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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General Information for IGS Members

Call for Candidates for IGS Council: Term 2018 to 2022

The IGS, in accordance with its bylaws, will hold elections in 2018. 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, beginning on 25 September 2018.

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 elected IGS Council members whose term of office concludes in 2018 are:

- Dr. Kazem Fakharian, Iran (co-opted mid-term to complete the term of elected Eric Blond, Canada Resigned 2016)
- Ian Fraser, Scotland
- Chiwan Wayne Hsieh, Taiwan
- Karpurapu Rajagopal, India
- Takeshi Katsumi, Japan
- Peter Legg, South Africa (Treasurer)
- Pietro Rimoldi, Italy
- Nathalie Touze-Foltz, France

The IGS bylaws stipulate that a Council Member may only be elected to two consecutive terms; hence, Karpurapu Rajagopal, Peter Legg, Nathalie Touze-Foltz are not eligible for re-election to a Council Member seat. Council Members having served 2 terms are eligibleto run for the office of President or Vice President. Each of the other incumbents are eligible to stand for re-election to a council position.

In addition to the IGS Council positions this notice serves as a call for nominations for candidates to fill the positions of President and Vice-President.

Nomination & 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. Meetings of the IGS Council are generally held in conjunction with international and regional IGS conferences.

Announcement of Call for Nominees: December 2017

The IGS will announce the call for candidates in this 3rd Issue of the IGS News, December 2017, as well as on the IGS website. All IGS Members are encouraged to consider running for council.

The call for nominations will close **1 March 2018**. All nominees should submit: a letter of intent (including the seat for which you will be nominated: Council, Vice President or President), CV and photo to the office of the IGS Secretariat Manager at IGSsec@GeosyntheticsSociety.org by on or before 1 March 2018.

Announcement of Nominees: March 2016

The IGS will announce the eligible candidates in the 1st issue of the IGS News, March 2018, as well as on the IGS website.

Voting: 15 April to 15 June 2018

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

Announcement of Successful Candidates: 1 July 2018

IGS Members will be made aware of the successful candidates via email and website on 1 July 2018

First Meeting of the New IGS Council: at 11ICG held in Seoul, Korea September 2018

If you have any questions or would like any further information on the election process or the responsibilities involved with becoming an IGS Council Member, please contact the IGS Secretary, **Elizabeth Peggs (**Elizabeth@geosynthetica.net**)**, SKYPE: Elizabeth.Peggs, TEL +1.561.768.9487.

REMINDER: IGS Awards: Call for Nominations 2014 – 2017

Nominations due by 31 January 2018

Neil Dixon

IGS Awards will be granted in 2018 to individuals or groups of individuals who have made an outstanding contribution to the development and use of geotextiles, geomembranes, related products, or associated technologies through their scientific and technological achievements. For example, an award can be given for design and construction of a structure; publication of a technical document (e.g. paper, book, article, manual); completion of a research program; and development of new products and techniques.

The Awards recognize the achievements completed and/or the validity of which have been demonstrated during the four-year period preceeding the year of the Award (i.e. 1st January 2014 to 31st December 2017). The winning entries will be publicised in IGS News, in a special press release on the IGS web site and in other IGS publications.

Timeline and Deadlines

Nominations must be received by the IGS Secretary (via the Secretariat atIGSsec@geosyntheticssociety.org) no later than **31 January 2018**. The deadline for receipt of candidate award submission packages is **31 March 2018**. Submission packages will be forwarded by the Secretariat to the Award Committee to review and to finalize their decisions, draft citations and report.

Awards will be presented during 11ICG in Seoul, Korea (16th to 21st September 2018), at the IGS Awards Ceremony tentatively scheduled at 16:30 no 19 September 2018.

There are two types of IGS Awards:

- **The Young IGS Member Achievement Award**
  (This Award is for IGS Members who are less than 36 years of age on 31 December 2017)
- **The IGS Award**

Detailed information on these awards may be found on the IGS Web site under the **About IGS >> Awards section**. http://www.geosyntheticssociety.org/awards/

The awards will consist of a specially commissioned medal and a diploma.

If a group submission is made for the Young IGS Member Achievement Award, all members of the group should satisfy the age requirement. If this requirement is not satisfied, the entire group will be disqualified for the Young IGS Member Achievement Award. If a candidate, individual or group, satisfies the age requirement for the Young IGS Member Achievement Award, the entry submitted by this candidate will also be considered for The IGS Award (unless requested otherwise by the candidate). However, a candidate may only receive either the IGS Award or the Young IGS Member Achievement Award.

Candidates

All members of IGS are eligible for IGS Awards except the President of IGS and the members of the Awards Committee. Candidates must be members of the IGS. If a group submission is made, all members of the group must be members of the IGS; if this requirement is not satisfied, the entire group will be disqualified. If a company is a candidate, this company must be a corporate member of the IGS. A company cannot be a candidate for the Young IGS Member Achievement Award.

The deadline for candidates to be members and companies to be corporate members of the IGS is 30 June2017.

IGS members are encouraged to become candidates by providing a written nomination submission to the IGS Secretariat in accordance with the IGS Awards Rules found in the IGS Handbook beginning on page 78. Any IGS member except the members of the Awards Committee may also make nominations. The Communication, Education and Corporate committees of the IGS and the IGS Chapters are invited to make nominations. All candidates will be treated equally (i.e. irrespective of whether they make a personal submission or are nominated). There is no restriction in the number of awards an individual can receive. There is no time restriction between two periods of eligibility, which can correspond to two consecutive four years periods. However, awards can only be given to the same individual provided that they are attributed for two different bodies of work.

The Awards Committee will not be advised as to the name(s) of the individual/group making the submission/nomination (i.e. the method of candidature is confidential).

Nominations

Nominations of candidates should be provided in English on a plane document (not letterhead) and submitted electronically to the IGS Secretariat IGSsec@geosyntheticsSociety.org.

The nomination should include:

- a clear statement of the contribution of the candidate that is to be considered (e.g. if a product, provide a clear definition of the product; if a paper(s) or book, give the full reference of the paper(s)/book; if a report, a full reference to the report; if a construction method, a clear description of the method and any references, etc.); and
- a clear statement indicating the originality, and significance of the candidate's contribution to the discipline (i.e. in the field of geosynthetics, related products and/or associated technologies).

Candidates who have been nominated will be contacted by the IGS Secretary to obtain their agreement to be a candidate (and proof of age if the nomination is for the Young IGS Members Achievement Award). Each confirmed nominee will receive an email with submission details and time line.

All correspondence and activities related to nominations and award entries will be carried out in the strictest confidence by the IGS Secretary and the Awards Committee.

IGS Awards Committee

The Awards Committee appointed by the officers of the IGS comprises: Chairman Neil Dixon (UK), Secretary Erol Güler (Turkey), Jiro Kuwano (Japan), Bernardo Caicedo Hormaza (Colombia) and Richard Brachman (Canada). The members of the committee have been selected so as to represent a broad cross-section of the discipline and for their technical expertise. The IGS Secretary Elizabeth Peggs will attend all meetings of the Awards Committee as an observer and coordinator.

Additional Information

The full text of the IGS Awards rules can be obtained from the IGS Secretariat Manager, Terry-Ann Paulo, or accessed on the IGS Web site under About IGS>>Society Documents>>IGS Handbook

Reported by
Neil Dixon, Chair of IGS Awards Committee

Obituary for Andre Rollin (1941 – 2017)

Andre ROLLIN has just left us. He was 76-year-old. He was one of the few genuine pioneers of the geosynthetic discipline. Even in 1977 he was attending the 1st International Conference on Geosynthetics in Paris (France), he has worked to the end on this topic.

From 1966 to 1997, he was Professor at the Ecole Polytechnique de Montreal (Canada), in charge of a research team about geosynthetics. Afterwards, he was consultant, expert in geosynthetics applications in the environmental and mining fields, for the consulting firm Solmers-Genivar.

He is the author of more than 170 scientific papers and co-editor of two books on geomembranes, “Géomembranes, Identification and Performance Testing” (Chapman and Hall, 1991) and “Géomembranes, Guide de Choix” (Presses Internationales Polytechnique, 2002). He received several awards, among these, Excellence de la North American Geosynthetics Society in 1991, He was the President of the Canadian Institute of Engineers between 1998 and 2000.

Convinced of the importance of the cooperation between academic and industrial institutions, he managed more than one hundred contracts of Research and Development on geosynthetics. He was the leader of many Training courses for professionals in Ecole Polytechnique McGill in Montreal, University of Sherbrooke, Royal Military College in Kingston, University of Syracuse, Wisconsin, but also in South America, Brazil, Ecuador, and in Europe, University of Grenoble, Lyon Mulhouse in France, Liège in Belgium.

He took a very active part in the standardization process for tests on geosynthetics. He was President of the RILEM CommitteeTC103 on Geomembranes, he was member of the Committee ISO-TC38 SC21 from the beginning, the first President of the ISO-TC221 on Geosynthetics, and secretary of the Committee ASTM D35. He was also Vice-President of the North American Geosynthetics Society.

His training as chemical engineer, his open-mindedness to the interdisciplinarity, his passion he’s passed to, his great and sparkling intellect made decisive his contribution to the development of the geosynthetic discipline. One will retain specifically his original morphometric approach, using picture analysis for geotextile filters and his chimio-physico-mechanical study of geomembranes.

After his death, the organisers of the Sardinia Symposium - dedicated to Waste Management and Landfills - decided to honour him with the institution of the André Rollin Award for the best paper on Geosynthetics Engineering presented at the conference: this award will be repeated every two years in memory of the fundamental contribution that André gave to a proper design and a correct application of geosynthetics in landfills.

In his private life, he was very attached to his stone house of the Perrot Island, in front of the Montreal city, where friends and work colleagues often met merrily. On the other hand, he was an outstanding collector of stamps, watches, jewels, and President of the Circle of Quebec Collectors.

André Rollin

André Rollin

Reported by
JP Gourc, IGS France Chapter Leader and long-time colleague and friend of André, english by Natalie Touze-Foltz

Technical Committees IGS-TC

New IGS Technical Committee on Stabilization using Geosynthetics

While the technical activities of the IGS have always been intense and productive, it is only since 2010 that the IGS formalized the creation of IGS Technical Committees. These comparatively new IGS operating units operate under the direct oversight of the IGS Council. Thus, in addition to the many technical activities of the IGS chapters, conferences and journals, IGS members could join a committee highly focused on technical content.

The first three IGS Technical Committees were approved by the IGS council during its May 2010 meeting in Guarujá, Brazil. Specifically, three IGS TCs were created at that time: TCs on “Reinforcement,” “Barrier Systems” and “Filtration.” Subsequently, the IGS council approved the creation of the TC on “Hydraulic Applications: Drainage, Erosion Control, Coastal Protection” (TC-Hydraulics) during its June 2015 meeting in Seoul, South Korea.

I am pleased to report that during its last meeting in Marrakech in October 2017, the IGS Council approved the creation of a new TC on “Stabilization.” The committee will focus on topics such as the base and subbase stabilization of roadways using geosynthetics, as well as ballast and subballast stabilization of railways using geosynthetics. A description of this new Technical Committee’s objectives, an outline of the proposed activities, and a call for TC members can be found on page 10 of this issue of IGS News.

I would like to take this opportunity to remind IGS members that the formation of new IGS Technical Committees is a grassroots process. That is, the most important condition needed to form a new IGS TC is the existence of an active group of professionals interested in advancing the technical knowledge on a specific topic of relevance within the geosynthetics discipline. The key consideration regarding the definition of the topic shall be (1) that the topic clearly belongs to the body of knowledge within the geosynthetics discipline, and (2) the existence of a geographically diverse group of members interested in actively serving the IGS in the production of technical content. Identifying a relevant topic within the geosynthetics discipline without identifying a group of members interested in further developing knowledge on that topic is insufficient justification for the formation of a new TC. Because the topics of TCs will be borne out of the interests of IGS member groups, some are expected to be broad, while others may be particularly narrow. Overlap among some areas to be covered by different TCs is acceptable, but good channels of communication should be established among appropriate TCs to minimize duplication of work and contradictions.

If you are interested in joining any of the IGS Technical Committees, or in forming a new IGS Technical Committee, please contact the following:

- For the TC on Reinforcement: Dr. Yoshihisa Miyata (miyamiya@nda.ac.jp)
- For the TC on Geosynthetic Barriers: Dr. Takeshi Katsumi (katsumi.takeshi.6v@kyoto-u.ac.jp)
- For the TC on Filters: Mr. Preston Kendall (p.kendall@geofabrics.com.au)
- For the TC on Hydraulic Applications: Mr. Ian Fraser (ianfraser@tcs-geotechnics.co.uk)
- For the TC on Stabilization: Dr. Leos Hornicek (leos.hornicek@fsv.cvut.cz)
- For information on the formation of new TCs: Ms. Terry Paulo (igssec@geosyntheticssociety.org)

If you are interested in volunteering your time to participate in new, technically rewarding activities, I encourage you to consider joining one of the new TCs of our Society. We look forward to the important technical contributions that will continue being offered by the IGS Technical Committees.

Reported by
Jorge G. Zornberg, IGS Immediate Past-president and Chair of TC Coordination TF

IGS TC-H Activities Report

The year 2017 has been very busy for TC-H, the Technical Committee on "Hydraulic Applications: Drainage, Erosion Control, Coastal Protection".

During 2017 TC-H has organized 3 main technical events: the Special Session on "The choice of Geosynthetics for hydraulic applications" at GeoAfrica 2017 in Marrakech in October; the Workshop "Applications of geosynthetics to irrigation, drainage and agriculture" during the 23rd International Congress on Irrigation and Drainage in Mexico City in October; the GeoHydraulic Week in New Orleans, Louisiana, in November.

Moreover, the TC-H Chair, Pietro Rimoldi, has delivered a Keynote Lecture on "Geosynthetics for erosion control and coastal protection" during the 7th Turkish Geosynthetics Conference at Boğaziçi University in Istanbul in May.

Two open meetings have been held, one during GeoAfrica 2017 and one during the GeoHydraulic Week in New Orleans, where many potential activities have been discussed.

Soon a survey will be launched to all TC-H Members for prioritizing such activities and get volunteers to carry on the various tasks.

The three main events in 2017 are now summarized.

Special Session at GeoAfrica 2017

The Special Session "The choice of Geosynthetics for hydraulic applications" at GeoAfrica 2017 in Marrakech, Morocco, was held on Tuesday 12th October; it was chaired by TC-H Secretary Ian Fraser (UK), and it lasted 2 hours; 4 invited papers have been presented.

The first presentation was by TC-H Chair, Pietro Rimoldi (Italy) on "The choice of geosynthetics for applications in dam engineering".

The second paper was "The choice of geosynthetics for hydraulic applications in roadway systems" by Prof. Jorge Zornberg, University of Texas at Austin (USA).

The third presentation was by Edoardo Zannoni (Maccaferri South Africa), on "The choice of geosynthetics for applications in coastal engineering".

The fourth presentation was by Sam Allen, Vice President of TRI Environmental, Austin, Texas (USA), on "The choice of geosynthetics for horizontal and vertical drainage".

The Special Session was attended by 50 people. Questions and discussions followed each presentation, resulting in a kind of very interesting workshops among international experts. Hence the TC-H session was rated as one of the most interesting of all the conference.

All papers are included in the Proceedings of GeoAfrica 2017.

Workshop at the 23rd International Congress on Irrigation and Drainage

IGS, the International Geosynthetics Society, and ICID, the International Commission on Irrigation and Drainage (http://www.icid2017.org), signed a Memorandum of Understanding (MoU) with the aim of developing activities of mutual interest between the two societies.

Under the umbrella of this MoU, IGS TC-H has organized the Workshop "Applications of Geosynthetics to Irrigation, Drainage and Agriculture", which was held the first day of the 23rd International Congress on Irrigation and Drainage, organized by ICID, on October 8, 2017, at the World Trade Center in Mexico City, Mexico.

The Workshop was addressed to all people interested in irrigation and drainage, with particular focus on the applications in agriculture, including State Officials, Agencies, Consulting Companies, Professionals, Contractors, Owners.

The Workshop allowed Attendees to learn the principles of Geosynthetics applications for irrigation canals, reservoirs, and flood management, covering the functions of water containment and barrier, water conveyance, reinforcement / stabilization, erosion control, and testing of Geosynthetics.

Geosythetics have been quoted to represent the most important innovation in Civil and Environmental Engineering in the last 50 years, and are getting wider and wider use even in the field of irrigation, drainage and agriculture. It is therefore important to get knowledge of the functions and applications of Geosynthetics in this field, in order to consider these products versus the traditional materials and techniques, affording all the technological and economical benefits that Geosynthetics can offer. Particularly in developing Countries, where there are often objective difficulties associated with sourcing natural material and with the costs of traditional materials, like concrete and bitumen, Geosynthetics can represent a real boost to many projects.

Therefore IGS TC-H organized the Workshop in Mexico City with the following program:

ARGUMENT	PRESENTER	TITLE
Welcome by Course Chairman	Timothy D. Stark	Chair of the Fabricated Geomembrane Institute, Professor and IGS North America BoD Member
Applications of Geomembranes for irrigation canals, reservoirs, and flood management	Timothy D. Stark	Chair of the Fabricated Geomembrane Institute, Professor and IGS North America BoD Member
Water containment and barrier functions: Geomembrane requirements and Selection Matrix for irrigation canals and reservoirs	Bruno Herlin	IGS North America BoD Member
Reinforcement / stabilization functions in irrigation canals (reinforced dikes, stabilized foundations, etc.)	Stan Boyle	IGS North America BoD Member
Erosion control for irrigation canals, flood management, and agricultural slopes	Marianna Ferrara	IGS Mexico BoD Member
Testing of Geosynthetics used in irrigation, drainage and agricultural applications	Eric Blond	Former IGS Council Member, IGS North America Member, Former IGS Council Liaison to ICID

The Workshop has been attended by more than 100 people from many Countries, who have appreciated the quality of the presentations by IGS Members.

Moreover, during the opening Plenary Session of the Conference, Mr Herve Plusquellec delivered a keynote speech on “Application of geosynthetics to irrigation, drainage and agriculture”.

This event, organized by IGS with another society, provided also experience for continuing the cooperation with sister societies.

GeoHydraulic Week in New Orleans

IGS TC-H organized the GeoHydraulic Week at Pere Marchette hotel in New Orleans on 7 – 9 November 2017.

On 7th November the first event consisted of the Open Meeting of TC-H, followed by the Think Tank to discuss three emerging technical topics.

The Open Meeting addressed many topics and an action list has been prepared for next TC-H activities, adding to the discussion held at GeoAfrica 2017.

The Think Tank brought together some of the top contributors in the geohydraulics community to strategize about the path forward on each subject, including considerations of technical consensus vs continuing technical needs, educational efforts, and potential publications. Selected experts were requested to serve as facilitators to foster discussion and interaction about the three topics:

- Filtration: terminology and application (Coordinator: Preston Kendall)
- Filtration: Using Air as Permeant in Hydraulic Testing (Coordinator: Rich Lacey)
- Drainage: Estimates of long term hydraulic flow (Coordinator: Sam Allen)

On 8th and 9th November the second event consisted in the Technical Workshop on state-of-practice in design & construction for coastal and river protection. Attendees at this course were exposed to the range of technologies available to address hydraulic management, and received 16 PDH or 2 CEUs.

The Workshop program was the following

- The 21st Century: a new world of engineering challenges (John Lopez, Director, Coastal Sustainability Program, Lake Pontchartrain Basin Foundation)
- Protection Design for Coastal and River Protection: Overview (Tom Stevens)
- Geosynthetics for Erosion and Scour Control: Products & Applications (Pietro Rimoldi)
- Design Methods/Codes for Erosion Control (Chad Lipscomb)
- Design Methods/Codes for Drainage and Filtration (Aigen Zhao)
- Measuring Geosynthetic Performance: Erosion Control (Joel Sprague)
- Measuring Geosynthetic Performance: Drainage (Eric Blond)
- Measuring Geosynthetic Performance: Filtration (Sam Allen)
- Design Examples (Ranjiv Gupta)
- Case Histories (4 cases)

Group photo at the welcome reception

Opening lecturer John Lopez, TC-H Chair Pietro Rimoldi, TC-H Vice Chair Sam Allen

Finally the Panel Discussion allowed to add more topics to the list of potential activities of TC-H.

The GeoHydraulic Week has been the largest event organized by TC-H so far, and at the end it was quoted as one of the most positive and fruitful event s in the recent IGS history.

Reported by:
Pietro Rimoldi, Chair, IGS TC-H - Technical Committee on Hydraulic Applications

IGS TC-B Activities Report

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

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

- GeoMEast, Egypt, July 2017
- 19ICSMGE, Seoul, September 2017
- GeoAfrica, Morocco, October 2017

The TC-B is actively holding membership meetings at as many locations in various regions as time and venues allow. The last membership meetings were held at:

- EuroGeo in Ljubljana, Slovenia on September 27, 2016.
- GeoAsia in Delhi, India, 8 - 11 November 2016
- GeoAfrica, Morocco, 16 October 2017

During these membership meetings the board informs in the open meetings the members and visitors about the latest developments in the TC-B, which are summarized:

- The TCB finalized the text for a leaflet on Barrier systems. The final version accomplished by IGS is now online available or on request, and has been translated into French, Mandarin, German, Japanese, Portuguese and Spanish. Please contact IGS for copies to be distributed within chapters or at conferences or if you would like the leaflet to be available in another language.
- New leaflets are being prepared (members volunteered to draft a version so that the editorial board can take these to the final version) and will cover:
  - A Barrier lecture
  - Barriers in agriculture Applications
  - Barriers in landfills
  - Barriers for dams, reservoirs and canals
  - Barriers in wastewater applications (here a volunteer is needed, please contact us if you are interested)
  - Mining Applications with barriers
- A major effort of the TC-B is the planning of a 2018 TC-B seminar/workshop. It is hoped that this event will occur in Munich on 06/07 June 2018 in conjunction with a similar event of TC-Reinforcement on 04/05 June 2018. Planning is ongoing and keynote speakers are likely to be Malek Bouazza, George Koerner and Richard Brachman.

- The hot topics are still being selected and ideas are always welcomed. Please contact Kent von Maubeuge directly under: kvm@naue.com.
- The lack of literature and standard protocols for Construction/Installation Quality Assurance and Quality Control was discussed and literature development was requested. This area (CQA/CQC) is recognized to have minimal literature and documentation available, as contrasted with ISO/CEN/ASTM literature. The TC-B will have a deeper look into this and see if it is possible to improve the situation. Any available information can be sent directly to Boyd Ramsey under: boydramsey@me.com.
- During the 11ICG in Seoul, Korea (16 - 21 Sept, 2018) the TC-B will be hosting a Barrier Workshop and will continue to discuss the hot topics arising from the Munich TC-B workshop to allow continuing discussions. Additionally there will be a membership meeting during this four year IGS event.

TC Barriers meeting at GeoAfrica 2017 in Marrakech

For further information please contact the board:

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

Nathalie Touze-Foltz – TC-B Vice-Chair (nathalie.touze@irstea.fr)

Boyd Ramsey – TC-B Vice-Chair (boydramsey@me.com)

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

Reported by
Kent von Maubeuge, TC-B Chairman

IGS TC-R Activities Report

The International Geosynthetics Society Technical Committee on Soil Reinforcement (IGS TC-R) had its last membership meeting at GeoAfrica, in Marrakech, Morocco, October 2017.

During these membership meetings the board informs in the open meetings the members and visitors about the latest developments in the TC-R and the interaction with other technical groups. Information about the new TC218 Reinforced Fill Structures of the ISSMGE were given by its chairman John Sankey (US). Gerhard Bräu showed the actual status of the development of Eurocode 7 which is prepared by CEN TC 250 / SC7. The actual status of ISO TC 221 WG 6 – Design using geosynthetics, especially the part for reinforcement was also presented.

Most of the time at the meeting in Marrakech was spent for the planning of the Speciality Workshop of the TC-R in 2018. TC-R is planning a seminar/workshop presenting and discussing “Hot Topics in Geosynthetics Soil Reinforcement”. It is hoped that this event will occur in Munich on 04 - 05 June 2018 in conjunction with a similar event of TC Barrier on 06 - 07 June 2018. Planning for this is ongoing and the organizers of the event are Gerhard Bräu (Chairman), Lars Vollmert (Secretary) and Jürgen Gruber (Treasurer). As the actual hot topics in the profession the following four themes were determined:

- Veneer Cover — Pietro Rimoldi, Italy
- Bridge Abudment — Jorge Zornberg, US
- Facings of Walls and Steep Slopes — Ian Fraser, UK
- Use of Recycled and marginal soil — John Sankey, US

For each of them a half day time slot is planned to have plenty of time for some main presentations and lots of discussions. The mentioned session leaders will organize the presentations for their program themselves. So please contact them directly, if you want to contribute to a theme. As result of the workshop it is expected to have the starting point for “white paper”, state-of-the-art paper or similar.

During the 11ICG in Seoul, Korea (16 - 21 Sept, 2018) the TC-R will be hosting a Special Session during the conference with the following lectures:

- Richard Bathurst, Probabilistic analysis and design of reinforced soil walls and slopes
- Lars Vollmert and Gerhard Bräu, Performance of geogrid reinforced and stabilized base courses
- Pietro Rimoldi, A new analytical approach to veneer cover reinforcement
- Yoshihisa Miyata, Seismic design of geosynthetic-reinforced soil structures

For further information please contact the board:

Gerhard Bräu – TC-R chairman (gerhard.braeu@tum.de)
Richard Bathurst – TC-R vice chair (bathurst-r@rmc.ca)
Fumio Tatsuoka – TC-R vice-chair (tatsuoka@rs.noda.tus.ac.jp)
Yoshihisa Miyata – TC-R secretary (miyamiya@nda.ac.jp)

Reported by
Gerhard Bräu, TC-R Chairman

New Technical Committee of IGS – TC-Stabilization

During its last meeting in Marrakech, the IGS Council approved the creation of a new Technical Committee, TC-Stabilization. Stabilization (or stiffening) involves the use of geosynthetics to control the deformations within a soil-geosynthetic composite in structures such as roadways. ISO TC221 has identified "stabilization" as an additional geosynthetic function. Others have contended that the actual geosynthetic function is "stiffening," reserving the term stabilization for applications involving the improvement of the base or subgrade components of roadways. Independent of whether the term stabilization should be used as a function or as an application, it is clear that he term "stabilization" now represents a significant sub-discipline within the broader geosynthetics discipline, with its own theoretical developments, relevant properties, and research. There is a growing number of researchers and practitioners specialized in stabilization that are ready to channel their thoughts through organized forums or committees.

The number of researchers and engineers who are actively involved in various aspects involving the use of geosynthetics for stabilization is already significant, and is expected to keep growing. A good example was the recent Transportation Geotechnics and Geoecology Conference held in St. Petersburg in May 2017 where two full sessions, co-organized by the IGS, were focussed specifically on stabilization. It became clear that there are significant opportunities for continued geosynthetics growth, consensus building, and research in this area.

The main objective of the new TC is to provide a forum to foster the growth, facilitate consensus, and disseminate research results on geosynthetic stabilization.

The committee leadership approved by the IGS Council is as follows:

- Chair: Dr. Jacek Kawalec, Poland
- Co-chair: Prof. Jorge G. Zornberg, USA
- Co-chair: Mr. Flavio Montez, Brazil
- Secretary: Dr. Leos Hornicek, Czech Republic

Leadership team has proposed a rather specific 2-year plan and a more general 4-year plan subject to additional refinement to be conducted during the initial 4 years of the TC (including the 2 initial years).

The 2-year plan includes the following proposed activities:

- Initiate the program of quarterly "email meetings," restricted only to TC-S members only. The meetings will involve addressing technical topics of relevance to the advancement of geosynthetic stabilization. During the period of one week per quarter, the technical issues will be discussed via email, with members on alert for prompt response. The communications will be consolidated after the "email meeting." Members that do not contribute to the email meeting will be asked to leave the committee.
- Conduct general meetings at the Geosynthetics Conferences, including the ICG (Seoul 2018). Some of general meetings will involve not only committee members, but IGS members at large. The meetings will include both organizational and technical content.
- Organize a specialty session on Stabilization at the 11ICG in Seoul, Korea. The proposal for the specialty session has already been submitted and accepted by the conference organizers.
- Coordinate the compilation of a special issue on "Stabilization" in one of the two official journals of the IGS.
- Conduct a Stabilization workshop (tentatively in 2019). The papers published in the special issue on Stabilization will be invited to provide oral presentations. The specific technical agenda of the workshop will be augmented with other invited and solicited papers. This will be the first of a quadrennial series of specialty workshops on stabilization.
- The TC chair will be in charge of the overall management of all activities, the TC Co-chairs will be in charge of at least one of the specific major activities; the TC secretary will be in charge of regular communications with TC members and the IGS Secretary.

On the other hand, the generic activities proposed for the four-year plan are as follows:

- Conduct general meetings at the Geosynthetics Conferences, including the Regional IGS Conferences (GeoAmericas 2020, EuroGeo 2020, Geosynthetics Asia 2021).
- Continued program of quarterly "email meetings," restricted only to TC-S members only.
- Organize specialty sessions on Stabilization at the Geosynthetics Conferences, including the Regional IGS Conferences (GeoAmericas 2020 in Rio de Janeiro, EuroGeo 2020 in Warsaw, Geosynthetics Asia 2021 in Taipei).
- Conduct a Stabilization workshop in coordination with a TC of one of the IGS Sister Societies (tentatively with the

Transportation Geotechnics TC of ISSMGE).

- Continued use of e-mail for every day communication under TC.
- Focused development of TC website for outreach and internal TC communication.
- Propose organization of technical sessions and short courses in events of International Sister Societies (particularly ISSMGE).
- Compilation of existing technical literature on stabilization. Critical review and categorization of the papers. Synthesis of research trends in the area of stabilization.
- Facilitate coordination of research among different research units across the globe. The TC could facilitate, for example, the compilation of information from multiple field monitoring sites in order to consolidate the information.
- Collect and compare design approaches and existing practice.
- Organize discussion forum for young professionals, incorporate young members as much as possible into TC activities.

Call for Members for the IGS Technical Committee on Stabilization

The IGS Technical Committee on Stabilization welcomes applications to join the committee. The time commitment to serve as a member of the Technical Committee is not expected to be significant. However, active participation in committee tasks will be expected from all members of the committee. If you are interested in joining the Technical Committee on Stabilization, please submit your Application form to the TC Secretary, Dr. Leos Hornicek at leos.hornicek@fsv.cvut.cz.

Additional information about the benefits and responsibilities of the TC-S members, as well as the membership application form can be downloaded from the following link: http://www.geosyntheticssociety.org/committees/technical-committees/

Reported by
Dr. Jacek Kawalec, TC-Stabilization Chair

IGS Young Members

Down to Earth – An Interview with Professor Neil Dixon

In this edition of the feature, the young members committee interviewed Professor Neil Dixon, Professor of Geotechnical Engineering at Loughborough University in the UK. Prof. Dixon has been involved with the pioneering research and implementation of geosynthetics for over 25 years. He's served on the IGS council and as chair of the UK chapter and was even once a mentor to the current IGS president.

Neil Dixon

Name / Institution: Professor Neil Dixon, Loughborough University, UK

Specialist Field: Geotechnical Engineering: Slope stability, instrumentation and geosynthetics

What originally inspired you to enter civil engineering, and what continues to do so?

When I was growing up the Humber Bridge was being constructed nearby and I used to cycle out to watch the construction taking shape. This inspired me to think how it was being built, what materials were being used and how had it been designed. During my studies for a degree I attended a lecture on the geotechnical design for a major construction project and I became very interested in the skills needed to obtain and interpret information on the ground when only a very small percentage can ever be directly observed. This led me to do a PhD in geotechnics and I have worked as a specialist ever since. I still get excited about challenging ground engineering projects.

What do you enjoy most about working in the industry?

I particularly like the variety of challenges, the wide range of materials and design situations that require innovative solutions and the continuing need for research to improve our understanding and produce better ways of doing things.

When and where was your first involvement with geosynthetics?

I had an informal meeting with a colleague who was working on landfill designs and I realised that my background on slope stability meant that I had skills that could be used to help understand waste landfill lining interactions and hence to contribute to improved landfill designs. This initial interest led to a project with Golder Associates that employed Russell Jones as our researcher. So it was also the start of Russell's rise to President of the IGS!

Do you have any advice for young engineers beginning their careers? What do you think are the most important skills in today's industry?

It is important that young engineers have a good understanding of geotechnical engineering principles and that if

possible they gain practical experience of investigating the ground (i.e. they see as many types of ground conditions as possible). This will help develop designs that based on an understanding of the critical mechanisms of behaviour and an understanding of how material variability can influence performance.

What hobbies and interests do you have outside work?
Walking my dog, playing golf (not as well as I would like) and reading.

Are you a fan of music?
I tend to listen to a wide range of music including classical and records from my youth, which are probably not considered cool.

Update from the Young IGS Committee

The young members committee will be actively participating at 2018's 11th International Conference of Geosynthetics in Seoul, South Korea. On Tuesday 18th September 2018 there will be a dedicated young members' session. There will also be a formal meeting of the IGS Young Members Committee, which any young members attending are welcome to participate. Finally there will be a networking social event arranged during the conference. Further details of these events will be announced in due course.

Meanwhile if you want to stay in touch with news and events from the IGS Young Members committee then please check out their webpage www.geosyntheticssociety.org/committees/young-members-committee/ and their social media accounts:

LinkedIn: www.LinkedIn.com/company/IGS-YMC.
Facebook: www.Facebook.com/YoungIGS/.

Reported by
Ian Scotland, Communications officer of the Young Members Committee.

Reports about Conference with IGS Auspices

GeoMEast 2017

Sharm El Sheikh, Egypt, 15 – 20 July 2017

The Technical Conference and Tradeshow GeoMEast was held July 15 - 20, 2017 in Sharm El Sheikh, Egypt. The conference was organized by the Soil-Structure Interaction Group in Egypt (SSIGE) and supported by multiple governmental, academic and technical organizations. A website for the conference is located here: http://www.geomeast2017.org/ and the conference was held under the auspices of the International Geosynthetics Society.

Chungsik Yoo, offering his plenary session lecture


IGS Booth at the exhibition

Professor Erol Guler of Bogazici University, Turkey (IGS council member) organized two technical workshops: one titled: Geosynthetics Engineering Barriers and a second titled: Geosynthetics Engineering: Reinforcements. Several IGS members and council members gave lectures during these sessions. Additionally, IGS Vice President- Chungsik Yoo, Professor at Sungkyunkwan University in Korea and Dr. Guler each offered plenary session lectures titled "Geosynthetics in Tunnel drainage and Waterproofing" and " Geosynthetics: A Material Which Started a New Era in Geotechnical Engineering" respectively.

Approximately 250 people attended the conference including many national infrastructure and construction leaders. The Governor of the Sinai district where Sharm el Sheikh is located even took the time to visit the IGS booth. Work was also done in the ongoing efforts to organize an IGS chapter in Egypt with positive forward movement achieved. Egypt is a strong and growing market for the utilization of geosynthetics and hopefully this event will help to expand the proper use of geosynthetic materials.

Reported by
Boyd Ramsey, IGS Counicil Member

Announcement of the International Conference of IGS

11th ICG International Conference on Geosynthetics

Geosynthetics: Innovative Solutions for Sustainable Development
Seoul, Korea, 16 – 21 September 2018

On behalf of the Organizing Committee, it is my great honor and pleasure to invite you to the 11th International Conference on Geosynthetics (11ICG), which will be held in Seoul, Korea from September 16 to 21, 2018.

The Korean Geosynthetics Society (KGSS) will have the privilege of hosting 11ICG in Korea, and plans to go to great lengths to ensure the conference surpasses all expectations. The 11ICG will provide all participants a firm platform for a meaningful academic, professional, social and cultural experience. The theme of the 11ICG is "Geosynthetics: Innovative Solutions for Sustainable Development," and will cover diverse disciplines of geosynthetics from fundamentals to applications.

With the vision of making a multidisciplinary conference for the geosynthetics industry and engineers, we plan to offer special events as well as a very dynamic and stimulating array of scientific and practical engineering programs. At 11ICG, academia and industry will gather in force to not only show their best, but to share valuable ideas and develop new friendships.

11ICG will provide a comprehensive overview of the most recent developments in the field of geosynthetics, the latest technologies and applications, and a unique and extensive technical exhibition. With fascinating ancient traditions and ultramodern lifestyle, the city of Seoul will surely be the center of many unforgettable moments.

We look forward to welcoming you in Seoul, Korea!

Sincerely yours,

Chungsik Yoo

Prof. Chungsik Yoo
Chair, Organizing Committee of 11ICG
Vice President, International Geosynthetics Society
President, Korean Geosynthetics Society

11ICG Lucky Draw!

During the 19th ICSMGE, the 11ICG is organizing committee held a Lucky Draw for ICSMGE delegates.

11ICG booth ran this special event from September 18 to 22 at the Coex D2 Hall, about 150 participants from 32 countries from all around the world visited our booth and expected 11ICG next year.

A total of 51 participants who attended the 19th ICSMGE had a chance to receive a 20% discount off of registration fees.

We sincerely appreciate for interest in 11ICG and look forward to seeing you in Seoul, next year again.

Important Dates

- December 31,2017 Paper Acceptance Notice
- December 31, 2017 Sponsorship/Exhibition Application Deadline
- March30, 2018 Final Paper Submission Deadline
- March 30,2018 Early Registration Deadline
- June15,2018 Pre-Registration Deadline

Theme and Topics

- Geosynthetics: Innovative Solutions for Sustainable Development
- Geosynthetic Barriers
- Geosynthetics in Filtration, Drainage and Erosion Control
- Reinforced Walls and Slopes
- Ground Improvement using Geosynthetics
- Roads, Railways and other Transportation Applications
- Soil-Geosynthetic Interaction
- Hydraulic Applications
- Innovative Uses and New Developments
- Case Histories
- Durability and Long Term Performance
- Physical and Numerical Analysis
- Geosynthetic Properties and Testing
- Quality Control and Quality Assurance
- Design Approaches and other Applications

Program at-a-Glance (Tentative)

Date	Sep 16 (Sun)	Sep 17 (Mon)	Sep 18 (Tue)	Sep 19 (Wed)	Sep 20 (Thu)	Sep 21 (Fri)
9:00	Registration (09:00~17:30)	Short Course	Opening	Keynote Lecture 2/3	Keynote Lecture 4/5	Keynote Lecture 6/7	Technical Visit
9:30			Giroud Lecture			
10:00						
10:30		Break	Exhibition Opening	Break	Break	Break	
11:00		Short Course	Welcome Lecture	Parallel Sessions	Parallel Sessions	Parallel Sessions	
11:30						
12:00			Keynote Lecture 1			
12:30		Lunch	Lunch	Lunch	Lunch	Lunch	
13:00						
13:30		Short Course	Parallel Sessions	Parallel Sessions	Parallel Sessions	Parallel Sessions	
14:00						
14:30						
15:00		Break				
15:30		Short Course	Break	Break	Break	Break	
16:00			Parallel Sessions	General Assembly IGS Awards	Closing	
16:30						
17:00		Prestigious Lecture		Break	Break	
17:30			Break			
18:00			Happy Hour	Special Event	Conference Dinner	IGS Council Dinner	
18:30		Welcome Reception				
19:00						
19:30						
20:00						

Invited Speakers

Giroud Lecture

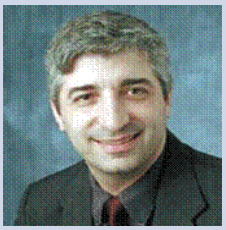
Global Crisis: A Geosynthetics Solution
Dr. Nathalie Touze-Foltz
(Antony Regional Center, National Research Institute of Science and Technology for Environment and Agriculture (IRSTEA), France)

Prestigious Lecture

Geosynthetic-Reinforcement Technology in Railway Applications– from Walls to Bridges
Prof. Fumio Tatsuoka
(Tokyo University of Science, Japan
Past President, International Geosynthetics Society)

Keynote Lecture

Geosynthetic Liners: Conceptions and Misconceptions
Prof. R. Kerry Rowe
(GeoEngineering Centre at Queen's-RMC, Queen's University, Kingston, ON, Canada)

	**Reinforcement with Geosynthetics – How They Work in Soil** *Prof. Martin Ziegler* *(Geotechnical Engineering and Institute of Foundation Engineering, Soil Mechanics, Rock Mechanics and Waterways Construction, RWTH Aachen University, Germany)*
	**Geosynthetics in Roadways: Advances with Significant Impact in Sustainable Development** *Prof. Jorge G. Zornberg (The University of Texas at Austin, USA)*
	**Global Challenges, Geosynthetic Solutions and Counting Carbon** *Prof. Neil Dixon* *(School of Civil and Building Engineering Loughborough University, UK)*
	**Geosynthetics for Natural Disaster Prevention and Mitigation-Japanese Challenge-** *Prof. Jiro Kuwano* *(Saitama University, Japan)*

Registration

All participants are required to register through the online registration system and advised to register in advance to receive the registration discount.

Online Registration:

www.11icg-seoul.org

- Early Registration Deadline: March 30, 2018
- Pre-Registration Deadline: June 15, 2018

Sponsorship/Exhibition

Please go to 11ICG website (http://www.11icg-seoul.org) and download the application form and fill out the form and then e-mail it to the 11ICG secretariat (secretariat@11icg-seoul.org).

Conference Venue

Coex

Korea World Trade Center, 513, Yeongdong-daero, Gangnam-gu, Seoul 06164, Korea

Phone: + 82-2-6000-0114

Website: www.coex.co.kr

Tour Program

Additionally there will be arranged some special Half-/Full-Day Tours as well as Pre/Post-Conference Tours and Special Evening Programs by a third-party travel agency as optional programs.For more information visit http://www.11icg-seoul.org/

Announcements of Conferences under the Auspices of IGS

5th International Conference on Geofoam Blocks in Construction Applications (EPS'18)

Kyrenia, Northern Cyprus, 09 – 11 May 2018

Geofoam researchers, consultants, molders, contractors and practitioners from all around the world will be meeting in Kyrenia to discuss the recent developments and future trends of the expanded polystyrene (EPS)-block geofoam technology and its construction applications. EPS'18 will continue to contribute to the development of the geofoam applications after successful Oslo (1985), Tokyo (1996), Salt Lake City (2001) and Oslo (2011) conferences.

The conference program will be a combination of technical papers and group discussions regarding the use, new development and implementation of geofoam technology. The conference theme will cover but not limited to the present use of geofoam, design specifications, applications, new concepts, material properties, modeling and special topics of geofoam blocks in construction applications.

For more information please visit

http://geofoam2018.org

GeoMEast 2018 International Congress and Exhibition

Cairo, Egypt, 24 – 28 November 2018

On behalf of the Organizing Committee, we are pleased to invite you to attend the GeoMEast 2018 International Congress and Exhibition to be held in Cairo, Egypt from November 24 to 28, 2018. The GeoMEast SERIES is managed by SSIGE and supported by a number of leading international professional organizations.

Recent rapid construction in Egypt and the Middle East has provided great opportunities for bridge, pavement, geotechnical, geological, tunnel and all engineers to use their knowledge and talents to solve many challenging problems involving highways, bridge structures, pavements, materials, ground improvements, slopes, excavations, dams, canals and tunnels with innovative solutions and cutting-edge technologies.

GeoMEast 2018 will provide a showcase for recent developments and advancements in design, construction, and safety Inspections of transportation Infrastructures and offer a forum to discuss and debate future directions for the 21st century. Conference topics cover a broad array of contemporary issues for professionals involved in bridge, pavement, Geomechanics, geo-environmental, geotechnical, geosciences, geophysics, tunnel, water structures, railway and emerging techniques for safety inspections. You will have the opportunity to meet colleagues from all over the world for technical, scientific, and commercial discussions.

The proceedings of GeoMEast 2018 will be published in some Edited Books in SUCI Book Series by Springer-DE, which will be indexed in EI and submitted for inclusion in ISI "Thomson Reuters". In addition, some journal special issues will be published in some prestigious journals from selected best papers of the conference, however, authors need to expand and include materials that are at least 50:75% different than the accepted papers in the proceedings.

GeoMEast 2018 will provide some awards; such as: best paper awards, best presenter awards, best student presenter awards, industrial project, and others.

The program will include Podium Presentations, Poster Presentations, Keynote Lectures, Workshops, Courses, Awards, Technical Meetings, and Technical and Social Tours.

Simultaneous translation may be provided during the conference in Arabic, English, French, German, Russian and any other required languages.

Reported by
Dr. Eng. Hany Farouk Shehata; CEO, SSIGE, Organizing committee, General Secretariat

Update from the CEN Technical Committee CEN/TC 189 Geosynthetics

Introduction

CEN/TC 189 on Geosynthetics was established in 1989 in the light of the newly introduced Construction Products Directive (CPD). The aim of the Technical Committee is to develop terminology, testing and specification standards for a variety of construction products grouped together under the name 'Geosynthetics'. In 1996 the European commission issued a mandate for developing European specifications standards, which was revised in 2007 due to the extending number of European countries. When the CPD was replaced by the CPR (Construction Products Regulation), the specification standards had to be revised to fulfil the new regulation.

Structure of CEN/TC 189

TC Management

The secretariat of CEN/TC 189 has been with the NBN (Belgium) since its establishment in 1989. Daniele Cazzuffi (Italy) started his first term as chairman in 2012, and has recently been confirmed as chairman for another three years starting in 2018. Karin Eufinger (Belgium) started as TC secretary in 2015.

Daniele Cazzuffi (Chairman CEN/TC 189)

Karin Eufinger (Secretary CEN/TC 189)

Working Groups

CEN/TC 189 has 6 working groups, which were all established during the founding meeting of the TC.

Working Group 1:	Geotextiles and Geotextile-Related Poducts - General and Specific Requirements
Working Group 2:	Terminology, Identification, Sampling and Classification
Working Group 3:	Mechanical Testing
Working Group 4:	Hydraulic Testing
Working Group 5:	Durability
Working Group 6:	Geosynthetic Barriers - General and Specific Requirements

Working groups 1 and 6 develop specification standards for Geotextiles and geosynthetic barriers. They are supported by working groups 2 through 5, which develop the general standards for terminology (including identification, sampling and classification), testing and evaluation of durability.

Participation and Meetings

All CEN members may register participants to the technical committee, but the more active countries include Austria, Belgium, Czeck Republic, Denmark, Estonia, Finland, France, Germany, Greece, Italy, Latvia, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Spain, Sweden, Switzerland, Turkey, United Kingdom.

Also the European associations EDANA, ESWA and EuBa participate as observers.

Plenary meetings of CEN TC 189 take place once a year: the last meetings were in Istanbul in 2015, in Tallinn in 2016 and in Geneva in 2017, while the next meetings will be in Berlin in June 2018.

Cooperation with other Standardization Technical Bodies

CEN/TC 189 works closely together with ISO/TC 221 on Geosynthetics to ensure that the work program is aligned to international developments.

CEN/TC 189 also follows up the work program of other CEN technical committees on the one hand to be informed about developments in related technical areas and on the other hand to inform these technical areas of the developments in CEN/TC 189. In order to facilitate this process, official liaisons to the following committees have been established:

- CEN/TC 227 Road materials
- CEN/TC 250/SC7 Eurocode 7 - Geotechnical design
- CEN/TC 254 Flexible sheets for waterproofing
- CEN/TC 288 Execution of special geotechnical works
- CEN/TC 350 Sustainability of construction works
- CEN/TC 351 Construction Products - Assessment of release of dangerous substances

- CEN/TC 396 Earthworks

Committees CEN/TC 350 and CEN/TC 351 have a special role in this context. They develop horizontal standards for construction products, which then have to be used as basis for developing product specific standards for evaluating the sustainability of construction works and the assessment of the release of dangerous substances, respectively.

Work program

The work of CEN/TC 189 is developed in the different working groups.

Working Group 1: Geotextiles and Geotextile-Related Products - General and Specific Requirements

Working group 1 develops specification standards for geotextiles and geotextile related products. Its core activities are related to the maintenance of the existing standards for CE marking and to develop new standards to ensure that novel materials or applications can be covered.

Convenor CEN/TC 189 WG1:

Philippe Delmas, France

In March 2017 a series of revised standards was approved for citation in the official journal of the EU, providing not only a technical update but also an update to the new requirements and procedures under the CPR. This series of standards covers the following applications:

- Drainage systems (EN 13252:2016)
- Construction of reservoirs and dams (EN 13254:2016)
- Construction of railways (EN 13250:2016)
- Earthworks, foundations and retaining structures (EN 13251:2016)
- Construction of tunnels and underground structures (EN 13256:2016)
- Solid waste disposals (EN 13257:2016)
- Liquid waste containment projects (EN 13265:2016)
- Construction of roads and other trafficked areas (excluding railways and asphalt inclusion) (EN 13249:2016)
- Construction of canals (EN 13255:2016)
- Erosion control works (coastal protection, bank revetments) (EN 13253:2016)

The application standard for use in pavements and asphalt overlays (EN 15381:2008) is currently under revision, and it expected to be finalized in 2020.

Additionally, a new application standard is being developed for surface erosion control on slopes and banks (prEN 17097). This standard is currently being prepared for CEN Formal Vote, which is anticipated for 2018.

Working Group 2: Terminology, Identification, Sampling and Classification

Convenor CEN/TC 189 WG 2:

Erol Güler, Turkey

The task of working group 2 is to develop on the one hand the standards for geosynthetics terminology, identification and classification, and on the other hand to harmonize sampling towards testing. Working group two has to work closely with the two product working groups (1 and 6) and also working groups 3, 4 and 5 which develop the test methods.

Given the strong cooperation with ISO/TC 221, working group 2 has to ensure that the standards developed are also well aligned with the developments in ISO, which is why most projects are developed as EN ISO standards. This process is facilitated by the fact that Erol Güler is also convenor of the corresponding working group 2 under ISO/TC 221.

Working Group 3: Mechanical Testing

Convenor CEN/TC 189 WG 3:

Andrew Leech, United Kingdom

Working group 3 develops standards for mechanical testing. On the one hand these are implemented in the product specification standards developed in working group 1 and 6. On the other hand they are also necessary for the standards for durability testing, which are developed in working group 5. For this reason it is important that working group 3 works in close cooperation with these three working groups. There is also a close cooperation with the respective working group in ISO/TC 221, chaired by Daniele Cazzuffi (Italy), with a larger percentage of the standards being developed together.

Working Group 4: Hydraulic Testing

Convenor CEN/TC 189 WG 4:

Veronique Heili, France

Working group 4 develops test methods for evaluating the permeability or flow properties of water and other liquids through or over geosyntetics. These test methods are important for the product specifications of working group 1 and 6, but also link to the durability testing developed in working group 5. As for working group 3 it is also important for working group 4 to work in close cooperation with these three working groups and also on international level with the respective working group in ISO/TC 221. As in working group 2 this is facilitated by Veronique Heili also being the convenor of this working group.

Working Group 5: Durability

Convenor CEN/TC 189 WG 5:

Jan Retzlaff, Germany

The scope of working group 5 is to develop methods for assessing the durability of geosynthetic products. In the framework of the CPR and given the life time of projects where geosynthetic products are being implemented, life times of up to 100 years can be required. It is therefore important to evaluations methods for assessing the life time of products for 25, 50 and 100 years. The exception are certain short term applications for asphalt reinforcement, where sometimes only temporary constructions are made.

Since durability needs to be evaluated according to the materials the geosynthetics are made of and the (soil) environment they are exposed to a large variety of different test and evaluation methods is required. Most of these test methods are primarily important for the EU market, which is why the WG 5 standards are also mostly purely European standards. Nevertheless, also working group 5 follows the activities of its respective ISO/TC 221 counterpart, chaired by Sam Allen (USA).

Working Group 6: Geosynthetic Barriers - General and Specific Requirements

Convenor CEN/TC 189 WG 6:

Kent von Maubeuge, Germany

Working group 6 develops specification standards for geosynthetic barrier layer products. Its core activities are related to the maintenance of the existing standards for CE marking and to develop new standards to ensure that novel materials or applications can be covered.

Working group 6 is finalizing the revision of its product specification standards, which cover the following applications:

- Construction of reservoirs and dams (EN 13361:2017)
- Construction of canals (EN 13362:2017)
- Construction of tunnels and associated underground structures (EN 13491:2017)
- Construction of liquid waste disposal sites, transfer stations or secondary containment (EN 13492:2018)
- Construction of solid waste storage and disposal sites (EN 13493:2018)
- Transportation infrastructure (EN 15382:2018)

In parallel two new standards have been developed:

- Construction of storage lagoons, secondary containment (above and below ground) and other containment applications for chemicals, polluted water and produced liquids (EN 16993:2018)
- Construction of underground structures (other than tunnels and associated structures) (EN 16994:2017)

All standards will be published towards the end of 2017/ beginning of 2018.

Reported by
Daniele Cazzuffi (Chairman of CEN TC 189 and IGS Past President) and Karin Eufinger (Secretary of CEN TC 189)

ISO TC221 – Geosynthetics

The structure of ISO TC 221 is similar to that of CEN TC 189 but with some differences due to the fact that we do not need to work towards tests and standards to support CE Marking.

The structure of the two TCs is shown in table 1:

	ISO/TC221	***CEN/TC 189***
	Secretariat: BSI (United Kingdom) (David Hyde) **Chairman:** Steve Corbet (UK)	**Secretariat:** NBN (Belgium) (Karin Eufinger) **Chairman:** Daniele Cazzuffi (Italy)
	Convener	Convener
WG1 – Geotextile applications CE Marking Project group – Erosion protection Project Group –Asphalt Reinforcement	No WG1 in ISO/TC221	Philippe Delmas (France) Helmut Zanzinger (Germany) Jochen Bromen (Germany)
WG2 – Terminology & Classification	Erol Güler (Turkey)	Erol Güler (Turkey)
WG3 – Mechanical Tests	Daniele Cazzuffi (Italy)	Andrew Leech (UK)
WG4 – Hydraulic Tests	Veronique Heili (France)	Veronique Heili (France)

	ISO/TC221	*CEN/TC 189*
WG5 – Durabilit	Sam Allen (USA)	Jan Retzlaff (Germany)
CEN WG6 –Geomembrane Applications, CE Marking	Not in ISO/TC 221	Kent von Maubeuge (Germany)
ISO WG6 – Designs Using Geosynthetics	Derek Smith (UK)	Not in CEN/TC189

Table 1. Structure of the Working Groups

ISO TC221 includes 29 countries as 'P' members who have full voting rights and the ability to attend meetings to participate in the standards process, we also have 16 'O - observer' members, a very good spread of interest in our activities. At our recent Plenary Meeting in Seoul we had experts from 13 of the 'P' member countries in attendance. The photographs are of the Chairman and the WG Convenors and secondly of the experts in attendance at the Plenary meeting in Seoul.

All of the working groups have current work, some are developing new standards and other updating existing standards. Much of the work is carried out in partnership with CEN TC189 under the Vienna Agreement to avoid duplication of effort. We have an agreement with ASTM D35 which was set up to avoid duplication of standards in ISO and ASTM.

One area of unique work is in WG6 where the development of ten Technical Reports has been underway for 3 years. The ten parts of the Technical Reports cover all areas of designs using geosynthetics. The first five parts are now nearly ready for circulation within the main TC and hopefully soon after will be made available to interested experts outside of the TC and then to engineers to assist and improve the designs made where geosynthetics are part of the works.

The venue for the next annual plenary meeting and of all the working groups has not yet been finalised but is planned for late in 2018. Working Group 6 is planning to hold a meeting in Prague on 24th May 2018.

This will be my last report on the activities of ISO TC221 as at the end of 2017 my six term of office as the Chairman ends and I am handing the post to Peter Atchison for the next six year period.

TC221 Group Photos

Reported by
Steve Corbet, Chairman ISO TC221

Rencontres Géosynthétiques 2017
The 11th French Speaking Conference on Geotextiles, Geomembranes and Related Products
Lille, France, 7 - 9 March 2017

Organised by the French Chapter of IGS every two years since 1993, The Rencontres Géosynthétiques are the reference French speaking event for geotexiles, geomembranes and related products. They cover the whole range of applications of these materials in civil engineering and environmental protection. From the 7th to the 9th of March in Lille, this conference welcomes experts, engineers and technicians coming from all Europe and northern Africa.

The eleventh edition of the Rencontres Géosynthétiques was the occasion to make a state of the art on recommendations of use and installation and standards, through the presentation of practical cases of use.

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

- On the second day, there were two keynote lectures: the first dealt with the behaviour of "alive" earthworks with geosynthetics after several decades and the second keynote lecture presented the new guide about the "recommendations for the use of geomembranes in barrier Systems" (to be download at http://www.cfg.asso.fr/publications/guides-de-recommandations/n10-recommandations-generales-realisation-etancheite-par-geomembranes or here), published by the French Chapter of IGS. Then, various papers were presented on geosynthetics in landfill applications, transportation and hydraulic works. A special live roundtable discussion took place about the choice between lowest-priced bidder and best-priced bidder. Posters were also presented in the late afternoon when some time was dedicated in parallel to the visit of the exhibition with 25 exhibitors.
- The gala dinner took place in a marvellous place in Lille, with nice musical entertainment by a marching band.
- On the third day, the Keynote lecture dealt with geosynthetics for soil reinforcement. Then, the use of geosynthetics for foundations and retaining walls, erosion control and soil contamination was then discussed through a series of papers.

The 11th Rencontres Géosynthétiques were once again a very successful event with about 360 attendees and 25 exhibitors.

The proceedings are, as the previous ones, available for free download on the CFG website: www.cfg.asso.fr.

Reported by
Guillaume Stoltz, Assistant General Secretary of French Chapter of IGS

XXVI National Conference on Geotechnical Engineering

Roma, Italy, 20 - 22 June 2017

The XXVI National Conference of Geotechnical Engineering was successfully held on 20 - 22 June 2017 in Roma and it gave excellent results in terms of number of registered attendees as well as quality of the presented papers. The event was organised by the Italian Geotechnical Society (AGI) under the auspices of the National Engineers Council (CNI), Italferr, ANAS and Italian Ministry of the Environment.

The conference's theme was "**The role of geotechnical engineering in the preservation and protection of the built heritage**". The conference was divided in three different sessions: urban agglomerations, transport infrastructures and hydraulic and maritime works, comprising comprise parallel sessions over a 3-days period, including keynote lectures, oral presentations, discussion and exhibition. At the end of each session, a fruitful and interesting discussion on the different topics occurred. All the accepted papers are included in the two volumes proceedings.

The conference took place in the context of the Auditorium Antonianum and it attracted more than 270 researchers, consultants, contractors, academics and students.

The keynote lectures were presented by:

- Sebastiano Rampello (Sapienza University of Rome, Italy), focused on "The deep excavation in urban area: is this coexistence possible?"
- Francesco Castelli, on "Geotechnical aspects in vulnerability assessing of transport infrastructures".
- and Angelo Amorosi and Claudio Mancuso on "Prospects in the analysis of the behaviour of earth dams".

During the conference, the presentations on the various applications of geosynthetics were made by: Cazzuffi and Gioffrè ("Long term behaviour of geomembranes used during renovation of sealing system for dams"); Cuomo, Frigo and Ciorciari ("Stability analysis of a reinforced steep slopes near Niscemi (Italy) downtown"); Pavanello, Carrubba and Moraci ("Geosynthetic interface shear strength and its effect on performance"); Pavanello and Frigo ("Mechanical behaviour of geotubes under different load and boundary conditions"); Tassi, Russo and Simini ("Geogrid-reinforced walls with a flexible stonefilled facing").

Proceedings were edited by Nicola Moraci and Claudio Soccodato; the two volumes, containing more than 1500 pages, are available by contacting the Italian Geotechnical Association (AGI) at the following email: agi@associazionegeotecnica.it

Opening session

Main auditorium

Reported by
Daniele Cazzuffi (AGI-IGS President and IGS Past President) and Giuseppe Cardile (AGI-IGS Secretary)

Interdisciplinary Geotechnical Forum (incorporating the 16th FS-KGEO)

Würzburg, Germany, 06 - 08 Sep 2017

The biannual national conference FS-KGEO of the German IGS Chapter and the special section of the German Geotechnical Society (DGGT) was held this year for the 16th time and for the first time in conjuction with the other special sections of the DGGT.

The event took place in the Congress Centre Würzburg from 06 – 08 September 2017 and was joined by about 600 participants. In the accompanying exhibition 34 exhibitors showed their products and developments.

The new format with 5 special sections organizing their events at the same time and location had a great benefit for the exchange of experts between the various professions and attracted lots of newcomers for the geosynthetics world. Due to the great success this new style leads to a congress series that will be continued with the next event in October 2019 (incorporating the 17th FS-KGEO).

The proceedings (in German) of the total event incorporating 15 presentations from the geosythetics side are available at the DGGT (www.dggt.de).

Reported by
Gerhard Bräu, Vice-Chair of German IGS Chapter

SARDINIA 2017 - 16th International Waste Management and Landfill Symposium

Santa Margherita di Pula (Cagliari), Italy, 02 - 06 October 2017

The sixteenth edition of the Sardinia Symposium, organized by the IWWG - International Waste Working Group with the auspices of different learned societies including IGS, was held in Forte Village, Santa Margherita di Pula (Cagliari) Italy, from October 2nd to October 6th, 2017.

The event was attended by 676 participants (researchers, technicians, administrators and operators) with the presentation of more than 550 scientific papers, selected according to quality by the Scientific Secretariat from a total of 864 offers of papers.

The conference included 88 oral sessions and 40 specialized workshops for a total of eight parallel tracks, discussion forums and roundtables, a continuously accessible poster area and an extensive exhibition space for companies working in the field of waste management. Several workshops were devoted to the presentation of innovative international projects.

As usual, the conference provided for extensive discussion on the optimization of existing technologies and development of new ideas, placing particular emphasis on controversial issues such as WEEE, food waste, problems and opportunities in plastic waste management, landfill gas (including generation, emission monitoring, collection, treatments and effects), and rehabilitation of landfills.

The opening lecture of Sardinia 2017 Symposium was given by Prof. Dieter Gerten (Potsdam Institute for Climate Impact Research), who addressed the problem of maintaining environmental planetary boundaries; Prof. Rainer

Stegmann and Raffaello Cossu (Symposium Chairs) who summarized the history of the conference (celebrating this year its 30th anniversary); Prof. Yasushi Matsufuji (Fukuoka University) who focused on Japanese waste management challenges and opportunities.

Opening session, from left to right: M. Ritzkowski (Hamburg University of Technology), D. Cazzuffi (CESI Milano and IGS Past President), M. Matsufuji (Fukuoka University), P-J. He (Tongji University, Shanghai) P. Kjeldsen (Technical University of Denmark), D. Gerten (Potsdam Institute for Climate Impact Research)

As an integration to the extensive program of the symposium, the conference was enriched with a half-day event on Start Ups working in the field of waste management, coordinated by Unismart Padova Enterprise, the technology transfer and innovation management consulting in-house company of the University of Padova (IT). Furthermore, the second edition of the "Waste to Photo" photography competition was organized in connection with the conference with the specific aim of recreating a scenario representing the global situation with regard to waste and landfill. The most significant photos were used to set up a photographic exhibition to illustrate the differences, contradictions, difficulties and progress encountered by this issue in a series of contexts throughout the world, ranging from developing countries to the more industrialized nations. Timothy Bouldry came first in the contest with his photo entitled "Recycling in Leon, Nicaragua".

The conference closing session was devoted to a roundtable discussion on the role of different waste management practices and technologies in the circular economy. During the Round Table the outcomes of several symposium sessions and workshops on waste management and the circular economy were summarized and discussed, with specific emphasis on the influence of circular economy action plans on waste management practices and the role of landfilling in closing the material cycles.

The great success of this edition was due to the high scientific relevance of the presented papers, as well as to the rich menu of social activities, some of which centered on Japanese culture. Japan, in fact, was the Guest Country of Sardinia 2017.


Timothy Bouldry: "Recycling in Leon, Nicaragua"

On Sunday 2nd October, delegates were welcomed by a colorful cocktail which afforded the possibility to meet old and new friends and colleagues in a relaxing atmosphere. The traditional football match was extremely well attended this edition, with several teams made up of participants from different countries taking part in a mini-tournament. A lot of fun was had by both players and supporters alike!

As per tradition, to celebrate the closure of the conference week, all delegates were invited to a formal gala dinner in the elegant Sala Bianca at Forte Village. During the dinner the "A Life for Waste" Award was officially presented to Prof. Raffaello Cossu and best papers awards delivered to the winners of the different categories.

In particular for the first time, the André Rollin Award for the best paper on Geosynthetics Engineering was given. The winners were V. Hruby and S. Barrie (Slovak Republic) for the paper *Geomembrane integrity surveys - Difference between US and EU concepts*

The other Awards were given as illustrated hereafter:

- Best Japanese Paper to O.Hirata, A. Tachifuji, Y. Matsufuji, R.Yanase (Japan) for the paper *Evaluation of methane potential from old landfilled wastes for landfill aftercare*
- John Pacey Award - Award for the best paper on landfill gas management to M. Ritzkowski, K. Kuchta, R. Stegmann, B. Walker (Germany) for the paper *Aeration of the Teuftal landfill - Importance of monitoring and lab scale investigations*
- Luigi Mendia Award - Award for the best paper on waste management policy to G. Obersteiner, K. Stoll (Austria) for the paper *The ecological effects of e-commerce with focus on waste generation*
- Kriton Curi Award - Award for the best paper on developing country waste management issues to S. Aparcana (Austria) for the paper *Barriers and success factors of approaches to formalization of the informal waste sector in developing countries: a review*
- Giovanni Bozzini Award - Best Italian paper award to M. L. Mastellone, R. Lotito (Italy) for the paper *Indirect monitoring of the air quality affected by biowaste treatment facilities*
- Alberto Rozzi Award - Award for the best paper on biological treatment to C. Zurbrügg, B. Dortmans, A. Fadhila, B. Verstappen, S. Diener (Switzerland) for the paper *From pilot to full scale operation of a waste-to-protein treatment facility*
- Best Poster Award to M. Alamin, Q.H. Bari, A.A. Alamgir (Bangladesh) for the paper *Seasonal variation on extent of stabilization of faecal sludge co-composting in Khulna City of Bangladesh*

"Life for Waste" Award: the Award was given to Raffaello Cossu (University of Padova) on the right from Howard Robinson (UK) on the left

"André Rollin" Award : the Award was given to Vladimir Hruby (BHF Environmental, Slovak Republic) on the right from Roberto Raga (University of Padova) on the left

Reported by
Daniele Cazzuffi (AGI-IGS President and IGS Past President) and by Marco Ritzkowski (Technische Universität Hamburg)

1st Portuguese Seminar on Transportation Geotechnics "Improvement, Reinforcement and Rehabilitation of Transport Infrastructures"

Lisbon, Portugal, 12 - 13 October 2017

Portuguese Chapter of IGS (IGS-Portugal), Portuguese Technical Committee on Transportation Geotechnics (CPGT) and Portuguese Geotechnical Society (SPG) organized the 1st Seminary on Transportation Geotechnics, on 12 - 13 October 2017 at National Laboratory for Civil Engineering (LNEC), Lisbon, Portugal. The theme of the seminar was the improvement, reinforcement and rehabilitation of transport infrastructures. The seminar was intended to present the most significant geotechnical engineering solutions for improvement, reinforcement and rehabilitation of transportation infrastructures, including roadway, railway, airport and sea-port infrastructures, as well as the structures and infrastructures related to them.

Over 250 participants from six countries have participated on the seminar. A two-day technical exhibition had the

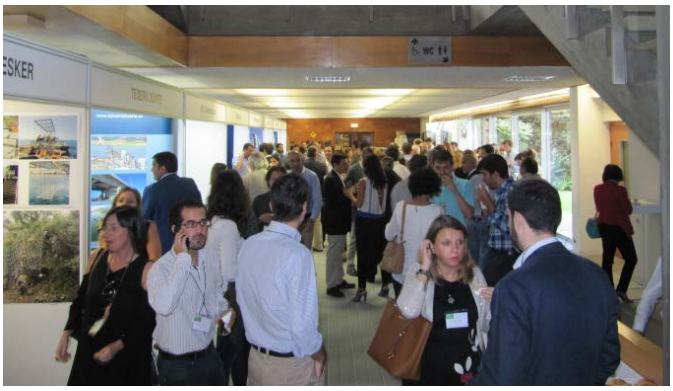
participation of 15 stands. The seminar had the support of 39 sponsors and the participation of 9 leaders from Portuguese industry in a panel discussion in the final of the first day.

The program has included 6 technical sessions with a total of 10 keynote lectures and 25 oral presentations.

Some of the lectures had the following geosynthetics topics:

- Design Guideline for Basal Reinforced Piled Embankments, based on experiments, field studies and numerical analysis - Suzanne van Eekelen (Netherlands)
- Stabilisation of unbound aggregate by geogrids for transport infrastructure applications - Jacek Kawalec (Poland)
- Examples of rehabilitation of transport Infrastructures with woven and non-woven geotextiles - José Luís Cuenca (Spain)
- New profile sud in the Barcelona harbour. A complete and flexible solution with geosynthetics - Patricia Amo Sanz and Javier Santalla Prieto (Spain)
- High embankment reinforced with geogrids, in the Alfena logistic platform (Valongo) - Enrico Piolanti (Portugal)
- Opportunities and challenges in the use of geosynthetics in road and rail infrastructures - Bernardo Monteiro and Lara Martins (Portugal)
- Application of geogrids in rail renovation works - case study - Bruno Queirós (Portugal)

Audience at the opening ceremony



Technical exhibition and discussion at break

The e-books of extended abstracts and oral presentations are available on the website of the Portuguese Chapter of IGS (http://www.spgeotecnia.pt/igs/)

Reported by
José Neves, Portugese IGS Chapter Correpondant

Geosynthetic Materials and their Use in Infrastructure Projects

Heraklion, Greece, 08 November 2017

The informative meeting entitled "***Geosynthetic Materials and their use in Infrastructure Projects***" organized by Thrace Nonwovens & Geosynthetics on 8 November 2017, in Heraklion, Crete completed in success. The meeting was held in collaboration with Technical Chamber of Greece – Eastern Crete Department, under the auspices of the Hellenic Geosynthetic Society (HGS).

On behalf of HGS, Mr. Stratakos (Member of the Administration Council of HGS and Technical Director of "NAMA Lab S.A") made a brief opening speech in which he highlighted the advancements made in implementing Geosynthetics Engineering in modern Greek infrastructure projects. Through his following presentation Mr. Stratakos analyzed the benefits of incorporating geosynthetics in asphalt pavements.

In a series of presentations made by Mr. Morvakis (Greece Geosynthetics Sales Manager, Thrace NG) and his partners, four main objectives were developed:

- the contribution of Thrace NG as a supplier in the latest infrastructure breakthroughs in Greece

- the main functions which geosynthetics serve in civil engineering projects and the procedures that are used for their production
- the importance of CE Marking and the Quality Control procedures and methods
- the use of geosynthetics in flexible pavements

Reported by
Kollios Anastasios, Hellenic IGS Chapter President

Geosynthetic Application
EtE Event organized by the Indonesian Chapter of IGS

EtE Program

Educate the Educators (EtE) is an event held in the form of workshops, to provide teaching, lecture sessions, and preparations for the course's curriculum. The topic for this year's event is Geosynthetics Application.

International Geosynthetics Society (IGS) is an organization that initiated the EtE events in the form of geosynthetics learning workshop. The IGS itself has educational programs that are being developed around the world. The aim for this EtE program is to educate people about the usage of geosynthetics, especially in the field of Civil Engineering projects.

Through this event, IGS also wants to develop an SN-Dikti curriculum in Indonesia based on competency due to the need for Civil Engineering graduates to understand the latest technology in construction. It is necessary to have experts who are excellent at their own fields sharing their knowledge to complete the knowledge of future Civil Engineering graduates.

The EtE event in the form of workshop, is aimed at lecturers as well as new civil engineering graduates, as practitioners and academics in Civil Engineering. After this event is done, it is hoped that the participants are able to share their knowledge to all students about geosynthetics technology and application in Civil Engineering. Through this workshop, it is also hoped that the geosynthetics application as an educational program, will be more developed in the future. This is supported by the number of Civil Engineering graduates who have a good understanding regarding to geosynthetics applications in Civil Engineering projects.

Implementation of the EtE Program

The Educate the Educators (EtE) event, for the first time, was held in Indonesia and was organized by the Indonesian Chapter of the International Geosynthetics Society (INA-IGS). INA-IGS also cooperates with MY IGS (Malaysian Chapter of International Geosynthetics Society), Krida Wacana Christian University and University of Science Malaysia in organizing the EtE event.

Through discussions in the event, it was discovered that only a small number of campuses have made some kind of introduction regarding geosynthetics and an even smaller number of them have a subject on geosynthetics. The common problem was that the subjects were electives and due to the general interest being low, its impact is very limited. The general consensus was that geosynthetics needs to be included in subjects such as soil improvement, thus ensuring every Civil Engineering graduates knows that geosynthetics is an available alternative instead of just some special product that manufacturers are trying to sell.

The event took place on October 2nd 2017 at Hotel Century Senayan, Jakarta. The EtE event was then continued with a geosynthetics international seminar with the theme "Quality in Construction Using Geosynthetics" on October 3rd 2017 at the same place.

The EtE Lectures were Delivered by:

- Amelia Makmur, S.T., M.T., Topic 1: Introduction on types and functions of geosynthetics materials.
- Sam Allen, Topic 2: Fundamental properties and related tests on geosynthetics materials.
- Prof Dr. Fauziah Ahmad, Topic 3: Indroduction on the application of geosynthetics for soil reinforcement.
- Dr. Ir. Gouw Tjie Liong M.Eng., ChFC, Topic 4: Introduction on geosynthetics application in in roadway system.
- Michael Dobie, Ceng, FICE, FCIHT, Topic 5: Introduction on geosynthetics application on soft soil.
- Mike Sadlier, Topic 6: Introduction on geosynthetics for environmental application.

The Participants

Total participants are 28 participants from:

- PT Summarecon (10 participants)
- PT TGU (3 participants)
- Atma Jaya Yogyakarta University (1 participant)
- PT MRP (2 participants)
- PT Sakarna (2 participants)

- National Defence University of Malaysia (1 participant)
- PT Hilon (1 participant)
- Dinas PU Merauke (1 participant)
- Polytechnic of Jakarta (1 participant)
- PT Hakaaston (1 participant)
- Bina Nusantara university / PT Tetrasa Geosinindo (1 participant)
- PT GSI (1 participant)
- Sri Kanti (personal)
- Krida Wacana Christian University (1 participant)
- Maranatha Christian University (1 participant)

Participants of the EtE Workshop 2017 in Jakarta

Reported by
David Saputra and Amelia Makmur, Chairperson of conference and EtE

IGS UK Symposium - Use of Geosynthetics in Rail: Towards 2025

York, UK, 18 April 2018

The UK Chapter of the International Geosynthetic Society (IGS) will be running a one day symposium at the National Railway Museum in York on the 18th April 2018.

With high-speed railways planned across the world, budget limitations pressing for ever more efficient structures and the Paris Agreement demanding more sustainable solutions, there are many challenges to overcome in the rail sector.

The UK chapter of the IGS want to educate the Industry about the use of geosynthetics in Rail. The symposium will showcase the established use of geosynthetics in rail applications from around the world for over 30 years. It will also discuss how they could be utilised in high speed networks to create steeper embankments, construct abutments, facilitate drainage and assist in many other applications.

The one-day event will bring together consultants, contractors, academics and suppliers with experience of the opportunities and challenges of utilising geosynthetics in rail infrastructure. Speakers include representation from HS2, specialist rail contractors and consultants, professionals from network operators in France, Spain, Italy and Germany and world leading academics from Japan, amongst others.

IGS Corporate Sponsors who want to exhibit should contact Patricia@geosyn.co.uk for pre-registration. Registration for other exhibitors and attendees will open at a later date to be advised.

More information

Further details will be released later this summer.

To stay updated please visit the IGS UK website http://www.igs-uk.org or follow us on LinkedIn www.linkedIn.com/IGSUK.

Geosynthetic Conference for Young Professionals in combination with "Educate the Educators"

Pretoria, South Africa, 02 - 06 July 2018

Abstract Submission

Opens: 1 November 2017

Last Submission: 31 December 2017

Educate the Educator (Monday, 2 and Tuesday, 3 July 2018)

GCYP 2018 Workshop (Wednesday 4 July 2018)

GCYP 2018 Conference (Thursday, 5 and Friday, 6 July 2018)

For more information

send an email to the organisers: info@selahproductions.co.za

List of IGS Chapters

Country	Name of IGS Chapter Year of Foundation	IGS Chapter President	IGS Chapter webpage and email address
Argentina	Argentinean Chapter 2009	Dr. Marcos Montoro marcos_montoro@yahoo.com.ar	www.igsargentina.com.ar/ secretario@igsare- gentina.com.ar
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Country	Name of IGS Chapter Year of Foundation	IGS Chapter President	IGS Chapter webpage and email address
	1993		
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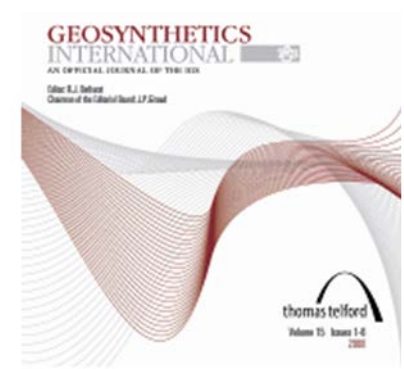

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B. Ye, Z. R. Cheng, C. Liu, Y. D. Zhang, P. Lu

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Geotextiles & Geomembranes

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

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

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

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

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

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

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

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Ping Yang, Shou-Bao Xue, Li Song, Xue-wen Zhu

Development and management of geomembrane liner hippos

Fred Gassner

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Geotextiles and Geomembranes: Best papers in 2016

Following the Editorial Board meeting held in Yokohama in September 2006 it was decided that it would be desirable to recognise some of the best papers published in *Geotextiles and Geomembranes*. We started with Volume 23 and have selected the Best paper in each subsequent year. This year the Editorial Board were charged with selecting what they considered to be the "Best Paper" published in *Geotextiles and Geomembranes* in 2016. Papers were considered for their contribution to the discipline in terms of providing significant new insights and/or of being of high potential impact on the discipline. All Technical Articles, except those co-authored by the Editor, were eligible. The selection of wining papers was decided based on a vote of the Editorial Board members.

Following a rigorous review of the papers I am pleased announce that the winner for the Best Paper for 2016 was:

Electrokinetic strengthening of slopes Case history

J. Lamont-Black, C.J.F.P. Jones, D. Alder*, Geotextiles and Geomembranes*, 44(3):319-331

Two papers were selected for Honourable Mention

Investigations of geomembrane integrity within a 25-year old landfill capping

Eugene M. Gallagher, David M. Tonks, John Shevelan, Andrew R. Belton, Ria E. Blackmore, *Geotextiles and Geomembranes*, 44(5):770-780

and

A review of the performance of geosynthetics for environmental protection

N. Touze-Foltz, H. Bannour, C. Barral, G. Stoltz, *Geotextiles and Geomembranes*, 44(5):656-672

as runners-up and hence being judged to be amongst the three best papers published in *Geotextiles and Geomembranes* in 2016. Congratulations to all of the authors for their very significant contribution to the geosynthetics discipline.

Corporate Membership

Report on Corporate Committee Meeting at GeoAfrica 2017

Marrakech, Morrocco, 7 October 2017

The Corporate Committee (CC) would like to take this opportunity to update you on its recent activities. The composition of the current Committee membership is as follows:

- Committee Chair: Kent von Maubeuge - kvmaubeuge@naue.com (Germany)
- Committee Secretary: Ian Fraser - ianfraser@tcs-geotechnics.co.uk (UK)
- Peter Legg - peterlegg@telkomsa.net (South Africa)
- Flavio Montez - flavio@huesker.com.br (Brazil)
- Francesco Fontana - f.fontana@drefon.com (Italy)
- Jacques Coté - jcote@solmax.com (Canada)
- Terry Ann Paulo - IGSsec@geosyntheticssociety.org (USA)

As a general point, please do not hesitate to contact the chairman or secretary at any time with any queries/questions on Corporate Member issues. The CC recently held a committee meeting in October in Marrakech, Morocco just prior to the 3rd GeoAfrica IGS Regional Conference and the following provides a brief report on the issues discussed.

Membership

- Currently we have about 190 Corporate Members which marks a strong increase over the past few years. This growth strongly supports the overall strategic plan of the IGS to grow its individual membership and promote the appropriate use of geosynthetics.

- Please note that whilst the vast majority of members pay subscriptions on time we always have a few who are late. Some of the problems of late payment seem to be associated with lack of clear communication on due dates etc so we will be implementing a clearer and more rigorous system in this regard in order to be fair to the majority of on-time payers.

Conferences & Exhibitions

- Committee is discussing a range of initiatives aimed at improving the Corporate Member experience with IGS Conferences and Exhibitions.
- We previously mentioned the provision of guidelines to organisers of regional and international conferences ensuring ease of access for 'exhibition only' visitors. This access is preferably to be provided free of charge or, at worst, for a nominal fee (eg to cover catering). We see this as a vehicle to encourage visitors from related professions who perhaps would not attend the full conference but can be introduced to geosynthetics via the exhibition. Clearly this could facilitate member exhibitors being able to issue invitations to customers and partners and hopefully generate a wider audience for our exhibitions and industry.
- We will also be making a slight change to the IGS Corporate Member Plaques that we issue at International and Regional Conferences. These plaques will now highlight 40, 30, 20 and 10 year members. We consider this a small but important acknowledgement of those Corporate Members who have consistently supported the IGS over time.

Marketing & Communication

- From January 2018 we will be publishing a Corporate Members Bulletin Board on regular basis. This will be a short 'one page' communication containing concise information and links to all IGS and related activities that we believe may be of interest to Corporate Members. We hope that you will find this useful and will welcome your feedback once this starts.
- We will be asking all Corporate Members to provide contact details for two further individuals - in addition to the primary contact to receive the above Bulletin Board and other communications. Hopefully this will provide a communication 'safety net' to ensure that all Corporate Members do not miss out on any important information or opportunities.
- Please note that the list of current Corporate Members on the IGS now has a logo for each member. Members are strongly encouraged to check their logo and provide us with an updated version if they wish.

Other Business

- The Corporate Member case history contest previously mentioned is in planning so please look out for further information on the first Bulletin Board in January.
- The Corporate Committee has established an official liaison with the European Association of Geosynthetic Manufacturers to promote communication. We would be keen to hear from Corporate Members who have ideas on other similar bodies with whom liaison might be beneficial.

Next Meeting

The next meeting of the Corporate Committee is planned for 22nd November 2017 via teleconference. Please do not hesitate to contact us with any matters you wish to raise.

We hope that you found this update useful and are reminded that if you have any queries please do not hesitate to contact the CC at any time.

Reported by
Kent von Maubeuge, Corporate Committee Chair

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). Usually if there are more announcements we will place them on a list and will use them on a "first come, first serve" basis. For this issue we have no "Profiles" therefore we expand the case studies section. 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

Subsidiary Revetment Construction of Desilting Tunnel Zengwun Reservoir, Tainan, Taiwan, ROC

ACE Geosynthetics

Application

Zengwun reservoir had suffered from a large amount of sediment after every typhoon disaster, which seriously affects the reservoir operation. A new desilting tunnel is constructed to be the suitable dredging approach, and it brings about subsidiary revetment construction in response to spoil disposal. Also, the overflow prevention during discharge needs to be taken into consideration.

The Conventional Solution

The common countermeasures for riverbank protection are high durability, rigid concrete structures, but coupled with higher energy consumption as well as carbon emission, and its inability to dispose spoil results in additional cost in earthwork cleaning. Both explicit cost and implicit cost of the whole construction will increase. It stands to reason that an economical approach to reuse the spoil and construct revetments simultaneously is in demand.

ACE Solution

A composite system is applied to revetment construction, and it can be divided into two parts: concrete retaining wall under the water level to resist water flow impact and a geosynthetic reinforced structure above it, both including drainage systems. ACEGrid® geogrid is a product with a high modulus which is made of polyester with a durable polymer coating. By suitable installation and compaction, proper ACEGrid® can be interlocked with soil and compensate for the tensile strength of soil mass, constituting a reinforced structure with safety and stability. The total height of whole structure is 13m approximately, that consists of 8m-height concrete retaining wall and about 5m-height wrap-around reinforced structure. Spoil from the tunnel is the major fill in the reinforced zone, and few deposits in the river are also used to offset the lack. Around 60,000 sqm ACEGrid® are used for 780m-length revetment.

With the tunnel construction process, the revetment structure finished one after another, and 165,000m^3 of spoil is reused, that both dispenses with earthwork cleaning and saves the cost of reinforced fill. The hydroseeding after construction takes on good vegetation effect 3 months later, and the water level would not exceed the top of concrete wall even while the sluice is open. These revetments not only solve the problems of spoil disposal and overflow, but also reduce the carbon emission in case the structures are originally all made of concrete. Also, the effects on landscape and ecology are clearly displayed.

Further information

For more information about ACE Geosynthetics, visit www.geoace.com or contact sales@geoace.com.

Subgrade Stabilization at Santa Ana, CA

TENCATE
materials that make a difference

THE CHALLENGE

Rancho Santiago Community College District performed a parking lot expansion in the Spring of 2014 at Santa Ana College located within the City of Santa Ana, California. The improvement projects associated with parking lot and fire lane pavements utilized Mirafi® RS380i woven geosynthetic in order to reduce pavement thickness thus avoiding any conflict between overexcavation/ grading and the existing underground utilities.

THE DESIGN

The Geotechnical Engineer, Geo-Advantec of San Dimas, California designed pavement sections for the parking lots and fire lanes. Both sections consisted of concrete pavers underlain by bedding sand and a geotextile. One paver section was installed on Asphalt Concrete (AC), and the other on Portland Cement Concrete (PCC). The on-site native subgrade consisted of slightly sandy silty clays and/or clays. Pumping soils during the required compaction was expected because of the high moisture content of existing clayey soils. Geo-Advantec recommended a layer of Subgrade Enhancement Geotextile (SEG). This geotextile layer, Mirafi® RS380i, was placed below the Class II base beneath the AC and PCC pavement sections. The intent of the Mirafi® RS380i was to provide subgrade stabilization, separation between soft subgrade fines and base material, as well as decrease the total thickness of pavement sections. Mirafi® MiraSpec software was used to calculate the reinforced pavement sections using subgrade strength and loading parameters.

THE CONSTRUCTION

Rancho Santiago Community College District hired McCarthy Building Companies, Inc. as the General Contractor. McCarthy subcontracted to Southern California Grading for the earthwork and paving. Southern California Grading procured the Mirafi® RS380i through WhiteCap Construction Supply. WhiteCap delivered approximately 65 rolls that were 15 feet wide by 300 feet long. For the pavement sections with pavers on PCC pavement, the Mirafi® RS380i was installed on compacted native soil. Eight inches of Class II base was placed directly on Mirafi® RS380i. For the pavement sections with pavers on AC pavement, the Mirafi® RS380i was again installed on compacted native soil. The thickness of Class II base ranged between 6 and 10 inches based on asphalt thicknesses of 3 and 4 inches. Therefore, for the AC pavement, the contractor was able to reduce required Class II base section by 2 inches which resulted in a cost savings.

THE PERFORMANCE

The inclusion of Mirafi® RS380i high strength woven geosynthetic to the structural section of the parking lot improvements resulted in a cost savings for the Rancho Santiago Community College District. This cost savings was associated with reduced aggregate base requirements that avoided relocation of shallow utilities and faster compaction, which expedited construction. In addition, the new pavement structure will require less maintenance as it will be less suspectible to cracking and failures because of the subgrade reinforcement, separation, confinement and filtration associated with Mirafi® RS380i, the superior geosynthetic.

Project site native subgrade preparation

Placing Mirafi® RS380i over native soil and applying base material over RS380i

Compacting base material over Mirafi® RS380i

Completed asphalt parking area at Santa Ana College.

Further Information

For more information visit www.mirafi.com

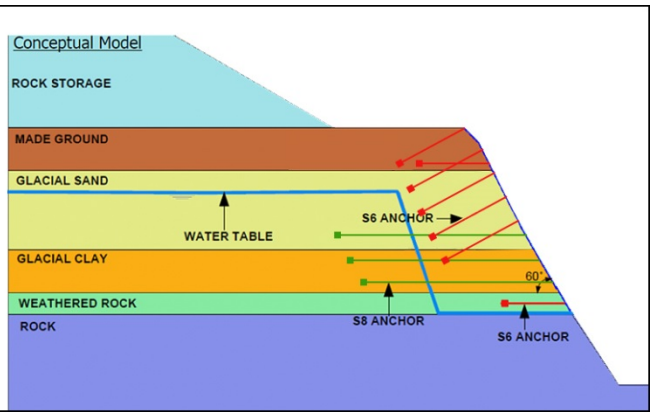
Temporary Slope Stabilisation, Wastewater Treatment Works Manchester, England

PLATIPUS EARTH ANCHORING SYSTEMS

PROJECT SPECIFICATION

As part of a Wastewater Treatment Works upgrade, a 25m x 50m storm water retention tank was to be constructed. A formation level of 14m below existing ground level required a novel approach for stabilisation of the temporary batters. Typical solutions such as a secant pile wall or sheet pile wall were not appropriate due to the lack of flexibility to avoid existing infrastructure.

Slope reinforcement during excavation using Platipus anchors



Design showing anchor installation to stabilise slope

SOLUTION

The Designer, OGI Groundwater Specialists, proposed their Stable-Earth™ system which comprises of slope reinforcement and erosion control using Platipus Percussion Driven Earth Anchors (PDEA®) together with groundwater management. The design approach was flexible and enabled OGI's Engineer to adjust the placement and frequency of the Platipus anchors as necessary. The use of the PDEA® System and the OGI Stable-Earth™ system for this large-scale infrastructure project has demonstrated the viability of using cost effective materials to stabilise steep batters for temporary excavation works.

Completed temporary works with the retention tank in position

Further Information

For more information visit www.platipus-anchors.com or write to info@platipus-anchors.com

Innovative access road design to reach Glenchamber Wind Farm (Scotland) on soft, peaty ground

Tensar

Innovative access road design, employing Tensar's TriAx geogrids, enabled lorries delivering turbine sections to reach the site of a new wind farm built on soft, peaty ground.

The 11 turbines of the Glenchamber Wind Farm in south west Scotland generate 27.5MW, enough to meet the demands of about 20,000 homes in Dumfries and Galloway.

Renewable energy company RES appointed main contractor Luce Bay Group to build the wind farm, which included widening 4.5km of local roads, plus construction of 5.9km of wind farm tracks and a new 2.8km access road across the peat bog surrounding the site.

The tracks and access road were on the critical path of the project, as they had to be ready in time for the arrival of the first turbine sections. As a result, they had to be economical and fast to build, plus they had to perform immediately.

Excavating the thick, very soft peat and replacing it with site-won granular material to form a stable road foundation would have been time-consuming and expensive, so Luce Bay and its geotechnical consultant JNP Group worked with Tensar International to come up with an alternative solution.

This comprised Tensar's TriAx TX170-GD geocomposite laid beneath the granular road base and TriAx TX160 geogrid incorporated within it, to form a mechanically stabilised layer. The TriAx geogrid interlocked with the granular particles, confining and restraining them from moving laterally. This increased the aggregate's bearing capacity and delivered roads able to carry the heavy construction loads.

Luce Bay Group Project Manager David McCracken commented: "Not only did the design ensure the access roads were ready for the arrival of the first turbine sections, but it will also enable the road to perform throughout the operational life of the wind farm, with minimal maintenance."

Client benefits:

- Efficient access road design over deep, soft peaty ground
- Minimising the use of site-won aggregate
- Enabling on-time delivery of wind turbines

- Construction and operational performance, with minimal maintenance.

Tensar TriAx geogrid was incorporated into the road's granular surface to create a mechanically stabilised layer. The access road had to be capable of supporting lorries bringing the turbine sections to site.

Further information

For more information visit www.tensar.co.uk

Geosynthetics solve problem at Strubens Valley, South Africa

Urgent subgrade stabilisation for a construction site access road was economically and effectively solved with Kyatech's geotextile and geogrid at a new development for the Chamberlain Hardware Distribution Centre in Strubens Valley, Roodepoort, in South Africa. Eco-friendly bidim geotextile in conjunction with TriAx, the innovative geogrid developed by Tensar International (and supplied locally by Kaytech), were the products of choice to solve the problem.

After discovering weak and waterlogged subgrade beneath a proposed temporary access road for plant and heavy machinery, Pierre Badenhorst Engineers approached Kaytech for a solution. The road was to be used for approximately six months and although minimal groundwater was discovered in initial geotechnical reports, significant damage was anticipated.

A subsequent site inspection by Technical marketing engineer Byron de Cramer revealed that a crushed G5 material was available but with limited information gleaned at the time, an allowable bearing capacity was determined from an assumed CBR of 3. It was decided that two different proposals were required; a 30 mm premix surface for the future parking area to be utilised by mainly light motor vehicles, and a concrete hard stand surface for the access road that in future, will form the permanent road for delivery vehicles.

Due to concerns of damage to the access road during the 6 month construction and stocking period, it was decided to split this portion of the works into two phases. Tensar was consulted to provide indepth analysis using their software program, TensarPave to analyse the project requirements. The following layer works were specified:

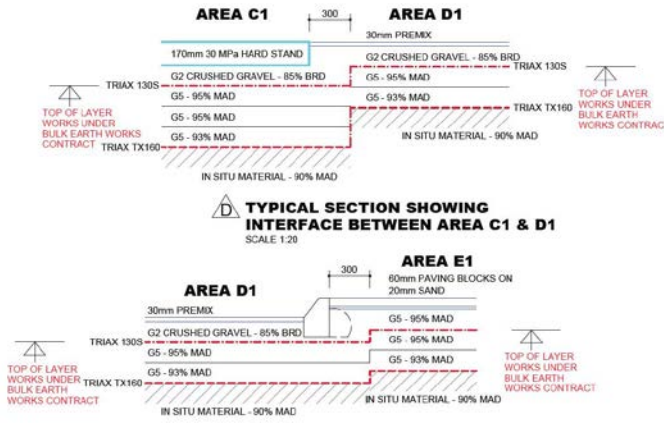
Phase 1 would comprise a layer of bidim A2 to act as separator between the subgrade below and a layer of TriAx TX160 above. Two 150 mm layers of G5 (300 mm) for the premix area and three 150 mm layers of G5 (450 mm) for the hardstand area would follow.

After the initial construction of the building structure was completed Phase 2 would commence comprising bidim A2 as separator, and a layer of TriAx 130s covered with a layer of G2 material. A 170 mm 30 mPa concrete surface would complete the hard stand area and 30 mm of asphalt premix for the parking areas.

Bulk earthworks contractor, Zero Azania, was contracted for the stabilisation of the project. Completion of the project in June 2017 saw a total of 8 500 m² of both bidim A2 and TriAx TX160 used to reinforce and stabilise the access road. The same quantities apply to Phase 2.

Kaytech's core product, bidim is a continuous filament, nonwoven, needlepunched geotextile manufactured from 100% recycled material. During the last decade, the company's ISO 9001 registered facility has processed and converted almost 500 million discarded plastic cooldrink bottles into 26 million kilograms of high-grade polyester to create eco-friendly, A-grade bidim that meets the most stringent civil engineering and industrial specifications. As a separator, it maintains the integrity of selected fill material over very low CBR subgrades, thereby allowing dissipation of pore water pressure and resulting in accelerated consolidation. Up to 50% less fill material is required when using this geotextile as a separation layer. Highly versatile, it is suitable for use in various other applications including

erosion control, reinforcing earth retaining structures, subsoil drainage and as liner protection in raw water dams.



Typical of top of layer works under bulk earth works

A part of the earthworks required further stabilisation due to ground water

Compared to bi-axial geogrids, the groundbreaking triangular design of TriAx imparts several advantages including near-uniform stiffness through 360º as well as high junction strength and efficiency. In trafficking applications, combined with a suitable aggregate, it outperforms all bi-axial geogrids and creates a mechanically stabilised layer with near isotropic properties.

By using two advanced products, time and money were saved in rendering the access road suitable for plant and heavy machinery to reach the construction site. Bidim A2 and TriAx will also form the base for the entire permanent road network and parking areas of the Distribution Centre development.

Further information

For more information on Kaytech products and systems, visit www.kaytech.co.za

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VIGOR MERGER CO. LTD.	Thailand	weeraya_d@vigormerger.com	www.vigormerger.com
WESTERN ENVIRONMENTAL LINER	USA	shane@westernliner.com	westernliner.com

Corporate Profile – G and E Company Limited

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.

G AND E COMPANY LIMITED

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Wanchai, Hong Kong
Tel: 2570 0103 Fax: 2570 0089 website: www.g-and-e.com

G and E – a Perspective

G and E, founded in 1984 in Hong Kong, is a geosynthetics pioneer who distributes a wide variety of geosynthetics from a list of renowned global manufacturers. The Company also manages a competent installation contracting service. We aspire to provide our clients comprehensive engineering solutions, from technical application and design, the supply of materials and their installation, to the conformance testing and project commissioning.

G and E takes a strong vision on geosynthetics application and development by working closely with consultants, academics, professional organizations, research institutions, testing laboratories and renowned manufacturers, a mission to broaden the versatility of geosynthetics and its innovation.

We connect our client to products that find merit in reclamation, landfill, infrastructure, coastal protection, slope safety mitigation, road & railway and a wide range of civil endeavors.

We offer our clients:

- Extensive product knowledge and quality installation
- Comprehensive application, design and contracting service
- Highly attentive and superior professional engineering
- Effective solution to maintenance and remediation

G and E is ISO9001:2008 quality management certified and has a remarkably successful working relationship with a long list of clients, the Government, project owners, contractors, designers, consultant engineers, overseas distributors and trading partners, extending from Hong Kong to Macau, Southern China and Southeast Asia.

ISO9001:2008 International Geosynthetics Society Product Endorsement A Registered Subcontractor

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Visit the IGS Website:

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

Calendar of Events

Event	Location	Date	E-Mail, Website
BAUTEX 2018 (Saxonien Conference on Geosynthetics)	Chmenitz, Germany	25 Jan 2018	http://www.stfi.de/bautex
IGS UK Symposium - Use of Geosynthetics in Rail: Towards 2025	York, UK	18 Apr 2018	http://www.igs-uk.org www.linkedIn.com/IGSUK
5th International Conference on Geofoam Blocks in Construction Applications (EPS'18)	**Kyrenia, Northern Cyprus**	**09 – 11 May 2018**	**secretariat@geofoam2018.org** **http://www.geofoam2018.org/en/**
IGS TC Soil Reinforcement Workshop "Hot Topics in Geosynthetics Soil Reinforcement"	**Munich, Germany**	**04 – 05 Jun 2018**	www.geosyntheticssociety.org/ IGSSec@geosyntheticssociety.org
IGS TC Barriers Workshop "Hot Topics in Geosynthetics Barrier Systems"	**Munich, Germany**	**06 – 07 Jun 2018**	www.geosyntheticssociety.org/ IGSSec@geosyntheticssociety.org
XVI Danube-European Conference on Geotechnical Engineering: Geotechnical Hazards and Risks: Experiences and Practices	Skopje, Macedonia	7 - 9 Jun 2018	mag@gf.ukim.edu.mk http://www.decge2018.mk
4th International Symposium on Cone Penetration Testing (CPT'18)	Delft, The Netherlands	21 - 22 Jun 2018	info@cpt18.org http://www.cpt18.org/
9th European Conference on Numerical Methods in Geotechnical Engineering	Porto, Portugal	25 - 27 Jun 2018	numge2018@fe.up.pt http://www.numge2018.pt/
Educate the Educator	Pretoria, South Africa	02 -03 Jul 2018	info@selahproductions.co.za
Geosynthetic Conference for Young Professionals	Pretoria, South Africa	05 -06 Jul 2018	info@selahproductions.co.za
9th International Conference on Physical Modelling in Geotechnics	London, UK	17 - 20 Jul 2018	a.mcnamara@city.ac.uk; ICPMG2018@city.ac.uk http://www.ICPMG2018.London
5th GeoChina International Conference-Civil Infrastructures Confronting Severe Weathers and Climate Changes: From Failure to Sustainability	Hangzhou - China	23 - 25 Jul 2018	GEOCHINA.ADM@GMAIL.COM http://geochina2018.geoconf.org/
The 7th International Conference on Unsaturated Soils (UNSAT2018)	Hong Kong, China	03 - 05 Aug 2018	unsat2018@ust.hk http://www.unsat2018.org
China – Europe Conference on Geotechnical Engineering	Vienna, Austria	13 - 16 Aug 2018	geotech@boku.ac.at https://china-euro-geo.com/
69th IEC Meeting & International Conference	Saskatoon, Canada	12 -17 Aug 2018	http://www.icid2018.org icid@icid.org
26th European Young Geotechnical Engineers Conference	Graz, Austria	11 - 14 Sep 2018	franz.tschuchnigg@tugraz.at http://soil.tugraz.at/eygec2018
11th International Conference on Geosynthetics (11ICG)	**Seoul South Korea**	**16 - 20 Sep 2018**	**csyoo@skku.edu**
International Symposium on Energy Geotechnics	Lausanne, Switzerland	26 - 28 Sep 2018	seg2018@epfl.ch http://seg2018.epfl.ch/
35th Baugrundtagung (German Geotechnical Conference)	Stuttgart, Germany	26 - 28 Sep 2018	http://www.baugrundtagung.com/
GeoMEast 2018 International Congress and Exhibition	**Cairo, Egypt**	**24 - 28 Nov 2018**	**hanyfarouk808@gmail.com** **http://www.geomeast2018.org/**
7 ICEGE 2019 - International Conference on Earthquake Geotechnical Engineering	Rome, Italy	17 - 20 Jun 2019	agi@associazionegeotecnica.it
ISDCG 2019 – 7th International Symposium on Deformation Characteristics of Geomaterials	Glasgow, UK	26 – 28 Jun 2019	
ECSMGE 2019 – XVII European Conference on Soil Mechanics and Geotechnical Engineering	Reykjavik, Iceland	01 - 06 Sep 2019	has@road.is http://www.ecsmge-2019.com
XVII African Regional Conference on Soil Mechanics and Geotechnical Engineering	Cape Town, South Africa	07 - 10 Oct 2019	denis.kalumba@uct.ac.za
XVI Asian Regional Conference on Soil Mechanics and Geotechnical Engineering	Taipei, China	21 - 25 Oct 2019	secretariat@16arc.org http://www.16arc.org
XVI Panamerican Conference on Soil Mechanics and Geotechnical Engineering	Cancun, Quintana Roo, Mexico	18 - 22 Nov 2019	support@panamerican2019mexico.com http://panamerican2019mexico.com
Nordic Geotechnical Meeting	Helsinki, Finland	27 - 29 May 2020	leena.korkiala-tanttu@aalto.fi

Event	Location	Date	E-Mail, Website
6th International Conference on Geotechnical and Geophysical Site Characterization	Budapest, Hungary	07 – 11 Sep 2020	huszak@mail.bme.hu info@isc6-budapest.com http://www.isc6-budapest.com
EuroGeo 7	**Warsaw, Poland**	**06 – 09 Sep 2020**	**eurogeo7inpoland@gmail.com** **http://www.eurogeo7.org/**

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

IGS Conference

Conference organized under the auspices of the IGS

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

The International Geosynthetics Society

OBJECTIVES OF THE IGS

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 30)!

Join online at http://www.geosyntheticssociety.org