com
TAIYO KOGYO CORPORATION (SUN)	Japan	MT001304@mb.taiyokogyo.co.jp	www.taiyokogyo.co.jp
TALTEX GEOSYNTHETICS INC.	United Kingdom	taltex@taltex.co.uk	http://www.taltex.ae/
TECHFAB INDIA INDUSTRIES LTD.	India	anant@techfabindia.com	www.techfabindia.com
TECNOLOGIA DE MATERIALS S. A.	Peru	contactenosperu@tdm.com.pe	www.tdm.com.pe
TEKNINDO GEOSISTEM UNGGUL, PT	Indonesia	info@geosistem.co.id	www.geosistem.co.id
Tele Textiles AS	Norway	aase@teletextiles.no	www.teletextiles.com
TEMA TECHNOLOGIES AND MATERIALS SRL	Italy	nico-la.busatta@temacorporation.com	www.temacorporation.com
TENAX S.P.A.	Italy	mariangela.motta@tenax.net	www.tenax.net

Company Name	Country	Contact Email	Website
TENCATE GEOSYNTHETICS EUROPE GMBH	Austria	j.gruber@tencate.com	www.tencate.com
TENCATE GEOSYNTHETICS NORTH AMERICA	USA	j.henderson@tencate.com	www.tencate.com
TENSAR GEOSYNTHETICS (CHINA) LTD.	China (People's Republic)	David@tensar.com.cn	www.tensar.com.cn
TENSAR INTERNATIONAL CORPORATION	USA	jcavanaugh@tensarcorp.com	www.tensarcorp.com
TENSAR INTERNATIONAL LIMITED	United Kingdom	CRigby@tensar.co.uk	www.tensar.co.uk
TERAGEOS	France	global@terageos.com	http://terageos.com
TERRAFIX	Canada	bherlin@terrefixgeo.com	http://www.terrefixgeo.com/
TERRAM - A PGI COMPANY	United Kingdom	david.shercliff@pginw.com	www.terram.com
TERRE ARMÉE INTERNATIONALE	France	nicolas.freitag@terre-armee.com	www.terre-armee.com
TESSILBRENTA SRL	Italy	antonio.perissinotto@tessilbrenta.com	www.tessilbrenta.it
TEXINOV	France	jpducol@texinov.fr	www.texinov.fr
TEXOFIB	Saudi Arabia	ctic@cticltd.com	www.texofib.com
THRACE NONWOVENS & GEOSYNTHETICS	Greece	papagiannis@thraceplastics.gr	www.thraceplastics.gr
TITAN ENVIRONMENTAL CONTAINMENT	Canada	john@titanenviro.ca	www.titanenviro.ca
TOKYO PRINTING INK MFG.CO.LTD.	Japan	dobokuqijyutu@tokyoink.co.jp	www.tokyoink.co.jp
TOKYU CONSTRUCTION CO. LTD.	Japan	tomita.yuuichi@tokyu-cnst.co.jp	www.tokyu-cnst.co.jp
TRI/ENVIRONMENTAL INC.	USA	sallen@tri-env.com	www.tri-env.com
UNITED GEOSYNTHETICS (THAILAND)	Thailand	unitedgeo.t@gmail.com	
URETEK	Italy	alberto.paschetto@uretek.it	www.uretek.it
VIGANÒ PAVITEX S.P.A.	Italy	m.resmini@pavitex.com	www.pavitex.com
VIGOR MERGER	Thailand	weeraya-d@vigormerger.com	http://www.civilmastergroup.com/vigor_merger.html

Corporate Profile – SKZ German Plastics Center

IGS Corporate Members are encouraged to publish a Corporate Profile in IGS News. The criteria for the preparation and submission of Corporate Profiles are available from the Editor. There is no charge for having a Corporate Profile published; it is a benefit of corporate membership.

SKZ Das Kunststoff-Zentrum

SKZ – German Plastics Center was established in 1961 with its headquarters situated in Würzburg (Germany).

SKZ is one of Europe's largest accredited and certified institute for quality assurance, monitoring over 900 products for more than 400 companies.

Our laboratory has an area of 6000 m².

With more than 11000 participants a year, SKZ is the European leader in education and advanced training of specialised and executive personnel for the plastics industry.

Our services in the field of Geosynthetics:

Testing and Certification

SKZ had started testing geosynthetics since mid-1970. The geosynthetic testing lab which is DAkkS-accredited is fully equipped to offer more than 150 tests on the widest range of geosynthetics.

Surveillance of the factory production control (FPC) on geosynthetic manufacturers in the scope of CE marking is carried out all over the world. More than 400 FPC certificates have been issued.

The testing lab also serves as an independent lab for conducting tests according to BAM, DIBt, NorGeoSpec and IVG guidelines.

We have active participation in standardization committees like DIN, CEN and ISO.

Conferences and Seminars

- Landfill conferences since 1984
- International Symposium on Geosynthetic Clay Liners
- Geosynthetics Middle East
- Seminars on "Lifetime of Geosynthetics"
- Training courses acc. to DVS German Welding Society Certified Geomembrane Welder DVS[®] 2212-3 (HDPE)

Research

- § Performance of surface erosion control products in the lab and in the field
- § Accelerated ageing of geosynthetics
 - High-pressure autoclave testing
 - Accelerated stress cracking
- § Long-term internal shear strength of GCLs



SKZ - German Plastics Center | Friedrich-Bergius-Ring 22 | 97076 Würzburg, Germany | geosynthetics@skz.de | www.skz.de

IGS News Publisher, Editor and Chapter Correspondents

IGS News is published by:

International Geosynthetics Society
Office of the Secretariat:
The International Geosynthetics Society
1934 Commerce Lane, Suite #4
Jupiter, FL 33458 USA
TEL: +1.561.768.9489 FAX: +1.561.828.7618
Email: IGSsec@geosyntheticssociety.org

IGS News Editor

Gerhard Bräu
Technische Universität München–Zentrum Geotechnik
Baumbachstrasse 7, 81245 München, Germany
Tel: +49-89-289-27139, Fax: +49-89-289-27189
Email: g.braeu@bv.tum.de

Editorial Board

Sam Allen, Chair of IGS Communication Committee
Gary Fowmes, Chair of IGS UK Chapter
Erol Güler, Chair of IGS News Council Task Force
Russel Jones, IGS President
Chris Kelsey, geosynthetic.net
Irene Nyirenda, IGS Young Members Committee
Elizabeth Peggs, IGS Secretary
Kent von Maubeuge, Chair of IGS Corporate Members Committee

IGS News Chapter Correspondents and contact persons

Argentina	Verónica Rocío Moratto	rocio.moratto@uns.edu.ar
Australasia	Graham Fairhead	gfairhead@fabtech.com.au
Belgium	Frans De Meerleer	frans.texion@skynet.be
Brazil	André Estêvão Silva	tesouraria@igsbrasil.org.br
Chile	Felipe Villalobos	avillalobos@ucsc.cl
China	Chao Xu	c_axu@tongji.edu.cn
Colombia	Natalia Erasso	geosinteticos.colombia@gmail.com
Czech Republic	Petr Hubik	igs@igs.cz
Finland	Minna Leppänen	minna.leppanen@tut.fi
France	Nathalie Touze-Foltz	nathalie.touze@irstea.fr
Germany	Gerhard Bräu	g.braeu@bv.tum.de
Ghana	John Kemah	jkkemeh@hotmail.com
Greece	Anastasios Kollios	akollios@edafomichaniki.gr
Honduras	Alex Galindo	alexgalindom@gmail.com
India	A.C. Gupta	acgupta@cbip.org
Indonesia	Amelia Makmur	ameliamakmur@gmail.com
Iran	Hosein Ghiasinedjad	hoseingh@yahoo.com
Italy	Laura Carbone	Lauracarbon86@gmail.com
Japan	Jun Otani	junotani@kumamoto-u.ac.jp
Kazakhstan	Rauan E.Lukpanov	rauan_82@mail.ru
Korea	Myoung-Soo Won	wondain@kunsan.ac.kr
Malaysia	Daniel Tan	dtan@solmax.com
Mexico	Ana Ferraez	anaferraez@gmail.com
Morocco		
the Netherlands	Shaun O'Hagan	s.ohagan@planet.nl
North America	L. David Suits	Nagsdirector05@gmail.com
Norway	Aina Anthi	aina.anthi@vegvesen.no
Pakistan		
Panama	Alexis Vergara	avergara@maccaferri.co.cr
Peru	Augusto Alza	aalza@grupotdm.com
Philippines	Mark Morales	mark.k.morales@gmail.com
Poland	Jacek Kawalec	jacek.kawalec@vp.pl
Portugal	Castorina Silva Vieira	cvieira@fe.up.pt
Romania	Andrei Olteanu	adiol@utcb.ro / olteanu.andrei@gmail.com
Russia	Vladimir Kleveko	vlivkl@mail.ru
Slovakia	Rado Baslik	radobaslik@gmail.com
South Africa	Johann Le Roux	secretary@gigsa.org
Spain	Pedro L. Abad	Pedro.Abad@cetco.es
Thailand	Tawatchai Tanchaisawat	tawatchai.t@gmail.com / igs-thailand@ait.ac.th
Turkey	Orkun Akkol	orkunakkol@orientresearch.com
United Kingdom	Gary Fowmes	G.J.Fowmes@lboro.ac.uk
Vietnam	Tran Viet Hung	tranviethung@utc.edu.vn
West Pacific	Chung Lu Yuan	yuancl@mail.sinotech.com.tw

IGS Council

Elected in 2014

Eric Blond (Canada)
Ian Fraser (UK)
Chiwan Wayne Hsieh (Taiwan)
Takeshi Katsumi (Japan)
K. Rajagopal (India)
Pietro Rimoldi (Italy)
Nathalie Touze-Foltz (France)

Co-opted in 2014

Jacques Cote (Canada)
Jacek Kawalec (Poland)
Flavio Montez (Brazil)
Elizabeth Peggs (USA)

Co-opted in 2012

M. Ziegler (Germany)

Invited, non-voting members

Sam Allen (USA)
Gerhard Bräu (Germany)
Chao Xu (P.R.China)
Edoardo Zannoni (South Africa)

Elected in 2012

D.T. Bergado (Thailand)
Erol Guler (Turkey)
Warren Hornsey (Australia)
Jiro Kuwano (Japan)
Nicola Moraci (Italy)
Victor Pimentel (Brazil)
Boyd Ramsey (USA)
Kent von Maubeuge (Germany)

IGS Officers

President

Dr. Russell Jones
Golder Associates (UK) Limited
Attenborough House,
Browns Lane Business Park,
Stanton-on-the-Wolds, Nottingham-
shire, NG12 5BL
UNITED KINGDOM
Tel: 44 115 937 1111
Fax: 44 115 937 1100
Email: rjones@golder.com

Vice-President

Prof. Chungsik Yoo
Sungkyunkwan University
Dept. of Civil & Envir. Engr. Pro-
fessor
300 Chun-chun Dong, Jan-An Gu
Suwon, Kyong-Gi Do 440-746
KOREA
Tel: 82 031 290 7518
Fax: 82 031 290 7549
Email: csyoo@skku.edu

Immediate Past-President

Jorge G. Zornberg, PhD., P.E.
The University of Texas at Austin
Civil, Architectural & Environmental
Engineering Department
1 Univ. Station C1792
Rm ECJ9, 227G
Austin, Texas 78712-0280 USA
Tel: 1/512 232 3595
Fax: 1/512 471 6548
Email: zornberg@mail.utexas.edu

Treasurer

Peter Legg
Consulting Principal,
Geo-Environmental Engineers
28 8th Avenue
Northmead
Benoni, 1501
SOUTH AFRICA
Tel: 27 (0)11 425 1197
Fax: 27 (0)11 425 1197
Email: peterlegg@telkomsa.net

Secretary

Elizabeth Peggs
geosynthetica.net
1934 Commerce Lane, Suite 4
Jupiter, Florida, USA 33458
Tel +1 561 768-9487
Fax +1 561 828 7618
Email: elizabeth@geosynthetica.net

Visit the IGS Website:

www.geosyntheticssociety.org

**IGS MEMBERSHIP REQUIRES ELECTRONIC COMMUNICATION –
PLEASE ENSURE WE HAVE YOUR CURRENT E-MAIL ADDRESS!**



The International Geosynthetics Society was formed with the following objectives:

- to collect, evaluate, and disseminate knowledge on all matters relevant to geotextiles, geomembranes, related products, and associated technologies;
- to improve communication and understanding regarding geotextiles, geomembranes, related products, and associated technologies, as well as their applications;
- to promote advancement of the state of the art of geotextiles, geomembranes, related products, and associated technologies; and
- to encourage, through its Members, the harmonization of test methods, and equipment and criteria for geotextiles, geomembranes, related products, and associated technologies.

WHY BECOME A MEMBER OF THE IGS?

First, to contribute to the development of our profession.

By becoming an IGS Member you can:

- help support the aims of the IGS, especially the development of geotextiles, geomembranes, related products, and associated technologies;
- contribute to the advancement of the art and science of geotextiles, geomembranes, related products, and their applications;
- provide a forum for designers, manufacturers, and users, where new ideas can be exchanged and contacts improved; and
- become increasingly informed, involved, and influential in the field of geotextiles, geomembranes, related products, and associated technologies.

Second, to enjoy the benefits.

The following benefits are now available to all IGS Members:

- the online IGS Membership Directory, updated in real time;
- the newsletter, IGS News, published three times per year;
- free electronic issues of Geosynthetics International and Geotextiles & Geomembranes;
- 19 IGS Mini Lecture Series are available online;
- information on test methods and standards;
- discount rates on the purchase of any future documents published by the IGS and on the registration cost of all international, regional, or national conferences organized by or under IGS auspices;
- preferential treatment at conferences organized by or under the auspices of the IGS; and
- the possibility of being granted an IGS award.

Please check whether there is a local IGS Chapter in your country (list at page 35)!
 Otherwise please use the online form at <http://www.geosyntheticssociety.org>
 or the following

IGS Membership Application

Membership of the Society is open to Individuals or Corporations "...engaged in, or associated with, the research, development, teaching, design, manufacture or use of geotextiles, geomembranes and related products or systems and their applications, or otherwise interested in such matters." The annual fee for membership is (US) \$45 for Individual Members and (US) \$1000 for Corporate Members. Individuals or Corporations who voluntarily contribute a minimum of (US) \$200 annually to the Society, in excess of

their membership dues, will be mentioned in the IGS Membership Directory in a separate list as benefactors.

Send this completed form to:

The International Geosynthetics Society, 1934 Commerce Lane,
 Suite #4, Jupiter, FL 33458, USA
 TEL: +1.561.768.9489 FAX: +1.561.828.7618
 Email: IGSsec@geosyntheticssociety.org

Attach your business card or fill in your address (print or type if possible), as you wish it to appear in the next IGS Membership Directory.

Title (circle one): Mr. Ms. Dr. Prof. Other: _____

Telephone: _____ Fax: _____

First Name: _____ Last Name: _____

Email: _____

Company, Division, Function (if applicable): _____

Eligibility (connection with geotextiles, geomembranes, related products or associated technologies): _____

Position/Title: _____

Keyword (up to 25): _____

Address (Street or Postal Box): _____

Membership fee: Individual (US) \$ 45,
 Corporate (US) \$1000,
 Benefactor (minimum (US) \$ 200

City: _____ Province/State: _____

Postal Code: _____ Country: _____

Calendar of Events

Event	Location	Date	E-Mail, Website
International Symposium on Geohazards and Geomechanics	Warwick, Coventry, United Kingdom	10 - 11 Sep 2015	C.Voulgari@warwick.ac.uk www2.warwick.ac.uk/fac/sci/eng/research/civil/geo/conference/
European Young Geotechnical Engineers Conference	Durham, United Kingdom	11 - 12 Sep 2015	ashraf.osman@durham.ac.uk
XVI European Conference on Soil Mechanics and Geotechnical Engineering	Edinburgh, Scotland, United Kingdom	13 - 17 Sep 2015	derek_smith@coffey.com www.xvi-ecsmge-2015.org.uk
GEO-EXPO 2015 Scientific and Expert Conference in Zenica	Zenica, Bosnia and Herzegovina	18 - 19 Sep 2015	geotehnika@geotehnika.ba http://www.geotehnika.ba
Workshop on Volcanic Rocks & Soils	Isle of Ischia, Italy	24 - 25 Sep 2015	agi@associazionegeotecnica.it http://www.wvrs-ischia2015.it/
Geosintec 2 2nd Spanish Conference on Geosynthetics	Madrid, Spain	07 - 08 Oct 2015	Pedro.abad@igs-espana.com Beatriz.Mateo@igs-espana.com
Sardinia 2015-Fifteenth International Waste Management and Landfill Symposium	Cagliari, Italy	05 - 09 Oct 2015	info@sardiniasymposium.it www.sardiniasymposium.it
26 th European Regional Conference	Montpellier, France	11 - 16 Oct 2015	www.icid.org/26th_erc2015_info.pdf
Three Decades of Geosynthetics in India	New Delhi, India	14 - 16 Oct 2015	uday@cbip.org www.cbip.org
1st International Seminar of IGS Colombia - Beginning a new future for geosynthetics in Colombia	Bogota, Colombia	22 - 23 Oct 2015	logistica@mercadeoinformacion.com
6th International Conference on Earthquake Geotechnical Engineering	Christchurch, New Zealand	01 - 04 Nov 2015	gicege@tcc.co.nz www.6ICEGE.com
The 15th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering - New Innovations and Sustainability	Fukuoka, Kyushu, Japan	09 - 13 Nov 2015	15tharc@kumamoto-u.a.c.jp www.igskyushu.net/uploads/15ARC/
Geosynthetics for soil reinforcing: Embankments on soft foundations, steep slopes, and very steep slopes ("walls")	Buenos Aires, Argentina	15 Nov 2015	secretario@igsargentina.com.ar conferenciasba2015.com.ar/
Sixth International Symposium on Deformation - Characteristics of Geomaterials	Buenos Aires, Argentina	15 - 18 Nov 2015	http://saig.org.ar/ISDCG2015
15 th Pan-American Conference on Soil Mechanics and Geotechnical Engineering	Buenos Aires, Argentina	15 - 18 Nov 2015	presidente@saig.org.ar www.panam2015.com.ar
7 GEOME 2015, Geosynthetics Middle East 2015	Abu Dhabi, UAE	16 - 17 Nov 2015	info@geosyntheticsme.com www.geosyntheticsme.com/
Geo-Environment and Construction European Conference	Tirana, Albania	26 - 28 Nov. 2015	erion.bukaci@gmail.com erdi.myftaraga@hotmail.com lulibozo@gmail.com
International Conference on Soft Ground Engineering ICSGE2015	Singapore, Singapore	03 - 04 Dec 2015	ICSGE2015@nus.edu.sg www.geoss.sg/icsge2015
GIFT - Geotechnics for Infrastructure and Foundation Techniques	Pune, Maharashtra, India	17 - 19 Dec 2015	igc2015pune@gmail.com www.igc2015pune.in/GUI/index.aspx
The 1 st International Conference on Geo-Energy and Geo-Environment (GeGe2015)	Hong Kong	04 - 05 Dec 2015	gege2015@ust.hk http://gege2015.ust.hk
3rd PanAmerican Regional Conference on Geosynthetics	Miami South Beach, USA	11 - 14 Apr 2016	NAGSDirector05@gmail.com epeggies@minervatri.com
NGM 2016, The Nordic Geotechnical Meeting	Reykjavik, Iceland	25 - 28 May 2016	has@vegagerdin.is www.ngm2016.com
International Mini Symposium Chubu (IMS-Chubu)	Nagoya, Aichi, Japan	26 - 28 May 2016	kokusai@jiban.or.jp www.jiban.or.jp/index.php?option=com_content&view=article&id=1737:2016052628&catid=16:2008-09-10-05-02-09&Itemid
SEAGC2016	Subang Jaya, Selangor, Malaysia	31 May - 03 June 2016	seagc2016@gmail.com / choy.iemtc@gmail.com www.mygeosociety.org/SEAGC2016

Event	Location	Date	E-Mail, Website
			6
12 th International Symposium on Landslides	Naples, Italy	12 - 19 June 2016	agi@associazionegeotecnica.it www.isl2016.it
GeoChina 2016	Shandong, China	25 - 27 July 2016	geochina.sec@gmail.com http://geochina2016.geoconf.org/
3 rd ICTG International Conference on Transportation Geotechnics	Guimaraes, Portugal	04 - 07 Sep 2016	agc@civil.uminho.pt www.webforum.com/tc3
13 Baltic States Geotechnical Conference	Vilnius, Lithuania	15 - 17 Sep 2016	danute.slizyte@vgtu.lt www.13bsgc.lt
EuroGeo 6 – European Regional Conference on Geosynthetics	Istanbul, Turkey	25 – 29 Sep 2016	info@eurogeo6.org www.eurogeo6.org
6th Asian Regional Conference on Geosynthetics	New Delhi, India	08 - 11 Nov 2016	uday@cbip.org www.geosyntheticsasia.in
Geotechnical Frontiers	Orlando, Florida, USA	12 – 15 March 2017	biconnett@ifai.com
ICSMGE 2017 - 19 th International Conference on Soil Mechanics and Geotechnical Engineering	Seoul, Korea	17 - 21 Sep 2017	secretariat@icsmge2017.org http://www.icsmge2017.org
11th International Conference on Geosynthetics (11ICG)	Seoul South Korea	16 - 20 Sep 2018	csyoo@skku.edu

Note:

The conference announcements are shown with different graphics due to their priority for IGS:

IGS Conference

Conference organized under the auspices of the IGS

Conference under the auspices or with the support of an IGS Chapter