

#### **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

14 and 15 March 2009, I visited Taipei, Taiwan, to attend the 7<sup>th</sup> annual meeting of the Taiwan Geotechnical Society (the TGS). I received the best paper award of the year of 2008 of the English Journal of GeoEngineering for my paper entitled by "Recent practice and research of geosynthetic-reinforced earth structures in Japan".

I also did a lecture on this topic to a large audience including a number of leading fellows of the TGS. It was another great opportunity for me to show the importance and usefulness of Geosynthetics Engineering in Civil Engineering practice. On this opportunity, I saw a number of IGS members (i.e., individual and corporate members of the IGS West Pacific Chapter). I would like to

congratulate our IGS colleagues in Taiwan on very high activities at a high level in the field of Geosynthetics Engineering.

From many discussions with the audience of my lecture, I reconfirmed that the experiences of practice and research on the geosynthetic-reinforced structures in Japan are very useful also for Taiwan because of very similar natural environmental conditions (i.e., very high seismic activities, frequent heavy rain falls, wide mountainous areas with a lot of slopes, weathered sedimentary soft rocks, congested large cities constructed on thick young alluvial deposits in a narrow land and so on). I also reconfirmed that, although it is well accepted that geosynthetic-reinforced soil structures have a much better cost-performance ratio over conventional systems, the largest concern of ordinary civil engineers (including ordinary geotechnical engineers) is, whether it can be ensured that geosynthetic materials can survive the life time of ordinary infrastructures, say more than 50 years. That is, the long-term durability of geo-

synthetic materials is among the most essential technical issues for aeosynthetic - reinforced soil structures to become more popular in constructing permanent infrastructures. It is indispensable for the IGS to show ordinary Civil Engineers that a given geosynthetic material used for a given permanent infrastructure has a sufficient long-term durability. In this respect, it is also necessary to convince them that geosynthetic reinforcement is never too extensible (despite that it is much more extensible than metal reinforcement) and creep deformation is not the mechanical degrading phenomenon, but it is a simply visco-plastic response of the material and the peak strength of a given geosynthetic reinforcement for the same loading rate does not decrease by pre-peak creep loading history at a load level that is sufficiently lower than the peak strength (as it is in ordinary geosynthetic--reinforced soil structures).

Fumio Tatsuoka IGS President

## **Reports of IGS Meetings and Documents**

## IGS Officers Meeting 21 – 22 March 2009 in Madrid, Spain



Peter E. Stevenson

The officers of the IGS met in Madrid, Spain March 21 - 22, 2009. The purpose of the meeting was to liase with the Spanish chapter of the IGS on the occasion of the planning for EuroGeo5, in Valencia September 2012.

The agenda of the liaison meeting included discussion on:

- Lessons learned in 25 years of the conduct of IGS International and Regional Conferences.
- IGS Guidelines for the organization of a regional conference.
- Obligations of the organizers.
- Responsibilities of the IGS.
- Appointment of specific individuals in the IGS who have organized and managed successful IGS events as references for expertise and guidance.
- Periodic reporting on the event.
- Specific issues such as: manner of publishing proceedings, use of

- and placement of Logos (IGS), IGS exhibition space requirements, other details occasionally overlooked.
- Planning of technical program: organization of technical committee, program, and the paper review process
- Website: capabilities for promotion, submissions, database, registrations

Similar meetings will be held in Lima and Bangkok in the coming days to facilitate the organization and planning of GeoAmericas 2012, Lima, Peru and GeoSynthetics Asia 2012, Bangkok, December 2012. Copies



Meeting of IGS Officers and IGS Chapter Espana in Madrid March 2009

of the guidelines detailing the points reviewed are available to the

membership upon request to the Secretariat.

Other subjects addressed by the officers included the distribution of the recently completed Geosynthetics Manual sponsored by the FHWA and published by the National Highway Institute. Members who are citizens of the USA can access the document directly through the NHI website. Non US citizens of the US who are members of the IGS can access the document by requesting instruction from the Secretariat.

Corporate members celebrating 20 years of continuous membership, Belton Industries, Kuraray, Reinforced Earth, Tensar International (UK), Tensar Earth Technologies (USA) will be recognized in Capetown at GeoAfrica 2009 in September.

Reported by Pete Stevenson, IGS Secretary

## **IGS News Readership Questionnaire**

The International Geosynthetic Society is undertaking an evaluation of the IGS newsletter, with a view to improving its quality and usefulness.

Therefore with the announcement of this issue of IGS News there will be an email with the questionnaire by the IGS Secretariat approaching all members for participation. The questionnaire can also be downloaded at the web page of IGS (www.geosyntheticssociety.org).

We hope on a fruitful response to be able bringing new ideas to IGS

News for the benefit of our membership

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

## Call for Candidates for the IGS President, Vice-President, and IGS Council: Term 2010 to 2014 Nominations due 31 October 2009

The 2010 IGS Election will be an electronic ballot again.

Three ballots, one each for the election of President, Vice – President, and eight Council Members, will be posted electronically

on 31 January 2010 with balloting to close on 31 March 2010.

Results will be announced at the General Assembly, in Guarujá, Brazil, during the 9ICG (May 2010).

The election of the IGS President, Vice-President, and the eight new

Council Members, and the appointment of the Immediate Past-President, will be for a four-year period (2010 to 2014).

#### **IGS Council Member Election**

The IGS bylaws prescribe that up to half of the Council be elected every

two years. IGS Members will have the opportunity to elect eight Members to the IGS Council for a four year term, starting in 2010.

The eight IGS Council Members, whose term of office expires in 2010, are:

- S. Allen (USA)
- G. Bräu (Germany)
- N. Dixon (United Kingdom)
- N. Freitag (France)
- M. Maugeri (Italy)
- J. Otani (Japan)
- E. Palmeira (Brazil)
- E. Peggs (USA)

The IGS bylaws stipulate that a Council Member may be elected to two consecutive terms; hence, S. Allen, N. Dixon, N. Freitag, J. Otani and E. Peggs are eligible for re-election. They will have completed one, four-year term as Council Members by 2010.

Members co-opted in 2006 (M. Chen, J. Ferreyros, P. Legg and P. Stevenson) must stand for election or stand down from the Council.

The IGS encourages any IGS Member, who is able to attend all

IGS Council meetings, to consider standing for one of the Council positions. It is important that all geographical regions are represented on the Council and that its Members reflect the scope of the geosynthetics discipline.

## IGS Secretary, Treasurer, and Immediate Past-President

According to the IGS bylaws, Prof. F. Tatsuoka will become an IGS Officer in his capacity as Immediate IGS Past-President following the General Assembly. The Secretary and Treasurer will be elected by the new IGS Council at a meeting of the Council, after the General Assembly.

## Information/Instructions for All Candidates

Under the bylaws of the IGS, only IGS Members are eligible for these positions. Candidates must be able to travel to and attend the IGS Council meetings, which are held at least once per year. Meetings of the IGS Council are generally held in conjunction with international and regional conferences. A signed letter of application together with a

biographical note (not exceeding 12 lines) and a photograph should reach the IGS Secretary no later than 31 October 2009. Candidates must strictly adhere to the 12 line limit to ensure equal presentation space for all candidates. In their letter to the IGS Secretary, candidates must clearly identify their country of residence and position for which they are seeking election. Biographical notes and photos will be published in the 2009 November issue of *IGS News*.

The newly formed IGS Council will meet several times in different countries around the world and, when possible, in conjunction with major geosynthetics and geotechnical engineering events. Should you require further information, please contact President F. Tatsuoka or Secretary P. Stevenson (see contact information on page 33).

Reported by
Pete Stevenson, IGS Secretary

## IGS Awards: Call for Nominations 2006 – 2009 Nominations due 30 September 2009

IGS Awards will be granted in 2010 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.

The Awards recognize the achievements completed and / or the validity of which has been demonstrated during a four-year period preceding the year of the Award (i.e., 2006 through 2009 inclusive).

The winning entries will be publicized in *IGS News*, in a special press release on the IGS web site, and in other publications.

#### **Timeline and Deadlines**

Nominations must be received by the IGS Secretary no later than **30 September 2009.** 

The deadline for receipt of award candidate presentation packages is **31 December 2009**.

Presentations will be forwarded by the Secretariat to the Award Committee by 15 January 2010, and the Committee will meet by 31 March 2010 to finalize their decisions, draft citations and report.

Awards will be presented in Guarujá, Brazil, 23 - 27 May 2010 at 9 ICG.

#### The Two IGS Awards

- The Young IGS Member Award
   This Award is for IGS Members
   who are less than 36 years of age on 31 December 2009.
- The IGS Award

A maximum of five IGS Awards will be granted. Each award will consist of a specially commissioned medal and a diploma.

#### **Candidates**

Each entry is restricted to a maximum of four persons, at least one of

whom, must be an IGS Member, All IGS Members are eligible with the exception of the IGS President and Members of the Awards Committee. In the case of a group submission to the Young IGS Member Award, all members of the group must satisfy the age requirement. Any individual or group that is a candidate for the Young IGS Member Award is automatically considered for both award categories (unless requested otherwise by the candidate). However, a candidate may only receive one award for the 2006 to 2009 period.

#### **Nominations**

Candidate nominations must be typed in English on plain paper (i.e., not letterhead paper) and submitted to the IGS Secretariat (see address on page **Fehler! Textmarke nicht definiert.**). The nomination should include:

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

Nominations may be made by any IGS Member except for Awards Committee Members. Under the IGS Awards rules, any IGS Member can nominate himself/herself for any award. The Communications Committee, Education Committee, Corporate Members Committee, and

IGS Chapters are invited to make nominations.

Nominated candidates will be contacted by the IGS Secretary and asked to agree to stand for an award and will be required to submit materials as directed by the Awards Committee. All correspondence and activity 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 was formed in September 2008 at the IGS Council meeting, which was held in conjunction with the *Eurogeo 4* conference in Edinburgh.

The Awards Committee comprises five IGS Members; one of whom serves as Chair. The Committee is

appointed by the Council. The Members are selected so as to represent a broad cross section of geosynthetic-related technologies and experience. The IGS Secretary 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 Secretary, Peter Stevenson and the IGS webpage section "Handbook, Part 4 Benefits and Awards" in the "Membership only" section.

Reported by Daniele Cazzuffi, Chair of IGS Awards Committee

## **Conference Reports**

## RemTech 2008 24- 26 September 2008, Ferrara, Italy

From 24<sup>th</sup> to 26<sup>th</sup> of September the second edition of RemTech Expo – Remediation Technologies Exhibition, the first Italian event entirely dedicated to the contaminated sites, took place in Ferrara Exhibition and Conference Centre, under the auspices of more than 20 societies and institutions, including AGI-IGS, the Italian Chapter of IGS.

More than 2.000 were the qualified visitors during the three days of this successful event.

The focus of RemTech Expo were the exhibition, the opening conference, the international conference and ten workshops of very high technical and scientific contents: the entire co-ordination was ensured by the Scientific Committee, chaired by Daniele Cazzuffi (Ismes – Environmental and Territory Division of Cesi, Milano and current President of the Italian Chapter of IGS).

About a hundred of the most representative companies of environmental remediation sector choose the exhibition of Ferrara as very qualified showcase. The exhibition area, lively and specialist, included representatives and societies of the small and medium industry coming from Europe and North America.

The opening conference was focused on 'Contaminated site management from a sustainable development point of view': the opening conference was leaded by a panel including authorities, ministerial and local, main experts of remediation, representatives of industrial reality, of the university and of the public bodies, emphasizing the great interest of the event within the institutions and operators at national and international level.

The international conference included, among other famous European experts, the IGS Past President Colin Jones (UK), who presented an interesting lecture on "Electrokinetic treatment and conditioning of soils and old landfills".

Moreover, one of the ten workshops, chaired and organized by Prof. N. Moraci (Mediterranea University of

Reggio Calabria) and by Prof. R. Cossu (University of Padova), was focused on "The implementation of the European landfill directive: the role of geosynthetics".

After the opening address by Daniele Cazzuffi, Vittorio Prodi, member of the European Commission - Brussels, presented a report on the "European Commission activities on environmental issues". After these introductory presentations, a keynote lecture and two lectures were given.

The keynote lecture, presented by Jean Pierre Gourc (J. Fournier University, Grenoble, France) focused on the "Researches on landfill cap covers". The two papers presented by Stefan Baldauf, GSE Lining Technology GmbH, Hamburg, Germany and by Stefano Veggi, SGI, Milano, Italy covered, respectively, the topics of "The use of geosynthetics for the construction of final landfill capping system based on the implementation of the European Landfill Directive in Germany" and the "Implementation of the

European Landfill Directive in Italy". At the end of the workshop, a fruitful and interesting discussion on the different topics took place.

The next edition of RemTech Expo will be organised from the 23<sup>rd</sup> to the 25<sup>th</sup> of September 2009 in Ferrara.

An International Symposium on Contaminated Soils and Sediments will be organised on 23 and 24 September: the "call for abstracts" of this symposium is available at www.remtechexpo.com

Reported by Daniele Cazzuffi and Nicola Moraci, President and Secretary of the Italian IGS Chapter



Panel during the RemTech 2008 opening conference

## International Conference on "Lifetime of Geosynthetics" 22 - 23 October 2008, Dubai, United Arab Emirates

The conference "Lifetime of Geosynthetics" took place from 22 till 23 October 2008 in Dubai. About 50 participants from 13 countries worldwide joined the conference, to hear about the latest issues regarding the lifetime of geosynthetics and about different aspects of long-term behaviour.

Helmut Zanzinger of SKZ ConSem presented an overview of different geosynthetic materials applications, especially their usage in long-term applications and the expected lifetimes of geosynthetics. In particular he pointed out the long-term behaviour of polymeric geosynthetic barriers and clay geosynthetic barriers.

Dr. Hartmut Schröder of BAM reported about essential environmental factors in soil that influence degradation process in polymeric materials. He presented additives

and stabilizers and showed how long-term behaviour can be simulated with accelerated aging tests.

Peter Trubiroha of BAM explained with current examples that it is necessary to analyze aging under UV-exposure - from the time of laying until covering with soil, as well as for geosynthetics constantly exposed to UV radiation – by means of artificial weathering in the lab tests.

Presentations by Dr. John Greenwood of ERA on mechanical damage and behaviour of geosynthetics under effects of load, especially models of lifetime prediction and creep behaviour of geosynthetics, were received with great interest and ended in valuable discussions.

Twelve companies including Naue, Juta, Geofabrics Limited, Geofelt, Geosynthetics Technologies and Kabbani Construction Group, Borouge, Nakheel, Halcrow, Emirates Roofing & Insulation, Water Seal Company, DUTCO Tennant show-cased at the table top exhibition. Participants from Saudi-Arabia, Iran, Egypt, Korea, Taiwan und Singapore attended the conference... A Highlight of the conference was the technical tour to the construction site where the highest building in the world "Burj Dubai" is being built. Conference participants saw where and how geosynthetics and polymeric geosynthetic barriers are being applied.

The event was supported by sponsors Agru and Leister as well as Borouge.

Reported by Irina Bender, Project Manager, SKZ - ConSem GmbH Email: i.bender@skz.de



Technical tour to "Burj Dubai"



Speakers (left to right) Helmut Zanzinger, Dr. John Greenwood, Dr. Hartmut Schröder, Peter Trubiroha

### Third Turkish National Geosynthetics Conference 13 – 14 November 2008, Istanbul, Turkey

The Third National Geosynthetics Conference was held 13-14th November 2008 at Boğaziçi University Conference Facilities in Istanbul Turkey. Professor Cem Avci the chairman of the IGS Turkish Chapter addressed the participants in the opening ceremony and gave a brief summary of IGS and its activities. Dr Avci further stated that this conference was jointly organized with the Turkish Chamber of Civil Engineers (IMO) of Turkish Civil Engineers and Architects Association (TMMOB). This was the first conference where IMO acted as one of the organizers which underlined the importance of geosynthetic products within the Turkish Civil Engineering Profession. The second speech of the opening ceremony was given by the Chairman of the Istanbul Branch of the Civil Engineering Chamber Mr. Cemal Gökçe. Mr. Gökçe stated that IMO role as an NGO (Non-Governmental Organization) included participation and organization of conferences and educational processes whereby new engineering products such as geosynthetic materials were presented to practicing engineers. The third speaker of the opening ceremony was the founding chairman of the IGS Turkish Chapter Professor Erol Güler. He welcomed the participants as the Chairman of the Civil Engineering Department of the Host University. Dr. Güler emphasized the fact that a change in

leadership is always beneficial. He stated that the benefits of this change in this conference have been already seen, namely the presence of IMO in the organization committee and the addition of the workshop for assessing the present use of geosynthetics in Turkey. Dr. Güler also reported about future international conferences and specifically emphasized the 2010 International conference to be held in Sao Paulo, Brazil. The last speaker of the opening session was Prof. Kadri Özçaldıran, the Rector of Boğazici University who welcomed all the participants to the University campus. Prof. Özçaldıran stated that it gave him great pleasure to observe that a branch of geotechnical engineering "flourishes" on this campus, where Karl Terzaghi laid the foundations of soil mechanics.

More than one hundred engineers participated in the conference. The participants came from all over Turkey and Turkish State of Northern Cyprus. Attendants were from academia, engineering and geotechnical design offices, contractors, producers and from governmental agencies.

Three invited key-note lectures were organized where each lecture lasted more than one hour. The first key note lecture was presented by Dr. Dimiter Alexiew who presented the use of geogrids on piled embank-

ments. The second key-note lecture was presented by Dr. Nigel Webb on the subject of geosynthetic clay liners. Since these two lectures were held in English, simultaneous translation was provided for those who were not fluent in English. The third key-note lecture was given by Professor Guler on the subject of Behavior of Geosynthetic Reinforced Wall Under Earthquake Loading.

A total of sixteen papers were presented during the conference. The papers consisted of scientific research articles as well as case studies including environmental application case studies.

The workshop-open discussion proved to be quite useful. The main results of the open discussion session can be summarized as follows:

- there is a need for further design specification for the Turkish Construction market:
- the importance of laboratory testing is not fully appreciated; this included a lack or limited provision of commercially available laboratories. It was decided that the present laboratory facilities should be listed on the web page of the IGS Turkish Chapter to increase the demand for tests;
- the role of academia should be further stressed in the Public organizations dealing with geosynthetic related products.

The Director of the 14th Division of State Water Works Mr. Cüneyt Gerek reported on the newly published geosynthetics specification of his organization.

During the conference a powerpoint presentation related to the 9th International Conference on Geosynthetics was made.

Reported by
Orkun Akkol, IGS Turkish Chapter
Secretary



Professor Cem Avcı, chairman of the IGS Turkish Chapter.



Chairman of the Civil Engineering Chamber - Istanbul Branch, Mr. Cemal Gökçe



Founding chairman of the IGS Turkish Chapter Professor Erol Güler



Professor Kadri Özçaldıran, the Rector of Boğaziçi University.

# IGS President Fumio Tatsuoka Delivers the 19<sup>th</sup> Nabor Carrillo Lecture at the 24<sup>th</sup> National Conference of Mexican Society of Soil Mechanics (SMMS) 29 November 2008, Aguascalientes, Mexico

The Nabor Carrillo Lecture is the highest honor bestowed by the Mexican Society of Soil Mechanics (SMMS) in recognition to outstanding contributions in Geotechnical Engineering. In November 2008, on the occasion of the 24<sup>th</sup> National Conference of the SMMS, IGS President Fumio Tatsuoka was honored with his selection as the 19<sup>th</sup> Nabor Carrillo Lecturer. Dr. Tatsuoka delivered to an audience of almost 450 attendees an outstanding presentation on "Geosynthetics-Reinforced Soil Structures: A

Cost-Effective Solution Combining Two Engineering Disciplines."

The 24<sup>th</sup> National Conference was organized by the Mexican Society of Soil Mechanics. It took place in the beautiful colonial city of Aguascalientes, located north of Mexico City, from November 27 to November 29, 2008. The Carrillo lecture was the highlight of the national conference, and it was offered immediately before its closing ceremony. We should remember that our Mexican IGS chapter was founded only two years ago, and that the very first

Pan-American Geosynthetics Conference took place in Cancún in March 2008. Consequently, Dr. Tatsuoka's selection for the most prestigious geotechnical lecture in Mexico adds to the growing impact of geosynthetics and of the IGS not only in Mexico but also in Latin America.

The Carrillo Lecture dates back to 1972 when the founder of the SMMS, Dr. Carrillo, was honored by the first Carrillo Lecture, which was delivered by soil mechanics pioneer Arthur Casagrande. Since that date,



Opening ceremony of the 19<sup>th</sup> Carrillo Lecture in Aguascalientes, Mexico: SMMS President Dr. Constantino, Carrillo Lecturer and IGS President Dr. Tatsuoka, SMMS organizer Dr. Mendoza, and IGS Vice President Dr. Zornberg.

the Carrillo Lecture has been delivered on a biannual basis by the most recognized experts in the geotechnical field. The theme of the National Conference was "The New Challenges of Geotechnical Engineering in the 21st Century." And geosynthetics played a significant role in this conference! The technical program of the conference was excellent, and the social events organized throughout the event were outstanding. Additional keynote lectures at the conference were delivered by Dr. Michele Jamilkowski, Dr. Liam Finn, and Dr.

Jorge G. Zornberg. Dr. Manuel Mendoza from SMMS coordinated the Carrillo Lecture event in an impeccable manner. The Carrillo Lecture was followed by the society elections, which resulted in immediate past-president Dr. Rigoberto Rivera-Constantino welcoming the new SMMS president Mr. Walter Paniagua.

Dr. Tatsuoka's lecture focused on the theory and practice of geosynthetic-reinforced technology, with emphasis on spectacular projects constructed in Japan and throughout the world. Controversial topics

such as the use of poorly draining fills in reinforced soil construction, geosynthetic-reinforced bridge abutments, the use of peak versus residual shear strength in design, and time-dependent behavior of reinforced soil structures were thoroughly discussed and illustrated. The lecture concludes by presenting strong evidences of the cost-effectiveness of geosynthetic-reinforced alternatives as well as the most promising technical advances offered by geosynthetics. The outstanding, 174-page long lecture is available in its entirety through:

https://web-

space.utexas.edu/xythoswfs/webui/ xy-29601650 docstore1-t Uko qOiWr

In addition, the organizers of the Carrillo Lecture did the most magnificent job in translating the entire manuscript into Spanish, which is also available to our Spanish-speaking IGS membership through:

https://web-

space.utexas.edu/xythoswfs/webui/\_xy-29601651\_docstore1-t\_bU GhLz69

The recognition of Dr. Tatsuoka to deliver the Carrillo Lecture is another well-deserved accolade to the fruitful career of our distinguished IGS President.

Reported by Jorge G. Zornberg, Vice President of IGS

## International Conference on Geosynthetics in Public Works 17 – 18 November 2008, Algiers, Algeria

The International Conference on Geosynthetics in Public Works was held in Algiers, Algeria, on 17-18 November 2008 under the auspices of the Ministry of Public Works. The theme of the conference was "utilisation of geosynthetics in public works" and addressed issues which continue to be a major preoccupation for governments, public and private organisations and the general community around the world. More than 120 delegates attended the conference, including delegates from Spain, France and Australia reflecting its international flavour.

The conference program featured three Keynote Lectures, one short course and four technical sessions. The keynote lectures were presented by Mr Djidjeli, Research Director at the Ministry of Public Works, Algeria, Professor Jean Pierre Gourc, University Joseph Fourier, Grenoble, France and Dr. Belabdelouahab, ENTP, Algeria. This was followed by a short course which covered a general introduction to geosynthetics, hydraulic applications, reinforcement and certifications and standards. These were presented by Dr. Arab, Afitex Alge-

ria, Prof. Jean Pierre Gourc and Prof. Pascal Villard, University Joseph Fourier, and Francois Caquel, Secretary French Chapter of IGS.

The 4 sessions included a state of the practice on geosynthetics in public works, use of geosynthetics in coastal protection, reinforcement of airfields and slope reinforcement and stability. Parallel to the different technical sessions, a technical exhibition featured a strong presence of geosynthetics manufacturers and suppliers.



Organisers and invited speakers of Conference on Geosynthetics in Public Works in Algiers

The conference successfully brought together people working in industry, academia and the public sector to discuss the latest ideas and developments in Geosynthetics and related fields.

Reported by Abdelmalek Bouazza, IGS Council Member

## International Seminar Geosynthetics India'08 and Introductory Course on Geoynthetics

19 - 21 November 2008, Hyderabad, Andhra Pradesh, India

To be abreast with the latest development in the field of Geosynthetics, an International Seminar "Geosynthetics India'08", including "An Introductory Course on Geosynthetics" was organised by the Indian Chapter of International Geosynthetics Society and the Central Board of Irrigation & Power (CBIP) at Hyderabad (India) at Hotel Golkonda during 19 - 21 November 2008.

The event was attended by 98 engineers/professionals from various parts of the country and from Israel, Thailand and USA. The event was sponsored by Garware Wall-Ropes Ltd., GSE Lining Technology Co. Ltd., NAUE GmbH & Co. KG and PRS Mediterranean Ltd. The organisations like GSE Lining Technology Co. Ltd., International Marketing Services, NAUE GmbH & Co. KG, PRS Mediterranean Ltd; Israel, Techfab (India) Industries Ltd. and TRI/Environmental, Inc., USA, exhibited their products/services during the event.

Following topics were covered during the Introductory Course on Geosynthetics, which was inaugurated by Mr. S. Jaswant Kumar, Chief Engineer, Roads & Building

Department, Government of Andhra Pradesh:

- Geosynthetics Types, Manufacturing, Materials and Functions -Dr. G. Venkatappa Rao; President; Indian Chapter of IGS,
- Geosynthetics Testing Dr.
   A.R. Katti; Principal; Data Meghe
   College of Engineering
- Geosynthetic Reinforced Soil Structures - Mr. M. Venkataraman; Advisor; Geosynthetics Division; Garware Wall Ropes Ltd
- Geosynthetics in Landfills Mr. M. Venkataraman; Advisor; Geosynthetics Division; Garware Wall Ropes Ltd
- Geosynthetics in Pavements Dr.
   G. Venkatappa Rao; President;
   Indian Chapter of IGS
- Geosynthetics in Erosion Control -Mr. C.R. Devaraj; Managing Director; Charankattu Coir Mfg. Co. (P) Ltd.

The Seminar was inaugurated by Dr. K.S. Jawahar Reddy; Metropolitan Commissioner; Hyderabad Metropolitan Development Authority on 20<sup>th</sup> November 2008. The inaugural session was presided over by Mr. I.S.N. Raju; Chief Engineer (CDO);

Irrigation & CAD Department; Government of Andhra Pradesh.

Following two publications were released by Dr. K.S. Jawahar Reddy during the inaugural session:

- Directory of Geosynthetics in India
- Geosynthetics Testing A Laboratory Manual (authored by Dr. G. Venkatappa Rao and Dr. Goutam K. Pothal)

Lectures on the following topics, besides the case studies were presented during the seminar, by Dr. G.V. Rao, Dr. A.R. Katti, Dr. Goutam K. Pothal, besides eminent professionals from Ahmedabad Textile Industry's Research Association, Central Road Research Institute, Coir Board, Garware Wall-Ropes Ltd., GSE Lining Technology Co. Ltd. (Thailand), Indian Jute Industries' Research Association, Maccaferri Environmental Solutions Pvt. Ltd., National Institute of Research on Jute & Allied Fibre Technology, PRS Mediterranean Ltd. (Israel), Roads & Buildings Department; Government of Andhra Pradesh, Sohams Foundation Engg. Pvt. Ltd., Techfab (India) Industries Ltd., TRI/Environmental, Inc.

Vector Engineering , Inc. (USA), Z-Tech (India) Private Ltd.

- Geoenvironmental Applications of Geosynthetics
- Design of Geo-Strip Reinforced Soil System
- New Uses of Coir Geotextiles
- The Quality Assurance of Geosynthetics and Its Implications for Developing Economies
- Reinforced Soil Wall
- Use of Prefabricated Vertical Drains (PVD) for Ground Improvement Application
- Geogrid Reinforced Soil Walls with Welded Wire Mesh facing to Retain the Approaches to a Flyover
- Design and Construction of the Bena Landfill, Kern County, California, USA

- Design and Development of Secured Landfill Facility
- Geosynthetics for Lining System and Reinforced Slope for Landfills
- Behaviour of Geosynthetic Reinforced Pond Ash Overlain by WMM
- Field Studies on Geotextile Usage for Road Construction - CRRI Experience
- Geosynthetics in Hydraulic Structures
- Application of Impervious Geomembrane to Control Seepage in Dams and Improve Long Time Behaviour
- Three Dimensional Cellular Confinement System Contribution to Structural Pavement Reinforcement
- Impervious HDPE Geomembrane for Liquid Containments

- Slope Stabilisation with Jute Geotextiles - Two Case Studies
- Geo-Jute for Rural Road Construction

The event concluded with the panel discussions headed by Dr. G.V. Rao. The other panelists were Dr. G.V.S. Suryanarayana Raju; Chief Engineer (NABARD); Roads & Buildings Department; Government of Andhra Pradesh and Mr. A.C. Gupta, Treasurer, Indian Chapter of IGS and Director (Water Resources), CBIP.

Reported by A.C. Gupta, Treasurer of Indian Chapter of IGS



Inauguration of the International Seminar, in Indian Tradition - (left to right) – Mr. I.S.N. Raju; Chief Engineer; Irrigation & CAD Department; Government of Andhra Pradesh, Dr. K.S. Jawahar Reddy; Metropolitan Commissioner; Hyderabad Metropolitan Development Authority, Dr. G.V.S.S. Raju; Chief Engineer, Roads & Buildings Department; Government of Andhra Pradesh, Dr. G.V. Rao; President; Indian Chapter of IGS and Mr. A.C. Gupta; Treasurer; Indian Chapter of IGS



Release of Geosynthetics Testing – A Laboratory Manual - (left to right) - Mr. A.C. Gupta, Dr. G.V. Rao, Dr. K.S. Jawahar Reddy, Dr. G.V.S.S. Raju and Mr. I.S.N. Raju

## Third International GSI-Taiwan Geosynthetics Conference 3 December 2008, Pingtung, Taiwan

The third GSI-Taiwan conference was held on the campus of National Pingtung University of Science and Technology on December 3rd, 2008. The conference theme was the applications of geosynthetics in Soil and Water Conservation Engineerings. Mr. Lin, Chief Engineering, Bureau of Soil and Water Con-

servation, Taiwan, Mr. Sam Allen, Board Director of GSI, Dipl.-Ing. Helmut Zanzinger, SKZ – Das Kunststoff-Zentrum, Mr. Hitoshi Pyama, Manager, Raito Kogyo Co. and serveral local researchers and experts were invited to give technical presentations. Totally, 8 technical papers were presented. 18 ex-

hibitors demonstrated their products and over 250 engineers, government officers, and technians attended the conference.

Reported by Chiwan Wayne Hsieh, IGS member Taiwan



Participants of Third International GSI-Taiwan Geosynthetics Conference



Professor Chiwan Wayne Hsieh, Director of GSI-Taiwan, gave a greeting speech to the audience during the opening ceremony of the conference



Dr. Dave T.T Chen, Chairman, West Pacific Chapter, IGS, presented a technical paper entitled on "The Research Study for Geosynthetics Applications Weathered Mudstone" during the conference.

## 7<sup>th</sup> International R&D Conference 4 - 6 February 2009, Bhubaneswar, Orissa, India

The Central Board of Irrigation & Power (CBIP), the Secretariat of the Indian Chapter of IGS, has been disseminating technical knowledge in India, since its establishment in 1927, and has been organizing International R&D Conferences, since 1995, with a view to share research results at global level.

During the 7<sup>th</sup> International R&D Conference, held in Bhubaneswar (Orissa) during 4-6 February 2009, there was a Special Session on "Applications of Geosynthetics in Water Resources Projects", with a view to promote the activities of IGS in India. The session was chaired by Dr. G.V. Rao, President, Indian Chapter of IGS, who also gave a keynote presentation on "Geosynthetics Applications in Water Re-



Dr. G.V. Rao; President; Indian Chapter of IGS delivering his keynote address on "Geosynthetic Applications in Water Resources Projects"

sources Projects". The conference was attended by over 500 delegates from all parts of India. Besides the keynote address, papers on the following topics were also presented and discussed during the session:

- Testing and Evaluation of Geosynthetics Products
- Application of Geosynthetics and Hexagonal Mesh Products in River Training and Coastal Protection Works
- First Geomembrane Installation in a Hydropower Canal in India

Reported by A.C. Gupta, Treasurer of Indian Chapter of IGS

## FS-KGEO 2009 12 February 2009, Munich, Germany

The German special section of the German Geotechnical Society (DGGT) and the German IGS Chapter organized FS-KGEO 2009, the 11<sup>th</sup> national conference on geosynthetics, on 12 February 2009 at the Technical University of Munich again under the auspices of IGS.

After opening the conference by Prof. Martin Ziegler the chairman of the German IGS chapter, Dr. Daniele Cazzuffi (Immediate-past president of IGS) sent the regards on behalf of IGS and presented the actual activities of IGS with the focus on the next international conference of IGS 2010 in Brazil.

On behalf of the German IGS Chapter Prof. Martin Ziegler congratulated Prof. Georg Heerten on his 60<sup>th</sup> birthday and presented a small gift from the colleagues of the FS-KGEO during the opening ceremony.

Afterwards he introduced the conference where site reports on subsoil improvements, steep slopes and embankments were given as well as actual research results on the mechanical interaction of geosynthetics and soil, filtration, sealing and long term behaviour. The abstracts of the papers (in German and English) will be placed on the webpage of the chapter as well as some photos of the event

(www.gb.bv.tum.de/fachsektion/tag ung/nr11/b infoveranstaltung.htm).

The full text of the presentations will be published in proceedings available later in 2009. The availability will be announced on the webpage also.

For the conference the 250 german speaking attendees came, besides Germany, from Austria, Switzerland,



The chairmen of the German IGS Chapter with IGS Officer (from left: Prof. G. Heerten, Dr. D. Cazzuffi, Prof. M. Ziegler, G. Bräu)

the Netherlands, Czech Republic, Italy and Turkey.

Embedded in the conference program was the membership meeting of the special section FS-KGEO and the German IGS Chapter. Prof. Ziegler showed the main events of the passed period where the highlights were the special lecture of Prof. Tatsuoka ("Recent developments in practice and research of geosynthetic-reinforced earth structures in Japan"), President of IGS, at the 30<sup>th</sup> "Baugrundtagung" of the German Geotechnical Society in Dortmund. Another main topic was the bid of DGGT and the German IGS Chapter to host the 10<sup>th</sup> International Conference on Geosynthetics of IGS in Berlin 2014 in with 33<sup>rd</sup> combination the "Baugrundtagung". The final decision will be taken by IGS in the end of 2009. This was followed by reports of the heads of the associated working groups

(<a href="http://www.gb.bv.tum.de/fachsektio">http://www.gb.bv.tum.de/fachsektio</a> n/a arbeitskreise.htm):

- AK 5.1: Geosynthetics in geotechnics and hydraulic engineering.
  - Prof. Dr.-Ing. F. Saathoff
- AK 5.2: Calculation and dimensioning of geosynthetic reinforced soil systems,
- Dipl.-Ing. G. Bräu
- AK 5.3: Geosynthetics in road constructions,
- Dipl.-Ing. A. Lippert

  AK 5.4: Sealing sys:
- AK 5.4: Sealing systems in hydraulic engineering, Prof. Dr.-Ing. G. Heerten
- AK 5.5: Tailings, Dr.-Ing. M. Lersow

The FS-KGEO 2009 conference was accompanied by a technical exhibition in the hall in front of the lecture room. The geosynthetics and geotechnical exhibitors confirmed a good response, also due to the direct connection to the "Geotechnik-Tag 2009" - a geotechnical conference of Prof. Vogt, the head of TU München - Zentrum Geotechnik.

The FS-KGEO 2009 was preceded by a seminar dealing with the EB-GEO - Recommendation for reinforcement with geosynthetics (see page 20). The presentations of this event as PDF-files can be ordered at the above mentioned webpage.

The next german geosynthetics conference will be FS-KGEO 2011.

Reported by Martin Ziegler and Gerhard Bräu, IGS Council members

## **Geosynthetics 2009**25 - 27 February 2009, Salt Lake City, Utah, USA



The biennial Geosynthetics conference convened in Salt Lake City, Utah 25-27 February 2009. Geosynthetics 2009 was made possible through cooperation of many key groups: the Industrial Fabrics Association International (IFAI) managed the event; it was held under the auspices of the International Geosynthetics Society (IGS); and support was provided by the North American Geosynthetics Society (NAGS), the Geosynthetic Materials Association (GMA), and the Geosynthetic Institute (GSI), which held its 22<sup>nd</sup> GRI conference ("It's All in the Details") in conjunction with Geosynthetics 2009 on the last day of the event.

The conference operated with the theme "Hydraulic and Environmental Engineering," two subjects key to Western states like Utah. In support of that Western focus, David Paul of the US Bureau of Reclamation (BuRec) provided insight into engineering with geosynthetics in the region during an opening keynote address and John Volk of URS

delivered a keynote address on the Interstate-15 and Woodrow Wilson Bridge projects in Utah that relied heavily on geosynthetic expertise.

An additional keynote lecture - the Terzaghi Lecture - was delivered by Dr. JP Giroud, who took attendees through "Criteria for Geotextile and Granular Filters"; a subject applicable to design and engineering understanding throughout the world.

While the keynote speakers, committees and supporting associations and societies are crucial for the organization and angle of an event, no conference is truly possible without the activity and funding provided by attendees, authors and exhibitors, of course. Geosynthetics 2009 featured 76 papers presented across 22 technical sessions, 820 registered participants, 86 exhibitors, and 5 short courses.

Panel discussions such as one on polypropylene geomembranes provided spirited debate and reinforced the reason we enjoy gathering and why we need to gather. That which comes of discussion among colleagues in session, during breaks, and in the evening outside of conference events can be just as significant as what we learn in reading one another's project stories and research results.

In addition to the expected session debate, this installment of the Geosynthetics series included an "Innovative Theater" located in the exhibit hall. This large-screen presentation zone allowed speakers to introduce attendees to new technologies, such as the interaction of fiber optics and geosynthetics and a new flexible geomembrane formulation.

The Geosynthetics series is a seminal gathering for North America's geosynthetics practice. The next installment, which will take place in early 2011 (city and dates yet to be finalized) promises to be strong as the event will join again with the American Society of Civil Engineers (ASCE) Geo-Institute to deliver Geo-Frontiers 2011. The last Geo-Frontiers took place in Austin, Texas in 2005.

Conference proceedings from Geosynthetics 2009 are available from the IFAI Bookstore (www.ifai.com).

Reported by
Chris Kelsey, Editorial Director of
geosynthetica.net
Photos courtesy of geosynthetica.net and Geosynthetics
magazine



Geosynthetic 2009's exhibition area offered plenty of gathering opportunities



Many groups used the conference site for their annual meetings. Seen here: Bob Koerner of the Geosynthetic Institute (GSI) during GSI's annual meeting.



The sessions were well-attended. Seen here: Steve Perkins speaking during the session on "Field Construction and Trafficking of an Unsurfaced Geosynthetic-Stabilized Road."



Opening night reception in the exhibition

### **Announcements of Conferences of IGS**

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



The 9ICG is being organized by IGS Brasil, the Brazilian Chapter of the International Geosynthetics Society, and ABMS, the Brazilian Association for Soil Mechanics and Geotechnical Engineering, under the auspices of IGS, the International Geosynthetics Society (IGS) and supported by ABINT, the Brazilian Association of Nonwoven and Technical Textiles Industries.

#### **Conference Aims**

The aims of this conference are to offer:

an outstanding opportunity of exchange knowledge and experiences between geosynthetic researchers, consultants, owners, geotechnical and environmental engineers, geosynthetic manufactures, project regulators, contractors and academics through discussion about the main geosynthetics themes, which comprises keynote lectures, paper presentations and debates.

 an overview of new technologies and innovations, by offering a large forum to engineers and researchers.

The conference will be conducted at high scientific and technical levels, and will present applications information to match the expectations of all participants.

#### **Technical Program**

The conference will highlight the main topics in the geosynthetic industry and applications. The traditional Giroud Lecture will be delivered in a special session. Keynote lectures and selected papers will be presented on the main themes, which are:

- Case Histories
- Design Approaches and Numerical Solutions
- Drainage and Filtration
- Durability and Long Term Performance
- Geosynthetics in Agriculture and Aquaculture
- Geosynthetics in Dynamic Applications
- Geosynthetics in Environmental Applications
- Geosynthetics in Highways and Railways
- Geosynthetics in Hydraulic Applications

- Geosynthetics in Mining Applications
- Geosynthetics Properties
- Innovative Uses and Solutions
- New Geosynthetic Products
- Reinforced Walls and Slopes
- Reinforcement of Embankments and Unpaved Roads
- Soil-Geosynthetic Interaction

#### **Exhibition**

An International Exhibition will be opened to the conference delegates and visitors to show the latest technological innovations and services provided by the geosynthetics industry. The conference venue has outstanding exhibition facilities, with 2,000 m<sup>2</sup> of available space for about eighty exhibitors (manufacturers, laboratories, consultants, contractors, suppliers, installers, agencies, project offices, and all organizations related to geosynthetics). Detailed information for both the 9IGC and the international exhibition will be available after May, 1<sup>st</sup>, 2008, at the conference website: www.9icg-brazil2010.info

#### Venue

The 9ICG will be held at Sofitel Jequitimar Hotel in Guarujá, Brazil. Guarujá is a beautiful coastal town about 90 km from the city of Sao Paulo, which is the biggest me-

tropolis in South America and offers a large variety of cultural, touristic and gastronomic attractions.

#### Language

English will be the official language of the Conference.

#### **Important Deadlines**

Papers submission for individuals: July 31<sup>st</sup> 2009 Papers submission for IGS Chapters: July 31<sup>st</sup> 2009

#### **Conference Secretariat**

9ICG - Brazil 2010

Av. Brigadeiro Faria Lima, 1478 sala

314, São Paulo, SP, 01451-001, Brazil.

Tel.: + 55 11 3032 3399 Fax: + 55 11 3819 6311

E-mail: <a href="mailto:info@9icg-brazil2010.info">info@9icg-brazil2010.info</a> website: <a href="mailto:www.9icg-brazil2010.info">www.9icg-brazil2010.info</a>

## GeoAfrica 2009, 2 - 5 September 2009 Cape Town, South Africa



**GeoAfrica 2009** will present a forum for consulting engineers, manufacturers, installers and academics to exchange information about current and potential applications for geosynthetics in Africa.

This will be the first conference to be held under the auspices of the IGS and in association with the Geotechnical Division of the South African Institution of Civil Engineering (SAICE) in the region, and will present an opportunity to meet the top geosynthetics specialists and prospects on the continent. Every visitor to the exhibition floor will be a potential customer, and professionals seeking geosynthetic solutions to their challenges will attend each technical session. This will be the largest gathering of geosynthetics professionals seen in Africa to date.

#### Language

English is the official language of the conference.

#### **Update on Abstracts Received**

There has been a wonderful response to the call for abstracts (now oversubscribed), from all over the world, and a wide range of topics has been offered. This will lead to an excellent conference technical programme.

#### **Important Dates**

Return of Reviewed Papers to Authors for Correction (if required):

30 May 2009

Receipt of Final Papers:

15 June 2009

Authors' Registration and Payment

of Attendance Fee:

30 June 2009

Printing of Abstracts and Conference Programme Hard Copy Book:

15 June 2009

Presentation of Papers:

2 - 4 September 2009

#### **Registration Critical Dates**

Early bird registration closes:

31 March 2009

Registration and payment closes: 31 July 2009

#### **Exhibition**

The conference will include an exhibition for the specification and trade of geosynthetic products and technology to users throughout Africa, as well as those wishing to make an entry into the continent. All exhibition space has been sold!

Details of the conference have been finalised. If you would like to participate in this major event, please send an e-mail with your contact details to Leslie Ferreira at <a href="mailto:lesley@cebisaconferences.co.za">lesley@cebisaconferences.co.za</a> and we will put you on the conference mailing list.

## Exhibition Stand Sales Closed! 31 July 2009

Build-up: 1 September 2009 Breakdown: 4 September 2009

#### For more Information

Conference & Exhibition & Secretariat: Lesley Ferreira, Email: <a href="mailto:lesley@cebisaconferences.co.za">lesley@cebisaconferences.co.za</a>

Tel: +27 21 559 4574

Fax: +27 21 559 4574/086 692 7220

Web site: <a href="www.gigsa.org">www.gigsa.org</a> or <a href="www.gigsa.org">www.GeoAfrica2009.org</a>

GeoAfrica2009 Conference Registration is now open at http://www.geoafrica2009.org/geoafrica 2009/RegParty.aspx

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

## Geo-Environmental Engineering 2009, 10 - 12 June 2009 Vancouver, Canada



The Department of Civil Engineering, University of British Columbia will host a three-day geoenvironmental engineering conference, jointly organized by:

- Korea Institute of Construction Technology, Korea
- · GSGES Kyoto University, Japan,
- Seoul National University, Korea
- University of British Columbia, Canada
- University Joseph Fourier, France The conference will be held under the IGS auspices

#### **Objectives**

The Geotechnical and Environmental professions have long been contributing to understanding contaminated site issues. This 3-day conference will bring together professionals who seek solutions to geoenvironmental problems from many disciplines including geotechnical, geological, mining, chemical and environmental engineering, biologists, toxicologists from industry, the regulatory community, and academia to seek new solutions to

technical and regulatory issues regarding geoenvironmental engineering and contaminated sites.

#### The conference themes will be

- Policy and Application
- Site Characterization and Investigation
- Investigation Techniques(e.g. Soil, groundwater)
- Environmental Sustainability
- Environmental Risk Assessment and Management
- Remediation of Contaminated sites and Related Topics
- Waste Containment Systems / Landfill / Waste Management
- Case Studies in Mining & Industrial Contaminated Sites
- Contribution to Global Environmental Problems
- Fate and Transport of Contaminants
- Other Related Geo-environmental Science and Engineering Topics

#### The conference will include

- Presentations of approximately 15 minutes duration
- Poster displays
- Distribution of accepted conference abstracts. Abstacts and presentations will be posted online
- Daily hosted lunch and two coffee breaks.
- · Conference banquet

 One-day post-conference tour (optional!) on June 12, 2009 to Hartland Landfill and the City of Victoria (Cost to be determined; will occur only if there is sufficient interest!)

#### **Important Dates**

Submission of Abstracts April 15, 2009

Acceptance of Abstracts

April 30, 2009

Submission of Power Point Presentation

June 1, 2009

#### Language

English is the official language of the conference

#### For more Information

Conference Chair:

Loretta Li, Ph.D., Ph.D., P.Eng. Associate Professor (Geo - Environmental Engineering), Department of Civil Engineering, University of British Columbia

6250 Applied Science Lane, Vancouver, Canada V6T 1Z4

Tel: 604-822-1820 Fax: 604-822-6901 E-mail: <u>lli@civil.ubc.ca</u> http://gee2009.civil.ubc.ca

Sardinia 2009, 5 - 9 October 2009

Twelfth International Waste Management and Landfill Symposium
S. Margherita di Pula, Cagliari, Italy



Waste management strategies and technologies are currently undergoing rapid development. The Sardinia Symposia were established in order to make knowledge and experiences in this field readily available. The Symposia have become the Reference Forum, where leading experts meet and present their research activities and experiences and discuss new concepts and

technologies. The Symposia have witnessed and contributed world-wide to the development of modern waste management strategies such as the integrated waste management hierarchy, recovery of energy and sustainable landfilling.

The Symposium will focus on innovative aspects of Sustainable Waste Management, presenting new technologies, describing the state of

the art and related case studies, discussing controversial subjects, sharing experiences among different countries, and evaluating social and economical balances.

The Symposium will include oral presentations, poster sessions, specialized sessions and specific workshops. Training courses will be offered by the IWWG under the supervision of international leading experts before the start of the Symposium.

The Symposium will be organised by IWWG - International Waste Working Group and CISA - Environmental Sanitary Engineering Center (IT) under the auspices of the IGS.

#### **VENUE AND LOCATION**

Sardinia 2009 will be held on the Forte Hotel Village Complex situ-

ated near S. Margherita di Pula (Caligari), Sardinia

#### **SYMPOSIUM THEMES**

The Symposium will last five days and will deal with municipal and commercial solid waste, hazardous waste and special waste including the following topics:

- Waste policy and legislation
- Waste management strategies
- Public participation and education
- Waste management assessment and decision tools
- Waste characterisation as a tool for waste management strategies
- New concepts for waste collection
- · Waste minimisation and recycling
- Biological treatment
- Thermal treatment and advanced conversion technologies
- Mechanical biological treatment prior to landfilling
- Sanitary landfilling

- Integrated wastewater and solid waste management
- Waste management and climate change
- Waste management in developing and low income countries
- · Special sessions

#### **EXHIBITION**

A commercial exhibition will be held during the conference where associations and companies can display technical literature and other material.

#### Contact

Sardinia 2009 Organising Secretariat - Eurowaste Srl

Via Beato Pellegrino 23 - 35137 Padova (Italy)

E-mail: eurowaste@tin.it

# Int. Symp. on Geotechnical Engineering, Ground Improvement and Geosynthetics for Sustainable Mitigation and Adaptation to Climate Change including Global Warming 2-3 December 2009, Bangkok, Thailand

During the recent past, the intensity of torrential rainfall and its subsequent destructive influence on human community has become severe and unpredictable due to climate change including global warming. Major water related hazards in the soil slopes with weak geological conditions are sedimentrelated hazards or debris flows that initiate from rain-triggered landslide, massive slope failure or soil erosion or simply remobilization of deposited materials on high-gradient rainfall run-off channel beds. The effect of climate change including global warming, however, is not only limited in causing landslide disasters with an increased frequency but also in increasing the frequency of occurrence of a variety of natural disasters. The intergovernmental panel on climate change (IPCC) reports that residences of many more millions of people are projected to be flooded every year through the 1980s because of rising sea level. These, densely populated and low-lying areas where adaptive capacity is insufficient, and which

are already under threat owing to tropical storms, land subsidence, river bank and coastal erosion, are at an increased risk. Moreover, recent news items, in support of the above IPCC reporting, has identified that insurance companies blaming bad weather slashing down their profit forecasts by millions of dollars. Consequently, the insurance companies have been forced to raise the insurance premium to recoup their losses. Recent technological advancements in general and those particularly in the areas of Geotechnical Engineering, Ground Improvement together with Geosynthetic Engineering have been contributing greatly in undertaking scientific and systematic methodologies for assessing the risk associated with natural hazards of all kinds as well as the associated sustainable mitigation and adaptation strategies. In the interest of sharing advancements state-of-the-art, and as a follow up to the previous International Symposium on Geotechnical Engineer-Ground Improvement and Geosynthetics for Human Security and Environmental Preservation held in December 2007, an International Symposium on Geotechnical Engineering, Ground Improvement and Geosynthetics for Sustainable Mitigation and Adaptation to Climate Change including Global Warming is jointly organized from 2 to 3 December 2009 to be held in Bangkok, Thailand by

- Southeast Asian Geotechnical Society (SEAGS),
- International Geosynthetics Society Thailand (IGS Thailand) and
- Asian Center for Soil Improvement and Geosynthetics( ACSIG)

#### The conference themes will be

- Geosynthetics for Climate Change due to Global Warming
- Geosynthetics for Coastal and Riverbank Erosions
- Geosynthetics for Sustainable Infrastructures including Limited Life Geosynthetics
- Geosynthetics for Human Security
- Geosynthetics for Water Conservation

- Geosynthetic for Food and Agriculture
- Landslides and Debris Flows due to Rainfall during Storms and Typhoons
- Mechanics of Rain-Triggered Landslides and Debris Flows
- Early Warning System for Landslides and Debris Flows
- Risk Assessment of Rain-Triggered Landslides and Debris Flows
- Case Studies of Coastal Erosion and Mitigation
- Case Histories of Riverbank Erosion and Mitigation

#### **Technology Visit and Exhibition**

A comprehensive technical exhibition for ground improvement and

geosynthetics as applied to disaster control, mitigation and rehabilitation will be organized at the venue of the Symposium which is to be announced in due course. For booking, please contact the Conference Secretariat.

#### **Important Dates**

Deadline of Abstract Submission: 31 May 2009

Notification of Acceptance: 31 July 2009

Deadline of Camera-Ready Papers: 30 September 2009

#### Language

English is the official language of the conference

#### For more Information

Prof. Dennes T Bergado, Direc-

tor/ACSIG

E-mail: bergado@ait.ac.th

Mr. Sonny Montablo, Mana-

ger/ACSIG

Phone: +66-2-524-5523 E-mail: acsig@ait.ac.t

www.set.ait.ac.th/acsig/conference

reported by

Dennes T Bergado, President of

IGS Thai Chapter

## News from the IGS Chapters and the Membership

## **RCIGS – Russian Chapter of IGS**

The Russian chapter of IGS (abbreviation RCIGS) was founded in 2006. Initially it consisted of 20 members. Among them are 8 Professors with Dr.Sc. degree and 11 members with Ph.D. degree. In 2008 RCIGS was officially registered in IGS.

Geographically RCIGS comprise vast territories of Russian Federation and CIS countries (Commonwealth of Independent States) – from Poltava (Ukraine) at the west to Novosibirsk (Russia) at the east and from Archangelsk (Russia) at the north to Baku (Azerbaijan) at the south.

RCIGS was established in Perm (Russian Federation, West Ural) by initiative group in 2006.

The first president of RCIGS is Professor Andrey B. Ponomaryov (Perm State Technical University) (e-mail: <a href="mailto:andreypab@mail.ru">andreypab@mail.ru</a>), secretary — Dr. Vadim G. Ofrikhter (e-mail: <a href="mailto:ofrikhter@permonline.ru">ofrikhter@permonline.ru</a>),

correspondent of RCIGS – Dr.

Vladimir. I. Kleveko (e-mail: vlivkl@pochta.ru)



V. Ofrikhter (RCIGS Secretary), Ponomarev (RCIGS President),
 V. Kleveko (IGS News Correspondent for RCIGS)

Reported by Vladimir I. Kleveko, IGS News Correspondent of RCIGS

## J.P. Giroud elected to the US National Academy of Engineering



IGS Honorary Member J.P. Giroud, Ph.D., was elected to the 2009 class of the National Academy of Engineering.

The Past President and Honorary Member of IGS, Jean-Pierre Giroud, Ph.D., Chairman Emeritus of Geosyntec, has been elected to the National Academy of Engineering (NAE) in the US, one of the very highest professional distinctions given to an engineer. His election

citation reads: "For pioneering research in geosynthetics engineering and its practical application in civil/geotechnical engineering."

Dr. Giroud was among 65 newly elected members into the Academy. The NAE was founded in 1964 and operates under a congressional act of incorporation signed by President Abraham Lincoln in 1863 that established the NAE's sister organization, the National Academy of Sciences (NAS). The NAE provides engineering leadership in service to the nation. Academy membership honors those who have made outstanding contributions to "engineering research, practice, or education, including, where appropriate, significant contributions to the engineering literature," and to the "pioneering of new and developing fields of technology, making major advancements in traditional fields of engineering, or developing / implementing innovative approaches to engineering education."

Dr. Rudy Bonaparte, President and CEO of Geosyntec and himself a member of the NAE said: "Dr. Giroud is one of the foremost engineers in the world specializing in geosynthetics research and the application of these materials in the design of transportation, water resources, and waste containment systems. At Geosyntec, his leadership and technological innovations were instrumental to the success of the firm, and I have had the great privilege to have him as a colleague and friend for more than 25 years. He has been a teacher and mentor to hundreds of engineering professionals both within Geosyntec and throughout the profession. He has always been generous in giving his time and talents helping both individuals and the profession."

Reported by Rudi Bonaparte, Geosyntec consultants and IGS member

## EBGEO – Draft of German Recommendation for Reinforcement with Geosynthetics published

The German Geotechnical Society (DGGT) had published the first edition of "EBGEO - Recommendation for Reinforcement with Geosynthetics" in 1997. Meanwhile a lot of new experience with reinforcement applications of geosynthetics are available and have been included in a new edition that is published as a draft for public review in February 2009. This new draft is prepared by the working group AK 5.2 "Calculation and dimensioning of geosynthetic reinforced soil systems" (chairman: G. Bräu, co-chair: A. Herold) of DGGT. The 29 members of the working group come from university, governmental departments, consultants, manufacturers and contractors, and are assisted by additional 15 experts for special topics discussed in subgroups.

The work of the group was organized within several subgroups dealing with the different chapters of the recommendations, the construction and materials. The following topics were discussed and form the chapters of the new edition:

- General recommendations (in particular long term behaviour, durability, damage during installation and soil - reinforcement - interaction)
- Design principles (according to DIN 1054 / EN 1997-1)
- Embankment over weak subsoil
- Layers for improved bearing capacity in road constructions
- Reinforced foundation cushions
- Steep slopes
- · Waste disposals
- Reinforced embankments on pile-similar elements (punctual/linetype)

- Geosynthetic covered columns
- Dynamic loadings
- Overbridging systems in areas prone to subsidence

The actual draft is available on the webpage of the German IGS Chapter

(http://www.gb.bv.tum.de/fachsektion/bak/ak52.htm).

The readers are asked for comments until July 2009. Afterwards the discussion contributions will be incorporated and the final printed version will be produced in the beginning of 2010.

Reported by Gerhard Bräu and Andreas Herold, members of German IGS Chapter

## Future event organized by the IGS UK Chapter

Seminar on Earthworks in Europe

The Engineering Group of the Geological Society, the British Geotechnical Association, the Institute of Highways and Transportation and the International Geosynthetics Society UK Chapter organize the 2<sup>nd</sup> International Seminar on "Earthworks in Europe" to discuss and promote technical progress and understanding of recent issues in the design and construction of earthworks in European countries.

The seminar covers the following themes

Quality control

- European Standards / Specifications including applying EC7
- Geotechnical risk and performance
- Measuring and mitigating environmental impact
- Asset management and climate change Geosynthetics for Climate Change due to Global Warming

Selected papers given by the keynote speakers and presenters will be collated into an Engineering Group Special Publication. Posters are welcome. Please use the contact details to find information on poster submission and sponsorship opportunities.

Additional Information are available at

www.geolsoc.org.uk/gsl/groups/specialist/engineering/page4425.html

Reported by Neil Dixon, Chairman IGS UK Chapter

## UK guidance document to feature how geosynthetics can contribute to a greener future

UK consultants Capita Symonds are currently working on a guidance document conceived to help reduce landfill waste and reduce carbon emissions by encouraging the use of materials such as geosynthetics. The guidance document will highlight benefits such as efficiency, carbon reduction and the reduced costs associated with their use.

The UK's WRAP (Waste & Resources Action Programme) is a not-for-profit private company funded by the Department for Environment, Food and Rural Affairs, the Scottish Government, the Welsh

Assembly Government and Northern Ireland Executive.

The work will include a review of the output from agg105-006 Sustainable Geosystems in civil engineering to identify the most sustainable geosystem options for utilising local available materials and which also provide lower carbon options compared with conventional construction methods.

A key element of the project is consultation with industry at all levels within the supply chain; particularly the trace case studies that illustrate and reinforce the guidance document. With this in mind, a workshop was held in London on 4 December 2008 attended by invitees representing all aspects of the industry, including manufacturers and suppliers, contractors, designers, client organisations and regulators.

The document is expected to be available later in the year.

Reported by
Peter Langley, UK IGS Chapter
Correspondent for IGS News

## Geosynthetic Institute Fellowships for Doctoral Students Request for Proposals



The Geosynthetic Institute (GSI) is delighted to announce a worldwide call for requests-for-proposals (RFPs) focusing on "innovative" geosynthetics research and development projects. The value of these fellowships is \$10,000 per year, and

they are renewable, pending an annual written report, to a total amount of \$25,000 per student. It is important to note that students must have completed their candidacy examinations leading to a doctorial 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 2009 - 2010 academic years must be submitted to both of the undersigned by e-mail by **June 15, 2009** and results will be announced on, or before, September 1, 2009. Review of the proposals is by the nine-person Board of Directors of GSI. For further infor-

mation on the Institute and this particular program, visit us at the following website:

www.geosynthetic-institute.org and click on "GSI Fellowships and Pro-iects".

Contact:

Robert M. Koerner, PhD, PE, NAE Director – Geosynthetic Institute E-mail

Robert.Koerner@coe.drexel.edu

Jamie R. Koerner Special Projects Coordinator E-mail <u>irkoerner@verizon.net</u>

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www.nags-igs.org

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#### Note:

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1994 1994 1994 1994 1994 1994 1994 1996 1996	R.J. Bathurst R.A. Jewell R.M. Koerner J.P. Giroud R. Bonaparte F. Tatsuoka M. Tateyama O. Murata H. Tarumi KH. Blume E. Palmeira R. K. Rowe R.J. Fannin H. Miki R. Bathurst Z. Cai T. Ingold C. Jenner C. Lawson	2000 2000 2000 2002 2002 2002 2002 200	P. Sembenelli J.P. Gourc K. Warlouzel T.M. Allen I. Al-Qadi J.S. Thornton Colbond - W. Voskamp B. Christopher J. DiMaggio V. Elias J.P. Giroud M. Shinoda J. Zornberg E. Palmeira M. Gardoni R.K. Rowe A. Li GSE Lining Technology A. H. Aydilek	1990 1996 1998 2000 2004 2006 2006 2008 2008 2008 <b>Special</b> <b>Award</b> 1990 1990 1990	R.A. Jewell J. Zornberg S. Merry T. Uchimura J. Kupec Y. In Oh N. Touze-Foltz F. Cartaud D. Hirakawa W. Kongkitkul J. S. McCartney  Finalist Recognition  R.K. Rowe K.L. Soderman B.L.J. Mylleville R. Bonaparte
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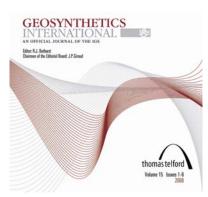
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2002	W. Zheng Hong	2006	C. Lawson	Giroud Lecturer		
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2006	R. J. Bathurst	2006	P. Rankilor	1998	R.M. Koerner	
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100 D'	•	2006	G.V. Rao, India			
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Geosynthetics International is an official journal of the IGS and has established itself as a premier peer-reviewed journal on geosynthetics. The Journal publishes technical papers, technical notes, discussions, and book reviews on all topics relating to geosynthetic materials (including natural fiber products), research, behaviour, performance analysis, testing, design, construction methods, case histories, and field experience.

Geosynthetics International is only published electronically starting Volume 10 (2003) by Thomas Telford and is free to IGS Members. All others, e.g., corporations, companies, and university libraries, can

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Foreword, R. J. Bathurst, PDF (24K), Pps: 383-383

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Interaction characteristics of geosynthetics with fine tailings in pullout test, G. Yin, Z. Wei, J. G. Wang, L. Wan and L. Shen, <u>PDF</u> (1265K), Pps: 428-436

Long-term water flow capacity of geosynthetic drains and structural

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A numerical study on the use of geofoam to increase the external stability of reinforced soil walls, K. Hatami and A. F. Witthoeft, PDF (1031K), Pps: 452-470

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Technical Note: Puncture resistance of PVC geomembranes using the truncated cone test, T. D. Stark, T. R. Boerman and C. J. Connor, PDF (1892K), Pps: 480-486

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### Content of Volume: 16, Issue: 1 (2009)

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and H. Jamieson, <u>PDF</u> (308K) Pps: 11-27

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Rate of leachate migration through a defect in a geomembrane underlain by a saturated permeable medium, J. P. Giroud, M. V. Khire and J. A. McKelvey, <u>PDF</u> (27K) Pps: 60-60

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## Please note following important dates:

### 31 October 2009:

Nomination for the IGS President, Vice-President and IGS Council Term 2010 to 2014

**30 September 2009:** 

Nomination for IGS Awards
Period 2006 to 2009

## Conferences Symposia **Workshops**

## **Calendar of Events**



## Short Courses **Expositions Trade Shows**

**7èmes Rencontres Geosyntheti**ques

Nantes, France

1 - 3 April 2009

www.rencontresgeosynthetiques. org/

ERES 2009 - Seventh International Conference on Earthquake Resistant **Engineering Structures** 

Cyprus

11 - 13 May 2009

E-mail: imoreno@wessex.ac.uk

ISSMGE TC18 -International Conference on Deep Foundations - CPRF and **Energy Piles** Frankfurt, Germany 15 May 2009 E-mail:

sekretariat@geotechnik.tu-darmstadt.de

International Symposium on Prediction and Simulation Methods for Geohazard Mitigation

Kyoto, Japan 25 - 27 May 2009

E-mail: foka@mbox.kudpc.kyoto-u.ac.jp www.nakisuna2.kuciv.kyoto-u.ac.jp/tc34 /is-kyoto/

2nd International Seminar - Earthworks in Europe

London, United Kingdom 3 - 4 June 2009

Email: <a href="mailto:tracey.radford@atkinsglobal.com">tracey.radford@atkinsglobal.com</a> www.geolsoc.org.uk/gsl/groups/speciali st/engineering/page4425.html

**Geo-Environmental Engineering** 2009 (GEE 2009) the 9<sup>th</sup> Joint **Seminar on Geoenvironmental Engineering** Vancouver, Canada

10 - 12 June 2009 E-mail: gee2009@civil.ubc.ca http://gee2009.civil.ubc.ca

IS-Tokyo 2009 - International Conference on Performance-Based Design in Earthquake Geotechnical Engineering Tsukuba, Japan

15 - 17 June 2009

E-mail: <a href="mailto:ytsoil@rs.noda.tus.ac.jp">ytsoil@rs.noda.tus.ac.jp</a> www.rs.noda.tus.ac.jp/ytsoil/IS2009.htm

The 3rd International Geotechnical Symposium (IGS2009) on Geotechnical Engineering for Disaster Prevention and Reduction Harbin, China

22 - 25 July 2009 E-mail: maocai@mail.ru, zhao maocai@sohu.com http://www.igs2009.hit.edu.cn

GeoAfrica 2009

The First African Regional Conference on Geosynthetics Cape Town, South Africa 2 - 4 September, 2009 www.geoafrica2009.org

Jubilee Symposium on Polymer Geogrid Reinforcement Institution of Civil Engineering, London 8 September 2009

3rd Remediation Technologies Expo RemTech 2009 Ferrara, Italy 23 - 25 September 2009 Email: info@remtechexpo.com www.remtechexpo.com

4 iYGEC'09 - 4th International Young Geotechnical Engineers' Conference Alexandria, Egypt 2 - 6 October 2009

E-mail: iygec2009@hamza.org

Sardinia 2009

12th International Waste Management and Landfill Symposium S. Margherita di Pula, Cagliari,

5 - 9 October 2009

Email: info@sardiniasymposium.it www.sardiniasymposium.it

XVII Int. Conference for Soil Mechanics and Geotechnical Eng. Alexandria, Egypt

5 - 9 October 2009

www.2009icsmae-eavpt.ora/

2nd International conference on Geosynthetics Middle East Dubai, U.A.E.

10 - 11 November 2009 E-mail: i.bender@skz.de

3<sup>rd</sup> Portuguese Seminar on Geosynthetics

University of Coimbra, Portugal 19 - 20 November 2009

Email: 3spgeo@dec.uc.pt

http://3SPGeossinteticos.dec.uc.pt

Int. Symp. on Geotechnical Engineering, Ground Improvement, and Geosynthetics for Sustain-

able Mitigation and Adaptation to **Climate Change including Global** Warming

Bangkok, Thailand 2 - 3 December 2009 E-mail: acsig@ait.ac.th

www.set.ait.ac.th/acsig/conference

CPT'10, 2nd International Symposium on CPT

Huntington Beach, California, United States

9 - 11 May 2010 www.cpt10.com

9<sup>th</sup> International Conference on Geosynthetics Guarujá, Brazil

23 - 27 May 2010 E-mail: info@9icg-brazil2010.info http://www.9icg-brazil2010.info

7th International Conference on Physical Modelling in Geotechnics Zurich, Switzerland 28 June - 1 July 2010 www.icpmg2010.ch6th International Congress on Environmental Geotech-

New Delhi, India 8 - 12 November 2010

XIV Asian Regional Conference Soil Mechanics and Geotechnical Engineering, Hong Kong, China 23 - 28 May 2011

XV African Regional Conference on Soil Mechanics and Geotechnical Engineering, Maputo, Mozambique 13 - 16 June 2011

XV European Conference on Soil Mechanics and Geotechnical Engineering Athens, Greece

13 - 19 September 2011

XIV Panamerican Conference on Soil Mechanics and Geotechnical Engineering (October) & V PanAmerican Conference on Learning and Teaching of Geotechnical Engineering, & 64th Canadian Geotechnical Conference Toronto, Ontario, Canada 2 - 6 October 2011

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(Spain, 2000)

**Beaulieu Technical Textiles** 

(Belgium, 1998)

**Beijing Gaoneng Lining Engi-**

neering Co., Ltd.

(China (P.R.), 2006)

**Belton Industries, Inc.** 

(USA, 1989)

**BMC Gulf Trading & Contracting** 

<u>LLC</u>

(United Arab Emirates, 2008)

**Bonar Technical Fabrics N.V.** 

(Belgium, 1985)

**Cetco** 

(USA, 1992)

**Checkmate Geosynthetics** 

(Canada, 2006)

**Chidak Baspar** 

(Iran, 2008)

Cofra BV

(The Netherlands, 1991)

**Colas Group, The** 

(France, 1996)

Colbond bv.

(The Netherlands, 1986)

Copro

(Belgium, 2005)

Coripa S.A.

(Argentina, 2008)

**CTH Geosynterer AS** 

(Norway, 2008)

**Dinagrid Geosynthetics S.L.** 

(Spain, 2005)

Du Pont de Nemours (Luxem-

bourg) S.A.

(Luxembourg, 1984)

**Edilfloor SpA** 

(Italy, 2002)

**Emas Kiara SDN BHD** 

(Malaysia, 1999)

**Engepol Geossintéticos Ltda** 

(Brazil , 2001)

**Euroizol Geosynthetics** 

(Ukraine, 2006)

F.L.I. Environmental

(Ireland, 2002)

Fibertex A/S

(Denmark, 1984)

Field Lining Services

(Republic of Panama, 1998)

**FITI Testing and Research Insti-**

tute

(Korea, 1997)

Fontana International GMBH

(Austria, 2008)

Garware-Wall Ropes, Ltd.

(India, 2006)

**Geofabrics Ltd.** 

(United Kingdom, 1995)

**Geofelt GmbH** 

(Austria, 1996)

**Geoliners de Mexico SA de CV** 

(Mexico, 2006)

**Geosinteticos Origo SA C.V.** 

(Mexico, 2008)

**Geosinteticos Trical, C.A.** 

(Venezuela, 2007)

**Geosistemas Pavco S.A.** 

(Colombia, 1991)

Geosolutions Serviços em

Geossintéticos Ltda.

(Brazil, 2006)

**Geosynthetic Materials** 

**Association (GMA)** 

(USA, 1985)

geosynthetica.net

(USA, 2006)

**Geosynthetics Technologies Co.**,

Ltd.

(Saudi Arabia, 2007)

Geosystem Co. Ltd.

(Japan, 2000)

Geotech L.L.C.

(United Arab Emirates, 2007)

**Gidrokor Construction Company** 

Ltd.

(Russia, 2004)

GreenVision, S.p.A.

(Italy, 2004)

GSE Lining Technology Chile

<u>S.A.</u>

(Chile, 2006)

**GSE Lining Technology GmbH** 

(Germany, 2004)

**GSE Lining Technology, Inc.** 

(USA, 1988)

**High Stiffness Polyethylene Pipes** 

**Association** 

(Japan, 2005)

Hojun Yoko Co. Ltd.

(Japan, 2000)

Huesker Synthetic GmbH & Co.

(Germany, 1987)

**Hui Kwang Corporation** 

(Taiwan, R.O.C., 2000)

**I-CORP INTERNATIONAL** 

(USA, 2006)

**Integrated Geotechnology Insti-**

tute Limited

(Japan, 1998)

**Intermas Nets S.A.** 

(Spain, 2008)

Isbir Sentetik Dokuma Sanayi

A.S.

(Turkey, 2008)

Japan Spunbond -- Toray Corp.

(Japan, 1984)

<u>Juta a.s.</u>

(Czech Republic, 1998)

**Kajima Corporation** 

(Japan, 1985)

**Kaytech Engineered Fabrics** 

(South Africa, 2008)

**Kuraray Co., Ltd.** 

(Japan, 1989)

**Laviosa Chimica Mineraria** 

(Italy, 2002)

**Linear Composites Limited.** 

(United Kingdom, 2004)

Maccaferri do Brasil Ltda

(Brazil, 1998)

Maeda Kosen Co. Ltd.

(Japan, 1992)

Manifattura Fontana S.p.A.

(Italy, 2008)

**Mekamore Co., Ltd** 

(Korea, 2008)

MiraCell CCS Sdn Bhd

(Malaysia, 2006)

Mitsubishi Plastics, Inc.

(Japan, 1992)

Mitsui Chemicals Industrial

Products, Inc.

(Japan, 1992)

**NAUE GmbH & Co. KG** 

(Germany, 1987)

**NewGrids Limited.** 

(United Kingdom, 2004)

**Obayashi Corporation** 

(Japan, 1988)

Officine Maccaferri S.P.A.

(Italy, 1997)

**OJSC "494 UNR"** 

(Russia, 2003)

Okasan Livic Co. Ltd.

(Japan, 1984)

Permathene, Ltd.

(New Zealand, 2003)

Poly Flex, Inc.

(USA, 1996)

**Presto Geosystems** 

(USA, 1996)

**Propex** 

(USA, 1991)

PRS Mediterranean, Ltd.

(Israel, 2003)

Punzonados Sabadell, S.A.

(Spain, 2000)

**Ramalho Comercial Ltda** 

(Brazil, 2008)

Reinforced Earth Company, The

(USA, 1989)

**Reliance Industries** 

(India, 1998)

Samyang Corporation (Korea, 2003)

Servicios de Ingenieria Geosin-

tetica S.A. (SIGSA)

(Costa Rica, 2008)

Seven States Enterprise Co., Ltd.

(Taiwan R.O.C., 2005)

Shenzhen Sheng Yi Environ-

mental Co., Ltd.

(China (P.R.), 2002)

**Sohams Foundation Engineering** 

Pvt. Ltd

(India, 2008)

Solmax International, Inc.

(Canada, 1997)

Supertex, Inc.

(USA, 2007)

**Swiss Association for Geosyn-**

thetics SVG

(Switzerland, 1984)

**Taiyo Kogyo Corporation (SUN)** 

(Japan, 1991)

Tanaka Co. Ltd.

(Japan, 1993)

TechFab India Industries Ltd.

(India, 2008)

**Tekpro** 

(Russia, 2008)

**Tele Textiles AS** 

(Norway, 1995)

**TeMa Technologies and Materials** 

Srl

(Italy, 2006)

Tenax S.p.A.

(Italy, 1991)

**TenCate Geosynthetics Europe** 

**GmbH** 

(Austria, 1984)

**TenCate Geosynthetics North** 

**America** 

(USA, 1998)

**Tenox Corporation** 

(Japan, 1998)

Tensar Geosynthetics (China)

Ltd.

(China (P.R.), 2003)

**Tensar International** 

(United Kingdom, 1989)

**Tensar International Corporation** 

(USA, 1989)

**Terram Ltd.** 

(United Kingdom, 1988)

**Terre Armee International** 

(France, 2002)

**Texinov** 

(France, 2007)

TMA, S.L.

(Spain, 2000)

Tokyo Ink Co., Ltd.

(Japan , 2005)

**Tokyu Construction Co. Ltd.** 

(Japan, 1984)

TRI/Environmental Inc.

(USA, 2008)

Viganò Pavitex S.P.A.

(Italy, 2006)

Werkos

(Croatia, 1999)

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

## **Celebrating 20 Years of Corporate Membership**

On the occasion of the 25th of the IGS in 2008 the Society has initiated a program to recognize those corporate members that have 20 years or more continuous membership.

IGS is pleased to recognize the 20 Years of Corporate Membership in

2009 of the 5 companies listed below:

- Belton Industries, Inc. USA
- Kuraray Co., Ltd. Japan
- Reinforced Earth Company, The USA
- Tensar International United Kingdom

 Tensar International Corporation - USA

The recognition ceremony and the presentation of a "gift" for each company will take place at the GeoAfricas 2009 in Cape Town from 2<sup>nd</sup> to 4<sup>th</sup> September, 2009.

## **Corporate Profile**

IGS Corporate Members are encouraged to publish a Corporate Profile in IGS News. A maximum of three profiles can be published in each issue of 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.



Engineering holding "TEKPRO" - the Russian association of project, survey, research and industrial enterprises in projecting and building of transport objects, objects of pipeline transport, railways and highways, bridges and bases, artificial constructions with use of nature saving geotechnologies and modern constructional building materials which are tested for quality assurance by our own test laboratory. "TEKPRO" 's project works are done according to requirements of the international system of quality management EN ISO 9001:2000 and systems of ecological quality management EN ISO 14000.



Engineering holding "TEKPRO" carries out projecting of buildings and constructions I and II levels of responsibility according to state standard of the Russian Federation; a full complex project, survey and civil work. "TEKPRO" is considered to be one of

leaders in the field of working out projects on engineering protection of constructions from dangerous geological processes, including:

- complex engineering-geological and engineering geokriological scaning of building platforms;
- · objects of transport and their complexes;
- engineering protection of territories, cities, settlements and constructions against dangerous geological processes, including, landslide;
- engineering preparation of territories before building;
- working out project documentation: a general layout and transport; geotechnological decisions; architectural building decisions; the budget documentation; special sections of the project; functions of the general projecter;
- projecting bridges, objects of railway travelling facilities, tunnels, channels, wells, support and platforms under technological pipelines, galleries, unloading railway platforms, pipes, the bases of buildings and constructions, objects of pipeline transport;
- coast protection constructions on seas, lakes and rivers;
- formation of territories with application of hydromechanization;
- · protection of territories against floodings;



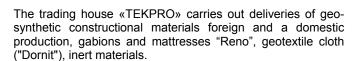
- scientific and technical support of researches, projecting and building of objects on frozen soil;
- laboratory researches of physicomechanical soil properties.

Design bureau "TEKPRO" uses innovative technologies of carrying out projecting and exploration work. TEKPRO is the winner of competition "Roads of Russia XXI", organised by Rosavtodor in a nomination "Project of year-2008". Own computer technologies with program complexes are created and applied:

- The forecast of flooding of territories taking into account its building;
- designing of a horizontal tubular and vertical drainage;
- modelling of sea sites coasts in projecting coast protection constructions (a field of heights of waves, speeds coast currents;



- work modelling of projected sea coast protection constructions:
- calculation of a profile of dynamic balance of an underwater coastal slope;
- calculation and projecting antilandslide pile keeping constructions;
- calculation and projecting of quays from ferro-concrete shunt and a rectangular profile.
- Warmthphysical calculations;
- warmthhydraulic calculations;
- project and organisation of monitoring frozen soil and constructions of engineering protection;
- the forecast change of properties frozen solis at technogenic loadings and the forecast of development dangerous geochrilagical processes;



Company name: TEKPRO

Primary Contacts: Golubeva Olga Sergeevna Primary Contact Title: General Director

Complete address: Russia, Moscow, Nametkina street 14,

building 2 office 508

**Phone Number**: +7(495)332-00-27, +7(495)332-00-89,

+7(495)332-00-37

Fax number: +7(495)332-00-97
Primary Contact Email: info@tekpro.ru
Web Site Address: www.tekpro.ru

## **Corporate Profile**

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TechFab India Industries Ltd. is the largest manufacturer of geosynthetic products in India. It was founded in 2003, with the objective of providing world class geosynthetic products and services to enable owners, consultants and contractors to design and implement reliable, economic and easy to construct solutions for a wide range of geotechnical, transportation, hydraulic and environmental and related problems.

TechFab India Industries Ltd. has expanded its manufacturing activities by adding a wide range of products in a short span of time, details are as under:

- TechGrid Knitted and polymer coated Polyester Geogrids (CE Marked)
- **TechGlass** Glass-fibre geogrids with modified Bitumen Coating
- TechDrain Prefabricated Vertical Drains
- TGC Reinforced Non Woven Geocomposite products
- **TFI** Woven PP Geotextiles (CE Marked)
- **TFI** Woven Polyester Geotextiles (CE Marked)
- Polymer Gabions with copper inserts
- Geotextile Tubes, Geotextile Bags etc.

We expect to start commercial production of the **TechGeo** range of needle-punched non-woven geotextiles shortly.

TechFab India's manufacturing plants have state-of-the-art machinery and systems, are ISO 9001:2000 certified and are equipped with advanced in-house test facilities. Our products have been extensively tested by independent accredited laboratories like TRI Environmental Inc. Texas USA, BTTG Testing and Certification Ltd., UK, Asian Center for Soil Improvement and Geosynthetics, Bangkok, PSB TUV, Singa-

pore etc. Many of our products like TechGrid Geogrids, Tape Woven Geotextiles and High Strength Polyester Woven Geotextiles are CE certified from BTTG Testing and Certification Ltd., UK.

TechFab India has a Design and Technical Services group comprising highly qualified and experienced specialists to give comprehensive detailed engineering services to our customers. We also have a team of experienced construction engineers and supervisors to give onsite guidance and supervision for the installation of our products.

Our products have been used in a large number of jobs in India by both government agencies and private organizations. Applications include reinforced soil walls and slopes, basal reinforcement of embankments on soft ground, subgrade stabilization, rail track-bed stabilization, ground improvement, asphaltic reinforcement for roads and airports, bank and shore protection etc. We have been also exporting our products to several countries including USA, UK, Russia etc. With our wide range of high quality products and large production capacities, TechFab India Industries Ltd. is ready to fulfill the geosynthetic needs of the world market.

#### Contact:

TechFab India Industries Ltd. 712, Embassy Center, Nariman Point Mumbai (Maharashtra) 400021 India

Tel: +91-22-2287 6224 / 6225 Fax: +91-22-2287 6218 website: www.techfabindia.com

Email: anant@techfabindia.com, tfi@vsnl.net

### **Corporate Profile**

IGS Corporate Members are encouraged to publish a Corporate Profile in IGS News. A maximum of three profiles can be published in each issue of 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.



**Kaytech** has been providing the local and international civil engineering industry with geotextiles and geosynthetic solutions since 1971 and manufactures:

- Nonwoven continuous filament needle punched polyester bidim grade geotextiles
- Warpknit high tenacity polyester composite geogrids
- Needlepunched Geosynthetic Clay Liners (GCLs)
- Specialist polyester and polypropylene staple fibre geotextiles

Our factory is ISO 9001:2000 accredited.

**Kaytech**, with its highly experienced and professional technical sales and marketing team, offers comprehensive technical and design support for a wide range of geosynthetic products.

**Kaytech's** product range and expertise therefore effectively covers vast areas of application:

- Drainage and Filtration
  - o bidim, Flo-drain, Megaflo and Wickdrain GCDs
  - o Flownet and Zipcore geospacers
  - o Flo-Pipe Geopipes
  - Infiltrator Chamber Systems
- Separation and Reinforcement -
  - RockGrid and Neoweb
- Road Maintenance and Rehabilitation
  - o Sealmac, GlasGrid & Sealgrid
- Dam and Waste Containment Liners
  - o EnviroFix GCLs

- Erosion Protection
  - o Soil Saver, Multi-Cell, & GrassFence
- Hydraulic Construction
  - EnviroRock Geocontainers
- Liner Protection -
  - Ecotex and EnviroTex

Our **Geosynthetic Laboratory** has SANAS accreditation for a number of specialist geosynthetic tests. See <a href="https://www.geolaboratory.com">www.geolaboratory.com</a>

**Kaytech** has established strong links with a global network of reputable geosynthetic suppliers in Europe, Australia, USA, Canada, South America and South East Asia

**Kaytech** is proud of its reputation of being market leaders and values its long-standing relationships with its customers.

Our motto: Always a Better Solution!

Our library is the most comprehensive of its kind on geosynthetics in South Africa and the information is readily available to our customers.

Tel.: +27 31 717 2300 Fax: +27 31 702 3173 e-mail: kaytech@kaymac.co.za Web Site www.kaytech.co.za













### **IGS Council**

#### Elected in 2006

S. Allen (USA)

G. Bräu (Germany)

N. Dixon (United Kingdom)

N. Freitag (France)

M. Maugeri (Italy)

J. Otani (Japan)

E. Palmeira (Brazil)

E. Peggs (USA)

#### Co-opted in 2006

M. Chen (China P.R.)

J. Ferreyros (Peru)

P. Legg (South Africa)

P. Stevenson (USA)

#### Co-opted in 2008

V. Pimentel (Brazil)

#### Elected in 2008

D.T. Bergado (Thailand)

A. Bouazza (Australia)

P. Fantini (Italy)

H.Y. Jeon (Korea)

R. Jones (United Kingdom)

J. Kuwano (Japan)

M. Sadlier (Australia)

M. Ziegler (Germany)

#### **IGS Officers**

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Prof. Fumio Tatsuoka Tokyo University of Science Dept. of Civil Engineering 2641 Yamazaki, Noda City Chiba Prefecture 278-8510 JAPAN

Tel: 81/47122 98190 Fax: 81 47123 9766

E-mail: tatsuoka@rs.noda.tus.ac.jp

#### Vice-President

Jorge G. Zornberg, PhD., P.E. The University of Texas at Austin Civil, Architectural & Environmental Engineering Department 1 Univ. Station C1792 Rm ECJ9,

Austin, Texas 78712-0280 USA

Tel: 1/512 232 3595 Fax: 1/512 471 6548

E-mail: zornberg@mail.utexas.edu

#### **Immediate Past-President**

Dr.-Ing. Daniele A. Cazzuffi CESI SpA Via Rubattino, 54 I - 20134 Milano ITALY

Tel: 39/02 2125 5375 Fax: 39/02 2125 5475 E-mail: cazzuffi@cesi.it

#### **Treasurer**

Mr. John Cowland GeoSystems Ltd. 3 Arcadia, 99 Chuk Yeung Road Sai Kung, N.T. Hong Kong, China Tel: 852/9884 8616

Tel: 852/9884 8616 Fax: 852/2849 2918

Email: <a href="mailto:cowland@netvigator.com">cowland@netvigator.com</a>

#### Secretary

Mr. Peter E. Stevenson 226 Sitton Rd.

Easley, SC 29642-8393 USA

Tel: 1/864 855 0504 Fax: 1/864 859 1698

E-mail:

IGSPete@geosyntheticssociety.org

igspete@aol.com

## **IGS News Editor and Chapter Correspondents**

#### **Editor**

Gerhard Bräu

Technische Universität München–Zentrum Geotechnik Baumbachstrasse 7, 81245 München, Germany Tel: +49-89-289-27139, Fax: +49-89-289-27189

Email: q.braeu@bv.tum.de

#### **Chapter Correspondents**

Belgium, Frans De Meerleer, <a href="mailto:frans.texion@skynet.be">frans.texion@skynet.be</a>
Brasil, André Estêvão Silva, <a href="mailto:tesouraria@igsbrasil.org.br">tesouraria@igsbrasil.org.br</a>
China, Xiao-Wu Tang, <a href="mailto:tesouraria@igsbrasil.org.br">tesouraria@igsbrasil.org.br</a>
Czech Republic, Pavel Mann, <a href="mainto:mann@igs.cz">mann@igs.cz</a>
Germany, Gerhard Bräu, <a href="mailto:g.braeu@bv.tum.de">g.braeu@bv.tum.de</a>
Greece, Anastasios Kollios, <a href="mailto:akollios@edafomichaniki.gr">akollios@edafomichaniki.gr</a>
India, G. Venkatappa Rao, <a href="mailto:gvrao.19@gmail.com">gvrao.19@gmail.com</a>
Italy, Nicola Moraci, <a href="mailto:nicola.moraci@unirc.it">nicola.moraci@unirc.it</a>
Japan, Jun Otani

junotani@kumamoto-u.ac.jp

the Netherlands, Shaun O'Hagan, <u>s.ohagan@planet.nl</u>
North American Geosynthetics Society, L. David Suits,
<u>Nagsdirector@aol.com</u>

Norway, Hanne Louise Moe, <a href="mailto:hanne.l.moe@sintef.no">hanne.l.moe@sintef.no</a>
Portugal, Madalena Barroso, <a href="mailto:mbarroso@lnec.pt">mbarroso@lnec.pt</a>
Romania, Loretta Batali, <a href="mailto:Loretta@hidro.utcb.ro">Loretta@hidro.utcb.ro</a>
Russia, Vladimir Kleveko, <a href="mailto:vlivkl@pochta.ru">vlivkl@pochta.ru</a>
South Africa, Shakira Sattar, <a href="mailto:shakira@kaytech.co.za">shakira@kaytech.co.za</a>

South Africa, Shakira Sattar, <a href="mailto:shakira@kaytech.co.ze">shakira@kaytech.co.ze</a> South Korea, Myoung-Soo Won,

wondain@kunsan.ac.kr

Spain, Pedro L. Abad, Pedro.Abad@cetco.es
Thailand, Ms. Lynn, igs-thailand@ait.ac.th
Turkey, Orkun Akkol, orkunakkol@orientresearch

Turkey, Orkun Akkol, <u>orkunakkol@orientresearch.com</u> United Kingdom, Peter Langley,

PLangley@geofabrics.com West Pacific, San-Shyan Lin, ssLin@ntou66.ntou.edu.tw

IGS News is published three times per year. Material for publication should be submitted to the Editor by 31 January, 31 May, and 30 September, for possible publication in the March, July, and November issues, respectively.

## **IGS Clothing**

IGS Logo Clothing is now available on-line. Hats, visors and various shirts can be viewed and ordered through the Members Only Section (www.geosyntheticssociety.org/me mbersOnly/Login.asp) of the site.

Item Name	Item Number	Available Sizes	Colors	Cost
Visor	840	One size fits all	White, Stone, Aqua, Carrot, Khaki, Dandelion	\$11.00
Cap	810	One size fits all	White, Khaki	\$11.00
T-Shirt	PC61	S, M, L, XL	White, Aqua, Ash, Gold, Daffodil, Light Blue, Lime, Red, Natural, Orange Sherbet, Pink, Sand, Stonewash Green, Stonewash Blue, Spruce, Heather, Colonial Blue,	\$11.00
Gildan Golf Shirt	3800	S, M, L, XL	Ash, Gold, Sport Grey, Cardinal Red, Sand, Carolina Blue, Light Blue, Tangerine, Yellow Haze	\$17.00
 Cutter & Buck Golf Shirt	02481	S, M, L, XL	White, Lotus, Putting Green, Red, Black, Sea Blue, Navy Blue	\$35.00
Short Sleeve Button Down	507	S, M, L, XL	Light Stone, White, Faded Blue	\$28.00
Long Sleeve Button Down	620	S, M, L, XL	Cypress, White, Light Blue, Stone	\$35.00

International Geosynthetics Society P.O. Box 347 Easley, SC 29641 USA telephone: +1-864-855-0504

## 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

addresses, 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!

## Visit the IGS Website: www.geosyntheticssociety.org

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

### IGS News is published by:

International Geosynthetics Society P.O. Box 347 Easley, SC 29641 USA

Tel: +1-864-855-0504 Fax: +1-864-859-1698

Email: IGSSec@geosyntheticssociety.org

IGSsec@aol.com

### For editorial enquiries contact:

Mr. Gerhard Bräu Technische Universität München – Zentrum Geotechnik Baumbachstrasse 7 81245 München Germany

Tel: +49-89-289-27139 Fax: +49-89-289-27189 Email: g.braeu@bv.tum.de

## **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 pro- Second, to enjoy the benefits. fession.

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 Geosynthetics International and Geotextiles & Geomembranes;
- a CD containing the 19 IGS Mini Lecture Series;
- a DVD containing the three IGS Videos;
- · 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
- 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 20)! otherwise please use the online form at http://www.geosyntheticssociety.org/application.htm or the following

#### IGS Membership Application

Membership of the International Geosynthetics Society (IGS) is open to individuals or corporations "... engaged in, or associated with, the research, development, teaching, design, manufacture or use of geotextiles, geomembranes, and related products or systems and their applications, or otherwise interested in such matters.". The annual fee for membership is US\$45 for individuals and US\$1000 for Corporate Members. Individuals of, or not of, corporations who voluntarily contribute a minimum of US\$200 annually to the IGS, in excess of their membership dues, will be mentioned in the IGS Directory in a separate list as benefactors

Write your address below as you wish it to appear in the next IGS Directory  Title (circle one): Mr. Ms. Dr. Prof. Other Position	Send this completed form to: IGS Secretariat		
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Last name:	USA	E-mail:	igssec@aol.com
Company name:			eomembranes, related prod-
Address:		ies):	
City: Province/State:			
Postal code: Country:			
Telephone:			
Fax:			
E-mail:			
Membership fee schedule: u Individual US\$45.00 u Corporate	US\$1,000.00   Benefact	or's contribution (	at least US\$200.00)
Mode of payment:	~		
□ Check enclosed drawn on a US bank	□ Credit card (circle one): M	lastercard Vis	a American Express
	Account number:		
Date:	Expiration date:		
	Name on card:		