

# IGS NEWS



## NEWSLETTER OF THE INTERNATIONAL GEOSYNTHETICS SOCIETY

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

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## President's Corner



**Fumio Tatsuoka**

This is the last issue of IGS News in which I write an article as the IGS President. During the last four years, as well as many years before, the IGS has been steadily growing up. Corresponding to the above, the immediate past president, Dr Daniele Cazzuffi, decided to strengthen and reform the activities of IGS. Among the measures to do so, he started holding full-one day meetings of the IGS committees on the occasion of respective IGS council meetings, which actually started at the first council meeting of the last term, which was held in Milano, his hometown, 26 - 28 March 2003 about six months after 7ICG in Nice, France, September 2002. It was a very successful and productive meeting, which would not be possible by communication-means like e-mail and telephone. I still remember that Dr Cazzuffi invited the IGS officers at that time to his private house for a wonderful Italian dinner with his family.

On several occasions (i.e., officers' meetings and council meetings) during this term, I proposed to set up a series of "Technical Working Groups (TWGs)" (n.b., the name may be changed to another more relevant one) aiming at activating and encouraging the technical activities by IGS members, in particular young members, in the framework of the IGS. The concept of TWGs is similar to Technical Committees of

the International Society for Soil Mechanics and Geotechnical Engineering. The TWGs are not administrative, but purely technical. The topic will be centered on properties and/or functions of geosynthetics (e.g., filtration, reinforcement, durability, barrier etc), including interaction between geosynthetics and with other materials, and/or relating to issues of sustainability (e.g., water vation, mitigation and adaptation strategies for reducing the impacts of climate change). Respective TWGs will be formed based on proposals of IGS members.

In the council meeting held in Cape Town, 1<sup>st</sup> September 2009, a subcommittee chaired by Prof. Dixon, N., U.K., to draft a protocol for the formation, based on my original proposal, was appointed. Mr. Russell, J. and Prof. Otani, J. are the other members of the subcommittee. The first part of the draft prepared by the subcommittee reads the following:

*TWGs will operate by facilitating communication both between members and with the wider geosynthetics community. This will be achieved via email exchanges, webinars, web forums and through meetings and workshops normally organized to coincide with IGS sponsored conferences, symposia and workshops. It is expected that such meetings will enable wide international participation in TWG activities and it will also increase participation at IGS events, which should be viewed as providing an opportunity for dissemination of TWG outputs.*

*TWGs are encouraged to engage with organizers of international events held under the auspices of the IGS at an early stage, in order*

*to propose and organize technical sessions. Specifically, it is expected that TWGs will be involved with the IGS International and Regional Conferences. In addition, TWGs can propose to organize symposia, workshops or short courses under the auspices of the IGS on the condition that they do not interfere with other events organized under the auspices of the IGS.*

*TWGs operate independently of other IGS Committees. However, TWGs are expected to interact with the Technical Committee in preparation of technical documents, with the Education Committee in preparation of educational activities (e.g. courses), with Regional Activities Committees in organization of technical meetings (e.g. specific sessions in Regional Conferences), and with the Communication Committee in dissemination of outputs ...*

Based on a comprehensive work of the sub-committee, the formation of TWGs will be discussed again in the council meetings to be held in Guarujá, Brazil, in the end of the coming May, on the occasion of 9ICG. I sincerely wish that the formation of the TWGs will be approved in Guarujá and publicized among the IGS members, and then soon after several TWGs will be formed. I believe that, when several active TWGs are established, the IGS becomes more attractive to engineers, researchers and others, who are working and studying on geosynthetics engineering. Then, these TWGs will create a number of new members for the IGS and more participants to coming IGS related conferences.

Fumio Tatsuoka  
IGS President



The actual **program** is available at:  
[www.9icg-brazil2010.info/ingles/programme.asp](http://www.9icg-brazil2010.info/ingles/programme.asp)

make your **reservation** at:  
[www.9icg-brazil2010.info/ingles/registration.asp](http://www.9icg-brazil2010.info/ingles/registration.asp)

Book your **accommodation** at:  
[www.9icg-brazil2010.info/ingles/accommodation.asp](http://www.9icg-brazil2010.info/ingles/accommodation.asp)

### IGS Officers Meeting, West Palm Beach Convention Center February 21, 2010, West Palm Beach, Florida, USA



**Peter E.  
Stevenson**

The officers of the IGS met in West Palm Beach Florida on the occasion of the opening of GeoFlorida.

A highlight of the meeting was a brief discussion with Jean Louis Briaud, elected President of ISSMGE in 2009, in which mutual goals and opportunities of the societies were explored.

Additional subjects addressed were the schedule of IGS meetings at the 9<sup>th</sup> ICG in Guarujá, Brazil at the end of May 2010. The IGS meeting schedule is presented below.

Other subjects addressed were the need to review and revise the issues of IGS support to conferences and exhibitions of other organizations active in the geosynthetic and related fields. With the advent of as many as four IGS Regional conferences and the possibility of 31 IGS chapters organizing local and national events, it is necessary to review and improve the meaning and intent of the granting of auspices and or support to the various events and this will be an important task for the new council in the period of 2010 to 2014.

Of course the current election in the IGS was a subject of interest but was limited to a brief review as

three of the five officers present are candidates in the election.

Finally the development of a request for proposals for the operation of the IGS Secretariat was addressed and a schedule was adopted. The current draft will be reviewed by the council by 26 March. The Task Force who drafted the RFP will review comments and will publish the final form to the public on 30 April. Proposals will be prepared and submitted by interested parties and must be received by 20 June. The new group of Officers will propose a decision to the new council by 30 June.

*Reported by  
Pete Stevenson, IGS Secretary*

#### **Schedule of IGS meetings at 9ICG in Guarujá:**

- 22 May 2010 IGS Officers
- 23 May 2010 IGS Council, Council dinner
- 24 May 2010 IGS Reception for Corporate members, Chapter Presidents, Conference Organizers and IGS Past Presidents
- 26 May 2010 IGS General Assembly
- 28 May 2010 IGS Council meeting
- 28 May 2010 IGS Committees
- 29 May 2010 IGS Committees
- 29 May 2010 IGS Council meeting



IGS Officers meeting in Florida with (from left to right): IGS Secretary Peter Stevenson, Treasurer John Cowland; ISSMGE President Jean Louis Briaud, IGS President Fumio Tatsuoka, IGS Immediate Past President, Daniele Cazzuffi, IGS Vice President Jorge Zornberg

### IGS Awards committee meeting February 20, 2010, West Palm Beach, Florida, USA

The 2010 IGS Awards Committee met in West Palm Beach on the occasion of GeoFlorida 2010 to

review candidate submissions for awards. It has long been the tradition that successful candidates are

not announced until the Official Award Ceremony. There were many excellent candidates and



several submissions were selected for presentation of IGS Awards at the IGS General Assembly May 26 in Guarujá, Brazil at the 9<sup>th</sup> International Conference on Geosynthetics, Related Products and Associated Technologies.

*Reported by*  
Daniele Cazzuffi, IGS Awards Committee Chair



Participants of IGS Awards Committee meeting

(Left to right) Front row: Benedito de Souza Bueno, Daniele Cazzuffi (Chair), Jean-Pierre Giroud, Malek Bouazza, Second row: Peter Stevenson (Secretary), Mike Sadlier

## Agenda for the 7<sup>th</sup> General Assembly of the IGS at 9ICG in Guarujá, Brazil, on Wednesday May 26 at 4 PM

"A general assembly of the IGS shall be held during each International Conference on Geosynthetics, Related Products and Associated Technologies" All IGS members are invited to attend but please note that only IGS members can attend except for persons specifically invited by the IGS Council.

In Guarujá Brazil on Wednesday May 26 at 4 PM the 7<sup>th</sup> General Assembly of the IGS will be held during the 9<sup>th</sup> ICG in the year 2010. Members desiring to attend must be fully paid members by May 11, 2010 (15 days prior to the General Assembly). A member in attendance can carry the proxy of no more than five absent members. Proxies must be validated by the Secretariat prior to the General Assembly. Chapters must confirm their membership through the Secretariat through May 11, 2010.

Immediately following the closing of the General Assembly the IGS Awards will be presented.

The tentative agenda of the meeting is as follows:

### 7<sup>th</sup> General Assembly of the IGS

Welcome of members of IGS - Quorum (President)  
Presentation of the procedure for the General Assembly and appointment of poll tellers (Secretary)  
Approval of the minutes of the preceding General Assembly (Secretary) - VOTE  
Address and report of the President of IGS  
Report of the Secretary of IGS  
Report by the Treasurer of IGS - VOTE  
Approval of Society's activities - VOTE

Vote of documents prepared by the Council (e.g., matters arising, amendments to bylaws) (President)  
Proposed subscription fee (Treasurer) - VOTE  
Appointment of Financial Review Committee (Treasurer) - VOTE  
Selection of the date of the International Conference to be held after the next International Conference (President Elect) - VOTE  
Selection of the date and location of the next General Assembly (Secretary) - VOTE  
Any other business (President)  
Introduction of the new officers and council for the period of 2010 to 2014 (President)  
Closing remarks (President Elect)

*Reported by*  
Pete Stevenson, IGS Secretary

## Membership renewal via IGS webpage

The IGS announces a new feature on the IGS website: the ability to join or renew membership online. The direct link is <http://www.geosyntheticssociety.org/application.htm>.

This new benefit makes it easy for a new member to join or for a member to renew. The page connects or introduces the member to the chapters and facilitates rapid access to various membership

benefits like the official Journals. Check it out!

*Reported by*  
Pete Stevenson, IGS Secretary

# Geosynthetics in Action – The 1<sup>st</sup> IGS Photo Contest



**Elizabeth Peggs**

Thank you to all of IGS Members who have participated in the 1st Annual IGS Photo Contest. We are

thrilled to acknowledge that approximately 140 photos were submitted to the contest. And the quality is really outstanding!

The judging of the photos is underway. The judging is being done electronically by a panel of IGS Members from Asia, Africa, Australia, Europe, South & North America. The photos will be given points in each of 3 categories: the clarity and technical quality of the photo, the photo's demonstration of "geosynthetics in action" and the aesthetic quality of the photo.

Prize winning photos will be on display at the 9<sup>th</sup> ICG in a variety of different ways as well as on the IGS Web site. If you were unable to participate this time please don't file your excellent photos away – the IGS Photo Contest will be a reoccurring event!

*Reported by  
Elizabeth Peggs,  
IGS Council Member*

## New IGS Web Site to be Launched at the 9th ICG

Over the course of the last year, the IGS Web Site Task Force has worked to develop a new web site for the IGS. Before working on the actual remodel the Task Force, along with the IGS Council, dedicated a considerable amount of time to discussing and evaluating which web site components would be most beneficial to the IGS Members and the IGS mission. Although the list of goals and objectives was quite lengthy, we established a few broad based goals that we believe will be achieved by the new web site:

A web presence which will promote the IGS as the preeminent international resource for geosynthetics-related information, networking and education

Increased service to all IGS members (individual and corporate)

Increased content delivery

Simple, functional navigation

A communication tool that will aid the IGS Committees, Chapters, Council and Officers

In order to achieve these goals we have changed the face of the web site and the navigation significantly - the web site will work to highlight some of the valuable resources available to both members and non-members. We have added a translation tool the body of the site will now be available in over 40 languages.

We will be working to promote items like the 14 Educational Leaflets available in 7 different languages by making them more accessible. We are adding new types of information

like a **photo gallery** and **case histories**. News stories will be available both via the IGS News and, where and when appropriate, as individual articles on a dedicated news page in the new site.

IGS Members will have access to new resources when logged into the **Members Only** segment. We are working to create direct access entry points to both of the IGS Journals from within the IGS Members Only segment. We hope to improve the promotion and awareness of the IGS Chapters through increased representation in various portions of the site. All Chapters are invited to utilize the IGS on-line membership payment

system. **Chapter Reports** and **Chapter News** will also be available through the IGS web site.

Finally, upon log-in the new web site will recognize volunteers like IGS Council and Committee Members. The system will provide them access to tools like shared documents, calendars and other communication/organization tools which will help them coordinate work efforts and maximize their efficiency.

The new site will be launched in conjunction with the 9<sup>th</sup> ICG, to be held 23-27 May 2010 in Brazil. All members will receive an email with a formal announcement of the web site's release as well as a username



Screenshot from the new IGS Web Site

and password to log-in to the site. **It is critically important that IGS Members remember to communicate email address changes with their Chapter Secretary or the IGS Secretary.** The information IGS Members receive as a benefit of their membership is fantastic and increasing steadily. As such, accurate email information is more impor-

tant than ever. **Please ensure you have access to all of your IGS benefits by updating your email information when it changes!**

We look forward to your comments and feedback when the site has been released. Please know that this web site will continue to evolve with the needs of the IGS Membership and geosynthetics com-

munity at large. **Suggestions will always be welcome!**

*Reported by  
Elizabeth Peggs,  
IGS Council Member and IGS Web  
Site Task Force Chair*

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## Conference Reports

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### XXII Italian National Conference on Geosynthetics 28 October 2009, Bologna, Italy

The XXII Italian National Conference on Geosynthetics was held on 28<sup>th</sup> October 2009 in Bologna. The Conference theme was *Guidelines and design approach for geosynthetics-reinforced soil structures.* The Conference was jointly organized by the Italian Chapter of the IGS (AGI-IGS) and the Bologna Engineers and Architects Association (ASSIABO) with the participation of ANIDIS (National Association of Seismic Engineering), under the auspices of the Bologna University.

More than 150 participants attended to the Conference, which was divided in two different sessions. The first session was chaired by Daniele Cazzuffi (AGI-IGS President and IGS Immediate Past President) and focused on *The design of earth reinforced structures according to the new Italian seismic regulation.* One keynote lecture, one invited lecture and three papers were presented.

The keynote, presented by the IGS President Fumio Tatsuoka, was addressed on the seismic behaviour of geosynthetic-reinforced structures: lessons from recent earthquakes and design approaches. The invited lecture was presented by Giuseppe Lanzo (University of Roma) and focused on the site effects during the L'Aquila earthquake.

The three papers presented covered the topics of the design of reinforced structures under the AGI code of practice and new Italian seismic regulation N.T.C.08.

The second session was chaired by Stefano Aversa (AGI President) and focused on the *Performance based design: numerical and physical*

showed some advanced researches on the numerical and physical modelling that can be used for the performed based design of earth rein-



Speakers and organisers of the XXII Italian National Conference on Geosynthetics, including Stefano Aversa (AGI President), Fumio Tatsuoka (IGS President) and Daniele Cazzuffi (AGI-IGS President)

*modelling.* Also in this case one keynote lecture, one invited lecture and three papers were presented.

The keynote, presented by Michele Maugeri (AGI-IGS Vice President), was addressed to the performed based design of earth reinforced structures, while the invited lecture, presented by Franco Braga (University of Roma) was focused on the evaluation of seismic action according to the new Italian seismic regulation N.T.C.08.

The three papers presented

forced structures in seismic areas.

At the end of each session, a fruitful and interesting discussion on the different topics took place.

The next Italian National Conference on Geosynthetics will be organised in Bologna on 27<sup>th</sup> October 2010 and will be dedicated to the use of geosynthetics for the mitigation of natural disasters.

*Reported by  
Nicola Moraci, AGI-IGS Secretary*



# CGT 2009 - Conference on Geotechnics in Torino

## 18-19 November 2009, Torino, Italy

The 22<sup>nd</sup> edition of the CGT (Conference on Geotechnics in Torino) was held in Torino on the 18<sup>th</sup> and 19<sup>th</sup> of November 2009 under the auspices of IGS, ISSMGE and FedIGS: the conference subject was "Risk mitigation by soil improvement and reinforcement".

The typology of the structures to be reinforced and their interaction with the soil in the surroundings had been the main focus of the lectures in the programme : with this aspect in the background, also the most up-to-date technologies for soil improvement and reinforcement were illustrated.

The conference was opened with the addresses by Daniele Cazzuffi (Immediate Past President of IGS), William Van Impe (President of FedIGS) and Stefano Aversa (President of AGI, Italian Geotechnical Society).

The opening lecture was made by Antonio Gens, from Universitat Politècnica de Catalunya (Barcelona, Spain), concerning the "Fundamentals of Soil Behaviour", a short lesson on the generalised behaviour of soils under nonisothermal and chemically varying conditions that underlaid the performance of a number of ground improvement techniques.

The first session, covering the key subject of structures and infrastructures and chaired by Michele Jamolkowski, included the presentations of R. Mair (University of Cambridge) and G. Viggiani (Università degli Studi di Roma Tor Vergata), concerning the "Reduction and Controls of Surface Settlements Induced by Shallow and Deep Excavations"; S. Foti and M. Manassero (Politecnico di Torino), titled "Retrofit of Existing Foundations for Static and Dynamic Actions"; A. Mandolini (Seconda Università degli Studi di Napoli), regarding the usage of "Piles as Settlement Reducers" and, finally, C. di Prisco (Politecnico di Milano) and P.

Cancelli (Studio Cancelli Associato), focused on the "Design of Earth-Reinforced Embankments Under Cyclic/Dynamic Loading".

The second session, referring to territory and environmental issues and chaired by Giovanni Barla, included the presentations of M. Manassero, A. Dominijanni and S. Puma (Politecnico di Torino), concerning the "Remediation and Rehabilitation of Waste Landfills"; W. Van Impe (Ghent University), titled "Evaluation of the Experiences in Underwater Dam Construction on Soft Soils"; and, finally, A. Desideri and S. Rampello (Università degli Studi di Roma La Sapienza), regarding the "Stabilization of Natural Slopes by Drainage Systems".

The closing address, "Recent Developments in Technology and Construction Practice", presented by D. Vanni and M. Siepi (Trevi Group) and the special lecture, "The MOSE Project – Safeguarding Venice by Improvement and Reinforcement of Mobile Barrier Foundation Soil", subjected by M.T.

Brotto (Consorzio Venezia Nuova) and M. Jamiolkowski (Politecnico di Torino), ended the event. After that the round table on "Codes and Regulations" took place, with chairman A. Burghignoli (Università degli Studi di Roma La Sapienza) and panelists: S. Aversa (Università degli Studi di Napoli "Parthenope"), L. Callisto (Università degli Studi di Roma La Sapienza), D. Cazzuffi (CESI Spa Milano), M. Maugeri (Università degli Studi di Catania) and M. Zanetti (Politecnico di Torino).

Moreover CGT 2009 presented a broad perspective on new technical and scientific developments, with the advantage of combining geotechnical and geoenvironmental engineering analysis, modeling and design. The conference had 200 participants from several private, public institutions and international universities.

*Reported by  
Mario Manassero, IGS member*



Speakers at the Opening Session of the CGT 2009 in Torino including Luis De Mello (ISSMGE), Mario Manassero (Politecnico Torino), Daniele Cazzuffi (IGS), William Van Impe (FedIGS) and Stefano Aversa (AGI)

# International Symposium and Short Course 2 to 4 December 2009, Bangkok, Thailand

The International Symposium on **Geotechnical Engineering, Ground Improvement, and Geosynthetics for Sustainable Mitigation and Adaptation to Climate Change including Global Warming** was successfully held on 3 to 4 December 2009 at Sofitel Centara Grand Bangkok Hotel. This event combined the topics in the fields of

Prof. H.Y. Jeon of Korea, Prof K. Yasuhara and Prof. J.C. Chai of Japan, Prof. B. Indraratna of Australia, Prof. J. Chu of Singapore and Dr. A. Siripong of Thailand. The participants include more than 150 speakers, session chairs, delegates, exhibitors, and sponsors from many countries including Australia, China, Germany, India, Iran,

mitigation, rehabilitation, and construction works affected by climate change due to global warming. In addition, this Symposium encouraged research activities as well as promoted environmental preservations, not only in other countries but also in Thailand, where geosynthetics are already used for reinforcements of soil slopes, separation and drainage, lining for waste containments as well as erosion control along Chao Phraya River Banks as well as the shorelines of the Gulf of Thailand. A CD containing the proceedings of the symposium is available at US\$50 per copy inclusive of mailing cost.

Prior to the International Symposium, a one-day Short Course on Geosynthetics Applications and PLAXIS Numerical Simulations was also successfully held on 2 December 2009 at the Sofitel Centara Grand Bangkok Hotel. The Resource Speakers for the Geosynthetics Applications included Chris Lawson, John Cowland, Mike Sadlier, HY Jeon, DT Bergado and M Dechasakulsom. The Resource Speakers for the PLAXIS Numerical Applications included W. Cheang, S. Youwai, S. Soralump, YP Lai, N Phienweij and DT Bergado.

*Reported by  
Dennes T. Bergado, Chair of Organizing Committee and President of IGS-Thai Chapter*



Opening of the symposium by N. Afzulpurkar, AIT

the Geotechnical Engineering and Geosynthetics Engineering. Details of the topics include: Design and Applications of Geosynthetics, Soil Improvement, New Challenges in Dam Engineering, Slope and Embankment Reinforcements, Control of Riverbank and Coastal Erosions, Landslide Mitigation, Rehabilitation of Climate-Damaging Gases, Effects of Climate Change on Geodisasters, etc. The symposium was officially opened by Dr. Nitin Afzulpurkar, Dean, School of Engineering Technology, Asian Institute of Technology. John Cowland and Mike Sadlier, Treasurer and Council Member of IGS also participated in the Opening Ceremonies.

The two-day symposium has an impressive line up of Keynote Speakers including Prof. Pedro Pinto of the University of Coimbra, Portugal and Prof. Madhira Madhav of JNT University, India, respectively, Past President and VP for Asia of the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE). Other Keynote Speakers include Prof. G. Heerten of NAUE GMBH Germany,

Japan, Korea, Malaysia, Philippines, Singapore, Taiwan, Vietnam, and of course Thailand. The Symposium Proceedings amounted to 435 pages comprising more than 43 papers. Furthermore, there were 15 Exhibitions Booths and 20 Sponsors in this event.

This Symposium served as a forum for the geotechnical profession as a whole, and, in particular, those who are involved in disaster prevention,



Panel of the short course on geosynthetics applications and numerical simulations: D. Bergado, L. Poon, Ch. Lawson, M. Sadlier, H. Jeon



# Bautex 2010 - 9<sup>th</sup> Saxonian Geosynthetics Symposium

## 28 January 2010, Chemnitz, Germany

On January, 28<sup>th</sup>, 2010, the 9<sup>th</sup> Saxon Construction Textiles Symposium "BAUTEX 2010" took place in Chemnitz. The number of arrangements, organized in an interval of 2 years, is realized by the Saxon Textile Research Institute e. V., the University of Applied Sciences Dresden, the Construction Industry Federation Saxony / -Saxony-Anhalt e. V. and the North-East German Textiles and Clothing Industry Association e. V. The conference language is German.

The "BAUTEX" is well established in the industrial sector and started 1994. The conference gives the possibility for the exchange of experience of producers of technical-textiles, planning offices, departments, authorities and the building industry. The goal of the symposiums is the presentation of new guidelines and application / calculation examples as well as research results for the "construction with geosynthetics".

At the 9<sup>th</sup> symposium the organizers were able to welcome over 220 participants as well as 28 exhibitors from Germany and Austria representing users and producers of geosynthetics and testing facilities. Nearly all geosynthetic producers of Germany took part in the exhibition with their products.

The symposium comprised 14 lectures dealing with quality management, long time behaviour of geosynthetics, supporting structures as well as the bond behaviour.

In part "quality management", the lectures explained regulations about the CE-mark as well as national

(German) regulations of the quality management of geosynthetics.

In the session "long time behaviour" investigations about the resistance in water, rail-way and road con-

slope stabilization with fibre-reinforced earth.

The handouts of the conference contain the short version of the lectures. The long version of the



Organizers of BAUTEX 2010 (left to right): Peter Werkstätter; vti-Executive (North-East German Textiles and Clothing, Industry Association e. V.), Andreas Bertel, Executive Director of Saxon Textile Research Institute e.V., Chemnitz; Ulrike Weisemann, University of Applied Sciences Dresden and Hans-Dieter Steinbrücker, Vice-President of Construction Industry Federation Saxony/Saxony-Anhalt e.V.

structions were presented. The last lecture in this part showed the measurement of the monitoring of earthworks.

In the part "supporting structures" first experiences with the "EBGEO 2009" and its transfer to practice were explained. The following lecturers dealt with the construction of noise barriers and the bearing capacity of geosynthetic-reinforced constructions.

Investigations and new knowledge about the bond behaviour geosynthetic – earth completed the program in the last part. The last lecture presented methods for the

lectures and many literature proofs about this subject are available on the conference-CD, produced by the FIZ-Technik-Inform GmbH. The conference materials are only available in German language.

The 10th Saxon Construction Textiles Symposium „BAUTEX 2012“ was already announced by the organizers for January, 26th, 2012. For more information see [www.geokunststoffe.com](http://www.geokunststoffe.com)

*Reported by  
Matthias Mägel, IGS-member*

## 3rd Portuguese Seminar on Geosynthetics

### 19 - 20 November 2009, Coimbra, Portugal

The 3<sup>rd</sup> Portuguese Seminar on Geosynthetics (3SPGeossintéticos) was held at the University of Coimbra, Portugal, on 19 - 20 November 2009. This event was organised by the Portuguese Chapter of the IGS (IGS-Portugal), the Portuguese Geotechnical Society (SPG) and University of Coimbra (FCTUC).

The program of the Seminar was divided into two parts. The morning of the first day was dedicated to deliver a short course on *Design of reinforced structures* (Maria de Lurdes Lopes - FEUP, Porto and Margarida Pinho-Lopes - UA, Aveiro). The afternoon of 19<sup>th</sup> and the following day was devoted to the

Technical Sessions that includes 4 Keynotes:

Outstanding issues regarding the use of geosynthetics in landfills (Nathalie Touze-Foltz, Cemagref, Paris),



Opening session

Use of Geosynthetics in Railway Structures (Maria de Lurdes Lopes – FEUP, Porto),  
 Geosynthetics and Geosystems in Coastal Engineering – a review (Krystian Pilarczyk – HYDROpil Consultancy, Delft);  
 Experiencia española en el empleo de geomembranas en la impermeabilización de balsas (Manuel Blanco – CEDEX, Madrid)

In addition, there were 21 oral presentations, on the following main topics: Environment, Dams, Fluvial and Coastal Erosion, Roads and Railways.



Short course: Part 1 - Maria de Lurdes Lopes

The seminar was attended by almost 70 participants, 12 of them being students. Six companies took

part in the technical exhibition: BBF/NAUE (Silver Sponsor), IPETEX (Silver Sponsor), AXTER, Crispin RC Pinto, HUESKER and Guerner & Irmãos. CENORGEO was also a sponsor (Bronze).

Proceedings include 33 papers and were published as a book and as a CD.

*Reported by  
 Madalena Barroso, IGS News Correspondent from Portuguese IGS Chapter*

## Announcements of Conferences of IGS

### 9<sup>th</sup> International Conference on Geosynthetics – 9ICG Guarujá, Brazil, 23 - 27 May 2010



It is now only two months to the conference. Time is running and our meeting is approaching very fast.

The organizing is now in a very advanced situation. The technical program is completely defined. The social program as well.

In total, 350 papers are being published on the 9ICG proceedings. Exactly the original target. Of course it was a coincidence, but for sure our first goal. 173 papers have been selected to be orally presented around 28 technical sessions. The authors of the other pa-

pers were invited to participate on a big poster session available during the entire period of the conference in a privileged area.

The technical program also counts with 11 training lectures and with 12 discussion sessions. All of them will be led by important experts on different themes regarding geosynthetic products and applications. A wide range of subjects of interest is covered with those sessions.

A special mention to the Special Lectures may be done. Several lectures, each of them proposed for a 1 hour session on an auditorium for more than 1.000 attendees is programmed for the 9ICG. There will be 7 of them, every one dealing with an important and specific sub-

ject. The team of lecturers on the 9ICG will be not less than a top level one.

The IGS Awards, special meetings, IGS General Assembly are also included on the program. On the social side, cultural activities and folkloric presentations as well as fellowship moments are granted. The traditional Conference Dinner and Football Match are fully organized and will be certainly well received by everybody.

The support from companies and institutions has been great during the whole time of the event preparation. Several quotes of sponsorship were bought by a big number of companies. The exhibition hall, with 75 booths, is completely full. The



technical exhibition promises to be very nice and fruitful. Many activities are foreseen for this area in different moments along the event.

At present, we are pretty convinced that the geosynthetic community, the engineering community indeed, is really involved with the proposal of this event. A great number of registrations, including Brazilians and foreigners, have already arrived. Several people are coming from all around the world, many of them bringing familiars. Many attendees are programming their trip to start earlier or to finish later than the conference... being serious, making tourism in Brazil is really a very good option.

So, even at two months before the conference starts, the group of organizers, IGS Brasil and ABMS, is very happy with the result of this project. Four years ago Brazil has invited the geosynthetic community to participate on a challenging project of ours. This invitation was very well received and all the community has attended to that. Many thanks to everyone that has helped us along the way until now.

Look forward to see you in Guarujá.

*Reported by*

*Delma Vidal, 9ICG General Secretariat*

[secretariat@9icg-brazil2010.info](mailto:secretariat@9icg-brazil2010.info)

## 9ICG – VENUE

The 9th International Conference on Geosynthetics of the IGS (9ICG), the primary international geosynthetics event, held every four years, will be held for the first time in the Southern Hemisphere from 23 to 27 May 2010 in the city of Guarujá, which is about 90 km from São Paulo, the largest city in Brazil.

The city of Guarujá, located on the island of Santo Amaro, was founded in September 1893 as a village. In 1931 it was joined to the municipality of Santos and remained as such until 1934, when Estância Balneária de Guarujá (Seaside Resort of Guarujá) was created.

Known as the “Pearl of the Atlantic”, Guarujá occupies an area of 138 square kilometers and has a permanent population of around 300

thousand inhabitants. In the high summer season, the population is over one million people.



With tourism as one of its main economic activities, the city is famous for its natural beauty, and its beaches are among the most beautiful beaches in Brazil. The service sector and the chemical industry are the city's main economic sector.



The Port of Santos, the largest in Latin America, which annually handles more than 60 million tons of various cargoes, has one of its banks on the island of Santo Amaro, contributing to the wealth of Guarujá.

**Additional Information: Agência de Convenções e Turismo do Guarujá:** <http://www.gcvb.com.br>

## 9ICG – SPONSORS

Eight (8) companies are sponsoring the 9ICG. All of them are taking place on the Technical exhibition and each of them is offering a technical presentation on the Meeting the Industry session.

The sponsors of the 9ICG are:

- Bidim (booths 47 and 48)
- Cipatex (booths 35 and 36)
- Engepol (booths 50 and 51)
- Huesker (booths 65 and 66)
- Maccaferri (booths 42 and 49)
- Ober (booths 69 and 70)
- Santa Fé (booths 02 and 03)
- Tencate (booths 34 and 57)

## 9ICG – SOCIAL PROGRAMME

The traditional Conference Dinner is

scheduled for May 26, Wednesday, at 7:30 pm. The location will be announced shortly, but you can expect a very pleasant and comfortable place. The participants will have the opportunity to socialize, dance, and taste some of the plentiful and delicious Brazilian cuisine.

The Dinner is a paid activity with limited tables. The cost of the dinner is R\$ 120.00 per person (20% discount until 22/Nov/2009). This event is not exclusive to those registered for the conference. There will be free transportation from and to the official hotels of the event to the place holding the dinner event at scheduled times.

The traditional football game is scheduled for May 25, Tuesday, at 7:00 pm. The idea is, as in previous years, to promote a challenge between Hispanics/Brazilians and Anglo-Saxons.

The game of football is a free-of-charge activity and all are invited to participate as players or as spectators. After the game there will be a friendly gathering of the participants.



Along the schedule, the Organizing Committee will offer to the 9ICG attendees and their companions several other social activities. A Welcome reception and a Happy Hour meeting on the exhibition hall, as well as several cultural activities will guarantee a good environment for the event along the whole week.



	23/05/2010 - Sunday	24/05/2010 - Monday	25/05/2010 - Tuesday	26/05/2010 - Wednesday	27/05/2010 - Thursday	28/05/2010 - Friday
09:00						
09:30	SC1 SC2	Opening Session	Keynote Lecture 1	Keynote Lecture 2	Keynote Lecture 3	Technical Visits
10:00		Giroud Lecture	Coffee Break	Coffee Break	Coffee Break	
10:30						
11:00		Exhibition Opening	EA2 RW2 DF1 DRB2 TL5 TL6	GHR2 HA2 RW3 DRB4 TL9 TL10	PLE2 EA3 GHR3 OGR DF2 TL11	
11:30						
12:00		Lunch	Lunch	Lunch	Lunch	
13:00						
13:30						
14:00		MI1 MI2 MI3 MI4	MI5 MI6 MI7 MI8	MI9 MI10 MI11 MI12	MI13 MI14	
14:30		SGI1 GHR1 GTP1 EA1 TL1 TL2	DS1 DS2 DS3 DS4 DS5 DS6	DS7 DS8 DS9 DS10 DS11 DS12	MIN ESS IPA2 RW4	
15:00	SC3 SC4 SC5					
15:30						
16:00					Closing Ceremony	
16:30		SGI2 RW1 DRB1 IPA1 TL3 TL4	PLE1 HA1 BJP DRB3 TL7 TL8	IGS General Assembly / IGS Awards		
17:00						
17:30						
18:00	Welcome Reception	Happy Hour at the Exhibition Hall / Poster Session	Poster Session			
18:30	Welcome Lecture		Prestigious Lecture 2			
19:00						
19:30	Prestigious Lecture 1					
20:00			Soccer Game	Conference Dinner		
20:30						
21:00						
21:30						
22:00						
22:30						
23:00						
23:30						

#### Technical Sessions

BJP: Best Journal Papers (G1, GG)  
 DF: Drainage and Filtration  
 DRB: Durability  
 DS: Discussion Sessions  
 EA: Environmental Applications  
 ESS: Embankments on Soft Soils  
 GTP: Geosynthetic Testing and Properties  
 HA: Hydraulic Applications of Geosynthetics  
 IPA: Innovative Products and Applications of Geosynthetics  
 MI: Meeting the Industry Session  
 MIN: Mining  
 OGR: Other Applications of Geosynthetic Reinforcement  
 GHR: Geosynthetics in Highways and Railways  
 PLE: Piled Embankments  
 RW: Retaining Walls and Steep Slopes  
 SGI: Soil-Geosynthetic Interaction

#### Discussion Sessions

DS1: Geosynthetics in Mining Engineering  
 DS2: Retaining Walls Design and Performance  
 DS3: Geosynthetics in Landfills  
 DS4: Geosynthetics in Agriculture and Aquaculture  
 DS5: New Techniques for Soft Soil Stabilisation Using Geosynthetics  
 DS6: Geotextile Filter Clogging  
 DS7: Soil-Geosynthetic Interaction  
 DS8: Long-Term Performance of Geosynthetics  
 DS9: Performance of Geosynthetics in Environmental and Hydraulic Applications  
 DS10: Geosynthetics in Geococontainers  
 DS11: Geosynthetics in Pavements  
 DS12: Code of Practice for Reinforced Soil

#### Short Courses

Short-Course SC1: Geosynthetics in Dams (Joaoim Pimenta)  
 Short-Course SC2: Geosynthetic Reinforced Walls (Robert D. Holtz & R. Jonathan Fannin)  
 Short-Course SC3: Geosynthetics in Pavements (Jeb Tingle)  
 Short-Course SC4: Geosynthetics in Mining (Richard Thiel)  
 Short-Course SC5: Geosynthetics in Landfills (Sam Allen & Patrick Pierson)

#### Special Lectures

Welcome Lecture: Brazilian research and practice with geosynthetics  
 S.S. Sandroni, L.G. de Mello, R.C. Gomes & O.M. Vilar

Prestigious Lecture 1: The 2008 Terzaghi Lecture – Development of criteria for geotextile and granular filters  
 J.P. Giroud

Prestigious Lecture 2: The 2010 Terzaghi Lecture – Geosynthetic Reinforced Soil: From Experimental to Familiar  
 Robert D. Holtz

Giroud Lecture: Geosynthetics application for the mitigation of natural disasters  
 H. Brandl

Keynote Lecture 1: Geosynthetics in Barrier Systems for Dams  
 D. Cazzuffi, J.P. Giroud, A. Scuero & G. Vaschetti

Keynote Lecture 2: Geosynthetics in Pavement Reinforcement Applications  
 S. W. Perkins, B.R. Christopher, N. Thom, G. Montestruque, L. Korkiala-Tanttu & A. Watn

Keynote Lecture 3: Improving the performance of mining infrastructure through the judicious use of geosynthetics  
 A. Fourie, A. Bouazza, J. Lupo & P. Abrão

#### Training Lectures

TL1: Reinforced soil structures under seismic loading (M. Maugerl)  
 TL2: Slope Stability for Lined Containment Systems (R. Thiel)  
 TL3: Applications of Geococontainers (C. Lawson)  
 TL4: Leak Detection Systems (Ian Peggs)  
 TL5: Measurement and Interpretation of Interface Shear Strength (Neil Dixon)  
 TL6: Design of Unpaved Roads and Subgrade Stabilization with Geosynthetic Reinforcement (J.P. Giroud)  
 TL7: Testing and Specification of Geosynthetic Erosion Control Products (S. Allen)  
 TL8: Quality control for geomembrane installation (R. Jones)  
 TL9: Geomembrane welding techniques (S. Currie)  
 TL10: Seismic stability of reinforced soil wall with segmental facing panels (J. Kuwano)  
 TL11: Reinforced Embankments on Soft Soils and Soft Soil Stabilization (J. Otani)

9ICG Technical Programme (issue 10/03/2010 – subject to minor changes)

## 9ICG – SPECIAL LECTURES AND SESSIONS

Three Keynote Lectures and four Special Lectures are programmed for the 9ICG. Those sessions will last 1 hours each and promise to be very fruitful by since they will be a great opportunity for all 9ICG attendees to get, from very recognized professionals of the technical community, their personal experiences of years and years of dedication to some the most relevant topics on geosynthetics.

All of them will take place on the main auditorium and no other paral-

lel activity will occur at the same time. See on the Technical Programme chart the schedule of the presentations and below who the speakers are:

### Welcome Lecture:



**S.S. Sandroni  
(Brazil)**

Brazilian research and practice with geosynthetics

(S.S. Sandroni, L.G. de Mello, R.C. Gomes & O.M. Vilar)

### Prestigious Lecture 1:



**J.P. Giroud  
(USA)**

The 2008 Terzaghi Lecture – Development of criteria for geotextile and granular filters (J.P. Giroud)

### Prestigious Lecture 2:



**Robert D. Holtz (USA)**

The 2010 Terzaghi Lecture – Geosynthetic Reinforced Soil: From Experimental to Familiar (Robert D. Holtz)

### Giroud Lecture:



**H. Brandl (Austria)**

Geosynthetics application for the mitigation of natural disasters (H. Brandl)

### Keynote Lecture 1:



**D. Cazzuffi (Italy)**

Geosynthetics in Barrier Systems for Dams (D. Cazzuffi, J.P. Giroud, A. Scuro & G. Vaschetti)

### Keynote Lecture 2:



**S. W. Perkins (USA)**

Geosynthetics in Pavement Reinforcement Applications (S. W. Perkins, B.R. Christopher, N. Thom, G. Montestruque, L. Korkiala-Tanttu & A. Watn)

### Keynote Lecture 3:



**A. Fourie (Australia)**

Improving the performance of mining infrastructure through the judicious use of geosynthetics (A. Fourie, A. Bouazza, J. Lupo & P. Abrão)

Twelve (12) **discussion sessions** are programmed. Discussion sessions will start with up to 20 minutes presentations by the Theme Speakers, followed by discussions and questions from the audience. The Session Discussion Leader will encourage the audience participation. Discussion Session Theme Speakers and Discussion Leaders are leading experts in the themes of the sessions. The following speakers and discussion leaders are confirmed on the Discussion sessions: Malek Bouazza (Australia), Maurício Ossa (Chile), Sérgio Reyes (Argentina), Richard J. Bathurst (Canada), Mauricio Ehrlich (Brazil), Chungsik Yoo (Korea), Jean-Pierre Gourc (France), Takeshi Katsumi (Japan), Maria Eugênia Boscov (Brazil), Michael Heibaum (Germany), Eun C. Shin (Korea), German Vivar (Peru), Neil Dixon (UK), Anna Laura Nunes (Brazil), Maria L. Lopes (Portugal), R. Jonathan Fannin (Canada), Nicola Moraci (Italy), Garth M. James (South Africa), Dennes Bergado (Thailand), Colin Jones (UK), Jun Otani (Japan), Benedito Bueno (Brazil), Jochen Müller-Rochholz (Germany), H. Jeon (Korea), R. Kerry Rowe (Canada), Nathalie Touze-Foltz (France), Maria G. Gardoni (Brazil), Georg Heerten (Germany), Chris Lawson (Malaysia), Delma Vidal (Brazil), Arnstein Watn (Norway), Jorge G. Zornberg (USA), Flávio Montez (Brazil), Gerhard Bräu (Germany), Barry Christopher (USA), Steve Corbet (UK), Chris Jenner (UK), Fumio Tatsuoka (Japan), Steve Corbet (UK).

Eleven (11) **training lectures** make part of the technical program of the 9ICG. The aim is to allow for attendees to get in contact with most of the specialist in specific topics and have the opportunity to learn and get some information about definitions and concepts, design methodologies, relevant aspects, installation procedures among others, in regarding specific themes. Training lectures deals with several important themes on Geosynthetics and every one will be leaded by one recognized name on the subject. Every training lecture will last 1:30 and the program is informed below. The following speakers are confirmed on the training sessions: Michele Maugeri, Richard Thiel, Chris Lawson, Ian Peggs, Neil Dixon, J.P. Giroud, Sam Allen, Russel Jones, Sean Currie, Jiro Kuwano, Jun Otani.

### 9ICG – SHORT COURSES

Five 3-hour Short Courses will be offered on Sunday May 23. Some of the most recognized specialists on each subject were selected to present their experience and the basic concepts on important applications related to geosynthetics. Participation in these courses will be by specific registration due to the limited number of places. The following short courses will be delivered:

- Geosynthetics in Dams (Joaquim Pimenta)
- Geosynthetic Reinforced Walls (Robert D. Holtz & R. Jonathan Fannin)
- Geosynthetics in Pavements (Jeb Tingle)
- Geosynthetics in Mining (Richard Thiel)
- Geosynthetics in Landfills (Sam Allen & Patrick Pierson)

9ICG – TECHNICAL EXHIBITION (MAP OF THE EXHIBITION HALL)



**Announcements of Conferences under the Auspices of IGS**

**New Techniques for Design and Construction in Soft Clays  
Guaruja, Brazil, 22 and 23 May 2010**



The Symposium New Techniques for Design and Construction in Soft Clays will be held from 22 to 23 May 2010, in the city of Guarujá (about 90 km from São Paulo), Brazil, just before the 9th ICG.

More than 200 participants are expected in the event. Twenty eight speakers from thirteen countries will present their works in four sessions.

The event is organized by Brazilian Society of Soil Mechanics and Geotechnical Engineering (ABMS) and Brazilian Association of Geosynthetics (IGS Brasil) under auspices of International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) and International Geosynthetics Society (IGS).

The symposium will bring together researchers, designers, consultants, engineers, contractors, teachers and students aiming to present and to discuss the most

recent developments, improvements and new technologies for design and construction in soft clays including geosynthetics.

More information may be found in <http://www.geotec.coppe.ufrj.br/ssc2009/>

Registration is available at the website.



# 3<sup>rd</sup> International Symposium on Geosynthetic Clay Liners

## 15 - 16 September 2010, Würzburg, Germany

### GBR-C 2k10

The 3<sup>rd</sup> International Symposium on Geosynthetic Clay Liners will be held at the Fortress Marienberg in Würzburg, Germany from 15 till 16 September 2010.

The Symposium will include oral and poster presentations on the topics mentioned below. Abstract and papers for that presentations are invited.

GBR-C 2k10 will be organised by SKZ and will be held under the aus-

pices of the IGS. The Scientific Committee is formed by Robert M. Koerner, P.E. (USA), Nathalie Touze-Foltz (France), Helmut Zanzinger (Germany)

#### Symposium Themes

The Symposium will deal with the following topics:

- Application / case studies
  - Landfills
  - Canals
  - Reservoirs / Dams
  - Transportation Infrastructure
- Durability / Lifetime

- Laboratory testing
- Performance
  - Cation exchange
  - Desiccation
  - Experience from excavation
- Regulations / Approvals

#### Language

English is the official language of the conference

#### For more information

E-mail: [gbr-c2k10@skz.de](mailto:gbr-c2k10@skz.de)

# 6<sup>th</sup> International Congress on Environmental Geotechnics

## 8 - 12 November 2010, New Delhi, India



The Indian Geotechnical Society (IGS) will host the 6<sup>th</sup> International Congress on Environmental Geotechnics (6ICEG) at New Delhi during November 8-12, 2010 on behalf of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE). Over 400 delegates, including 250 from abroad, will gather to discuss latest developments.

The congress is being organized by an Organizing Committee guided by a Conference Advisory Committee as well as TC5 (Technical Committee on Environmental Geotechnics) of ISSMGE and a National Advisory Committee of IGS. It will be held under the auspices of the IGS.

#### Topics

The theme of the congress is: Environmental Geotechnics for Sus-

tainable Development.

The congress will deal with the following topics:

- MSW and Hazardous Waste Landfills
- Slurry Ponds
- Contaminated Land, Groundwater and Abandoned Landfills
- Geosynthetics and New Materials
- Sustainability, Professional Practice and Education
- Geohazards, Disaster Mitigation and Management
- Testing, Monitoring and Performance Evaluation
- Physical and Numerical Modelling

#### Plenary Lectures

The actual program shows the following keynote and plenary lectures with geosynthetic background:

- Malek Bouazza, Monash University, Australia
  - Geosynthetics in mining applications
- Kerry Rowe, Queen's University, Canada
  - Factors affecting the clogging of leachate collection systems in MSW landfills

Jean-Pierre Gourc, Domaine Universitaire, France

- The bio-hydro-mechanical behavior of MSW (Municipal Solid Waste) and the improvement of landfill environmental sustainability
- Mario Manassero, Politecnico di Torino, Italy
  - Coupled Modelling of Swelling Properties and Electrolytes Transport through Geosynthetic Clay Liners

#### Exhibition

An exhibition of new equipment, new instruments, new materials, geosynthetics, engineering software, technical books, designers, consultants, contractors, and research organizations will be arranged at the congress venue.

#### For more information

Email: [6icegdelhi@gmail.com](mailto:6icegdelhi@gmail.com)

### Third Year of Geosynthetic Institute (GSI) Fellowships Request for proposals



The Geosynthetic Institute (GSI) is delighted to announce our third annual worldwide call for requests-for-proposals (RFPs) focusing on “innovative” geosynthetics research and development projects. This will be the Third Class of awardees, the first two being in 2008 and 2009. There will be multiple awards made, each for \$10,000 per year, and they are renewable, pending an annual written report, to a total amount of \$20,000 per student. It is important

to note that students must have completed their candidacy examinations leading to a doctoral degree in engineering or science. The proposals must be submitted in the following four page format (with no exceptions).

- Page 1 Letter of recommendation from student’s department head or advisor
- Page 2 Title and detailed abstract
- Page 3 Student’s resume
- Page 4 Documentation of completed candidacy examination

The RFPs for the 2010-2011 academic years must be submitted to

both of the undersigned by e-mail by June 15, 2010 and awards will be announced on, or before, August 1, 2010. Review of the proposals is by the nine-person Board of Directors of GSI. For further information on the Institute and this particular program, visit us at the following site: [www.geosynthetic-institute.org](http://www.geosynthetic-institute.org) and click on “GSI Fellowships and Projects”.

*Reported by  
Robert M. Koerner and Jamie R. Koerner, IGS members*

### Call-for-Papers: GRI-24 Conference on “Enhancing Sustainability Using Geosynthetics”

The Geosynthetic Institute will host its 24<sup>th</sup> conference in Dallas, Texas in March, 2011. It will be embedded into the ASCE Geolnstitute’s three-day conference titled GeoFrontiers 2011. The title of the GRI-24 Conference will be the following:

“Enhancing Sustainability Using Geosynthetics”

While the papers themselves must

be geosynthetics-related, the topic should revolve around some aspects of sustainability. For example, comparing carbon dioxide footprints and financial costs of alternative options (geosynthetics versus conventional) are ideal. Other variations regarding sustainability will also be considered.

If you, or a colleague, have a title

and brief abstract to be considered please send it to us by May 31, 2010.

*Reported by  
Robert M. Koerner  
([robert.koerner@coe.drexel.edu](mailto:robert.koerner@coe.drexel.edu))  
and George R. Koerner  
([gkoerner@dca.net](mailto:gkoerner@dca.net)), IGS members*

### Water, Environment and Geosynthetics : a technical day in France

On the 4<sup>th</sup> of March 2010, in Clermont-Ferrand, following the general assembly of CFG that was held on the day before, a technical day was organized by LRPC Clermont-Ferrand, with the support of Polytech Clermont-Ferrand and Cemagref, under the auspices of CFG.

The objective of this event was to inform people from areas located in the Center of France about the use of geosynthetics for environmental

protection. The choice of Clermont-Ferrand was linked to the fact that no previous event had been previously organized by CFG in this area of France where geosynthetics are relatively rarely used.

The morning was dedicated to presentations of geotextiles and related products, geomembranes and GCLs and their applications.

Then standardization and certification of geosynthetics were pre-

sented.

The morning sessions were concluded by a presentation dedicated to the evaluation of carbon emissions related to production and use of geosynthetics as compared to the use of natural materials. The discussion was based on the work carried out in a working group of CFG aiming at performing this evaluation.

The two afternoon sessions were first dedicated to a Keynote Lecture presented by Thierry Gisbert on the role of geosynthetics in environmental protection. Then six case studies were presented regarding the use of geosynthetics for environmental protection which was the topic of the day.

150 people attended the day, which made it a real success.

Between the various sessions, attendees could also meet with 20 exhibitors in the exhibition area. This is where an aperitif was offered by ASQUAL to celebrate the 20 years of the certification of geotextiles in France.

Such technical days are organized on a yearly basis and complement the national conference on Geosynthetics "Rencontres Géosynthétiques" organized every two years and which will take place next in Tours in 2011.

The whole event was very much appreciated by attendees and exhibitors, as much for the quality of the technical presentations as for the quality of the organization.

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



View of the attendees in the exhibition hall during a coffee break

## List of IGS Chapters including the year of foundation and their Chairpersons

### Argentina

Argentinean Chapter (2009)  
President: Prof. Sergio Reyes,  
[sreyes@reyesasoc.com.ar](mailto:sreyes@reyesasoc.com.ar)

### Australia and New Zealand

Australasian Chapter (2002)  
President: Mr. Mike Sadlier  
[sadlier@attglobal.net](mailto:sadlier@attglobal.net)

### Belgium

Belgian Chapter (2001),  
Chairman: Frans De Meerleer,  
[frans.texion@skynet.be](mailto:frans.texion@skynet.be)  
[www.belgian-geosynthetics.be](http://www.belgian-geosynthetics.be)

### Brazil

Brazilian Chapter (1997)  
President: Prof. Mauricio Ehrlich  
[igsbrasil@igsbrasil.org.br](mailto:igsbrasil@igsbrasil.org.br)  
[www.igsbrasil.org.br](http://www.igsbrasil.org.br)

### Chile

Chilean Chapter (2006),  
President: Mr. Mauricio Ossa,  
[mossa@igs-chile.org](mailto:mossa@igs-chile.org)  
<http://igs-chile.org/index.html>

### China

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

### Czech Republic

Czech Chapter (2003)  
Chairman: Mr. Petr Hubik  
[igs@igs.cz](mailto:igs@igs.cz)  
[www.igs.cz](http://www.igs.cz)

### France

French Chapter (1993)  
President: Mr. Jean-Pierre Magnan  
[francois.caque@developpement-durable-gouv.fr](mailto:francois.caque@developpement-durable-gouv.fr)

### Germany

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

### Greece

HGS, Greek Chapter (2005)  
President: Mr. Dimitrios K. Atmatzidis  
[dac@upatras.gr](mailto:dac@upatras.gr)

### India

Indian Chapter (1988)  
President: Dr. G.V. Rao  
[cbip@cbip.org](mailto:cbip@cbip.org)  
[www.cbip.org](http://www.cbip.org)

### Indonesia

INA-IGS, the Indonesian Chapter (1992)  
President: Mr. Gouw Tjie Liong  
[ina\\_igs@binus.ac.id](mailto:ina_igs@binus.ac.id)

### Italy

AGI-IGS, the Italian Chapter (1992)  
President: Dr. Ing. Daniele Cazzuffi  
[agiroma@iol.it](mailto:agiroma@iol.it)  
[www.associazionegeotecnica.it/~aqi/](http://www.associazionegeotecnica.it/~aqi/)

### Japan

Japanese Chapter (1985)  
Chairman: Dr. Hiroshi Miki  
[secret@jicigs.or.jp](mailto:secret@jicigs.or.jp)  
[wwwsoc.nii.ac.jp/jicigs/](http://wwwsoc.nii.ac.jp/jicigs/)

### Korea

KC-IGS, The Korean Chapter (1993)  
President: Prof. Eun-Chul Shin  
[kgss-adm@kgss.or.kr](mailto:kgss-adm@kgss.or.kr)  
[www.kgss.or.kr](http://www.kgss.or.kr)

### Mexico

Mexican Chapter (2006)  
President: Giovanni Bellei  
[Giovanni.bellei@maccaferri.com.mx](mailto:Giovanni.bellei@maccaferri.com.mx)

### The Netherlands

Netherlands Chapter (1992)  
President: Dr. Ir. A. H. de Bondt  
[mail@ngo.nl](mailto:mail@ngo.nl)  
[www.ngo.nl](http://www.ngo.nl)

### North America

North American Geosynthetics Society (NAGS) (Canada, USA) (1986)  
President: Dr. David Elton  
[NagsDirector@aol.com](mailto:NagsDirector@aol.com)  
[www.nags-igs.org](http://www.nags-igs.org)

### Norway

Norwegian Chapter of IGS (2008)  
Chairman: Arnstein Watn  
[Arnstein.watn@sintef.no](mailto:Arnstein.watn@sintef.no)

### Peru

Peruvian Chapter (2001)  
President: Miguel De La Torre  
[gerencia@geoserviceing.com](mailto:gerencia@geoserviceing.com)  
[www.igsperu.org](http://www.igsperu.org)

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[www.spgeotecnia.pt](http://www.spgeotecnia.pt)

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Russian chapter of IGS (RCIGS, 2008)  
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Thai Chapter (2002)  
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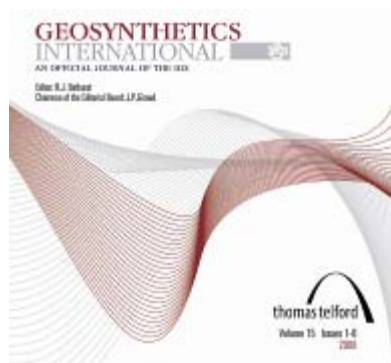
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An explicit expression for strain in geomembrane uplifted by wind, pp. 500–502, J.P. Giroud

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<http://www.icevirtuallibrary.com/content/issue/qein/16/6>

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

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9 - 11 May 2010  
E-mail: [probertson@greggdrilling.com](mailto:probertson@greggdrilling.com)  
[www.cpt10.com](http://www.cpt10.com)  
17<sup>th</sup> Southeast Asian Geotechnical Conference  
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## Calendar of Events



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5<sup>th</sup> International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics and Symposium in Honor of Professor I. M. Idriss  
San Diego, USA  
24 - 29 May 2010  
Email: [geoeqconf2010@mst.edu](mailto:geoeqconf2010@mst.edu)

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Symposium on New Techniques for Design and Construction in Soft Clays  
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E-mail: [ssc2010@coc.ufrj.br](mailto:ssc2010@coc.ufrj.br)  
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**9<sup>th</sup> International Conference on Geosynthetics**  
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European Rock Mechanics Symposium (Eurock 2010)  
Rock Mechanics in Civil and Environmental Engineering  
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**3<sup>rd</sup> International Symposium on Geosynthetic Clay Liners**  
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**Dallas, Texas, USA**  
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12 -15 April 2011  
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4 - 6 May 2011  
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Maputo, Mozambique  
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XV European Conference on Soil Mechanics and Geotechnical Engineering  
Athens, Greece  
13 - 19 September 2011  
E-mail: [athens2011ecsmge@hssmge.gr](mailto:athens2011ecsmge@hssmge.gr)  
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(Germany, 1987)

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Notes:

- A click to the name of the corporate member leads to the corresponding entry at the IGS website. The corporate members are encouraged to check their entry there!
- Date is earliest year of continuous membership



## Kuraray for twenty years of continuous IGS corporate membership

A recognition award was presented to Kuraray, Japan, as one of the five companies recognized in 2009 as having twenty years of continuous corporate membership on 3<sup>rd</sup> December 2009, on the occasion of the 24<sup>th</sup> Annual Symposium on Geosynthetics Engineering organized by the IGS Japan Chapter at the Japanese Geotechnical Society, Tokyo. In this picture, on the behalf of the IGS, President Tatsuoka is presenting a certificate and a pitcher to Mr Matsuoka Shinji, representing Kuraray.



IGS President Fumio Tatsuoka presenting the certificate to Shinji Matsuoka

## Corporate Members present Case Studies

The IGS Council approved a new initiative in Cape Town which provides the corporate membership the opportunity to present interesting case studies of geosynthetics applications in site works to the IGS and the general public audiences. Conceived as a powerful way to present the story of geosynthetics to a broad audience, the concept is to present a series of half page synopses, or abstracts, of case studies with each case study presented under the company logo and linked to the company web pages for further information and complete detail. The reader who finds a case history inviting can follow up immediately to harvest a full understanding with details and with a connection to the firm.

The editor of the IGS News will invite the corporate membership to present case histories with the most senior members having first priority followed by more recent member companies. For each issue the editor will issue 15 to 20 invitations to submit case histories. Up to 8 case histories will be published in each issue, which means that the entire membership will have the opportunity to tell a story every four years if not sooner. Of course, if a company misses a publication deadline, the editor will make every effort to include the tardy submission in one of the next issues.

Once published, the case history will live on in two forms. First, as the IGS website archives the IGS News, a reader who peruses the

archived issues will have the opportunity to pursue interesting case histories through the identification of and link to the corporate member. Further, the IGS is developing a new and more powerful web site that will include the opportunity for the half page abstract to be expanded to as much as two pages which will also feature links to the corporate member who authored the case history.

Corporate members are encouraged to create case histories that communicate with the broadest user audience, from the small contractor to the landscaper to the sophisticated designer.

## Geotube<sup>®</sup> Containers Offer Innovative Solution for Disposal of Coal Mine Slurry Waste



TenCate helps North River Mine continue processing coal by utilizing first ever large-scale Geobag<sup>®</sup> disposal method



Due to new regulatory restrictions,

available area, and construction scheduling, the North River Mine coal processing plant in Berry, Alabama was facing a possible interruption of the primary disposal methods of its refuse – a waste stream of almost 1.5 million gallons of slurry per day. The mine needed to continue processing coal for shipment in order to meet customer needs, however conventional disposal methods of surface

impoundment or injection into abandoned underground mine workings were not possible. An alternative disposal method was necessary for the plant to continue operation.

Since Geotube<sup>®</sup> containers were already being used to successfully dewater various types of sludge-wastes, it was suggested that Geotube<sup>®</sup> technology could provide the processing plant with the waste disposal they needed. Due to the

volume of slurry to be processed, the mine sought a safe and efficient plan that would allow the containers to be reclaimed in place, instead of opening them and transporting the material to the course refuse disposal area. This was the first time the use of geosynthetic bags had been utilized for disposal of slurry waste from a mine washing facility on such a large scale. Careful consideration had to be taken in order to ensure the Alabama Surface Mine Commission would permit the project.

In order to maximize utilization of the bag fields, a stacked pyramid of four layers of Geotube® containers was designed. A manifold system, along with a polymer tank and pumps, was implemented to fill and manage the flow to multiple containers at once. A swinging ladder 8-inch dredge was placed into the slurry pond to pump

the slurry into the containers. The dredge was initially operated on a 24-hour basis with two 12-hour shifts per day. A crew of five to six men managed the containers and operated the dredge. This set-up was capable of pumping 1,750 gallons of slurry per minute into the containers. The first layer of containers was filled from one side to the other allowing the next level of containers to be placed on top. This process continued until the desired level of four layers was reached. A second bag field was constructed prior to completion of the first. This provided two workable layout areas for continuous operation, eliminating downtime for the dredge and providing time for the containers to drain. A total of three bag fields were constructed and utilized during this project.

The completed project utilized 240

Geotube® containers, and a total of 200,000 cubic yards were pumped and dewatered. Once all the bags in the fields were full and dewatered, the site was then ready for reclamation. Eventually, the bags were covered with earth and then topsoil. All of the bag field sites were very stable and no problems were encountered during the covering operation. Once reclamation was complete, the entire field was mulched and seeded.

Additional information can be requested from:

[info@tencate.com](mailto:info@tencate.com)

Or visit our website at

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

## Bali's First Modern Landfill Design



Bangli Regional Landfill in Indonesia's Bali province is located about 60 km outside of Denpasar, the provincial capital and home to more than 500,000 residents. The region hosts Ngurah Rai International Airport - the main entry point into Bali - and numerous tourist destinations along Bali's popular white sands beaches. When the Indonesian central government approved funding for the Bangli landfill project, the Ministry of Public Works put the country on a new path for landfill design: Bangli would become the first landfill in Indonesia to be designed with a modern lining system. It would serve as both a pilot project and the benchmark for future designs throughout the country.

The stability analysis performed by NAUE's engineers revealed that the original design slopes were too ambitious for the site. Not enough stability and safety could be guaranteed given the site's soils and seismic activity in the region.

Second, a soil veneer analysis was performed to identify the best geosynthetic materials for use in the liner system. The US Environmental Protection Agency (EPA) standard helped provide a strong guide for this site. The standard requires a base-liner system to have a minimum of one clay liner, either compacted clay or a geosynthetic clay liner (GCL) and one impermeable liner HDPE geomembrane.

NAUE proposed the use of Bentofix® for the GCL and Carbofol® (1.5 mm thick) for the geomembrane. Third, after calculating loads such as drop energy, heavy equipment working on top of the material and waste, and the additional load from the drainage layer and soil cover, a cushioning layer of Secutex® R804 was proposed. Over this cushioning and separation layer, a 40 cm -

thick drainage layer (rounded gravel) was installed. The piping system was installed inside this drainage layer system, and over it was placed a filtration layer that uses Terrafix® R609 geotextile. A 30 cm cover-soil layer forms the top of the system. As a final piece of insurance for the site, an access road that runs between two cells at this difficult to design for site was reinforced with Secugrid® 40/40 Q1.

From the initial concept to modernize Indonesia's landfill practice to the final installation and construction quality assurance (CQA) measures, a great many aspects of geosynthetic design were showcased. The Bangli Regional Landfill is a welcomed and impressive construction for the country.

Further information can be requested from:

[hpohlmann@naue.com](mailto:hpohlmann@naue.com)

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## Hints for easy usage of this document

To allow easy and most effective use of this IGS News we tried to incorporate as many links to further information on the internet as possible. This means that moving around with the mouse pointer in the PDF-file allows direct linkage to webpages of the conferences, documents of IGS, journals, email ad-

resses, IGS Corporate Members pages and many other things.

Furtheron you can click on the page numbers at the "Content" on the front page to jump directly to the article.

Another useful tool is the "book-mark" function within your PDF-Reader. This functionality shows

you on the left part of your screen the content with the headlines of the articles and on the right part the article itself.

If you have any further ideas to improve the usage of IGS News – please let us know!



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The International Geosynthetic 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.

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**First, to contribute to the development of our profession.      Second, to enjoy the benefits.**

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.

The following benefits are now available to all IGS Members:  
 the IGS Membership Directory, published yearly;  
 the newsletter, IGS News, published three times per year;  
 free electronic issues of Geosynthetic International and Geotextiles & Geomembranes;  
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Please check whether there is a local IGS Chapter in your country (list at page 17)!  
 otherwise please use the online form at <http://www.geosyntheticssociety.org/application.htm>  
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