

# IGS NEWS



## NEWSLETTER OF THE INTERNATIONAL GEOSYNTHETICS SOCIETY

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

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# President's Corner: The IGS Elections



**Jorge Zornberg**

Dear Members of the IGS,

IGS members will soon be facing the important challenge of selecting 8 members to fill the elected positions of the 2014-16 IGS Council (out of a total of 16 elected positions). This time, you will also cast your vote to elect the future IGS President and IGS Vice-President. I believe that casting your vote will be particularly difficult this time because of two “good” problems that the IGS is currently facing. First, we face the important need of properly representing in our Council the forty-one (yes! 41) Chapters of our Society. As described in page 14 of this issue of IGSNews, I am pleased to report that during its November 2013 meeting in Accra, Ghana, the IGS Council

approved the formation of new IGS Chapters in Honduras, Malaysia, and Vietnam. Figure 1 illustrates graphically the 41 countries where the IGS is represented in the form of IGS Chapters. Second, we face the important challenge of selecting only 8 out of the record-high number of 23 candidates that are willing to serve in the IGS Council. As an IGS member you will soon be given the privilege of casting your vote to directly select the representatives that will continue to define the direction of our International Society. It will be very important that you take the time to review the background and ideas of the candidates for the IGS Council, which appear in pages 6 of this issue of IGSNews. The new Council will initiate its mandate during the IGS General Assembly to take place on 24 September 2014 during the 10<sup>th</sup> International Conference on Geosynthetics (10ICG) to take place in Berlin, Germany.

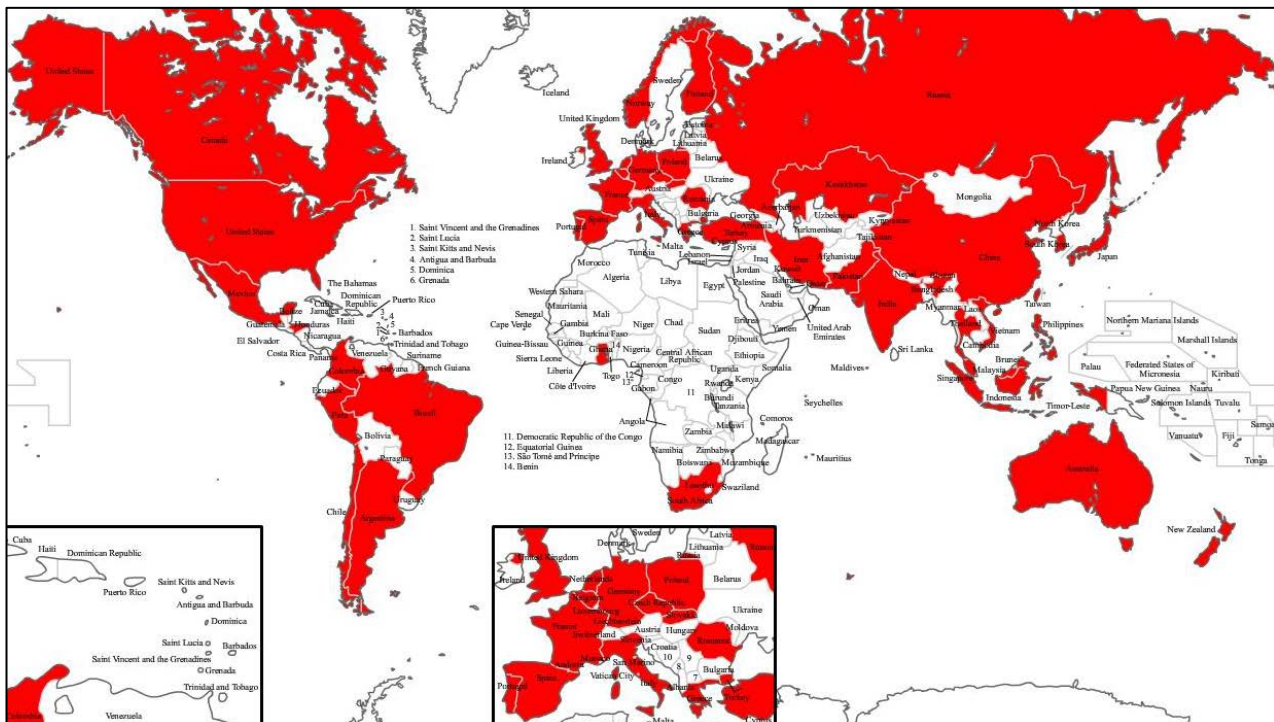


Figure 1: World map illustrating the countries with a Chapter of the IGS.

Direct voting of IGS members has historically led to a good balance of constituencies in the IGS Council. As an example, the composition of the current (2012-14) IGS Council includes 7% of members from Africa, 26% from the Americas, 33% from Europe, and 33% from Asia/Oceania, leading to a geographically balanced representation. Also, the composition of the current IGS council includes 52% of members from Academia and 48% of them from industry. This is a very well-balanced representation, particularly considering the unique IGS approach of selecting the members of the IGS council by direct vote of each one of its members. Figure 2 illustrates graphically the 8 countries (in red) that will be automatically represented in the 2014-16 IGS Council (i.e. countries of council members that will continue their mandate for 2 additional years), as well as the additional countries that may be represented in the 2014-16 IGS Council depending on your vote (i.e. countries of candidates to the IGS council, who if elected will initiate their 4-years mandate). Keep in mind the need of good geographic and professional representation when casting your vote.

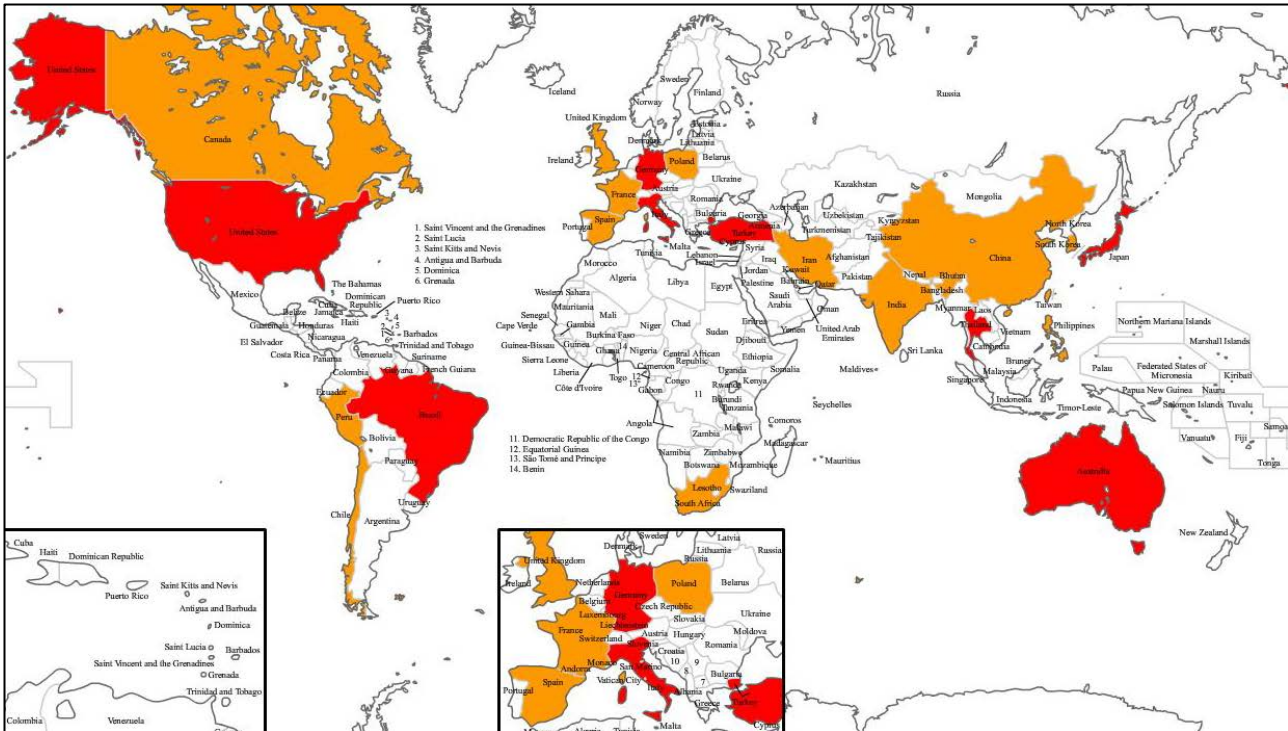


Figure 2: World map illustrating the countries of continued members in the IGS Council (in red) and additional countries of current candidates to the IGS Council (in orange).

The IGS council will meet typically once a year on the occasion of a major geosynthetics conference. While the decisions that define the direction of the IGS are taken during the meeting of the council, much effort goes into the council activities that take place within the multiple operating units that are related to the IGS Council. Figure 3 shows the current structure of the operating units of the IGS council, illustrating that much of the activities of the council need to be worked out in advance by its Council Committees, its Task Forces, and its Technical Committees. The IGS Officers are IGS council members holding the positions of President, Vice-president, Immediate Past-President, Secretary and Treasurer. The Council Committees (Education, Communications, Corporate Members, Young Members and Regional Activities) are responsible for much of the actual effort of the IGS Council Activities. The Task Forces serve the IGS Council by conducting comparatively focused activities, while the comparatively new Technical Committees of the IGS Council serve as catalysts for several of the activities of the technical portfolio of the IGS. It should be pointed out that all members of the IGS can participate in any of the open Council Committees and Technical Committees.

As previously pointed out (Zornberg 2012), one of the unique aspects of the IGS is that we are not an international society of member societies; but an international society of (just plain) members. That is, while the membership of the many other professional international societies is through national societies, the membership of the IGS includes “singular members” (individual or corporate) who directly select delegates that represent them in our governing IGS Council. While national member societies of our sister International Societies may have singular members that opt not to belong to the international organization, such a concept does not exist in the IGS. That is, all members of our IGS chapters are members, by definition, of the International Geosynthetics Society. One of the most explicit occasions when the direct communication between our singular members and the International mother ship materializes is for the upcoming selection of the IGS Council.

We look forward to receiving your vote.  
All best regards,

**Jorge G. Zornberg, Ph.D., P.E.**  
IGS President

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Zornberg, J.G. (2012). “The Council of the IGS.” *IGSNews*, Vol. 28, No. 2, June, p. 2-3.

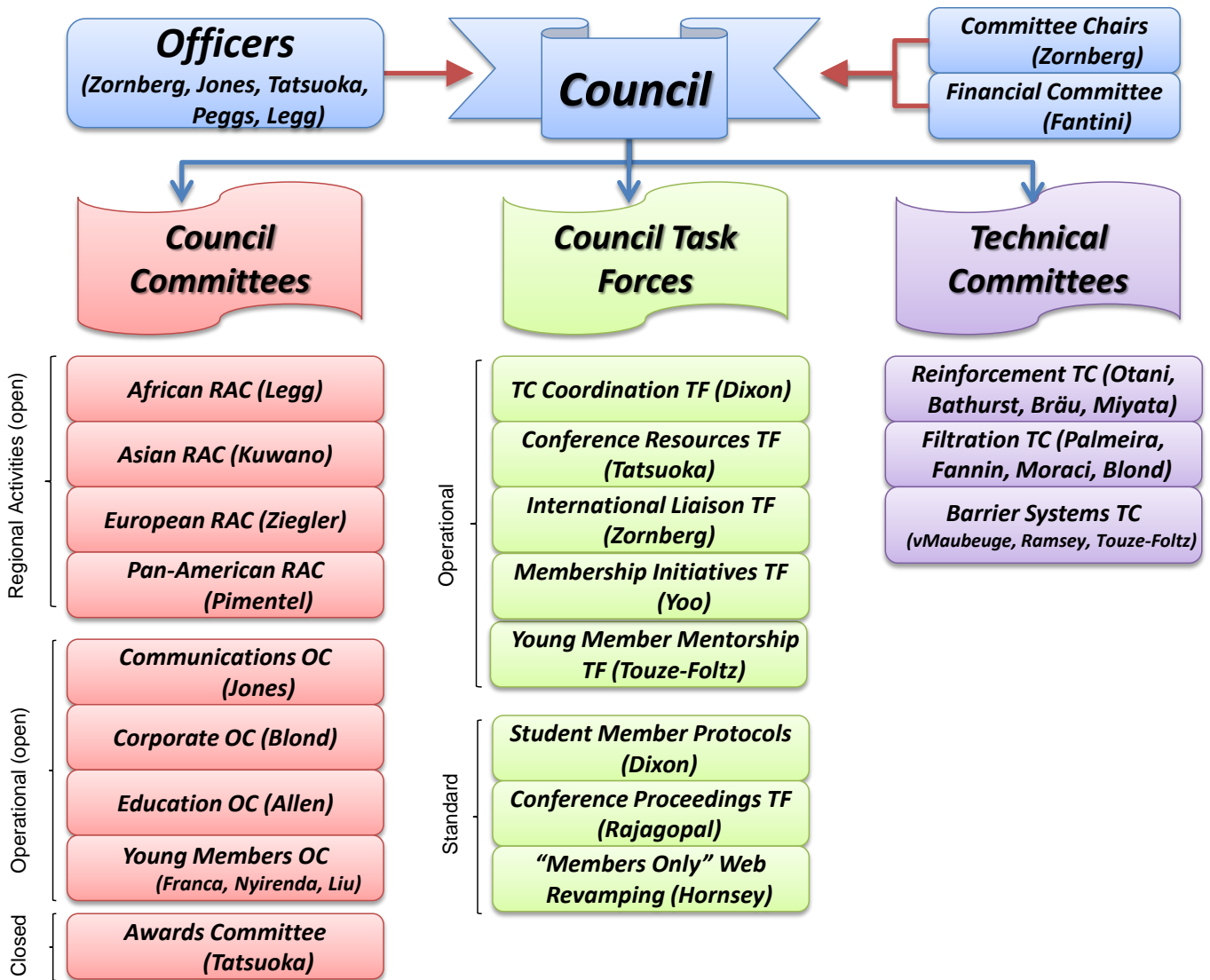


Figure 3: Current (2012-2014) operating units of the IGS Council, with chair(s) of these units noted in parenthesis

## General Information for IGS Members

### Announcement of Candidates for: IGS Council, President & Vice President – 2014 to 2018 Term

The IGS, in accordance with its bylaws, will hold elections in 2014. IGS Members will have the opportunity to elect eight Council Members, a President and Vice President. Each of the elected members will serve a four-year term, effective 25 September 2014.

The IGS encourages any IGS Member who is interested in furthering the IGS Mission to consider standing for one of the Council positions. **It is a requirement for all Council Members to attend IGS Meetings during their tenure as a Council Member.** In a typical year, the IGS Council meets once for a two-day period preceding a geosynthetics event. It is the responsibility of the IGS Council member to travel to these meetings and participate in the plenary and committee meetings. The IGS council attempts to host the meetings in equal distribution around the world and based on the most suitable location in any given year.

The IGS Council Members whose term of office expires in 2014 are:

1. *Pedro Abad (Spain)*
2. *S. Allen (USA)\**
3. *Eric Blond (Canada)*
4. *John Cowland (Hong Kong)\**
5. *Neil Dixon (UK)\**
6. *Peter Legg (South Africa)*
7. *Jun Otani (Japan)\**
8. *Elizabeth Peggs (USA)\**
9. *K. Rajagopal (India)*
10. *Juan Carlos Rivera (Peru)*
11. *Xiaowu Tang (China)*
12. *Nathalie Touze-Foltz (France)*
13. *Chungsik Yoo (Korea)*

The IGS bylaws stipulate that a Council Member may only be elected to two consecutive terms; hence, *Allen, Cowland, Dixon, Otani and Peggs* are not eligible for re-election. Each of the other incumbents are eligible to stand for re-election.

## Election Schedule

Under the bylaws of the IGS, only IGS Members are eligible for election to the Council. **Candidates are required to travel to and attend the IGS Council meetings, which are typically held once per year. Members who are not prepared to meet this requirement should not to run for a council position.** Meetings of the IGS Council are generally held in conjunction with international and regional IGS conferences.

Voting: 1 May to 1 July 2014

**Voting instructions will be sent to each eligible Individual IGS Member and each designated representative from the IGS Corporate Membership via email. Each member may vote once. Please make sure you have submitted an accurate email contact to the IGS. All voting will be done electronically.**

Announcement of Successful Candidates: 15 July 2014

IGS Members will be made aware of the successful candidates via email and website on 15 July 2014

First Meeting of the New IGS Council: 25 September 2014 immediately following the 10ICG

The current IGS council will meet on the 21<sup>st</sup> of September immediately preceding the conference. The IGS General Assembly will be held on 24 September. The first meeting for each of the successful candidates will be held immediately following the conference on 25 September 2014.

If you have any questions or would like any further information on the election process, please contact the IGS Secretary, Elizabeth Peggs ([Elizabeth@geosynthetica.net](mailto:Elizabeth@geosynthetica.net)), SKYPE: elizabeth.peggs, TEL +1.561.768.9487.

## Candidate for the IGS President Term 2014 to 2018



**Russell  
Jones**

I am standing for the post of President of the IGS. I have been an active and enthusiastic Vice-President and have supported the great strides that the society has made during the four years of President Zornberg's tenure. I now look for your support to continue this advancement of the IGS over the next four years.

My involvement with geosynthetics started over 20 years ago as a research engineer working with Prof. Neil Dixon on geosynthetic interface shear strength measurement, whilst also working as a geotechnical engineer with Golder Associates. I am pleased to say that, after all this time, I still working for Golder, and am still collaborating on research with Prof. Dixon! I am involved in the design, specification, testing and construction using geosynthetics on a daily basis, I deliver training courses and workshops to varied audiences, and have lectured

on Masters courses at Imperial College, London for the last 11 years. Prior to being elected to the IGS Council in 2008, I was an active member of the UK Chapter from 1997 to 2008 and served many roles including Treasurer and Chairman.

During my professional career, I have seen the IGS has grow significantly and the Society has enjoyed continued success with conferences, symposia, training lectures being organised at local, regional and international levels. The success of the IGS is made possible through the hard work of the dedicated members of the Society throughout the globe. A great deal of effort has been put into the Committees, Task Forces and Technical Committees that have been established over the last few years, and I will continue to support the various operating units of the Society and the excellent work that is carried out by them.

The IGS has continued to grow and to prosper. The strength of the Society is the rich mix of academia and industry; the learned society and industrial forum roles are equally important. I believe that I have the required attributes, enthusiasm and ability to successfully lead the Society, and support our individual members, corporate members and chapters for the next four years.

## Candidate for the IGS Vice-President Term 2014 to 2018



**Chungsik  
Yoo**

**Chungsik Yoo** is a Professor of Civil and Environmental Engineering at Sungkyunkwan University in Korea. He is the current IGS Council member and the Vice-President of the Korean Geosynthetics Society. Prof. Yoo received his MEng and Ph.D. from the Pennsylvania State University (USA) in 1987 and 1993, respectively. He briefly worked as a Geotechnical Engineer at Mueser Rutledge Consulting Engineers in USA and subsequently became a faculty member at Sungkyunkwan University in 1994. Prof. Yoo has authored over 100 technical papers on geosynthetic reinforced soil structures based on laboratory testing, numerical modeling, and field testing. In recognition of his contribution to both research and practice, Prof. Yoo received a number of awards including the *IGS Award* in 2010, bestowed by the IGS on outstanding engineers in geo-

synthetics fields.

Prof. Yoo has been a core member of Korean as well as International geosynthetics community for nearly 15 years by providing services in research, education, and practice in geosynthetics engineering. He successfully organized the *3<sup>rd</sup> Asian Regional Conference on Geosynthetics (GeoAsia 2004)* in 2004 which was held in Seoul, Korea and will be hosting the *11<sup>th</sup> International Geosynthetics Conference (11ICG)* to be held in Korea in 2018. Prof. Yoo is also serving as an Editorial Board Member for the IGS official journals, *Geotextiles and Geomembranes* as well as *Geosynthetics International*. During his tenure as IGS Council member, Prof. Yoo has tackled a number of membership related issues as the Chair of the Membership Initiative Task Force. If elected as the Vice-President, Prof. Yoo will continue to strengthen the communication between the IGS and the IGS members through strong membership initiatives and services.

## Candidates for the IGS Council Term 2014 to 2018



**Pedro  
Abad  
Santos**

**Pedro Abad** is a Civil Engineer, by the Universidad Politecnica of Madrid. Involved in the Geosynthetics market since 20 years starting in Polyfelt, Linteco and CETCO he is holding now the position of the Environmental Products Sales Director for the EMEA region. He was working for the CE marking representing Spain during 6 years. He is founder of the IGS Spanish chapter and being Secretary of the Chapter since 2006. As member of the IGS council for the last 4 years, he was working actively in the IGS and was organizing as secretary the successful Eurogeo 5 in Valencia in 2012



**Eric  
Blond**

**Eric Blond** is Vice-President of SAGEOS, one of the worlds largest Third Party and Research laboratory dedicated to Geosynthetics, located in Canada. With a background in geotechnical engineering from INSA Lyon, France and Geosynthetics from Ecole Polytechnique de Montreal, Canada, Eric has been active in the Geosynthetics Industry for more than last 20 years, providing third party testing services and conducting research projects focusing on the application of Geosynthetics as well as in the field of materials formulation and long term behavior. Eric Blond was elected on the IGS council in 2010. Currently, his main duties on the IGS council are to serve as the Chairman of the Corporate Committee and secretary of the Technical Committee on Filtration. Beside his activities on the IGS Council, Eric also serves as the chairman of the Canadian mirror committee

of ISO TC221, and is an officer, member of the executive committee of ASTM D35. He has been President of the Geosynthetics Division of the Canadian Geotechnical Society. Eric is a strong supporter of initiatives focusing on the development of collaborations with organizations gathering end-users of geosynthetics such as geotechnical, roadways, environmental, landscaping, etc. His latest developments were the creation of a geosynthetics component to the 2013 edition of the Canadian Geotechnical Society conference, and the development of a MOU between the IGS and the ICID. Globally, Eric Blond supports the vision of an industry driven organization, promoting geosynthetics technology against competitive technologies from a business, end-user prospective.



**Jacques  
Côté**

In 1978, as a young engineering graduate, I started my career in the geotextiles industry. My entrepreneurial spirit and passion motivated me to found *Materiaux Techniques Cote* in 1981; a company specialized in the distribution and installation of geosynthetic products. Over the years, this company has evolved from distributor, to installer and finally into what is called *Solmax*, a geomembrane manufacturer. As of today, *Solmax* is considered a world leader in the manufacturing of geomembrane, exporting its products in more than 60 countries.

Over the past 36 years, I had the privilege to travel around the world and meet wonderful people interested in good usage of geosynthetics. This industry has given me a lot and I now believe that it is time for me to give back, hence I would like to present my candidacy for the position of IGS Council member. As

council member, my objective would be to facilitate the integration of our youth and to share my knowledge in order to ensure a bright future for the geosynthetics industry and all members of its community.



**Ian  
Fraser**

**Ian Fraser** is a geotechnical engineer with over 27 years of international experience in consultancy, specialist contracting and geosynthetics solution provision. He has had close involvement with the IGS with many years of service on the IGS UK Chapter committee as former Chairman, Secretary & Treasurer. He was also a key member of the organizing committee and Treasurer for the very successful EuroGeo4 conference in Edinburgh.

He has experience with several global market leaders in geosynthetics and roles include: Managing Director - Tencate Geosynthetics UK Ltd, Vice President Global Technology - Tensar Corporation and Business Director for Geosynthetics - Fiberweb.

Ian serves on BSI Committee B/553 - Geotextiles & Geomembranes and the Comite European de Normalisation (CEN) TC189 - Geotextiles & geotextile related products. He is also Chairman of Ground Forum which is the UK umbrella and government lobbying body for geotechnical associations and institutions. With his extensive industrial experience, Ian is ideally placed to represent the views of geosynthetic practitioners including designers, manufacturers, contractors and regulators and has always been a stalwart supporter of the role played by the IGS Corporate Members. Ian strongly believes that geosynthetics are as yet massively underutilized and will continue to strive to promote their benefits and increased application worldwide.



**Chiwan  
Wayne  
Hsieh**

**Chiwan Wayne Hsieh** is a Professor in the Department of Civil Engineering of National Pingtung University of Science and Technology (NPUST). Currently, he also serves as the Dean of the School of Continuing & Extension Education at NPUST. He holds a BS in Hydraulic Engineering (Feng Chia University, 1980), and M. Eng and Ph.D. (Penn State University, 1985 and 1991, respectively) in Civil Engineering. He has served as the council member for West Pacific Chapter, IGS for near eight years. He is the director of GSI-Taiwan as a member of Geosynthetic Institute (USA) since August 1999. He was elected as the International Board member of GSI on March 2009 and 2011.

Professor Hsieh's research interests focus primarily on engineering behaviour and applications of geosynthetics and pipeline materials. His research has resulted in authoring/ co-authoring of more than 200 publications, and delivering more than 100 presentations at international conferences and professional meetings on these topics. In addition, he has established the Geosynthetic Laboratory at NPUST which is accredited by GAI and TAF for near 100 test methods. He has organized annual GSI-Taiwan conference and GSI-Asia conference since 2006 to promote the use of geosynthetic in the Asian region. He is an AFS70 committee member of the TRB, USA. He would like to take a more active role in the IGS and to promote the geosynthetics in various part of the world.



**Takeshi  
Katsumi**

**Takeshi Katsumi** is Professor at the Graduate School of Global Environmental Studies, Kyoto University, and also Assistant to the Executive Vice-President of Kyoto University. He graduated from the Department of Civil Engineering, Kyoto University, and obtained his doctoral degree in 1997. He has research interests in a variety of topics of environmental geotechnics, including waste landfills, remediation of contaminated sites, and reuse of by-products in geotechnical applications. He received several awards including the "JSPS Award" by the Japan Society for the Promotion of Science. He has been a member of ISSMGE Technical Committee No.215 on Environmental Geotechnics for more than 10 years, and served as a secretary of 16th ICSMGE (International Conference on Soil Mechanics and Geotechnical Engineering) in Osaka 2005. He delivered keynote

lectures at several international conferences such as 6th International Congress on Environmental Geotechnics (Delhi 2010) and 5th Asian Regional Conference on Geosynthetics (Bangkok 2012). Currently, he is involved in

several projects regarding the recovery works from the 2011 East Japan earthquake and tsunami, including the remediation of nuclide contamination, for example as a chair of JGS (Japanese Geotechnical Society) Technical Committee for the Geo-Environment and a member of Expert Review Panel for IRID (International Research Institute for Nuclear Decommissioning) established by the Japanese government.



**Jacek  
Kawalec**

**Jacek Kawalec** - born on 1<sup>st</sup> June 1971

- chartered geotechnical engineer for Poland with 20 years experience, member of ISSMFE, involved in over 600 projects, expert opinions, researches, tests and designs.
- Master degree (1994) as well as PhD (2000) received from Technical University of Silesia, Poland
- author or co-author of over 50 papers on geotechnics and geosynthetics published in Polish and International journals, presented on conferences
- one of the initiators to create Polish Chapter, current president of Polish Chapter of IGS (2012-2014)

- member of ISO TC221 WG6 Design with Geosynthetics
- since 1994 researcher and lecturer at Geotechnical Department of Technical University of Silesia, promoter of 30 Master thesis in geotechnics and geosynthetics,
- from very beginning of engineering practice active developer of new geosynthetic applications in Poland serving for Tensar International, currently as Business Manager for Europe



**Hong  
Kwan  
Kim**

**Hong Kwan Kim** is a Technical Director in Textile and Polymer Testing Department at FITI Testing & Research Institute, Seoul, Korea. He obtained his Ph. D in Textile Engineering from Cheonnam Nationally University in 2004. His experience covers a diverse range of developing geosynthetics test methods, researching life time prediction of geomembranes for landfill liners and manufacturing geotextiles for separation for the past 15 years. He is recognized as an expert researcher of geosynthetic materials for MQC/MQA in Korea having published over 50 research papers as author or co-author and 3 books. His main interests are focused on evaluation of geosynthetics materials, development test equipments and standardization of test methods. He has also served as the Board of Director of Korean Geosynthetics Society and IGS Korean Chapter Secretary. He

currently is a technical committee member for TC221 (Geosynthetics) of Korean Industrial Standards, ASTM D35 and ISO TC221.



**Peter  
Legg**

**Peter Legg** is a self-employed geo-environmental engineer based in South Africa. He has 35 years of experience in all aspects of civil and geotechnical engineering, much of which involves the use of geosynthetics. From 2002 to 2006, he served as president of GIGSA, the South African Chapter of the IGS, and he is currently still an active member of GIGSA. In 2006, Peter was co-opted onto the IGS Council to represent Africa, and in 2010 he was elected onto the Council. In addition to his portfolio as Chair of the African Activities Committee, Peter is also an officer of the IGS executive in the role of IGS Treasurer. Peter was previously conference chairman for the first African Regional Conference on Geosynthetics, GeoAfrica 2009, held in Cape Town. In 2012, he assisted and facilitated the establishment of the Ghanaian Chapter of IGS, and in 2013 he was an active member

of the organising committee for the second African Regional Conference, GeoAfrica 2013, held in Accra Ghana in November 2013. If elected, Peter intends working on the establishment of additional IGS chapters in Africa, and planning for the third African Regional Conference, GeoAfrica 2017. If required by the IGS, Peter is prepared to continue his role as IGS Treasurer for another four year term.



**Ricardo An-  
drés Moffat  
Covarrubias**

**Ricardo Andrés Moffat Covarrubias** is a Civil Engineer graduated from the University of Chile. He also obtained a M.Sc. and a Ph.D. from the University of British Columbia, Canada. Mr. Moffat has worked for 15 years in many project related to soil mechanics and geosynthetics in Chile and abroad in companies such as BChydro, IDIEM and the University of British Columbia. Mr. Moffat has published papers in international journals such as Geotechnique, Canadian Geotechnical Journal between others. He also has participated in many international conferences in the topic of soil mechanics. Presently he has a position in the University of Chile as an Assistant Professor and also performs as a consultant engineer in different mining and civil engineering projects.





**Flávio  
Montez**

**Flávio Montez** is the Managing Director of Huesker Ltda., being responsible for the activities of Huesker Group in South America. He is an Aeronautical Infrastructure Engineer graduating in 1986 from ITA (Aeronautical Institute of Technology, Brazil). His involvement with geosynthetics started while studying, when he developed an academic research mentored by Prof. Delma Vidal. Flávio has always been active in the promotion of geosynthetics, as well as in the integration between Academy and Industry. Working for the industry since graduation, he supports academic research in South American universities, such as University of Brasília (UnB), Federal University of Rio de Janeiro (UFRJ) and University of São Paulo (USP). He is one of the founding members of the Brazilian IGS chapter (IGS-Brazil), where he served as treasurer from 1999 to 2003. He was also

the treasurer of ABMS (Brazilian Society of Soil Mechanics and Geotechnical Engineering) from 2002 to 2006. Flávio participated in the organization of several Brazilian Conferences on Geosynthetics, as well as important International Conferences, such as Geoamericas 2008 (Cancun, Mexico) and 9th ICG (Guarujá, 2010). He has attended all International Conferences on Geosynthetics since The Hague (1990), where he has always played for the Latin team in the traditional football (soccer) matches.



**Emilio M.  
Morales**

**Emilio M. Morales** is a multi-awarded geotechnical, structural, civil and forensic engineer. He is the Co-Founder and Technical Director of the Philippine GEO-ANALYTICS Inc. Group of Companies. The Group is the First Laboratory in the Philippines to be accredited internationally and nationally. He introduced in the Philippine construction industry the soil nailing as a slope stabilization measure; Jet Grouting; GEOPIER Rammed Aggregate Piers and CFRP Reinforcement. He served as speaker in international and national conferences and as resource person in professional development courses. He is an active member of professional organizations as officers including founding president of the International Geosynthetics Society (IGS) Philippines. Currently, he is Chairman of the National Structural Code for Buildings NSCP for the update of the 2010

Code. He has a BS Civil Engineering from the Mapua Institute of Technology, Philippines; a Master of Science in Civil Engineering from Carnegie - Mellon University, USA and completing his dissertation from the Geotechnical and Geoenvironmental Engineering Program of the Asian Institute of Technology Bangkok, Thailand.



**Hamed  
Niroumand**

**Hamed Niroumand** is a lecturer in various universities. His main fields of research are geotechnical engineering, deep foundation, numerical analysis, sustainable materials and nano-material. He is a project manager and professional engineer in various geotechnical projects. In the year 2011 and 2012, he got various awards such as two medals and International Award for his inventions and researches and the 1<sup>st</sup> rank of Research Section in the Iranian Young Inventor and Researcher Festival 2012 and 1st Rank of Research Section at the National Iranian Youth Festival 2012. He was the chairman and head director of the International/National Conferences of civil engineering near to 12 cases that held in various countries. He chaired sessions in several international/national conferences and festivals in various countries. He presented various research papers in many conferences around the world. He published around 170 papers in journals and conferences. He has published 33 books in USA, Germany and Iran. He is a reviewer and editorial team in various journals. He has invented near to 14 inventions that are patent/patent pending now. He received many awards for his researches.

presented various research papers in many conferences around the world. He published around 170 papers in journals and conferences. He has published 33 books in USA, Germany and Iran. He is a reviewer and editorial team in various journals. He has invented near to 14 inventions that are patent/patent pending now. He received many awards for his researches.



**K.  
Rajagopal**

**K. Rajagopal** is a Professor of Civil Engineering at IIT Madras and is currently a co-opted member of IGS Council. He was the immediate past president of IGS India chapter. During the past four years, he had attended all the IGS council meetings and actively contributed in various committees of IGS including the AAC. One of the most visible outcomes of these is the conference repository at the IGS web site. He has been closely working with the IGS TC-Reinforcement on this task. Dr. Rajagopal has been a member of IGS since 1988. He is an editorial board member of three different geotechnical and geosynthetics journals. His course on Geosynthetics and Reinforced Soil structures is a popular elective course for students at IIT Madras. He has recently released a video course on the subject. He has guided several

research students on the topics of soil reinforcement, treatment of soft clay soils, natural geosynthetics, piled embankments, pavements, etc. Apart from the academic works, he provides consultancy services to geosynthetic industry. His pet topic is geosynthetics for sustainable infrastructure.



**Surya-  
narayana  
Raju**

**G.V.S. Suryanarayana Raju**, after graduating in Civil Engineering, has obtained his Master's Degree in Structural Engineering. Subsequently he has pursued studies in Geotechnical Engineering at Indian Institute of Technology, Delhi, India obtaining M.Tech and Ph.D. Degrees focusing attention on Geosynthetic Reinforced Soil Structures. He has 35 years of Experience in Design, Research and Construction Management. His book "Engineering with Geosynthetics" co-authored with Prof. G.V. Rao, in 1990 has been acknowledged as a Standard Reference book. His recent publications "Advances in Geosynthetics", and "Earth Reinforcement" co-edited along with Prof G.V.Rao present a State-of-the Art of the subject. He also authored/co-authored many papers in National and International Conferences. Having been exposed to Engineering with Geo-

synthetics in the last 25 years, and serving as Engineer-in-Chief since 2004, Dr. Raju is actively involved in International Geosynthetics Society, Indian Chapter from the year 1988 in various capacities as Member, Executive Board, Vice-President and currently President of the Chapter. He has also actively served Indian Road Congress (IRC) and the National Highway Authority of India (NHAI).



**Pietro  
Rimoldi**

**Pietro Rimoldi** is a Civil Engineer and since 1986 he has always been working in the Geosynthetics sector, being involved in the development of new products and in many research programs related to GSY, contributing to the development of new testing apparatus and procedures. He designed many important projects all around the world for soil reinforcement and stabilization, landfills, hydraulic applications and erosion control. He is the author of more than 170 international papers related to GSY and he has written design manuals for reinforced slopes and walls, road and railway base stabilization, drainage systems and erosion control. He is Certified Professional Soil Erosion and Sediment Control Specialist (CPESC) in USA and Chartered Professional Engineer in Italy. He is an active member of IGS, ISSMGE, ASCE Geo-Institute, and the technical committees ISO

TC221 and CEN TC 189 on GSY. He has been Council Member of the IGS, Vice-President of the Italian Chapter of IGS, Council Member of the Italian Geotechnical Association, and in the Board of Directors of the Geosynthetics Institute (GSI) in USA. He is presently the owner of World Tech Engineering Company in Milano and Business Development Manager for Officine Maccaferri.



**Juan  
Carlos  
Rivera**

**Juan Carlos Rivera** is an engineer of the Pontificia Universidad Católica del Perú, MBA of the Business School ESAN. Since the year 2000 he has promoted technical and commercial use of more than 10 million m<sup>2</sup> of geosynthetics in Peru and Ecuador. He participated in many projects using geosynthetics in mining, transportation and agriculture as well as many field specialties like geotechnical, hydraulics and erosion control. He was chairman of the Second Panamerican Congress of Geosynthetics, GeoAmericas 2012, He was chairman of the national congress GeosPeru 2010, treasurer and founder of the IGS Perú, Vice-president of the Instituto para el Desarrollo de Pavimentos del Perú, IDPP (Development Institute for flooring of Peru). He is Member of several institutes as: Mining Institute of Peru, International Erosion Control, founding member and treasurer of the

IGS Peru and Council of the IGS International (2010 – 2014). Currently He is the managing director of Reinforced Earth Peru Company, a subsidiary of Soletanche Freyssinet Group, world leader of specialized engineering



**Martin  
Smith**

**Martin Smith** has had a long history in the development of the geosynthetics market in Australia. Martin has owned a number of successful geosynthetic distribution companies over a thirty five year period. Martin has been largely instrumental in the development of and marketing in Australia of high strength ground reinforcement geosynthetics with relationships developed with companies such as Ten Cate (Managing Director Australasia), Exxon, Terram and Ace Geosynthetics (All as Owner/Distributor). Martin has had a very strong commitment to the education of the market with more than 200 seminars organised (paid by attendees) on a range of topics such as soil reinforcement, the use of geogrids in paved and unpaved roads, geotextile tube technology, the use of geogrids in segmental block walls and other topic areas. Martin has been an active committee member on a number of Australian Standards addressing geosynthetics including testing and durability issues as well as the standardisation of test methods for the construction and quarrying industry. Martin is a qualified civil engineer with over 35 years experience in the Australian and International geosynthetics industry. Martin works and is actively involved in his own company, as a geosynthetics consultant. Martin is particularly proud that he has been a mentor to many personnel (current) in the geosynthetic and related industries."

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**Xiao-  
Wu  
Tang**

**Xiao-Wu Tang** is the Executive Chairman and Secretary General of Chinese Chapter of International Geosynthetic Society (CCIGS), and Vice-Chairman of Chinese Technical Association on Geosynthetic (CTAG). Prof. Tang was elected as the IGS Council Member from 2010, and as the member of Asian Activity Committee and Education Committee.

Prof. TANG has served as the Secretary General for “The 4<sup>th</sup>. Asian Regional Conference on Geosynthetic (Geosynthetic Asia 2008)”. Prof. Tang is the vice editor-in-chief of “Journal of Geosynthetic Technique” (in Chinese) which has 6 issues per year. He translated many technical documents crafted by IGS in Chinese.

Prof. Tang has extensive research and consulting experience in the geotechnical and geoenvironmental engineering field. His expertise spans from ground improvement, waste management and containment, landfill, reinforcement, and et al. Miss Lin TANG, his Ph.D student, awarded 2012 IGS Student Award.



**Nathalie  
Touze-Foltz**

**Nathalie Touze-Foltz** is a researcher at Irstea Antony, a public research institute in France. She received her diploma in hydraulic engineering in 1995 from Ecole Nationale du Genie de l’Eau et de l’Environnement de Strasbourg (France) and her PhD in 2001 from Ecole des Mines de Paris. She finally defended her Habilitation based on the research work she performed on the quantification of transfers through lining systems in 2007. Dr. Touze-Foltz has been conducting research on geosynthetic for the past 20 years, with particular emphasis on environmental applications. She has authored/ co-authored about 110 papers and serves on a number of national technical committees especially as regards the use of geosynthetic clay liners in landfills and tunnel applications, equivalence issues and puncture protection of geomembranes.

She is currently a member of the council of the French Chapter of IGS. She is also convenor of WG4 (hydraulics) in ISO TC 221 and CEN TC 189. If reelected to the Council, she will keep her very active role in the IGS especially with young members and the technical committee on barrier systems.



**Robert B.  
Wallace**

My name is **Bob Wallace**, and I am a candidate for the IGS Council. I am a civil/geotechnical engineer practicing primarily in the design of facilities incorporating geosynthetic. My expertise specializes in the design of lining systems for landfills, surface impoundments and other containment structures. I have 40 years’ experience, and have been designing facilities incorporating geosynthetic for over 36 years. I was a charter member of the IGS, and was co-opted onto the IGS Council in 1986, tasked with successfully promoting the addition of geomembranes to the IGS, at that time the International Geotextile Society.

I presently provide leadership in providing design, construction and forensic services for geosynthetic, principally for landfills and related containment structures, as a Principal Engineer with URS Corporation in Santa Ana, CA. This includes projects throughout the U.S. and in nine other countries. I have been a member of ASTM Committee D-35 on Geosynthetic since 1986. An author of over 45 technical papers and a contributor to several books, I have made many contributions to the state of practice and routinely apply the state of the art to my designs. I look forward to serving the IGS community on the Council.

## IGS Council Meeting Report for IGS News



**Elizabeth  
Peggs**

The IGS Council meeting for 2013 was held in conjunction with GeoAfrica 2013 in Accra, Ghana in November. The meetings followed the typical format: one day of officers meetings, one day of committee and plenary meetings, and a final day of plenary meetings. The full three days of meetings included an enormous amount of activity and productivity. So as not to write too many pages in this report, I will highlight only the major issues.

*Please, if you have an interest in learning more or getting involved with any particular activity, contact me and I will be more than happy to answer your questions or help to get you involved!*

## Success Stories Reporting

At each council meeting, the opening plenary session hosts a set of “Success Stories” presentations. This session is intended to showcase activities that specific committees or operating units have found success with and it helps generate ideas about how to continue to move the IGS forward.

In Accra we heard about:

- **Educate the Educators (EtE)** – Argentina 2013, managed by the Pan-American Activities Committee, Victor Pimentel, Chairman. The technical program was crafted by the IGS Council and supporting members. The chapter selected attendees through an application process. The chapter, through sponsorships and fund-raising funded all of the housing and meals for the attendees. Attendees only paid their own transportation. IGS Pan-American Committee sponsored the speakers for the event.
- **Lost Members Initiative** – Ongoing - Membership Task Force, Chungsik Yoo, TF Leader & the Secretary’s Office. Effort to consolidate the historical databases of the IGS to eliminate redundancies and clean up the history of the IGS Membership. Initial steps were to develop queries and reports resulting in generated lists of lost members from the last 4-5 years by chapter. Letters and interaction with chapters have been created in order to establish communication with lost members. IGS is interested in discovering why members left and to work toward regaining those members who are still viable and interested members for the geosynthetics community. NOTE: 51% of IGS Student Award Winners *remain* IGS Members once they become a practicing professional.
- **Tools for Success** – Ongoing - Secretary’s Office, Elizabeth Peggs – Secretary, Diana Davis – Secretariat Manager. Various tools available for use by the IGS from within the secretary’s office: online meeting rooms, digital surveying services, meeting planning app, document sharing, email campaigns, etc. Committees are using these tools to drive productivity. For example, the Technical Committee on Filtration (TC-F) executed an excellent international survey on filtration design practices. The response was strong and has given the TC a basis for moving forward. The Young Members committee regularly uses the web meeting software to meet, share documents, work on document revisions and communicate at no cost using VoIP.

## Committee Activities

Each of the committees meets for 1 – 2.5 hours in the traditional council meeting schedule.

**Communications Committee** – The committee dedicated much of its time to discussing the development of an overall strategy to improve the IGS Communications procedures and to streamline them with available technologies. A significant focus within that discussion was a redesign of the IGS website and considerations for what will be most valuable going forward. Strategies for the incorporation of more current news in the website and a formula for monthly communication to members was discussed. A Task Force on website content was developed. It will be led by Erol Güler.

The current IGS website has successfully loaded over 10 complete proceedings to the Proceedings Library. This is an arduous task led currently by council member K. Rajaopol and executed by volunteers. **The council has approved a budget to expand this project and hire scanning and inputting services to help expedite digitizing and adding the proceedings to the library. The IGS Proceedings Library is available in the Members Only section of the IGS website.**

**Education Committee** – The committee has a number of very good projects on the move. As the central organizing point for EtE (Educate the Educators), the committee reviewed Argentina’s EtE, evaluated the lessons learned, and began to develop a protocol for future programs. **NOTE:** Each of the Regional Activities Committees may work with the Education Committee to produce an EtE project in conjunction with any approved chapter in their region. Additional requests for EtE programs were also reviewed.

In addition, the Education Committee is:

- Evaluating the existing technical PowerPoint inventory in the IGS website with the intention of removing outdated presentations and tasking new presentations.
- Creating new Educational Leaflets with topics to include gas drilling and fracking
- A review/inventory of textbook content on geosynthetics
- A communication plan for interaction with the Technical Committees of the IGS to develop additional multimedia training resources.
- Work with the Young Members Committee to execute translations of text including the leaflets and the IGS Mathematical and Graphical Symbols
- Working on a movie which will tout the real applications and benefits of geosynthetics toward sustainability

**Corporate Committee** – The committee continues to focus on making sure the mission of the IGS supports the activities which promote healthy growth for the geosynthetics field. The committee reviewed the recently adopted Multi-Year Membership program which offers a 5% discount to Corporate Members who pay for 4 years of mem-



bership. This program is designed to reduce bank fees and provide additional benefit to Corporate Members who are committed to supporting the IGS. This program will continue. The Corporate Committee was tasked with developing sponsorship guidelines for the IGS Ambassadors and EtE programs. The Corporate Committee has also overseen the development of an IGS Corporate Member Logo in response to requests from the IGS Membership. The intention of this new logo is to clearly identify what the



logo represents – Corporate Membership in the IGS. There have been concerns that use of the IGS general logo could be misconstrued as certification, endorsement, etc. In order to make very clear the meaning of the IGS logo on corporate materials, the following logos have been developed.

The committee took great care to make sure that the logos were simple and useful. There are two options to help accommodate layout needs. Each of the logos is available in color, black & white and color negative formats as well as in multiple file formats including: JPG, PNG and vector. Each Corporate Member will receive access to these graphics with the payment of their 2014 invoice. The terms of use of the IGS logo by Corporate Members, for the first time in the history of the IGS, are also being defined by the Corporate Committee.

The committee worked on establishing the parameters of these terms. The committee is also undertaking the revision of the Corporate Member brochure, a Case Histories contest and more in-depth communication directly with the IGS Corporate Membership.

**Regional Activities Committees** – The regional committees (African, Australasian, European and Pan-American) met to work on projects for their respective regions and discuss how they may participate & contribute to the various programs of the other committees in the IGS Council.

**Young Members Committee** – The only committee which does not meet during the time of the IGS Council, the Young Members Committee is newly formed but very active. Mentored by Dr. Nathalie Touze-Foltz, the council reviewed a report by the committee which has been actively participating in translation projects and is undertaking the development of a special Young Members session and networking function in Berlin. **This committee has also formally expressed its interest in supporting all of the other committees and has made a request to be included whenever it makes sense!**

## Council Plenary Notes

Election 2014 plans were reviewed (see article in this issue of the IGS News). The election will be held May through June of 2014. The newly elected members of council will participate in their first meeting immediately after the 10<sup>th</sup> ICG in Berlin.

### Treasurer's Report

- The IGS Audit was reviewed. There were no reportable concerns by the auditor. The decision to use the same auditor for 2013 was confirmed by a vote.
- 2013 budget was reviewed. Spending at November 1 was under established budget with no problems foreseen.
- Finance Committee will work to develop a more cohesive financial management plan for the IGS. They are tasked with finding a professional financial manager to assist in this planning.

### New/Revised IGS Documents Reviewed and Approved by Council

- **Guidelines for IGS International Conferences** (led by Fumio Tatsuoka) – These revisions were primarily editorial to clarify language. Two notable content revisions were made: 1) the formalization of a CAC (Council Advisory Committee); and, 2) an option for conference organizers to receive reduced registration rates
- **Guidelines for IGS Regional Conferences** (led by Zornberg & Tatsuoka) - These revisions were primarily editorial to clarify language. Two notable content revisions were made:
  - 1) A 10% fee to the IGS on Exhibit Sales at Regional Conferences. This is proposed to support the management and support of the events from the IGS. This will not be enforced for the 2016 events, although organizers will be invited to adopt it. A USD \$30,000 cap was placed on the fees to IGS. Rationale for that cap was based on the idea that the fees are meant to offset the costs incurred by the IGS when mentoring/supporting a regional conference.
  - 2) Inclusion of the guidelines surrounding the use of simultaneous translation at IGS Regional Conferences.
- **Guidelines for IGS Auspices** (led by Tatsuoka) - These revisions were primarily editorial to clarify language.
- **Guidelines for Ambassadors of the IGS** (led by Zornberg) – This is a new document created to support and formalize the role of IGS Ambassadors.

- **IGS Award Guidelines** (led by Tatsuoka) - These revisions were primarily editorial to clarify language.

### General Business

Technical Committees have a mandate to reach out to sister societies and find partner technical committees which will broaden participation and coordinate efforts.

A proposal for the addition of an “IGS Young Member Service Award” was made and confirmed by a vote of the council.

Three new chapters successfully completed the application process, meeting all of the IGS requirements for chapter formation. After a vote by the council, the following 3 chapters were confirmed:

- Honduras
- Malaysia
- Vietnam

It should be noted that Honduras is the first IGS Chapter in Central America! With the adoption of these three chapters the IGS now proudly stands with 41 Chapters!

The IGS Council meetings concluded just in time for GeoAfrica to get underway.

Reported by  
Elizabeth Peggs, IGS Secretary

## Jean-Louis Briaud - Elected President of the Federation of International Geoengineering Societies (FedIGS) Term 2014 – 2018



**Professor Briaud** was very recently elected President of the Federation of International Geoengineering Societies (FedIGS) for the 2014 - 2018 term. FedIGS regroups the following international societies:

- ISSMGE: Int. Society for Soil Mechanics and Geotechnical Engineering
- ISRM: Int. Society for Rock Mechanics
- IAEG: Int. Association for Engineering Geology and the Environment
- IGS: Int. Geosynthetics Society

Dr. Briaud is a former president of ISSMGE (2009-2013). As President of FedIGS, Briaud plans to foster cooperation and strengthen the links between the four societies while remaining conscious of each society’s freedom. Briaud also wishes to strengthen the group by inviting other geo-engineering societies to join FedIGS. Briaud says that this prestigious and humbling position will give him a chance to broaden his horizons and learn more about rock mechanics, engineering geology, geosynthetics, and other aspects of the rich geoworld. Briaud also plans to work on enhancing the image of the geo-profession which he sees as a long term but very important goal.

Dr. Briaud is Professor and Holder of the Buchanan Chair in the Zachry Department of Civil Engineering at Texas A&M University. He received his Bachelor’s degree in France in 1972 and his Ph.D. degree from the University of Ottawa in Canada in 1978. His expertise is in foundation engineering and more generally geotechnical engineering. He has served as President of the Association of Geotechnical Engineering Professors in the USA, President of the Geo-Institute of the American Society of Civil Engineers, and President of the International Society for Soil Mechanics and Geotechnical Engineering. Among other awards, he has received the ASCE Ralph Peck Award, the CGS Geoffrey Meyerhof Foundation Engineering Award, the ASTM Hogentogler Award, the ASCE Huber Research Prize, and the ASCE Martin Kapp Award. Over the last 30 years, Dr. Briaud has conducted about 8.5 million dollars of research mostly on foundations and retaining walls. He has supervised 49 PhD students and 90 Master students. He has been a consultant on many projects in several countries. He is the author of the 1992 book on “the pressuremeter” and the 2013 book on “geotechnical engineering: unsaturated and saturated soils”. He has published about 300 articles and reports in geotechnical engineering and has lectured worldwide.

# Announcing the "International Geosynthetics Photo Contest 2014"



The IGS Photo Contest was conceived to create an excellent collection of photos showcasing outstanding work by IGS members. The response to the initial contest was phenomenal with many entries received. The winning photos, as well as being featured on the IGS website, have been tapped for use and recognized in various publications and lectures worldwide.

Winning photos will be acknowledged during the IGS International Conference in Berlin 2014.



## Rules and Guidelines of the Photo Contest

- Photos should clearly display a geosynthetic material/technology in use
- Provide a clear understanding of what geosynthetic technology or event is being demonstrated
- Contestant must be an active IGS Member
- Each member is eligible to submit up to 5 photographs to the contest
- A title and description are required for each photo
- The file size should not exceed 4MB per picture
- File format must be .jpg
- Photos should be sharp, well focused and aesthetically pleasing
- "Before and After" photo sets are welcome and count as one entry
- Final selection of First, Second, Third and Honorable Mention photos will be made by an independent committee

2014 IGS Photo Contest submissions must be received no later than **15 May 2014**

To submit photos please go to: <http://www.geosyntheticsociety.org/PhotoUpload.aspx>

## Feedback on Young IGS Members Operational Committee



**Irene N.  
Nyirenda**

In the first IGS news of 2013 (volume 29 No. 1) the Chair of IGS Young Members Operational Committee, Dr Nathalie Touze-Foltz reported on the creation of the Young IGS Members (YIGS) committee which was launched at Eurogeo 5 in Valencia, Spain in September 2013.

The criteria is that you have to be under 35 years old and have an interest in Geosynthetics through either as being a member through your regional chapter or a student member with IGS directly.

The aim of this committee was to involve young members at an early stage of their studies or careers in activities and/or tasks of the IGS through their respective regional sub-committees (Americas, Europe and Africa and Australasia).

Furthermore, it is also aimed at creating a mentorship platform, developing and pursuing new ideas for our young members as the IGS sees them as the next generation.

In November 2013 at 2nd African Regional Conference in Accra, Ghana, the IGS Young Members OC met for the first time, and a total of 13 young members were present. The aim of the meeting was to get a clear structure on the YIGS members roles and tasks for the next year and years to come.

The meeting was deemed a very successful start with the outcome of the meeting being the drawing a one year and four year plan (2014-2018) which was presented by Dr. Nathalie Touze Foltz. The plans consist of the following objectives;

- Develop membership list for all young IGS members in all regions.
- Create and develop a social media platform for awareness and communication such as Facebook, Wikipedia, and LinkedIn.

- Develop a network to support the students at university level.
- Translation of terminology and glossaries list of the IGS into French, Spanish, Portuguese and Italian
- Organisation of an interaction/networking session with the Geosynthetics industry
- Organisation of a Young IGS conference

Our first major task in 2014 will be the 10ICG Berlin conference in September. It was recognized that the Young IGS should be active part of the 10<sup>th</sup> International Conference on Geosynthetics of IGS. One of this involvement in the young IGS session in the conference (please refer to IGS News Volume 29 n.3 published in December 2013). During this special session, 10 presentations will be evaluated and the best young member presenter will have the opportunity to present again the next day in a Plenary Session.

The young IGS committee has also worked hard during the past 4 months in finalizing the terminology and glossaries list, translating in all the languages terms and definitions of geosynthetics which has been passed to Dr Nathalie Touze-Foltz for finalization.

We encourage more young IGS members to join the Young IGS Committee through their regional chapters or by contacting Irene Nyirenda ([inyirenda@gseworld.com](mailto:inyirenda@gseworld.com)) or Edoardo Zannoni ([edoardo.zannoni@maccaferri.co.za](mailto:edoardo.zannoni@maccaferri.co.za)) to obtain further information on being a member of the committee.

Each interested IGS young member shall address his/her CV plus motivation to the officers of his/her regional sub-committee which will give a decision on the relevance of the application.

*Reported by*

*Irene N. Nyirenda, Chair of Young IGS Committee*

## News from the Technical Committees of IGS

### IGS Technical Committee on Barrier Systems - TC-B

The International Geosynthetics Society (IGS) has established multiple technical committees to facilitate higher-level discussions with its expert members on special topics, key materials sectors, and other issues influencing the international understanding, specification, design and utilization of geosynthetics.

The Technical Committee on Barriers (TC-B) is dedicated to the scientific and engineering development of geosynthetic barrier systems and associated technologies. The TC-B, in particular, focuses on the dissemination of knowledge, technology, research findings and design and construction methodologies related to barrier systems in geotechnical and geoenvironmental engineering.

#### Recent Activities

A summary of the committee's most recent activities:

- In September 2013, the ISSMGE's 18<sup>th</sup> International Conference on Soil Mechanics and Geotechnical Engineering was held in Paris. More than 2100 delegates attended and 19 workshops were organized. Two of those sessions had geosynthetic barriers as main topic and the IGS TC-B presented two papers during these sessions. This exceptional half-day was dedicated to geosynthetics and held in collaboration with the French chapter of the IGS. For more details contact Nathalie Touze-Foltz [nathalie.touze@irstea.fr](mailto:nathalie.touze@irstea.fr)
- In October 2013, the TC-B participated in a three-day workshop on geosynthetics in India as part of IGS India's Silver Jubilee. Key topics include landfill in India, current practice in regards to barrier systems in India, the application of GCLs, barrier system service lives, and much more. For a full report, see page 8 of IGS News Vol. 29, No. 3 (November 2013).
- Also, the TC-B has prepared an international summary of regulations. That summary will be made available to IGS members in conjunction with the forthcoming relaunch of the IGS website. For more information on the TC-B's international regulation project, contact Kent von Maubeuge, [kvmau-beuge@naue.com](mailto:kvmau-beuge@naue.com).

#### Future Projects

Foremost, IGS members must know that the Technical Committee on Barriers strongly encourages your participation. The IGS Technical Committees offer fantastic opportunities to benefit the international geosynthetics community and its future adopters and participants.

The issues the TC-B is currently or soon-to-be addressing, and which we welcome additional inquiries and participation on:

- Website resource expansion. The TC-B is interested in expanding its involvement with the IGS membership. As the IGS website is updated, TC-B resources and contributions will grow.
- Draft letter to Fukushima. The IGS TC-B has offered technical assistance and support to the mitigation and clean-up efforts related to the Fukushima nuclear plant disaster. Interested parties should contact



Boyd Ramsey ([bramsey@gseworld.com](mailto:bramsey@gseworld.com)) with information on projects in which geosynthetics have been used for containment of radioactive waste or who are interested in more information and participation in this IGS technical outreach.

- Special session at 10 ICG. The TC-B will lead a session at the 10th International Conference on Geosynthetics (10 ICG), which will be held 21 – 25 September 2014 in Berlin, Germany. A TC-B membership meeting will be held too. More information is forthcoming. Please visit [www.10icg-berlin.com](http://www.10icg-berlin.com) for registration information for the 10 ICG.
- Video project on geosynthetic installation. The TC-B is organizing a video project on geosynthetic barrier installation. We welcome participants. If you have installation videos you would like to share, or which you believe properly represent the types of videos the international community might benefit from, please contact TC-B member Kent von Maubeuge, [kvmaubeuge@naue.com](mailto:kvmaubeuge@naue.com).
- Geosynthetic installation support document. The TC-B is gathering information for a new publication on geosynthetic installation. Your insight is welcomed. Contact Kent von Maubeuge, [kvmaubeuge@naue.com](mailto:kvmaubeuge@naue.com).

Nathalie Touze-Foultz (secretary), Boyd Ramsey (co-chair) and Kent von Maubeuge (co-chair) are elected members of the IGS Council and board members of the Technical Committee on Barriers (TC-B). Visit [www.geosyntheticsociety.org](http://www.geosyntheticsociety.org) for more information on IGS technical committees and related opportunities.

*Reported by*

*Kent von Maubeuge, IGS TC on Barrier Systems Officer and IGS Council Member*

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## Announcements of Conferences of IGS

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### 10<sup>th</sup> International Conference on Geosynthetics – 10ICG Berlin, Germany, 21 – 25 September 2014



The German Geotechnical Society (DGGT) and the International Geosynthetics Society (IGS) German Chapter, as a special group within the DGGT, cordially invite you to participate in the 10<sup>th</sup> International Conference on Geosynthetics (10ICG) in 2014 in Berlin, Germany.

The conference will be held from 21 to 25 September 2014 in direct connection with the 33<sup>rd</sup> Baugrundtagung (BT - German Soil Mechanics Conference) of DGGT (23 to 26 September 2014).

As the Baugrundtagung expects 1200 participants, great synergy and interaction is expected between these events, especially in the co-organized, co-located exhibition.

The overlapping of lectures from both events will also attract many additional experts from the geotechnique and geosynthetics professions. The BT and the Young Geotechnical Engineering Session will be translated simultaneously to English and a combi ticket for 10ICG and the BT with a fairly reduced price will be offered.

#### Venue

The 10ICG will be held in the south-eastern part of Berlin at the ESTREL convention centre. ESTREL offers about 50 rooms for lectures and meetings in different sizes, integrated exhibition halls (approx. 5000 m<sup>2</sup>) and a 4-star hotel (1125 rooms). Travelling time from there to the centre of Berlin is about 20 minutes.

#### Language

The official language of 10ICG will be English.







#### Berlin

Berlin is the capital city of Germany and offers a tremendous number of interesting cultural events, museums and sightseeing attractions directly in the city and its surrounding area.

Berlin is the "gateway" to the eastern part of Europe. The city is easily reachable and the site of many significant political milestones not only in the history of Germany but of Europe and the world as well.

Parallel to the 10ICG the International Trade Fair for Transport Technology - Innovative Components, Vehicles, Systems will take place in Berlin also: INNOTRANS 2014 (23 to 26 September 2014). Railway Infrastructure, Interiors (incl. Travel Catering & Comfort Services), Public Transport and Tunnel Construction are main topics and could of interest for our geotechnical and geosynthetics specialists as well.

Please be aware that accommodation might be a problem if you book late, although there is great contingent pre-booked by the organizers of 10ICG and BGT in and nearby the venue. The hotel reservation is already possible through the webpage.

Time	Sun, 21.09.	Mon, 22.09.	Tue, 23.09.	Wed, 24.09.	Thu, 25.09.	Fri, 26.09.
08:30 - 09:00	Registration		Keynote Lectures by Fumio Tatsuoka Michael Heibaum Dennes Bergado			Technical Excursions
09:00 - 09:30		Opening Session and Opening of Exhibition		Keynote Lecture by Holger Ballbaum	Keynote Lecture by Barry Christopher	
09:30 - 10:00						
10:00 - 10:30		Coffee Break and Official walk around in Exhibition	Coffee Break	Coffee Break	Coffee Break	
10:30 - 11:00		Giroud Lecture by Richard Bathurst	Parallel Sessions  <b>Young IGS Members</b>	Parallel Sessions	Parallel Sessions	
11:00 - 11:30						
11:30 - 12:00		Welcome Lecture by Georg Heerten				
12:00 - 12:30		Lunch	Lunch / TC Filtration	Lunch / TC Reinforcement	Lunch / TC Barriers	
12:30 - 13:00						
13:00 - 13:30						
13:30 - 14:00		Parallel Sessions	Parallel Sessions	Parallel Sessions	Parallel Sessions	
14:00 - 14:30						
14:30 - 15:00						
15:00 - 15:30						
15:30 - 16:00						
16:00 - 16:30		Coffee Break	Coffee Break	Coffee Break	Coffee Break	
16:30 - 17:00		Parallel Sessions	Parallel Sessions	IGS General Assembly and IGS Awards		
17:00 - 17:30						
17:30 - 18:00						
Baugrund- tagung			Young Geotechnical Engineers	Main Session of Baugrundtagung	Main Session of Baugrundtagung	
Evening Events	17:00 - 19:30 Uhr Welcome Reception (Estrel)	Happy Hour in the exhibition  IGS Corporate Reception	IGS Soccer Game  Informal Meeting Young Geotechnical Engineers and Young IGS Members	Conference Dinner		

### Special Lectures

The 10ICG is proud to announce the following special lectures to be held in Berlin 2014. The actual shown titles are working titles and subject to change:

- Giroud Lecture  
*by Richard Bathurst, Canada*
- Welcome Lecture  
History and actual state of Geosynthetic Applications in Germany  
*by Georg Heerten, Germany*
- Keynote Lectures
  - o Natural Disasters Mitigation by using construction methods with geosynthetics (Landslides, Flooding, Earthquake)  
*by Dennes Bergado (Thailand), Michael Heibaum (Germany) and Fumio Tatsuoka (Japan)*
  - o Environmental benefits by using construction methods with geosynthetics  
*by Holger Ballbaum (Switzerland)*
  - o Costs savings by using construction methods with geosynthetics  
*by Barry Christopher (USA)*

### Technical Program

About 500 abstracts were submitted, the final papers are prepared and submitted. Actually the paper review is undergoing. It is planned to have 4 to 5 parallel sessions to allow a maximum of 300 oral presentations of the best papers. The technical presentations will be accompanied by training lectures and discussions sessions.

As a special benefit for the **Young IGS Members** there will be an award winning procedure offering free entrance to both conferences (10ICG and BGT) and the festive evening (see also page 15 of this IGS News issue). The best lecturer will present his / her lecture in a keynote-like position in the program as well!

## Exhibition

The 5000 m<sup>2</sup> technical exhibition space is directly connected to the conference rooms, being located half-way between the hotel and lecture rooms and accessed without having to leave the centre. The exhibition space will be used both by 10ICG and the Baugrundtagung event. The reservation period for the exhibition is open through the webpage since July 2013. **The exhibition is already sold out.** Companies that are late for getting a booth may be interested in joining the sponsoring possibilities!

The already registered exhibitors are listed on the webpage (<http://www.10icg-berlin.com/en/exhibition.html>) and the still available booths are shown in the following pictures.

## Important Dates

Communication on paper acceptance REVIEW	April 2014
Deadline for final version of papers	May 2014
Sponsorships and exhibition sales opening	July 2013
Early registration opening	January 2014
Normal prices registration	June 2014

## For more information

Please visit the website that will be updated in due time: [www.10icg-berlin.com](http://www.10icg-berlin.com)

For further information please contact:

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Dr. Kirsten Laackmann ([service@dggt.de](mailto:service@dggt.de))

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## Announcements of Conferences under the Auspices of IGS

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### 7<sup>th</sup> International Congress on Environmental Geotechnics Melbourne, Australia, 10 - 14 Nov 2014



The International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE), TC 215 Environmental Geotechnics is pleased to announce the 7<sup>th</sup> International Congress on Environmental Geotechnics (7ICEG2014), which will be held in Melbourne, Australia between the 10 - 14 November 2014.

This Congress is being organised by Engineers Australia and supported by the Melbourne Convention Bureau (MCB), City of Melbourne and the Australian Geomechanics Society. Furthermore this Congress will be held under the

auspices of the International Geosynthetics Society (IGS). Connected to the Congress there will take place an exhibition as well.

Environmental Geotechnics has evolved dramatically from the 80s/90s practice where the focus was on addressing problems related to contaminated sites as well as hazardous and non-hazardous waste management. Nowadays it deals also with emerging contaminants (nanoparticles, etc.), energy geotechnology (geothermal energy, CO<sub>2</sub> sequestration, coal seam and shale gas, methane hydrates, etc.), oil and gas resources, mining, reservoir engineering, effect of climate change on built structures and biogeotechnical engineering, attracting new challenges and new set of skills to the profession. These had the effect of bringing the different disciplines even closer than before.

This Congress aims to bring together practitioners and researchers in Environmental Geotechnics and related disciplines to discuss the advances which have been achieved in the past 20 years or so. Since the organisation of the 1<sup>st</sup> Environmental Geotechnics Congress in Edmonton, Canada in 1994, great progress has been made but we must address the new challenges of a rapidly changing world. In so doing, this Congress will contribute to the ongoing process of consilience between the different disciplines so that current and future challenges are addressed efficiently by our profession.

#### The Congress-Theme is “Lessons, Learnings and Challenges”

- Different lectures will be held to the following Topics: Planning, legislation and regulatory control
- Containment and management of waste
- Contaminant fate and transport assessment
- Soil, ground vapour and groundwater remediation and redevelopment of derelict land
- Landfill gas management and greenhouse emission abatement
- Energy related geoenvironmental technology
- Waste containment facilities closure and aftercare
- Waste management of disaster affected areas
- Biogeotechnical Engineering

- Developments in geosynthetics for environmental protection

### Keynote Speakers

- Prof. Charles Shackelford Bs, Msc, PhD. P.Eng *Department of Civil and Environmental Engineering Colorado State University, Fort Collins, USA*
- Prof. R. Kerry Rowe PhD, D.Eng, FEng, FRSC, FCAE, FEIC, FACE, FIEA, FCSE, P.Eng. *Professor and Canada Research Chair – Tier I Department of Civil Engineering, Ellis Hall Queen’s University, Kingston, Canada*
- Dr Stephan Jefferis MA MEng, MSc, PhD, CEng, FICE, CGeol, *FG Director, Environmental Geotechnics Ltd., Oxford, UK*
- Dr Paul Brown Principal Advisor *Mineral Waste Management Rio Tinto, Melbourne, Australia*
- Prof. Craig Benson Bs, Msc, PhD. P.Eng *Wisconsin Distinguished Professor and Chair Director of Sustainability Research and Education University of Wisconsin, Madison, USA*
- Mike Summersgill *Chair, CLAIRE Technology and Research Group (TRG), UK*
- Shaun Davidge *Manager, Water Strategies – GLNG Project, Santos Ltd*

Important Dates	Deadline for Draft Paper Submissions	14 April 2014
	Deadline for Final Paper Submissions	31 July 2014
	Registration Opens	9 May 2014
	Deadline for Presenter Registrations	31 July 2014
	Deadline for Early Bird Registrations	10 September 2014
	Congress Dates	10 – 14 November 2014

### Further Information

E-mail: [7iceg2014@wsm.com.au](mailto:7iceg2014@wsm.com.au)

[www.waldronsmith.com.au](http://www.waldronsmith.com.au)

## News from the IGS Chapters and the Membership

### Honduran Chapter of the IGS New IGS Chapter in Central America

The Honduran Chapter of the IGS is the 41<sup>st</sup> Chapter of the IGS and the first one in Central America. It was ratified in November 2013 during the last IGS Council meeting in GeoAfrica 2013 in Accra, Ghana. The creation of this Chapter came from the initiative of Geotechnical Engineers from ICA Inversiones S. de R.L. who with more than 15 years working with geosynthetics want to share its experiences and improve the education on the subject in its country. However, since the beginning, Danilo Sierra (Geotechnical Engineering and CEO) and his staff worked hard to establish a close relationship with Professors from the Academia. The IGS-Honduras was created with a great academic support from the Honduran National University (UNAH). The main idea was to give a step forward to improve the formal education of Professor, students, civil and geotechnical engineers on the use and correct application on Geosynthetics in Civil and Environmental engineering projects.

The “Honduran Geosynthetics Society” was conceived as a nonprofit and independent organization, open for all the people that are interested in or already engaged with the design, installation, research or teach on geosynthetics.

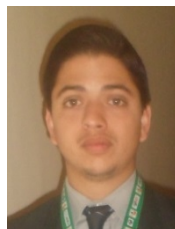
The members of the Board of Directors of The Honduran Chapter are:



President:  
Oscar Danilo Sierra  
– ICA Inversiones S.  
de R.L



First Vice President:  
Marcio Alvarado –  
UNAH



Second Vice President:  
Alex Galindo – ICA  
Inversiones S. de R.L.



Treasurer:  
Omar Andino –  
UNAH

Secretary:  
Rigoberto Moncada  
– JICA

This year, the Honduran Chapter of the IGS has planned the First National Conference on Geosynthetics. It will be held from 4 to 6 June in Tegucigalpa, Honduras. To reach this goal, IGS is sponsoring and giving all support. Also, Honduran Chapter has closed a key agreement with the College of Civil Engineers of Honduras (CICH), Institution

that is giving a great support to this and other local activities of Honduran Chapter.

*Reported by  
Alex Galindo, Vice President of Honduran Chapter of IGS*

## Vietnam Chapter of IGS (VCIGS) New IGS Chapter in Asia

On November 27, 2013 at National University of Civil Engineering (NUCE), Hanoi, Vietnam, the first meeting of VCIGS was held with participation of Professor Fumio Tatsuoka, Prof. Dennes Bergado, president of Thailand Chapter of IGS, Prof. San Shyan Lin, former president of Taiwan Chapter of IGS. Further attendees of the meeting were members from Universities, Institutes, Corporations and companies.

The 1<sup>st</sup> president of VCIGS is Dr. Nguyen Hoang Giang; the 1<sup>st</sup> Vice-President of VCIGS is Dr. Tran Viet Hung. VCIGS also has 10 individual members and 2 corporate members.

The headquarter of VCIGS is at National University of Civil Engineering (NUCE), Hanoi, Vietnam.

Also at the 1<sup>st</sup> meeting of VCIGS, Professor Fumio Tatsuoka presented his research on "Recent Geosynthetic-Reinforced Soil (GRS) Structures for Railways in Japan". The presentation was thought to introduce advanced geosynthetics application as well as IGS activities to Vietnamese engineers.



Participants of 1<sup>st</sup> meeting of VCIGS

The President and officers of VCIGS:



President of VCIGS  
Dr. Nguyen Hoang Giang



Vice-President of VCIGS  
Dr. Tran Viet Hung



Treasurer of VCIGS  
Dr. Tran Trung Hieu



Secretariat of VCIGS  
Ms. Nguyen Mai Trang

*Reported by  
Nguyen Hoang Giang, President of VCIGS*

## First National Conference on Geosynthetics in Honduras Tegucigalpa, Honduras. 16 - 18 June 2014

A geosynthetics conference in Honduras offers a fantastic opportunity to bring professionals in from throughout Central America and the Caribbean.

From 16 – 18 June 2014, the Honduran Chapter of the IGS will hold that country's First National Conference on Geosynthetics (Honduras 2014). This is a significant step of activity for the chapter, which just formed in 2013. However, it may be even more significant for its impact on the Central American and Caribbean region.

The Latin American infrastructure market continues to open, and an increasing number of global companies, including from the manufacturing side of geosynthetics, are establishing offices and production facilities throughout southern Americas.

Successful IGS chapters have been in operation in South America for many years. The Peruvian Chapter, for example, hosted GeoAmericas 2012; and the Brazilian Chapter hosted the 9<sup>th</sup> International Conference on Geosynthetics (9 ICG, May 2010).

The next GeoAmericas will be in Miami in April 2016 and hosted by the North American Geosynthetics Society. The 10<sup>th</sup> ICG will be held in September 2014 in Berlin and hosted by IGS Germany.

But historically, Central American and Caribbean nations have not hosted IGS chapters or events.

In Honduras, there is an excellent opportunity to bring experts together from around the region for state-of-practice discussions, IGS chapter formation, event planning, and more.

Multiple officers of the IGS Council have offered to contribute lectures to the Honduras conference, which will be held in Tegucigalpa at the [College of Civil Engineering \(CICH\)](#). These speakers, who will join the many Honduran and regional experts already working with the organizers, may include Russell Jones, Jorge Zornberg, Peter Legg, and Fumio Tatsuoka covering topics such as mining applications, geosynthetic barrier systems (liners, covers), reinforced soil and walls, pavement design, QA/QC programs, etc.

The presence of IGS Officers at the event will also facilitate communication with geosynthetics field representatives from the Central American and Caribbean region, such as those who would like to further advance discussions or proposals to form chapters or become partners in future events.

As such, the First Honduras National Conference on Geosynthetics may serve as more than validation of the immediate activity and strong goals of Honduras' engineering professionals in their new geosynthetics chapter; the event may crystallize support for similar chapters and knowledge transfer throughout the region.

Combined with fast-growing infrastructure and an expanding and vibrant research and manufacturing culture, the southern Americas are showing great promise for the geosynthetics field.

More information on the conference will be available shortly.

*Reported by*

*Chris Kelsey, Member of IGS News Editorial Board*

## 14<sup>th</sup> Portuguese Congress on Geotechnics Beira, Portugal, 6 – 9 April 2014

The Portuguese Chapter of IGS (IGS-Portugal) is pleased to invite you to attend the 14<sup>th</sup> National Congress on Geotechnics, which is a biannual event that aims to be a forum on the latest developments in the field of geotechnical engineering. This event is organized by the Portuguese Geotechnical Society (SPG) and the University of Beira Interior (UBI). The Congress will be held at the University of Beira Interior (UBI), Portugal, from 6 - 9 April 2014.

The Congress will comprise a Thematic Session devoted to "Geosynthetics" and a keynote lecture by Dr. Jorge Zornberg.

Further details will be given soon at the congress website (<http://www.14cng.ubi.pt/>).

*Reported by*

*Castorina Silva Vieira, Secretary of IGS-Portugal*

# Index 14 – Nonwovens Exhibition with Geotextile Workshop and CEN TC 189 meetings

## Geneva, Switzerland, 8 – 11 April 2014



Index 14 is the world's leading nonwovens exhibition. Organised once every three years, it is the largest global meeting place between the players in the nonwovens marketplace and its suppliers and customers taking place at the Palexpo Exhibition & Congress Centre in Geneva, Switzerland, from 8 – 11 April 2014

In the course of this exhibition there will be hosted a **Geotextile Workshop at the 8<sup>th</sup> of April** from 14:00 to 17:00, dealing with the traditional application sectors of nonwoven geotextiles including: construction of roads, railways, canals, water reservoirs and dams, tunnels and other underground structures; retaining structures and other geotechnical works; storage and disposal of liquid and solid waste; drainage and erosion control systems.

This Geotextiles Workshop will review design, specification and installation processes, and will also focus on market dynamics and growth opportunities for geotextiles.

More specifically, recent applications of nonwoven geotextiles will be presented, particularly in relation to their effects at reducing snow and ice melt in glaciers in Europe, to their use for separation and geomembrane protection in one of the largest coal-fired power stations in the world in Africa and finally to their ability for dust mitigation at the site of one of the worst PM-10 airborne dust sites in North America.

The speakers will be:

- Daniele Cazzuffi (Italy); Introduction to the Geotextile Workshop (Keynote speech)
- Steve Corbet (UK); Transportation Applications – Design, Specification and Installation
- Silke Brand-Kirsch (Germany); Trends driving the nonwoven market for geotextiles
- Antonella Senese (Italy); Effects of nonwoven geotextiles: pilot experiments aimed at reducing snow and ice melt at the Presena Glacier (Trento, Italy)
- Mikael Møller (Denmark), Geotextiles in Africa – Experiences from supplying large projects
- Stelios Kakoulidis (Greece); Geotextiles applications to Owens Lake (South California, USA) for dust mitigation

The workshop will be free of charge for all participants!

Further details could be found at the website: <http://www.index14.ch/en/visiting/geotextile-workshop-0-2651>

### CEN TC 189 on Geosynthetics

During Index 14, the annual meetings of CEN TC 189 on Geosynthetics will take place, together with some meetings of WG's of ISO TC 221 on Geosynthetics: in particular, on Tuesday 8 and on Wednesday 9 April the WG's meetings will be held, while on Thursday 10 April the plenary session of CEN TC 189 will be organized.

*Reported by*

*Daniele Cazzuffi, IGS Past President, CESI SpA, Milano, Italy*

## Short Report of Chinese IGS-Chapter's Seminar

Title of the event:	Seminar of Prevention and Drainage Committee of Chinese Technical Association on Geosynthetics, 2013
Date, location, country:	Nov. 9 - 10, 2013. Zhuhai, China
Type of event:	Seminar
Number of participants:	46
Participation of IGS members and/or officials:	8 IGS members
Content of technical part:	Design and Construction for Prevention and Drainage of Geosynthetics
Highlight, result, need, success of the event:	Discussing the Handbook of Design and Construction for Prevention and Drainage of Geosynthetics Spreading the technology of Prevention and Drainage of Geosynthetics
Social events:	2013 Annual Meeting of TC-1 of CTAG



Seminar of Prevention and Drainage Committee of Chinese Technical Association on Geosynthetics, 2013

Reported by

Xiao-Wu Tang, IGS Council member and executive chairman of Chinese IGS chapter

## International Conference on Advances in Civil Engineering for Sustainable Development Nakhon Ratchasima, Thailand, 27 - 29 August 2014



The School of Civil Engineering, Suranaree University of Technology, being determined and dedicated to excel in instructions, research, academic service, and transfer of technology, will host a conference on Progress in Civil Engineering for Sustainable Development (ACESD 2014), from 27 - 29 August 2014, to commemorate its two decades in 2014, in cooperation with Research Center for Excellence in Civil Engineering, Association of Engineering Institutes of Thailand under Royal Patronage and the auspices of the IGS Thailand Chapter.

### The Main Congress Topics will be

- Pavements and Railways
- Ground improvements and Ground controls (with one special focus on “Geosynthetics Applications”)
- Smart materials and Smart structures (with special focuses on “Composite Material and Structures”, “New Construction Materials”, “Geopolymer composite materials” and “Lightweight materials”)
- Water Supply (with special focuses on “Water leakage management” and “GIS (application & Technology)”)

### Important Dates

Last day of complete paper submission:	15 April 2014
Notifications of complete paper acceptance:	15 June 2014
Last day of registration Online special fees:	by 15 July 2014
Conference schedule:	27 - 29 August 2014

### For further information please contact

E-mail: [natthaya@sut.ac.th](mailto:natthaya@sut.ac.th)

Web site: <http://acesd.sut.ac.th/index.php>



# List of IGS Chapters

## Argentina

Argentinean Chapter (2009)  
President Dr. Marcos Montoro  
[marcos\\_montoro@yahoo.com.ar](mailto:marcos_montoro@yahoo.com.ar)

## Australia and New Zealand

Australasian Chapter (2002)  
President: Dr A Malek Bouazza  
[acigss@gmail.com](mailto:acigss@gmail.com)

## Belgium

Belgian Chapter (2001),  
Chairman: Prof. Jan Maertens  
[jan.maertens.bvba@skynet.be](mailto:jan.maertens.bvba@skynet.be)

## Brazil

Brazilian Chapter (1997)  
President: Eng. Lavoisier Machado  
[igsbrasil@igsbrasil.org.br](mailto:igsbrasil@igsbrasil.org.br)  
[www.igsbrasil.org.br](http://www.igsbrasil.org.br)

## Chile

Chilean Chapter (2006),  
President: Luis Paredes  
[Luis.paredes@snclavalin.com](mailto:Luis.paredes@snclavalin.com)

## China

Chinese Chapter (1990)  
Chairman: Li, Guangxin  
[postmaster@ccigs.com.cn](mailto:postmaster@ccigs.com.cn)

## Colombia

Colombian Chapter (2013)  
President: Bernardo Caicedo Hormaza  
[bcaicedo@uniandes.edu.co](mailto:bcaicedo@uniandes.edu.co)

## Czech Republic

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## Finland

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## France

French Chapter (1993)  
President: Mr. Jean-Pierre Magnan  
[francois.caquel@orange.fr](mailto:francois.caquel@orange.fr)

## Germany

German Chapter (1993)  
Chairman: Prof. Dr.-Ing. Martin Ziegler  
[service@dggt.de](mailto:service@dggt.de)  
[www.gb.bv.tum.de/fachsektion/index.htm](http://www.gb.bv.tum.de/fachsektion/index.htm)

## Ghana

Ghana Chapter (2012)  
President: Prof. Samuel I.K. Ampadu  
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[jkkemeh@hotmail.com](mailto:jkkemeh@hotmail.com)

## Greece

HGS, Greek Chapter (2005)  
President: Mr. Dimitrios K. Atmatzidis  
[dka@upatras.gr](mailto:dka@upatras.gr)  
under complete reconstruction!

## Honduras

Honduran Chapter – Honduran Society of Geosynthetics (2013)  
President: MSc. Ing. Danilo Sierra D.  
[sierradiscua@yahoo.com](mailto:sierradiscua@yahoo.com)

## India

Indian Chapter (1988)  
President: Dr. G.V. S. Suryanarayana Raju  
[cbip@cbip.org](mailto:cbip@cbip.org)

## Indonesia

INA-IGS, the Indonesian Chapter (1992)  
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## Italy

AGI-IGS, the Italian Chapter (1992)  
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## Japan

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[wwwsoc.nii.ac.jp/jcigs/](http://wwwsoc.nii.ac.jp/jcigs/)

## Kazakhstan

Kazakhstanian Chapter (2012)  
President: Zhusupbekov Askar Zhagparovich  
[astana-geostroi@mail.ru](mailto:astana-geostroi@mail.ru)

## Korea

KC-IGS, The Korean Chapter (1993)  
President: Dr. Youseong Kim  
[yusung@jbnu.ac.kr](mailto:yusung@jbnu.ac.kr)

## Malaysia

Malaysia Chapter – Pertubuhan IGS Malaysia (MylGS)  
President: Prof. Dr. Fauziah Ahmad  
[cefahmad@yahoo.com](mailto:cefahmad@yahoo.com)

## Mexico

Mexican Chapter (2006)  
President: Ing. Ignacio Narezo L.  
[anaferraez@gmail.com](mailto:anaferraez@gmail.com)  
[www.igsmexico.org](http://www.igsmexico.org)

## The Netherlands

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President: Dr. Ir. A. H. de Bondt  
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[www.ngo.nl](http://www.ngo.nl)

## North America

North American Geosynthetics Society (NAGS) (Canada, USA) (1986)  
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## Norway

Norwegian Chapter of IGS (2008)  
President: Jan Vaslestad  
[jan.vaslestad@vegvesen.no](mailto:jan.vaslestad@vegvesen.no)

## Pakistan

Pakistanian Chapter of IGS (2011)  
President: Tariq Ikram  
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## Peru

Peruvian Chapter (2001)  
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[administracion@igsperu.org](mailto:administracion@igsperu.org)  
[www.igsperu.org](http://www.igsperu.org)

## Philippines

Philippine Chapter (2007)  
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## Poland

Polish Chapter (2008)  
Chairman: Dr. Jacek Kawalec  
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## Portugal

Portuguese Chapter (2003)  
President: Jose Luis Machado do Vale  
[jose.vale@carpitech.com](mailto:jose.vale@carpitech.com)

## Romania

Romanian Chapter (1996)  
President: Christina Feodorov  
[cristina.feodorov@iridexgroup.ro](mailto:cristina.feodorov@iridexgroup.ro)  
or [adiol@utcb.ro](mailto:adiol@utcb.ro)

## Russia

Russian Chapter of IGS (RCIGS, 2008)  
President: Prof. Andrey Ponomaryov  
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## Slovakia

Slovakian Chapter of IGS (2011)  
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## South Africa

South African Chapter (1995)  
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## Spain

Spanish Chapter (1999)  
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## Thailand

Thai Chapter (2002)  
President: Prof Suksun Horpibulsuk  
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## Turkey

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President: Dr. Fazli Erol Guler  
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## United Kingdom

U.K. Chapter (1987)  
Chairman: Peter Assinder  
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## Vietnam

Vietnamese Chapter – International Geosynthetics Society – Vietnam Chapter (VCIGS)  
President: Nguyen Hoang Giang  
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## West Pacific Regional Chapter

West Pacific Regional Chapter (1997)  
President: Dr. Liang, Yueh  
[michael@goldjoint.com.tw](mailto:michael@goldjoint.com.tw)  
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## 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

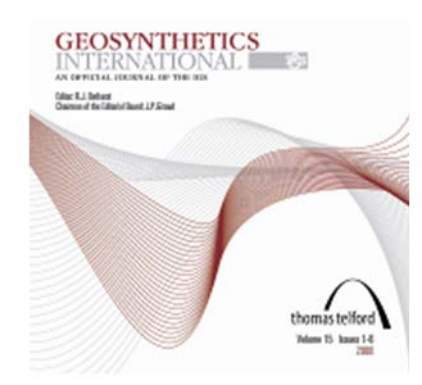
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# Official Journals of the IGS

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## 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.

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Effects of blown film process on initial properties of HPDE geomembranes of different thicknesses; A.M.R. Ewais; R.K. Rowe

Creep behaviour of sand–geomembrane interfaces; H. Liu; J. Martinez

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## Content of Volume 42, issue 1 (February 2014)

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Improving piping resistance using randomly distributed fibers; A.R. Estabragh, K. Soltannajad, A.A. Javadi

Repeated loading of soil containing granulated rubber and multiple geocell layers; S.N. Moghaddas Tafreshi, O. Khalaj, A.R. Dawson

Measured and simulated results of a Kenaf Limited Life Geosynthetics (LLGs) reinforced test embankment on soft clay; S. Chaipayut, D.T. Bergado, S. Artidteang

Interface shear characteristics of jute/polypropylene hybrid nonwoven geotextiles and sand using large size direct shear test; M.M.A. Sayeed, B. Janaki Ramaiah, Amit Rawal

Effects of prestressing the reinforcement on the behavior of reinforced granular beds overlying weak soil; Ramaiah Shivashankar, Jayamohan Jayaraj

Effects of the climatic conditions of the southeastern Brazil on degradation the fibers of coir-geotextile: Evaluation of mechanical and structural properties; Andréa Rodrigues Marques, Patrícia Santiago de Oliveira Patrício, Fábio Soares dos Santos, Monisa Lopes Monteiro, Denise de Carvalho Urashima, Conrado de Souza Rodrigues

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Degradation behaviour of HDPE geomembranes with high and low initial high-pressure oxidative induction time; A.M.R. Ewais, R. Kerry Rowe, John Scheirs

Field monitoring and analyses of the response of a block-faced geogrid wall using fine-grained tropical soils; Mario Riccio, Mauricio Ehrlich, Daniel Dias

Influence of matric suction on geotextile reinforcement-marginal soil interface strength; Danial Esmaili, Kianoosh Hatami, Gerald A. Miller

A simplified model to analyze the reinforced piled embankments; Yan Zhuang, Kang Yu Wang, Han Long Liu

A new method for remediation of sandy slopes susceptible to seepage flow using EPS-block geofabric; A. Tolga Özer, Onur Akay, Garey A. Fox, Steven F. Bartlett, David Arellano

Visualization of load transfer behaviour between geogrid and sand using PFC2D; Zhijie Wang, Felix Jacobs, Martin Ziegler

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### 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 geosynthetics technique and your company. We would be happy if this chance is used frequently.

*Reported by*

*Gerhard Bräu, IGS News Editor*

#### Case Study: New Drainage System for Tailings Storage Facility



**Kaytech's** top class drainage products were recently specified to ensure proper drainage in the tailings dam at Samancor's Western Chrome Mines, Millsell Operation at Marikana, near Rustenburg, North West Province.

Without proper drainage on the dam, water pressure would increase all along the toe of the dam wall, causing water to seep through the toe as well as the wall itself. This increase in water pressure would also result in a decrease in the shear strength of the tailings deposit, and ultimately affect the stability of the dam.

Fraser Alexander, Tailings Consultants and facility managers to SamancorCr, specified a light weight geosynthetic filter drain system as opposed to the traditional sand and stone design for economic and ease of implementation reasons particularly in a piggy-back application where the tailings storage facility is being raised. The synthetic filter drain was conceived jointly by Fraser Alexander and Kaytech using **Zipcore**, **Bidim A6**, **Megaflo** and **Kaytape** products from Kaytech.

**Kaytech** provided the materials and Fraser's Tailings Division, who have vast experience in this field, carried out the construction. The area around the dam wall perimeter was first cleared, shaped and then compacted in preparation for **Kaytech's** products. A central longitudinal groove was then formed into which the **Megaflo** pipe was inserted on top of the **Zipcore** sheeting.

Two meter wide **ZipCore Pro N**, a high strength, robust, pre-formed drainage system consisting of a horizontally

aligned, single cusped, high-density polyethylene sheet, was laid down on the prepared area.

The **Zipcore** acts as an impermeable barrier directing the entrapped water flow to the spinal 150mm deep **Megaflo** panel drain comprising a high strength slotted HDPE core completely wrapped in a **bidim** geotextile filter, providing optimum filtering performance in most soils. **Megaflo** has a formed invert at the bottom of the panel preventing loss of water into base soils and has an open waterway with little restriction from support legs allowing for high flow rates. The HDPE core provides high chemical resistance which is especially important for mine tailings applications. It is cost-effective, easy to install, and offers a subsoil drainage solution in a wide variety of applications.

The **Megaflo** and **Zipcore** was then covered with a layer of **Kaytape S270**, a heavy polypropylene slit film woven geotextile that spans over the **Zipcore** cusps, retaining an open flow path above the **Zipcore**. The Kaytape is followed by a layer of **Bidim A6**, which was tucked underneath the sides of the **Zipcore**. **Bidim A6** is a nonwoven, continuous filament needlepunched geotextile that has a high drainage capacity in terms of transmissivity and permittivity. Compatibility and performance testing of the particular tailings and **bidim** were conducted in **Kaytech's** laboratory to select the most appropriate grade to ensure durability of the geotextiles long term filtration capacity.

Once the drain was installed, coarse tailings were cycloned to cover the newly installed drain, extending beyond the drain, and ultimately forms the perimeter wall.

Evidence of water flowing from the new system into the collector drains, and no sign of water seepage on the dam wall are proof of the efficacy of the design and **Kaytech's** high performance products.

For more information on Kaytech products and systems, visit [www.kaytech.co.za](http://www.kaytech.co.za)



Kaytech supplies new drainage system to SamancorCr Tailings storage facility

## Case Study: Soil Reinforcement at Cherry Island Landfill



### THE CHALLENGE

Cherry Island Landfill, operated by the Delaware Solid Waste Authority (DSWA), has been used for municipal solid waste disposal since 1985. Built on an old dredge disposal site at the confluence of the Delaware and Christina Rivers in Wilmington, DE, the subsurface conditions at the landfill consist of very soft, compressible materials. Cherry Island Landfill was nearing the waste capacity of the facility and the DSWA needed to develop a plan to extend the life of the landfill by 25 years. However, the existing landfill is confined by the Delaware River to the east, the Christina River to the south, Interstate 495 to the west and dredge lagoons to the north, so horizontal land expansion of the facility was not an option. The only option to increase the capacity of the landfill was a vertical expansion. In order to expand vertically, significant ground improvement measures and ground reinforcement techniques would be required.

### THE DESIGN

The subsurface conditions at the site consisted of dredge material approximately 40 feet thick, overlaying a 45 foot thick alluvial deposit. Underlying the alluvial deposit is a medium dense to dense residual sand layer. Due to the soft ground, the landfill side slopes could be no steeper than 8 Horizontal to 1 Vertical (8H:1V) without ground improvement and geosynthetic reinforcement techniques. Some of the ground improvement techniques considered for the vertical expansion included deep soil mixing, sand drains and prefabricated vertical drains (PVDs). Ultimately, the most cost effective and construction friendly option was a high strength geosynthetic reinforced berm con-

structed over PVDs. Due to the soft, compressible dredge and alluvial material, significant settlement was anticipated. Also, due to the massive size of the reinforced earth berm, development of very high pore water pressures in the foundation soils was a concern. Piezometers and other instrumentation devices were included in the design to monitor stability and prevent the the berm from being built too rapidly.

## THE CONSTRUCTION

Construction began by installing over 81,000 prefabricated vertical drains, over 6.8 million linear feet. The vertical drains were installed around the perimeter of the landfill in the foundation area of the berm. Construction of the berm on top of the PVDs then began by placing the very high strength reinforcement geotextile with drainage sand. The sand provided quality backfill at the base of the berm and allows the water to drain from the PVDs. The bottom two layers of the reinforcement were extremely important to provide stability to the reinforced berm. These two layers consisted of TenCate Mirafi® PET1170 geotextile. This geotextile was the highest strength geotextile ever manufactured for this type of construction in the United States. The ultimate strength of the woven polyester geotextile was 1,170 kN/m (80,000 lb/ft). The embedment length of the bottom 2 layers of high strength polyester geotextile was 140 feet long, this very long embedment length was require due to the extremely soft subgrade Two additional long embedment lengths of the high strength Mirafi®PET1170 was used at the mid-height of the berm for additional stability.

The remainder of the berm was constructed using TenCate Miragrid® 20XT polyester geogrid. Embedment lengths of the Miragrid® 20XT ranged from 20 to 80 feet. The berm was constructed with a face batter of 1 Horizontal to 3 Vertical (1H:3V), 72 degrees from horizontal, so technically it was a wall. The face detail consisted of L-shape wire baskets acting as a form for fill placement and TenCate Miramesh®GR wrapped around the face. Miramesh®GR is a small aperture grid material (aperture size of 2 mm) used as secondary reinforcement and facing wrap for stability and erosion protection. The open nature of Miramesh® allows for fast germination of vegetation through the reinforcement. Native vegetation was used at the site and quickly developed at the face after construction. The berm was constructed to heights of 60 to 70 feet tall, with a total length of approximately 8,700 feet (1.6 miles). The total face area of the berm was approximately 475,000 square feet. Over 2 million cubic yards of fill was required for construction of the berm. The berm also required over 380,000 square yards of Mirafi® PET1170, 670,000 square yards of Miragrid® 20XT and 315,000 square yards of Miramesh®GR.

## THE PERFORMANCE

Vertical expansion of the Cherry Island Landfill could not have been accomplished without utilizing high performance geosynthetics. TenCate Geosynthetics was able to manufacture high strength polyester reinforcement with tensile strengths in excess of 80,000 lb/ft to meet the challenging design for this site. The vertical expansion was an innovative design, effectively managing and constructing a massive berm on extremely soft soil. TenCate Mirafi® geosynthetics allowed for a cost effective, easy to construct solution to a very challenging project. This project is one of 5 finalists for ASCE's 2012 OPAL Award for an Outstanding Civil Engineering Achievement (OCEA).



Berm facing using Miramesh®GR and wire basket forms



Completed berm looking across the Christina River

### Further Information:

365 S. Holland Drive, Pendergrass, GA 30567, USA, Tel.: 706-693-2226, Fax: 706-693-4400

[www.tencategeosynthetics.com](http://www.tencategeosynthetics.com)

[www.mirafi.com](http://www.mirafi.com)

## Case Study: Closure & Capping of Industrial Sludge Pond at Vishakapatnam, Andhra Pradesh



Sludge pond before closure

### Problem

The existing landfill facility (Sludge Pond – 1) has attained its full capacity with industrial sludge upto 7.0 to 8.0 m depth. The top exposed surface of the pond covers an area of 55,000 Sq.M. The pond has to be covered (capped) to prevent any further leachate generation due the precipitation and infiltration of rain water. As the sludge surface was soft and having less strength to withstand the load from the construction equipment, fill material, top liner system including cover vegetative soil, special techniques have to be deployed to increase the bearing capacity of the surface.

### Solution

Based on the detailed geotechnical investigations and laboratory test results, it was observed that the industrial sludge is highly fine grained in nature with unit weight of 17.0 kN/CuM and cohesion 4.0 kPa; expressing the behavior of intermedi-

ate to high compressible clays.

Geotextile stabilized soil layer technique comprising of multi-layered high strength woven geotextiles using finger fill soil placement technique was adopted to achieve the required bearing capacity for the closure. High strength woven geotextiles were used in the project in a multilayer configuration meeting the design criteria.

Once the stabilization process was complete, the top liner system with vegetative soil was constructed in such a manner to facilitate surface water runoff without causing ponding or erosion of the final cover.

### Advantages:

- Provide initial access for construction on soft sludge
- Support the load coming from the fill material, top liner system/ closure and construction equipment
- Easy and speed rate of installation



View of sludge pond after completion



Construction of top liner system over geotextile stabilized layer

- Cost effective

### Present Status:

Construction of geotextile stabilized soil layer is a major challenge on the soft sludge and has been successfully completed. The performance of the closure and capping of the sludge pond is found to be satisfactory.

**Client:** Hindustan Zinc Ltd., Vishakapatnam  
**Products used:** Woven Geotextile: 155,000 m<sup>2</sup>,  
HDPE Geomembrane: 60,000 m<sup>2</sup>

**Contractor:** Garware – Wall Ropes Ltd.  
**Construction info:** Year - 2011

### Further Information:

GARWARE-WALL ROPES LTD, Phone: 91 20 3078 0000, Fax: 91 20 3078 0350, [mvoffice@garwareropes.com](mailto:mvoffice@garwareropes.com)

CITIC Pacific's Sino Iron project is a world class, large-scale magnetite iron ore project located at Cape Preston, 100km south west of Karratha in Western Australia's Pilbara region. It is the largest planned magnetite project in Australia. The project has over two billion tonnes of identified ore and targets exports of more than 27.6 million tonnes of high grade iron ore concentrate and pellets each year over its estimated projected mine life of 25 years.

As part of the project, four large semi mobile in-pit crushing stations are required to be installed in the main pit. This involved construction of four primary crusher pockets using sophisticated blasting techniques and up to 24m long soil nails. During the course of construction of Pockets #1 and #2, it was identified that the south west corner geology was not competent enough to carry the proposed design dynamic loads. The truck (600T) turning zone in this area was affected by an adjacent blast when the permanent batters were created between crusher pockets.

The initial Geotechnical Engineers recommended that the area should be supported by a 100mm layer of fibre reinforced shotcrete and cable bolt array. The cable bolts would be 15m and 10m long and installed on a 3m by 3.5m spacing. This cable bolt proposal was seen by the Contractor (**BGC**) as being extremely difficult to construct with possible resulting cost penalties.

In August 2010, BGC contacted **Geofabrics** with a view to investigating a 'Gabion type' buttress option to stabilise the slope. To minimise excavation of the slope and to provide a 'best-fit' scenario, a buttress batter angle of 63° was selected. It was decided that a combination Terramesh® and Geogrid Mechanically Stabilised Earth (MSE) structure would be most suited to the conditions.

Using the **Maccaferri MACSTARS** MSE design software, a design suggestion was prepared by **Geofabrics** for **BGC**. The suggestion was based on an integral Terramesh® system at the front face with Paralink geogrid soil reinforcement creating a 'reinforced block'. The higher geogrid strength (up to 1350kN/m) allows the vertical spacing of the Geogrid to be maximised. **BGC** engaged **Parsons Brinckerhoff** to certify the design and provide an on-site design verification function.

The 2000m<sup>2</sup> faced Terramesh® structure took around 10 weeks to construct including place and compact of backfill which fitted well within the client's expectations.



Project: Sino Iron – Slope Stability between  
Crusher Pockets  
Date: June 2011  
Client: CITIC Pacific Mining  
Engineer: Parsons Brinckerhoff  
(BGC's Terramesh Certifier)  
Contractor: BGC Contracting  
Location: Cape Preston, Western Australia

**Further Information:**

[www.geofabrics.com.au](http://www.geofabrics.com.au)



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DAEHAN I. M. CO., LTD.	Korea	<a href="mailto:daehan@geosko.com">daehan@geosko.com</a>	<a href="http://www.geosko.com">www.geosko.com</a>	1994
GEOFABRICS LTD.	United Kingdom	<a href="mailto:gdonald@geofabrics.com">gdonald@geofabrics.com</a>	<a href="http://www.geofabrics.com">www.geofabrics.com</a>	1995
TELE TEXTILES AS	Norway	<a href="mailto:bernard.ducros@teletextiles.no">bernard.ducros@teletextiles.no</a>	<a href="http://www.teletextiles.com">www.teletextiles.com</a>	1995
AGRU KUNSTSTOFFTECHNIK GMBH	Austria	<a href="mailto:office@agru.at">office@agru.at</a>	<a href="http://www.agru.at">www.agru.at</a>	1996

Company Name	Country	Contact Email	Website	Year
COLAS S. A.	France	<a href="mailto:gautier@campus.colas.fr">gautier@campus.colas.fr</a>	<a href="http://www.colas.com">www.colas.com</a>	1996
GEOFELT GMBH	Austria	<a href="mailto:geofelt@geofelt.com">geofelt@geofelt.com</a>		1996
PRESTO GEOSYSTEMS	USA	<a href="mailto:bill.handlos@prestogeo.com">bill.handlos@prestogeo.com</a>	<a href="http://www.prestogeo.com">www.prestogeo.com</a>	1996
FITI TESTING AND RE-SEARCH INSTITUTE	Korea	<a href="mailto:hogankim@fiti.re.kr">hogankim@fiti.re.kr</a>	<a href="http://www.fiti.re.kr">www.fiti.re.kr</a>	1997
OFFICINE MACCAFERRI S.P.A.	Italy	<a href="mailto:UTP@maccaferri.com">UTP@maccaferri.com</a>	<a href="http://www.maccaferri.com">www.maccaferri.com</a>	1997
SOLMAX INTERNATIONAL, INC.	Canada	<a href="mailto:dberube@solmax.com">dberube@solmax.com</a>	<a href="http://www.solmax.com">www.solmax.com</a>	1997
ASSOCIATION OF RRR CONSTRUCTION SYSTEM, THE	Japan	<a href="mailto:okamoto@igi.co.jp">okamoto@igi.co.jp</a>	<a href="http://www.rrr-sys.gr.jp">www.rrr-sys.gr.jp</a>	1998
BEAULIEU TECHNICAL TEXTILES	Belgium	<a href="mailto:kris.coen@bintg.com">kris.coen@bintg.com</a>	<a href="http://www.ideal-group.com">www.ideal-group.com</a>	1998
INTEGRATED GEOTECHNOLOGY INSTITUTE	Japan	<a href="mailto:y_tamura@igi.co.jp">y_tamura@igi.co.jp</a>	<a href="http://www.igi.co.jp">www.igi.co.jp</a>	1998
JUTA A.S.	Czech Republic	<a href="mailto:vagnerm@juta.cz">vagnerm@juta.cz</a>	<a href="http://www.juta.cz">www.juta.cz</a>	1998
MACCAFERRI DO BRASIL LTDA	Brazil	<a href="mailto:maccaferri@maccaferri.com.br">maccaferri@maccaferri.com.br</a>	<a href="http://www.maccaferri.com.br">www.maccaferri.com.br</a>	1998
TENCATE GEOSYNTHETICS NORTH AMERICA	USA	<a href="mailto:j.henderson@tencate.com">j.henderson@tencate.com</a>	<a href="http://www.tencate.com">www.tencate.com</a>	1998
ATARFIL S.L.	Spain	<a href="mailto:mgirones@atarfil.com">mgirones@atarfil.com</a>	<a href="http://www.atarfil.com">www.atarfil.com</a>	1999
GEOSYSTEM CO. LTD.	Japan	<a href="mailto:m_aoshima@geosystem.co.jp">m_aoshima@geosystem.co.jp</a>	<a href="http://www.geosystem.co.jp">www.geosystem.co.jp</a>	2000
HUI KWANG CORPORATION	Taiwan (R.O.C.)	<a href="mailto:johnnie@huikwang.com">johnnie@huikwang.com</a>	<a href="http://www.huikwang.com">www.huikwang.com</a>	2000
ABG LIMITED	United Kingdom	<a href="mailto:liz@abgltd.com">liz@abgltd.com</a>	<a href="http://www.abgltd.com">www.abgltd.com</a>	2001
EDILFLOOR SPA	Italy	<a href="mailto:b.stefani@edilfloor.com">b.stefani@edilfloor.com</a>	<a href="http://www.edilfloor.com">www.edilfloor.com</a>	2002
SHENZHEN SHENG YI ENVIRONMENTAL CO., LTD.	China (People's Republic)	<a href="mailto:shengyi@sz-shengyi.com">shengyi@sz-shengyi.com</a>	<a href="http://www.sz-shengyi.com">www.sz-shengyi.com</a>	2002
TERRE ARMÉE INTERNATIONALE	France	<a href="mailto:nicolas.freitag@terre-armee.com">nicolas.freitag@terre-armee.com</a>	<a href="http://www.terre-armee.com">www.terre-armee.com</a>	2002
ACE GEOSYNTHETICS CO., LTD.	Taiwan (R.O.C.)	<a href="mailto:claire.hung@geoace.com">claire.hung@geoace.com</a>	<a href="http://www.geoace.com">www.geoace.com</a>	2003
OJSC "494 UNR"	Russia	<a href="mailto:unrmarket@prudon.ru">unrmarket@prudon.ru</a>	<a href="http://www.unrhs.com">www.unrhs.com</a>	2003
PERMATHENE, LTD.	New Zealand	<a href="mailto:mc@permathene.com">mc@permathene.com</a>	<a href="http://www.permathene.com">www.permathene.com</a>	2003
SAMYANG CORPORATION	Korea	<a href="mailto:juhwan.ahn@samyang.com">juhwan.ahn@samyang.com</a>	<a href="http://www.samyang.com">www.samyang.com</a>	2003
ASHIMORI INDUSTRY CO., LTD.	Japan	<a href="mailto:hiroyuki_sakuragi@ashimori.co.jp">hiroyuki_sakuragi@ashimori.co.jp</a>	<a href="http://www.ashimori.co.jp">www.ashimori.co.jp</a>	2004
F.L.I. ENVIRONMENTAL	Ireland	<a href="mailto:mflynn@fli.ie">mflynn@fli.ie</a>	<a href="http://www.fli.ie">www.fli.ie</a>	2004
GIDROKOR CONSTRUCTION COMPANY LTD.	Russia	<a href="mailto:yakovlev@gidrokor.ru">yakovlev@gidrokor.ru</a>	<a href="http://www.gidrokor.ru">www.gidrokor.ru</a>	2004
GSE LINING TECHNOLOGY GMBH	Germany	<a href="mailto:sbaldauf@gseworld.com">sbaldauf@gseworld.com</a>	<a href="http://www.gseworld.com">www.gseworld.com</a>	2004
NEWGRIDS LIMITED.	United Kingdom	<a href="mailto:contact@newgrids.com">contact@newgrids.com</a>	<a href="http://www.newgrids.com">www.newgrids.com</a>	2004
TENSAR GEOSYNTHETICS (CHINA) LTD.	China (People's Republic)	<a href="mailto:David@tensar.com.cn">David@tensar.com.cn</a>	<a href="http://www.tensar.com.cn">www.tensar.com.cn</a>	2004
HIGH STIFFNESS POLYETHYLENE PIPES ASSOCIATION	Japan	<a href="mailto:jouji_hinobayashi@daipla.co.jp">jouji_hinobayashi@daipla.co.jp</a>	<a href="http://www.kotaijyo.jp">www.kotaijyo.jp</a>	2005
SEVEN STATES ENTERPRISE CO., LTD.	Taiwan (R.O.C.)	<a href="mailto:SQUOT@MS33.HINET.NET">SQUOT@MS33.HINET.NET</a>	<a href="http://www.seven-states.com.tw">www.seven-states.com.tw</a>	2005
TOKYO PRINTING INK MFG.CO.LTD.	Japan	<a href="mailto:dobokugijyutu@tokyoink.co.jp">dobokugijyutu@tokyoink.co.jp</a>	<a href="http://www.tokyoink.co.jp">www.tokyoink.co.jp</a>	2005
BEIJING GEOENVIRONMENTAL ENGINEERING AND TECHNOLOGY, INC.	China (People's Republic)	<a href="mailto:LiuLiqi1960@yahoo.com.cn">LiuLiqi1960@yahoo.com.cn</a>	<a href="http://www.gnlining.com">www.gnlining.com</a>	2006
EUROIZOL GEOSYNTHETICS LLC	Ukraine	<a href="mailto:anna@euroizol.com">anna@euroizol.com</a>		2006
GARWARE-WALL ROPES, LTD.	India	<a href="mailto:mvoffice@garwareropes.com">mvoffice@garwareropes.com</a>	<a href="http://www.garwareropes.com">www.garwareropes.com</a>	2006
GEOSYNTHETICA.NET (MINERVA)	USA	<a href="mailto:elizabeth@geosynthetica.net">elizabeth@geosynthetica.net</a>	<a href="http://www.geosynthetica.net">www.geosynthetica.net</a>	2006

Company Name	Country	Contact Email	Website	Year
TEMA TECHNOLOGIES AND MATERIALS SRL	Italy	<a href="mailto:nicola.busatta@temacorporation.com">nicola.busatta@temacorporation.com</a>	<a href="http://www.temacorporation.com">www.temacorporation.com</a>	2006
VIGANÒ PAVITEX S.P.A.	Italy	<a href="mailto:m.resmini@pavitex.com">m.resmini@pavitex.com</a>	<a href="http://www.pavitex.com">www.pavitex.com</a>	2006
GEOSYNTHETICS TECHNOLOGIES CO., LTD.	Saudi Arabia	<a href="mailto:geogrid@latifia.com">geogrid@latifia.com</a>	<a href="http://www.g-tex.net/flash_index.html">www.g-tex.net/flash_index.html</a>	2007
SUPERTEX, INC.	USA	<a href="mailto:edward@supertex-inc.com">edward@supertex-inc.com</a>	<a href="http://www.supertex-inc.com">www.supertex-inc.com</a>	2007
TEXINOV	France	<a href="mailto:jpducoul@texinov.fr">jpducoul@texinov.fr</a>	<a href="http://www.texinov.fr">www.texinov.fr</a>	2007
ALYAF INDUSTRIAL COMPANY LTD	Saudi Arabia	<a href="mailto:info@alyaf.com">info@alyaf.com</a>	<a href="http://www.alyaf.com">www.alyaf.com</a>	2008
BMC GULF TRADING & CONTRACTING LLC	United Arab Emirates	<a href="mailto:info@bmc-gulf.com">info@bmc-gulf.com</a>	<a href="http://www.bmc-gulf.com">www.bmc-gulf.com</a>	2008
CORIPA S.A.	Argentina	<a href="mailto:info@coripa.com.ar">info@coripa.com.ar</a>	<a href="http://www.coripa.com.ar">www.coripa.com.ar</a>	2008
FONTANA INTERNATIONAL GMBH	Austria	<a href="mailto:g.puehringer@fontana-international.com">g.puehringer@fontana-international.com</a>	<a href="http://www.fontana-international.com">www.fontana-international.com</a>	2008
INTERMAS NETS S.A.	Spain	<a href="mailto:emorant@intermasgroup.com">emorant@intermasgroup.com</a>	<a href="http://www.intermas.com">www.intermas.com</a>	2008
KAYTECH ENGINEERED FABRICS	South Africa	<a href="mailto:garth@kaytech.co.za">garth@kaytech.co.za</a>	<a href="http://www.kaytech.co.za">www.kaytech.co.za</a>	2008
MANIFATTURA FONTANA S.P.A.	Italy	<a href="mailto:info@drefon.com">info@drefon.com</a>	<a href="http://www.manifatturafontana.net">www.manifatturafontana.net</a>	2008
SERVICIOS DE INGENIERIA GEOSINTETICA S.A. (SIGSA)	Costa Rica	<a href="mailto:geosigsa@ice.co.cr">geosigsa@ice.co.cr</a>		2008
TECHFAB INDIA INDUSTRIES LTD.	India	<a href="mailto:anant@techfabindia.com">anant@techfabindia.com</a>	<a href="http://www.techfabindia.com">www.techfabindia.com</a>	2008
TRI/ENVIRONMENTAL INC.	USA	<a href="mailto:sallen@tri-env.com">sallen@tri-env.com</a>	<a href="http://www.tri-env.com">www.tri-env.com</a>	2008
AQUATERRA CONSULTANTS LTD.	Hong-Kong, China	<a href="mailto:nigel.wightman@aquaterra.com.hk">nigel.wightman@aquaterra.com.hk</a>	<a href="http://www.aquaterra.com.hk">www.aquaterra.com.hk</a>	2009
AXTER COLETANCHE INC.	Canada	<a href="mailto:bbreul@axtercoletanche.com">bbreul@axtercoletanche.com</a>	<a href="http://www.coletanche.com">www.coletanche.com</a>	2009
BOMBAY TEXTILE RESEARCH ASSOCIATION, THE	India	<a href="mailto:btralibrary@yahoo.co.uk">btralibrary@yahoo.co.uk</a>	<a href="http://www.btraindia.com">www.btraindia.com</a>	2009
EAST COAST EROSION BLANKETS	USA	<a href="mailto:diane@eastcoasterosion.com">diane@eastcoasterosion.com</a>	<a href="http://www.eastcoasterosion.com">www.eastcoasterosion.com</a>	2009
GEOFABRICS AUSTRALASIA PTY LTD.	Australia	<a href="mailto:b.swifte@geofabrics.com.au">b.swifte@geofabrics.com.au</a>	<a href="http://www.geofabrics.com.au">www.geofabrics.com.au</a>	2009
GEOTEXAN	Spain	<a href="mailto:jaguiar@geotexan.com">jaguiar@geotexan.com</a>	<a href="http://www.geotexan.com">www.geotexan.com</a>	2009
SOTRAFA, S.A.	Spain	<a href="mailto:geo@sotrafa.com">geo@sotrafa.com</a>	<a href="http://www.sotrafa.com">www.sotrafa.com</a>	2009
TEKNINDO GEOSISTEM UNGGUL, PT	Indonesia	<a href="mailto:info@geosistem.co.id">info@geosistem.co.id</a>	<a href="http://www.geosistem.co.id">www.geosistem.co.id</a>	2009
BONAR GEOSYNTHETICS KFT. (GEO-TIPPTEX LTD.)	Hungary	<a href="mailto:tipptex@tipptex.hu">tipptex@tipptex.hu</a>	<a href="http://www.geotipptex.hu">www.geotipptex.hu</a>	2010
CIDELSA	Peru	<a href="mailto:rsantiago@cidelsa.com">rsantiago@cidelsa.com</a>	<a href="http://www.cidelsa.com">www.cidelsa.com</a>	2010
FIRESTONE SPECIALTY PRODUCTS COMPANY LLC	USA	<a href="mailto:JohnsonBill@firestonesp.com">JohnsonBill@firestonesp.com</a>	<a href="http://www.firestonesp.com">www.firestonesp.com</a>	2010
JETSJ - GEOTECNIA, LDA	Portugal	<a href="mailto:apinto@jetsj.pt">apinto@jetsj.pt</a>	<a href="http://www.jetsj.pt">www.jetsj.pt</a>	2010
LABORCONTROL	Spain	<a href="mailto:radia@laborcontrol.es">radia@laborcontrol.es</a>	<a href="http://www.laborcontrol.es">www.laborcontrol.es</a>	2010
MACCAFERRI DE ARGENTINA S.A.	Argentina	<a href="mailto:info@maccaferri-arg.com.ar">info@maccaferri-arg.com.ar</a>	<a href="http://www.maccaferri-arg.com.ar">www.maccaferri-arg.com.ar</a>	2010
MACCAFERRI DE CENTRO-AMERICA	Costa Rica	<a href="mailto:sramirez@maccaferri.co.cr">sramirez@maccaferri.co.cr</a>	<a href="http://www.maccaferri.co.cr">www.maccaferri.co.cr</a>	2010
NANCHANG TEAMGO NEW MATERIALS CO.	China (People's Republic)	<a href="mailto:ncteamgo@126.com">ncteamgo@126.com</a>	<a href="http://www.ncteamgo.cn">www.ncteamgo.cn</a>	2010
NARVIN GOSTAR PARSIAN	Iran	<a href="mailto:info@ngp-co.com">info@ngp-co.com</a>	<a href="http://www.ngp-co.com">www.ngp-co.com</a>	2010
POLYTEX S.A.	Peru	<a href="mailto:ejarufe@polytex.cl">ejarufe@polytex.cl</a>	<a href="http://www.polytex.cl">www.polytex.cl</a>	2010
PT TETRASA GEOSININDO	Indonesia	<a href="mailto:office@geosinindo.co.id">office@geosinindo.co.id</a>	<a href="http://www.geosinindo.co.id">www.geosinindo.co.id</a>	2010
TECNOLOGIA DE MATERIALS S. A.	Peru	<a href="mailto:contactenospe-ru@tdm.com.pe">contactenospe-ru@tdm.com.pe</a>	<a href="http://www.tdm.com.pe">www.tdm.com.pe</a>	2010
THRACE NONWOVENS & GEOSYNTHETICS	Greece	<a href="mailto:papagian-nis@thraceplastics.gr">papagian-nis@thraceplastics.gr</a>	<a href="http://www.thraceplastics.gr">www.thraceplastics.gr</a>	2010
ANDEX DEL NORTE S.A.	Peru	<a href="mailto:jesus.cardozo@andex.com.pe">jesus.cardozo@andex.com.pe</a>	<a href="http://www.andex.com.pe">www.andex.com.pe</a>	2011
CELESUR SISTEMAS DE IMPERMEABILIZACION, S.L.	Spain	<a href="mailto:calidad-medioambiente@celesur.com">calidad-medioambiente@celesur.com</a>	<a href="http://www.celesur.com">www.celesur.com</a>	2011
CINAT S.L.	Spain	<a href="mailto:cinat@cinat.net">cinat@cinat.net</a>	<a href="http://www.cinat.net">www.cinat.net</a>	2011

Company Name	Country	Contact Email	Website	Year
GEOPLASTEXTIL SAS	Colombia	<a href="mailto:santia-go.giraldo@plastextil.com.co">santia-go.giraldo@plastextil.com.co</a>	<a href="http://www.geoplastextil.com">www.geoplastextil.com</a>	2011
GEOPOLIMEROS SAS	Colombia	<a href="mailto:geopolimerosltd@yahoo.com">geopolimerosltd@yahoo.com</a>	<a href="http://www.geopolimeros.net">www.geopolimeros.net</a>	2011
GRANITE ENVIRONMENTAL, INC.	USA	<a href="mailto:mwilkie@graniteenvironmental.com">mwilkie@graniteenvironmental.com</a>	<a href="http://www.graniteenvironmental.com">www.graniteenvironmental.com</a>	2011
MATTEX GEOSYNTHETICS	United Arab Emirates	<a href="mailto:philippe.g@mattex.com">philippe.g@mattex.com</a>	<a href="http://www.mattex.com">www.mattex.com</a>	2011
SIVER UNE 104	Spain	<a href="mailto:calidad@siverune104.com">calidad@siverune104.com</a>	<a href="http://www.siverune104.com">www.siverune104.com</a>	2011
STEKLONIT MANAGEMENT, LLC	Russia	<a href="mailto:e.krashenin@steklonit.com">e.krashenin@steklonit.com</a>	<a href="http://www.steklonit.com">www.steklonit.com</a>	2011
YIXING SHENZHOU EARTH WORKING MATERIAL CO., LTD.	China (People's Republic)	<a href="mailto:sz.geosynthetics@gmail.com">sz.geosynthetics@gmail.com</a>	<a href="http://www.geogrid-cn.com">www.geogrid-cn.com</a>	2011
AGRIPOLYANE	France	<a href="mailto:export@agripolyane.com">export@agripolyane.com</a>	<a href="http://www.agripolyane.com">www.agripolyane.com</a>	2012
ANHUI HUIFENG NEW CONSTRUCTION MATERIALS CO.,LTD	China (People's Republic)	<a href="mailto:whywin@foxmail.com">whywin@foxmail.com</a>	<a href="http://www.hfgeosynthetics.com">www.hfgeosynthetics.com</a>	2012
CETEAU BV	Netherlands, The	<a href="mailto:info@ceteau.com">info@ceteau.com</a>	<a href="http://www.ceteau.com">www.ceteau.com</a>	2012
CONCRETE CANVAS	United Kingdom	<a href="mailto:will.crawford@concretecanvas.co.uk">will.crawford@concretecanvas.co.uk</a>	<a href="http://www.concretecanvas.co.uk">www.concretecanvas.co.uk</a>	2012
DAEYOUN GEOTECH CO., LTD.	Korea	<a href="mailto:jimmypark94@gmail.com">jimmypark94@gmail.com</a>	<a href="http://dygtex.en.ec21.com">http://dygtex.en.ec21.com</a>	2012
FABTECH	Australia	<a href="mailto:gfairhead@fabtech.com.au">gfairhead@fabtech.com.au</a>	<a href="http://www.fabtech.com.au">www.fabtech.com.au</a>	2012
GAST INTERNATIONAL SA PTY LTD	South Africa	<a href="mailto:kgastjr@gast.co.za">kgastjr@gast.co.za</a>	<a href="http://www.gast.co.za">www.gast.co.za</a>	2012
GEOMAS	Turkey	<a href="mailto:elifcallan@geomas.com.tr">elifcallan@geomas.com.tr</a>	<a href="http://www.geomas.com.tr">www.geomas.com.tr</a>	2012
GEOTECHNICAL SYSTEMINDO, PT	Indonesia	<a href="mailto:info@ptgsi.com">info@ptgsi.com</a>	<a href="http://www.ptgsi.com">www.ptgsi.com</a>	2012
ISTANBUL TEKNİK İNŞAAT	Turkey	<a href="mailto:export@istanbulteknik.com">export@istanbulteknik.com</a>	<a href="http://www.istanbulteknik.com">www.istanbulteknik.com</a>	2012
JOFO ZHAOQING WEBFORMA CO., LTD.	China (People's Republic)	<a href="mailto:denghong@jofo.com.cn">denghong@jofo.com.cn</a>	<a href="http://www.jofo.com.cn">www.jofo.com.cn</a>	2012
MACCAFERRI (MALAYSIA) SDN BHD	Malaysia	<a href="mailto:mm@maccaferri-asia.com">mm@maccaferri-asia.com</a>	<a href="http://www.maccaferri.com.my">www.maccaferri.com.my</a>	2012
MACCAFERRI INDONESIA	Indonesia	<a href="mailto:mi@maccaferri.co.id">mi@maccaferri.co.id</a>	<a href="http://www.maccaferri.co.id">www.maccaferri.co.id</a>	2012
MAPEI S.P.A.	Italy	<a href="mailto:mapei@mapei.it">mapei@mapei.it</a>	<a href="http://www.mapei.com">www.mapei.com</a>	2012
PIETRUCHA	Poland	<a href="mailto:export@pietrucha.pl">export@pietrucha.pl</a>	<a href="http://www.pietrucha.pl">www.pietrucha.pl</a>	2012
PT MULTIBANGUN REKATAMA PATRIA	Indonesia	<a href="mailto:mrpatria@indo.net.id">mrpatria@indo.net.id</a>	<a href="http://www.multibangunpatria.com">www.multibangunpatria.com</a>	2012
SAGEOS - CTT GROUP	Canada	<a href="mailto:eblond@gcttg.com">eblond@gcttg.com</a>	<a href="http://www.gcttg.com">www.gcttg.com</a>	2012
SHANDONG HOCK MINING ENGINEERING CO. LTD	China (People's Republic)	<a href="mailto:export@sdhock.com">export@sdhock.com</a>	<a href="http://www.sdhock.com">www.sdhock.com</a>	2012
SKZ-GERMAN PLASTICS CENTER	Germany	<a href="mailto:h.zanzinger@skz.de">h.zanzinger@skz.de</a>	<a href="http://www.skz.de">www.skz.de</a>	2012
STRATA	USA	<a href="mailto:lstocker@geogrid.com">lstocker@geogrid.com</a>	<a href="http://www.geogrid.com">www.geogrid.com</a>	2012
TAIAN MODERN PLASTIC CO., LTD	China (People's Republic)	<a href="mailto:info@tmpgeosynthetics.com">info@tmpgeosynthetics.com</a>	<a href="http://www.tamodern.com">www.tamodern.com</a>	2012
TESSILBRENTA SRL	Italy	<a href="mailto:antonio.perissinotto@tessilbrenta.com">antonio.perissinotto@tessilbrenta.com</a>	<a href="http://www.tessilbrenta.it">www.tessilbrenta.it</a>	2012
TEXOFIB	Saudi Arabia	<a href="mailto:ctc@ctictd.com">ctc@ctictd.com</a>	<a href="http://www.texofib.com">www.texofib.com</a>	2012
URETEK	Italy	<a href="mailto:alberto.paschetto@uretek.it">alberto.paschetto@uretek.it</a>	<a href="http://www.uretek.it">www.uretek.it</a>	2012
AQUATAN (PTY) LTD.	South Africa	<a href="mailto:mikew@aquatan.com">mikew@aquatan.com</a>	<a href="http://www.aquatan.com">www.aquatan.com</a>	2013
DALIAN GEO-LINK GEOSYNTHETICS CO. LTD.	China	<a href="mailto:dothan@geo-textile.com">dothan@geo-textile.com</a>	<a href="http://www.geotextile.com">www.geotextile.com</a>	2013
EUROBENT SP. Z O.O	Poland	<a href="mailto:a.kolodko@eurobent.com">a.kolodko@eurobent.com</a>	<a href="http://www.eurobent.com">www.eurobent.com</a>	2013
EXEED GEOTEXTILE LLC	United Arab Emirates	<a href="mailto:tpeters@primegeotextile.ae">tpeters@primegeotextile.ae</a>	<a href="http://www.exeed.ae">www.exeed.ae</a>	2013
FEICHENG LIANYI ENGINEERING PLASTICS CO. LTD.	China (People's Republic)	<a href="mailto:info@sdlianyi.com">info@sdlianyi.com</a>	<a href="http://www.chinageogrid.com/en">www.chinageogrid.com/en</a>	2013

Company Name	Country	Contact Email	Website	Year
GLOBAL SYNTHETICS	Australia	<a href="mailto:info@globalsynthetics.com.au">info@globalsynthetics.com.au</a>	<a href="http://www.globalsynthetics.com.au">http://www.globalsynthetics.com.au</a>	2013
GORANTLA GEOSYNTHETICS PVT. LTD.	India	<a href="mailto:praveen-kumar@gorantlageos.com">praveen-kumar@gorantlageos.com</a>	<a href="http://www.gorantlageos.com">www.gorantlageos.com</a>	2013
HULS ASIA SDN BHD	Malaysia	<a href="mailto:ragu@hulsmalaysia.com">ragu@hulsmalaysia.com</a>	<a href="http://www.hulsmalaysia.com">www.hulsmalaysia.com</a>	2013
MACCAFERRI AUSTRALIA	Australia	<a href="mailto:philball@maccaferri.com.au">philball@maccaferri.com.au</a>	<a href="http://www.maccaferri.com.au">www.maccaferri.com.au</a>	2013
MACCAFERRI NZ LTD.	New Zealand	<a href="mailto:sales@maccaferri.co.nz">sales@maccaferri.co.nz</a>	<a href="http://www.maccaferri.co.nz">www.maccaferri.co.nz</a>	2013
PLATIPUS ANCHORS LIMITED	United Kingdom	<a href="mailto:darren@platipus-anchors.com">darren@platipus-anchors.com</a>	<a href="http://www.platipus-anchors.com">www.platipus-anchors.com</a>	2013
RENOLIT IBERICA	Spain	<a href="mailto:este-ban.hernandez@renolit.com">este-ban.hernandez@renolit.com</a> ; <a href="mailto:valerie.hardy@renolit.com">valerie.hardy@renolit.com</a>	<a href="http://www.renolit.com">www.renolit.com</a>	2013
ROWAD INTERNATIONAL GEOSYNTHETICS CO.LTD	Saudi Arabia	<a href="mailto:info@rowadgeo.com">info@rowadgeo.com</a>	<a href="http://www.rowadgeo.com">www.rowadgeo.com</a>	2013
SIPLAST ICOPAL	France	<a href="mailto:frppy@icopal.com">frppy@icopal.com</a>	<a href="http://www.siplast-international.com/">www.siplast-international.com/</a>	2013
SOLMAX INTERNATIONAL ASIA PACIFIC SDN. BHD.	Malaysia	<a href="mailto:dtan@solmax.com">dtan@solmax.com</a>	<a href="http://www.solmax.com">www.solmax.com</a>	2013
HUBEI NETE GEOSYNTHETICS LTD.	China (People's Republic)	<a href="mailto:netezhuhong@126.com">netezhuhong@126.com</a>		2014
ICA INVERSIONES S DE RL	Honduras	<a href="mailto:icainversiones@icainversiones.com">icainversiones@icainversiones.com</a>	<a href="http://www.icainversiones.com">www.icainversiones.com</a>	2014
NINGBO HONGHUAN GEOTEXTILE CO., LTD.	China (People's Republic)	<a href="mailto:ivan@nbhonghuan.com">ivan@nbhonghuan.com</a>		2014
PT BREMA BRATA	Indonesia	<a href="mailto:office@brema-brata.com">office@brema-brata.com</a>	<a href="http://www.brema-brata.com">www.brema-brata.com</a>	2014
TITAN ENVIRONMENTAL CONTAINMENT	Canada	<a href="mailto:john@titanenviro.ca">john@titanenviro.ca</a>	<a href="http://www.titanenviro.ca/">www.titanenviro.ca/</a>	2014

Notes:

- The corporate members are encouraged to check their entry there!
- Date is earliest year of continuous membership

# Corporate Profile – GSE Environmental

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.

GSE Environmental is a global manufacturer and marketer of geosynthetic lining solutions, products and services used in the containment and management of solids, liquids, and gases for organizations engaged in waste management, mining, water, wastewater, and aquaculture.

Since 1972, GSE has built a long history of manufacturing quality geosynthetic lining systems and developing innovative products. The company's principal products are polyethylene-based geomembranes, geonets, geocomposites, geosynthetic clay liners, concrete protection liners and vertical barriers. GSE manufactures products primarily to line or cap hazardous and non-hazardous waste landfills; contain materials generated in certain mining processes; and contain water, liquid waste and industrial products in ponds, tanks, reservoirs, sewers, and canals.

Headquartered in Houston, Texas, GSE has manufacturing facilities in Texas, South Dakota, South Carolina, Egypt, Germany, Chile, and Thailand. Each facility is equipped to provide the highest quality product with industry leading technology and maximum output to service customers' needs.

## GSE PRODUCTS

### Geomembranes

GSE high density polyethylene (HDPE) or linear low density polyethylene (LLDPE) geomembranes are available in black, white, green and grey surfaces and with a smooth or textured surface on one or both sides. GSE Leak Location Liner allows clients to physically test barrier materials for imperfections as small as pinholes both during and after installation. These geomembrane liners are excellent for use in a variety of covered or exposed lining applications.

### Geosynthetic Clay Liners (GCLs)

BentoLiner fabric encased GCLs are needle punched reinforced composites that combine two durable geotextile outer layers with a uniform core of natural sodium bentonite clay to form a hydraulic barrier. GSE GundSeal geomembrane supported GCLs are the most hydraulically advanced lining product available with improved leakage performance over conventional geomembrane/clay composite liners.

### Geonets

GSE geonets are synthetic drainage materials manufactured from a premium grade HDPE resin. These products are ideal for transmitting fluids uniformly under a variety of field conditions, normal stresses and hydraulic gradients.

### Geocomposites

GSE geocomposites are geonets with nonwoven geotextiles heat bonded to the upper and lower surface. These drainage products are designed to perform drainage functions as a replacement for granular drainage layers.

### Nonwoven Geotextiles

Nonwoven geo textiles are polypropylene, staple-fiber, nonwoven needle punched fabrics ranging in weight from 130 to 1,060 g/m<sup>2</sup> (4 to 32 oz/yd<sup>2</sup>). They are used in environmental and industrial applications for separation and filtration of soils and liquids.



# GSE

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# IGS News Publisher, Editor and Chapter Correspondents

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**Visit the IGS Website:**

[www.geosyntheticssociety.org](http://www.geosyntheticssociety.org)

**IGS MEMBERSHIP REQUIRES ELECTRONIC COMMUNICATION –  
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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 25)!

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](mailto: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): \_\_\_\_\_

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Membership fee: Individual (US) \$ 45,  
Corporate (US) \$1000,  
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Postal Code: \_\_\_\_\_ Country: \_\_\_\_\_

## Calendar of Events

Event	Location	Date	E-Mail, Website
14 <sup>th</sup> Portuguese Congress on Geotechnics	Beira, Portugal	06 -09 April 2014	<a href="http://www.14cng.ubi.pt/">http://www.14cng.ubi.pt/</a>
DredgDikes South Baltic Conference on Dredged Materials in Dike Construction	Rostock / Warnemünde, Germany	10 - 11 April 2014	<a href="mailto:dredgdikes@uni-rostock.de">dredgdikes@uni-rostock.de</a> <a href="http://dredgdikesconf.auf.uni-rostock.de">http://dredgdikesconf.auf.uni-rostock.de</a>
GeoShanghai 2014	Shanghai, China	26 - 28 May 2014	<a href="mailto:xzhang11@alaska.edu">xzhang11@alaska.edu</a> <a href="http://www.geoshanghai2014.org">www.geoshanghai2014.org</a>
AIMS 2014: Sixth International Symposium High Performance Mining	Aachen, Deutschland	11 – 12 June 2014	<a href="http://www.aims.rwth-aachen.de">www.aims.rwth-aachen.de</a>
First National Conference on Geosynthetics	Tegucigalpa, Honduras	16 - 18 Jun 2014	<a href="mailto:igshonduras@gmail.com">igshonduras@gmail.com</a>
TC207 Conference on "Soil-Structure Interaction: Retaining Structures"	St. Petersburg, Russia	16 - 18 Jun 2014	<a href="mailto:lisyuk@gmail.com">lisyuk@gmail.com</a> <a href="http://www.TC207SSI.org">http://www.TC207SSI.org</a>
8 <sup>th</sup> European Conference on Numerical Methods in Geotechnical Engineering (NUMGE14)	Delft, Netherlands, The	18 - 20 Jun 2014	<a href="mailto:info@numge2014.org">info@numge2014.org</a> <a href="http://www.numge2014.org">www.numge2014.org</a>
Geohubei International Conference 2014	Hubei, China	20 - 22 Jul 2014	<a href="mailto:GEOHUBEI.ADM@GMAIL.COM">GEOHUBEI.ADM@GMAIL.COM</a> <a href="http://geohubei2014.geoconf.org">http://geohubei2014.geoconf.org</a>
2 <sup>nd</sup> International Conference on Information Technology in Geo-Engineering	Durham, United Kingdom	21 - 22 July 2014	<a href="mailto:icitg@duram.ac.uk">icitg@duram.ac.uk</a> <a href="http://www.icitg.dur.ac.uk">www.icitg.dur.ac.uk</a>
TC204 ISSMGE 8 <sup>th</sup> International Symposium on "Geotechnical Aspects of Underground Construction in Soft Ground" - IS-Seoul 2014	Seoul, Korea	25 - 27 Aug 2014	<a href="http://www.is-seoul2014.org">www.is-seoul2014.org</a> <a href="mailto:csyoo@skku.edu">csyoo@skku.edu</a>
Conference on Advances in Civil Engineering for Sustainable Development	Nakhon Ratchasima, Thailand	27 - 29 Aug 2014	<a href="mailto:nattaya@sut.ac.th">nattaya@sut.ac.th</a> <a href="http://acesd.sut.ac.th/index.php">http://acesd.sut.ac.th/index.php</a>
International Symposium on Geomechanics from Micro to Macro (TC105)	Cambridge, United Kingdom	01 - 03 Sep 2014	<a href="mailto:ks207@cam.ac.uk">ks207@cam.ac.uk</a>
XV Danube-European Conference on Geotechnical Engineering	Vienna, Austria	09 - 11 Sep 2014	<a href="mailto:igb@tuwien.ac.at">igb@tuwien.ac.at</a> <a href="http://www.decge2014.at">www.decge2014.at</a>
MECC14: 7 <sup>th</sup> MID-EUROPEAN CLAY CONFERENCE	Dresden, Germany	16 - 19 Sep 2014	<a href="http://www.mecc2014.de">www.mecc2014.de</a>
<b>10<sup>th</sup> International Conference on Geosynthetics (10ICG)</b>	Berlin, Germany	21 – 25 Sep 2014	<a href="mailto:g.braeu@bv.tum.de">g.braeu@bv.tum.de</a> <a href="http://www.10icg-berlin.com">www.10icg-berlin.com</a>
<b>33<sup>rd</sup> Baugrundtagung with Exhibition „Geotechnik“</b>	Berlin, Germany	23 – 26 Sep 2014	<a href="http://www.dggt.de">www.dggt.de</a>
2nd Eastern European Tunneling Conference	Athen, Greece	28 Sep. – 01 Oct. 2014	<a href="http://www.eetc2014athens.org">www.eetc2014athens.org</a>
2014-ISRMI International Symposium - ARMS 8	Sapporo, Japan	14 -16 Oct. 2014	<a href="http://www.rocknet-japan.org/ARMS8">www.rocknet-japan.org/ARMS8</a>
7 <sup>th</sup> International Congress on Environmental Geotechnics	Melbourne, Australia	10 – 14 Nov 2014	<a href="mailto:7iceg2014@wsm.com.au">7iceg2014@wsm.com.au</a> <a href="http://www.7iceg2014.com">www.7iceg2014.com</a>
GEOIMATE 2014: Fourth International Conference on Geotechnique, Construction Materials + Environment	Brisbane, Australia	19 - 21 Nov. 2014	<a href="http://www.geomate.org">www.geomate.org</a>
Geohazards 2014 International Symposium on Geohazards: Science, Engineering and Management	Kathmandu, Nepal	20 - 21 Nov. 2014	<a href="mailto:netra@ehime-u.ac.jp">netra@ehime-u.ac.jp</a> <a href="http://www.ngeotechs.org/ngs/index.php/geohazards-2014">http://www.ngeotechs.org/ngs/index.php/geohazards-2014</a>
7 <sup>th</sup> International Conference on Scour and Erosion (ICSE-7)	Perth, Western Australia	02 – 04 Dec 2014	<a href="http://www.2014icse.com/index.html">www.2014icse.com/index.html</a>
6IGS Chennai 2015: Sixth International Geotechnical Symposium on Disaster Mitigation	Madras, Chennai, India	21 -23 Jan. 2015	<a href="http://www.igschennai.in/6igschennai2015">www.igschennai.in/6igschennai2015</a>

Event	Location	Date	E-Mail, Website
2015 Geosynthetics Conference - Co-locating with IECA's Environmental Connection 2015	Portlan, OR, USA	15 – 18 Feb. 2015	<a href="http://geosyntheticsconference.com">http://geosyntheticsconference.com</a>
12 <sup>th</sup> Australia and New Zealand Conference on Geomechanics–The Changing Face of the Earth: Geo-Processes & Human Accelerations	Wellington, New Zealand	22 - 25 Feb 2015	<a href="mailto:secretary@nzgs.org">secretary@nzgs.org</a>
<b>10<sup>th</sup> Rencontres Géosynthétiques</b>	<b>La Rochelle, France</b>	<b>24 - 26 March 2015</b>	<a href="http://www.rencontresgeosynthetiques.org">www.rencontresgeosynthetiques.org</a>
XVI African Regional Conference on Soil Mechanics and Geotechnical Engineering- Innovative Geotechnics for Africa	Hammamet, Tunisia	27 - 30 April 2015	<a href="mailto:organisation@cramsg2015.org">organisation@cramsg2015.org</a> <a href="http://www.16cramsg.org">www.16cramsg.org</a>
ISFOG 2015	Oslo, Norway	10 - 12 Jun 2015	<a href="mailto:isfog2015@ngi.no">isfog2015@ngi.no</a> <a href="http://www.isfog2015.no">www.isfog2015.no</a>
XVI European Conference on Soil Mechanics and Geotechnical Engineering	Edinburgh, Scotland, United Kingdom	13 - 17 Sep 2015	<a href="mailto:derek_smith@coffey.com">derek_smith@coffey.com</a> <a href="http://www.xvi-ecsmge-2015.org.uk">www.xvi-ecsmge-2015.org.uk</a>
Workshop on Volcanic Rocks & Soils	Isle of Ischia, Italy	24 - 25 Sep 2015	<a href="mailto:agi@associazionegeotecnica.it">agi@associazionegeotecnica.it</a> <a href="http://www.associazionegeotecnica.it">www.associazionegeotecnica.it</a>
6 <sup>th</sup> International Conference on Earthquake Geotechnical Engineering	Christchurch, New Zealand	02 - 04 Nov 2015	
The 15 <sup>th</sup> Asian Regional Conference on Soil Mechanics and Geotechnical Engineering - New Innovations and Sustainability	Fukuoka, Kyushu, Japan	09 - 13 Nov 2015	<a href="mailto:15tharc@kumamoto-u.a.c.jp">15tharc@kumamoto-u.a.c.jp</a> <a href="http://www.jgskyushu.net/uploads/15ARC/">http://www.jgskyushu.net/uploads/15ARC/</a>
Sixth International Symposium on Deformation - Characteristics of Geomaterials	Buenos Aires, Argentina	15 - 18 Nov. 2014	<a href="http://saig.org.ar/ISDCG2015">http://saig.org.ar/ISDCG2015</a>
15 <sup>th</sup> Pan-American Conference on Soil Mechanics and Geotechnical Engineering	Buenos Aires, Argentina	15 - 18 Nov 2015	<a href="mailto:presidente@saig.org.ar">presidente@saig.org.ar</a> <a href="http://www.panam2015.com.ar">www.panam2015.com.ar</a>
NGM 2016, The Nordic Geotechnical Meeting	Reykjavik, Iceland	25 - 28 May 2016	<a href="mailto:has@vegagerdin.is">has@vegagerdin.is</a> <a href="http://www.ngm2016.com">http://www.ngm2016.com</a>
3 <sup>rd</sup> PanAmerican Regional Conference on Geosynthetics	Miami South Beach, USA	11 - 14 Apr 2016	<a href="mailto:NAGSDirector05@gmail.com">NAGSDirector05@gmail.com</a> <a href="mailto:epeggs@minervatri.com">epeggs@minervatri.com</a>
3 <sup>rd</sup> ICTG International Conference on Transportation Geotechnics	Guimaraes, Portugal	04 - 07 Sep 2016	<a href="mailto:agc@civil.uminho.pt">agc@civil.uminho.pt</a> <a href="http://www.webforum.com/tc3">http://www.webforum.com/tc3</a>
EuroGeo 6 – European Regional Conference on Geosynthetics	Istanbul, Turkey	25 – 29 Sep 2016	<a href="mailto:eguler@boun.edu.tr">eguler@boun.edu.tr</a>
6 <sup>th</sup> Asian Regional Conference on Geosynthetics	New Delhi, India	28 - 11 Nov 2016	<a href="mailto:uday@cbip.org">uday@cbip.org</a>
<b>11<sup>th</sup> International Conference on Geosynthetics (11ICG)</b>	Seoul South Korea	16 - 20 Sep 2018	<a href="mailto:csyoo@skku.edu">csyoo@skku.edu</a>

Note:

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

<b>IGS Conference</b>	<b>Conference organized under the auspices of the IGS</b>	<b>Conference under the auspices or with the support of an IGS Chapter</b>
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- Flood Control, Levee and Canals, Dams, Reservoirs and other Hydraulic Applications
- Drainage and Filtration with Geosynthetics
- Geomembrane and Geosynthetic Clay Liner Barrier Systems
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