

IGS NEWS



NEWSLETTER OF THE INTERNATIONAL GEOSYNTHETICS SOCIETY

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

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20 Years of IGS News

I am very pleased to greet you with this 20th Anniversary issue of *IGS News*! The Newsletter has grown from an 8- to 24-page publication in keeping with the many activities that are now taking place worldwide in geosynthetics research, development, applications, and promotion.

Please make sure to take a moment to read what some of our Past-Editors have to say about their tenure as Editor of *IGS News* (see next page). During Richard Bathurst's tenure as Editor (1990 to 1994), I started working for him as a research assistant (1993); little did I realize that one of my duties would include editing and reviewing draft versions the *IGS News*!

Unfortunately, I was unable to contact Prof. Peter Jarrett, the first Editor of *IGS News*. I strongly suspect he is sailing in one of our world's vast and splendid oceans, enjoying his retirement. For those

of you who may not know, in addition to being a Professor at the Royal Military College and Head of the Civil Engineering Department, and avid sailor, he was also a very good squash player *and* played basketball. He was often able to out-run me on the basketball court, but, of course, it was always age before beauty ...

In my six years as Editor, there have been several changes to *IGS News* and the IGS. The IGS has grown in size and reputation demonstrating the healthy growth and outreach of the Society to other countries, organizations, and industry. Here are a few telling statistics that illustrate the Society's growth:

- nine new chapters (out of the current total of 25)
- 121 new individual members (from 1635 to 1756)
- corporate membership increased

from 81 to 102 - ***we crossed the threshold of 100 corporate members a few weeks ago!***

This increase in corporate and individual members, and chapters, aptly demonstrates the growing importance of geosynthetics in civil, geotechnical, and geo-environmental engineering disciplines.

This issue of the Newsletter is the first to be delivered in electronic format only and is available to anyone visiting the IGS web site, www.geosyntheticssociety.org. The web site was launched approximately two years ago and has been another excellent development for the IGS. We are also in the planning stages of providing a dynamic web version of the Newsletter in future years, which will bring a more interactive version of *IGS News* to your desktop.

We were all saddened by the

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

Visit the IGS WWW site: www.geosyntheticssociety.org

natural disasters that have occurred around the world since our last issue in July, including Hurricanes Katrina and Wilma, and the devastating earthquake in Pakistan. No country is immune to the devastating effects of these acts of nature whether it is flooding, hurricane winds, earthquakes, or tsunamis. The rebuilding required after these disasters challenges all geosynthetic researchers and practitioners

and puts the innovative use of geosynthetics to the test. Despite the tragic impact, these events have clearly shown the versatility of geosynthetics in providing rapid reconstruction solutions. I welcome all IGS Members to submit articles or stories to me related to the use of geosynthetics for rebuilding these devastated areas around the world.

Finally, please mark your calendars for the upcoming 8th Interna-

tional Conference on Geosynthetics, in Yokohama, Japan, in September 2006. The Conference is shaping up to be the premiere geosynthetics conference of its time. Please see page 3 for Conference details.

Here's to the next 20 years of IGS News. I wish you all a wonderful 2006!

Karina McInnis, Editor, IGS News

Reminiscences of an IGS News Editor by Dr. Richard J. Bathurst (Editor, 1990-1994)

From 1990 to 1994, I had the pleasure of being IGS News Editor. The IGS News had, by then, established a reputation for dry but factual text and was recognized as good reading material to cure insomnia. Both the past-President (J.P. Giroud) and the President at that time (R. Kerry Rowe) reviewed each draft issue. They excised any errors or articles proposed by the stressed-out Editor, who at times had to exercise some journalistic freedom to ensure that there was enough (or any) reading material for each issue.

Here is one article that did not see print; please click [here](#) and enjoy.

Richard J. Bathurst, IGS President 1998-2002



My Years as Prestigious Editor by Dr. David Elton (Editor, 1994-1999)



Being Editor of the IGS News for five years was a good experience. My watch on the News saw it improve in production quality and efficiency, as we switched from manual layout to complete computer layout. The quality of production was noticeable and lauded globally.

After the first year, work on the News fell into the rhythms of IGS life. The periodic election issue, the announcement of regular conferences, and the ever-increasing list of Corporate Members testified to the vitality of the organization. As Editor-in-Chief, the pattern of soliciting articles, gutting them, and getting the News published months later than the masthead date became a way of life, and enjoyable.

Reporting new geosynthetic developments, a long IGS News tradition, provided readers with much needed fodder for discussion and technical debate. The novel use of geosynthetics in cosmetic surgery was first published in the News. Landfill applications of geotechnology often filled the pages.

Editorship, association with the IGS Council, and especially Dr. Bathurst, were enjoyable, professionally rewarding, and, now, I sadly realize, fleeting.

Promulgo est delectatio, Illudo est melior.

David Elton, IGS Member

Words from Dr. R. Kerry Rowe (Editor, 1986 to 1990)

In 1986, I took over from Peter Jarrett as Editor of IGS News – little did I realize at the time that the IGS News would develop such a Kingston connection, but in hindsight all the hints were there! As the IGS Council Member responsible for communications, Peter launched the IGS News, establishing an initial format and finding a printer in Kingston, Ontario, where he worked as a Professor at the Royal Military College of Canada. This done, Peter's next task was to find an Editor to take over from him. He approached me and, being young and foolish at the time, I agreed – but first I had to get the approval from Council.

J.P. Giroud called me for a telephone "interview" and, as a follow up, requested copies of my papers so he could see if I could write! Well it seems that I passed the test and I began as the second Editor of IGS News. Although, at the time, I lived in London, Ontario, I kept the same printer and postal agent in Kingston and so the IGS News continued to emanate from Kingston, where I now live. When I was elected IGS President in 1990, one of my first tasks was to find a replacement Editor for IGS News and Richard Bathurst immediately sprung to mind – he too living in Kingston. Upon completion of his term, David Elton was appointed – the only break in the Kingston chain – and, following Dave came the current Editor, Karina McInnis, who, as it turns out, now works with me in the Vice Principal (Research) portfolio at Queen's University in Kingston.

Thus, with a slight aberration while it emanated from down south, the IGS News has been a regular Kingston "paper" for most of its 20 years. No doubt, as a result of my involvement in IGS News, I was lured from London to Kingston. So Dave, this means I expect you to at least retire to Kingston – it is the only appropriate final outcome of your time as Editor!

Kerry Rowe, IGS President 1990-1994



8th International Conference on Geosynthetics (8ICG)

18 to 22 September 2006, Yokohama, Japan

Over 400 paper abstracts have been accepted for the 8ICG, which is the greatest number of accepted abstracts in the history of the International Conferences on Geosynthetics.

The final papers will be peer-reviewed by the International Paper Selection Committee (IPSC). The IPSC Members are Jiro Kuwano – Chair (Japan), Richard Bathurst (Canada), Heinz Brandl (Austria), Daniele Cazzuffi (Italy), Jean-Pierre Gourc (France), Robert Holtz (United States), Chris Lawson (Malaysia), Masashi Kamon, Junichi Koseki, and Fumio Tatsuoka (all of Japan).

Conference Topics

- Transport
- Hydraulic structures
- Erosion control and coastal works
- Soil improvement and reinforcement
- Mining
- Waste landfills
- Remediation of contaminated sites
- Landscaping and environmental mitigation
- Prevention of natural and technological risks
- Agriculture and forests
- Innovative geo-materials and construction methods
- Education and technology transfer

New Conference Features

Practitioners and Academics Forum

A Special Plenary Session will be held during the 8ICG to help facilitate a dialogue between geosynthetics researchers and practitioners,

Visit the Conference website at www.8icg-yokohama.org/ for information on transportation, accommodation, registration, and exhibitor applications, or contact:
Mr. Noboru Kiyokawa
Conference Secretary
Tel: 81/3 3837 2503
Fax: 81/3 3837 5818
E-mail: info@8icg-yokohama.org

which will be moderated by Richard J. Bathurst, IGS Past-President. The goal is to have areas of research identified by academics that have potential applications to practitioners and have potential geosynthetics research opportunities identified by practitioners.

Case Histories

A new and unique feature of the 8ICG will be presentation sessions organized for more than 80 papers on geosynthetics engineering case histories submitted from IGS chapters all over the world.

Special and Keynote Lectures

Giroud Lecture by Lawson, C.R. (Malaysia) on "Geotextile Containment: Old and New"

Keynote Lectures

- Heibaum, M. (Germany), Fourie, A. (Australia), Girard, H. (France), Karunaratne, G.P. (Singapore), Lafleur, J. (Canada), Palmeira, E.M. (Brazil) on "Hydraulic Applications of Geosynthetics"
- Koseki, J. (Japan), Bathurst, R.J. (Canada), Guler, E. (Turkey), Kuwano, J. (Japan), Maugeri, M. (Italy) on "Seismic Stability of Reinforced Soil Walls"
- Kavazanjian, E. (USA), Zanzinger, H. (Germany), Legg, P. (South Africa), Kortegast, A. (New Zealand) on "Landfill and Environmental Issues"

"IGS History" by Giroud, J.P.

Other Activities and Events

An **Exhibition** will be held and will be open to any individuals free of charge.

Excursions to various attractions in Kyoto and the surrounding area are planned, which will provide Conference participants and accompanying persons an opportunity to enjoy Japanese culture, e.g., visits to modern and historical cities and a cruise in the Tokyo Bay. A number of post-conference **technical tours** to unique and interesting construction sites and structures are also being organized.

Conference Fees

Conference fees have been set as low as possible.

IGS and ISSMGE Member Fees

- Before the end of May 2006: 70,000 yen for full participation (30,000 yen for one day)
- After 1 June 2006: 80,000 yen for full participation (36,000 yen for one day)

Fees for Others

- Before the end of May 2006: 80,000 yen for full participation (36,000 yen for one day)
- After 1 June 2006: 90,000 yen for full participation (42,000 yen for one day)

Organized by the Japan Chapter of the IGS

Under the auspices of the IGS

With the support of the International Society for Soil Mechanics and Geotechnical Engineering, & the Japanese Geotechnical Society

reported by Fumio Tatsuoka, IGS Vice-President and Chair of the 8ICG Organizing Committee



Are you an "IGS Pioneer"?

If you attended all seven international conferences dedicated to geosynthetics and plan to attend the 8ICG in Yokohama, Japan, please contact the IGS Secretary at IGSsec@aol.com.

Call for Candidates for the IGS President, Vice-President, and IGS Council: Term 2006 to 2010

Nominations due 31 January 2006

The 2006 IGS Election will be the first IGS electronic ballot. **Three ballots, one each for the election of President, Vice-President, and eight Council Members, will be posted electronically on 1 June 2006 with balloting to close on 31 July 2006.** Results will be announced at the General Assembly, in Yokohama, Japan, during the *8/ICG* (September 2006).

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 (2006 to 2010).

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 2006.

The eight IGS Council Members, whose term of office expires in 2006, are:

- G. Bräu (Germany)
- S.P. Corbet (UK)
- Ph. Delmas (France)
- M. Maugeri (Italy)
- H. Miki (Japan)
- E. Palmeira (Brasil)
- P.E. Stevenson (USA)
- W. Voskamp (The Netherlands)

The IGS bylaws stipulate that a Council Member may be elected to

two consecutive terms; hence, G. Bräu, M. Maugeri, H. Miki, E. Palmeira, and W. Voskamp are eligible for re-election. They will have completed one, four-year term as Council Members by 2006.

Under a special bylaw provision, Elizabeth Peggs was co-opted in January 2005 due to D. Halloran's resignation, thus, E. Peggs is eligible to stand for election in 2006.

Members co-opted in 2002 (E. Alio, C.B. Bao, B. Christopher, and G.V. Rao) 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, Dr. D. Cazzuffi will become an IGS Officer in his capacity as Immediate IGS Past-President following the General Assembly. The Secretary and Treasurer (the other two IGS officers) 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 January 2006**. 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 March 2006 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 D. Cazzuffi, or Secretary P. Stevenson (see contact information on p. 23).

*reported by Karina McInnis
IGS News Editor*

IGS Awards: Call for Nominations 2002 to 2005

Nominations due 31 January 2006

IGS Awards will be granted in 2006 to individuals or groups of individuals who have made an outstanding contribution to the development and use of geotextiles, geomembranes, related prod-

ucts, or associated technologies through their scientific and technological achievements.

The Awards recognize the achievements completed and/or the validity of which has been demon-

strated during a four-year period preceding the year of the Award (i.e., 2002 through 2005 inclusive).

The winning entries will also be featured at the IGS booth at any conference held under the auspices

of the IGS and 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 **31 January 2006**.

The deadline for receipt of award candidate presentation packages is 31 March 2006. Presentations will be forwarded by the Secretariat to the Award Committee by 15 April 2006, and the Committee will meet in Cardiff, UK, in June 2006 to finalize their decisions, draft citations, and report by 30 June 2006. Awards will be presented in Yokohama, Japan, in September 2006 at the *8ICG*.

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 2005.

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. Please note that the same individual

can win an IGS Award a maximum of two times.

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 Achievement Award is automatically considered for both award categories (unless requested otherwise by the candidate). However, a candidate may only receive one award for the 2002 to 2005 period.

Nominations

Candidate nominations must be typed in English on plain paper (i.e., not letterhead paper) and submitted to the IGS Secretariat (see p. 23). 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 Members of the Awards Committee.

Under the IGS Awards rules, any IGS Member can nominate himself/herself for any award. The IGS Education Committee, Corporate Members Committee, and IGS Chapters will be 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, which was nominated in Austin, Texas, at *Geo-Frontiers 2005*, will be formed between July and December 2005.

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 by contacting the IGS Secretary.

*reported by Karina McInnis
IGS News Editor*

9th International Conference on Geosynthetics in 2010

Conference Organizers Sought

The IGS invites Chapters and interested organizations to express their interest in organising and hosting the *9th International Conference on Geosynthetics (9ICG)*, which will be held in 2010. The history of the ICGs is as follows:

- First ICG, Paris, France, 1977
- Second ICG, Las Vegas, USA, 1982
- Third ICG, Vienna, Austria, 1986
- Fourth ICG, The Hague, The Netherlands, 1990
- Fifth ICG, Singapore, 1994
- Sixth ICG, Atlanta, USA, 1998
- Seventh ICG, Nice, France, 2002
- Eighth ICG, Yokohama, Japan, 18-22 September 2006

The IGS Secretary will provide prospective hosts with a detailed information package that informs and instructs interested parties on the proper procedure to prepare a bid to host the Conference. Interested Chapters and organizations should contact the IGS Secretary.

April 2005 Korean Geosynthetics Conference and Korean IGS Chapter Update

The Korean Geosynthetics Conference was held on 27 April 2005 in Seoul, Korea, and was organized by the Korean Geosynthetics Society and the Korean IGS Chapter in cooperation with the Korean Geotechnical Society.

Approximately 100 individuals, including members of the Korean IGS Chapter, students, and engineers attended the Conference, which was organized into three themes: materials and testing, reinforced soil, and soil improvement. Prof. Colin J.F.P. Jones (Newcastle University, UK) delivered the Keynote Lecture titled



Introducing the Korean IGS Chapter Officers in Seoul, Korea.

“Innovative Geosynthetics.”

During the Conference, Professor Young-Su Chae of Suwon University was selected as the new President of Korean IGS Chapter. He starts his official term with the following Chapter Officers:

President:
Prof. Young-Su Chae

Vice Presidents:
Mr. Young-Yoon Kim
Prof. Han-Yong Jeon
Dr. Sam-Deok Cho
Prof. Jae-Woo Ju

Auditors:
Mr. Jeong-Ho Kim
Prof. Sang-Ho Lee

Executive Members:
Prof. Eun-Chul Shin
Prof. Chung-Sik Yoo

Prof. Kwang-Yeol Lee

Prof. Yeon-Soo Jang

Treasurer: Mr. Kwan-Young Cho

Secretary: Prof. You-Seong Kim

*reported by You-Seong Kim
IGS Korean Chapter Secretary*

Landfill 2005 Seminar & 2005 Mercer Lecture by J.P. Giroud

Held on 20 to 21 October 2005, in Durban, South Africa

Landfill 2005 was the sixth of a biennial series of seminars organized by the Landfill Interest Group of the Institute of Waste Management of Southern Africa (IWMSA), working in cooperation with the Geosynthetics Interest Group of South Africa, otherwise known as GIGSA – the official South Africa IGS Chapter. The spirit of this seminar series is that it is structured as a low-cost / high-value knowledge and technology transfer event, and in this spirit the registration fee for this two-day event was approximately \$76 US.

A total of 185 waste management specialists and students, from the USA, Kenya, Germany,



Melissa Fourie delivers Keynote Address.

Namibia, and the UK, as well as from all over South Africa, attended the Seminar.

The Seminar was officially opened by the President of IWMSA, Hennie Neethling, following which Leon Bredenhann of South Africa's Pretoria-based Department of Environmental Affairs & Tourism (DEAT) was honoured with the award of a Senior Fellowship of the IWMSA in

recognition of his dedication in developing and promoting the government's *Minimum Requirements for Waste Management* suite of regulations over many years.

The Keynote Address

The keynote was presented by Melissa Fourie, Director of Enforcement of the Environmental Quality & Protection Branch of DEAT: “Recent Developments in Pollution and Waste Compliance Monitoring and Enforcement in

South Africa.” One of the recently formed government units she directs is popularly known as the “Green Scorpions,” whose function includes prosecution of environmental offenders. Some of the recent cases handled by this department have been highly publicized and delegate interest in her presentation was keen.

Mercer Lecture (first ever in Africa)

The Mercer Lecture is a biennial event that is sponsored by Tensar International of the UK, with the endorsement of the IGS and the International Society for Soil Mechanics and Geotechnical Engineering. The aim of this lecture is to promote cooperation and information exchange between geosynthetics engineering and other engineering disciplines that make use of geosynthetics. The Mercer Lecture is traditionally presented in

three continents; this was the first time it was presented in Africa.

IGS Past President Jean-Pierre Giroud demonstrated once again that he is one of the world's top non-commercial advocates of all forms of geosynthetic product and application. Presenting the 2005 Mercer Lecture during the opening session of the Seminar, JP held a select audience spellbound as he effortlessly demonstrated the undeniable benefits of the use of geosynthetics. His detailed presentation, entitled "Contribution of Geosynthetics to the Geotechnical Aspects of Waste Containment," was particularly targeted at an audience of landfill specialists of all disciplines.

In his lecture, Dr. Giroud used a balanced, logical approach to dem-

onstrated to the audience made up of government officials, consultants, students, landfill operators and owners that geosynthetics are indispensable in modern waste containment and, more generally, in geotechnical and geoenvironmental engineering.

raised temperature could have on the performance and service life of geosynthetic products used in waste containment related applications.

This reviewer has over 28 years dedicated experience in the geosynthetics industry, but has never seen a more comprehensive and masterly introduction to the benefits of these products (coupled, however, with stern warnings about the effects of their misapplication) – and all of this presented in a sympathetic, strongly motivational lecture that must have left many of the members of the audience very aware of their own shortcomings in how they handle geosynthetic issues.

This was knowledge transfer of the highest quality, and it all took only one hour to accomplish – surely



Kelvin Legge (right) receives Development in Technology Award from Peter Legg (left).

To obtain a complete listing of the paper presented, please contact: Peter Davies at:

ktechpld@kaymac.co.za.

South Africa Chapter Awards

Peter Legg, President of GIGSA, then presented the Chapter awards for 2004, including:

- Kelvin Legge of the South African Department of Water Affairs & Forestry (DWAFF) received the Award for Development in Technology for advancing the understanding of geotextiles as filters in critical applications in embankment dams.
- Peter Davies received the President's Award of the Kelley Nicole Legge floating trophy for excellence and dedication to the South African geosynthetics industry.

In Closing

In summary, *Landfill 2005* was a most successful seminar, made possible by generous sponsorships, dedicated committee work, and expert authors whose papers made valuable contributions to the state of the art of waste disposal by landfill in South Africa. To quote one of the senior delegates:

"I must congratulate you and the team responsible for the successful outcome of the LIG2005 conference. I learnt a lot, enjoyed myself tremendously and was inspired by Dr. Giroud and others. Well done."

*reported by Peter Davies
IGS Member*



Some scenes from the Baronial Feast: delegates and their spouses donned medieval garb to participate in the evening's festivities. Mercer Lecturer, Jean-Pierre Giroud, and his wife Genevieve, were installed as King and Queen of the feast (right).

an excellent investment of their time by those who were fortunate enough to attend. What further impressed the delegates was that JP took the time to attend and participate in the whole two-day seminar.

The organizers of *Landfill 2005* sincerely thank Jean-Pierre for the major contribution he made to the success of the seminar, and also thank Tensar International as the sponsors of the Mercer lecture, for making it possible. [Editor's Note: visit p. 8 for Mercer Lecture details.]

Technical Paper Presentations

An excellent and varied program of 13 technical papers was presented by experts in their respective fields.

Sardinia 2005

Tenth International Waste Management and Landfill Symposium

Held on 3 to 7 October 2005, in Cagliari, Italy

Sardinia 2005 was held in Cagliari, Sardinia on 3 to 7 of October 2005 under the auspices of the IGS. A biannual event, it draws approximately 1,000 solid waste professionals from over 50 countries, both in attendance and participation in the technical program.

Seven concurrent sessions, comprising two Main Sessions, Specialized Sessions, and Workshops were held throughout the week. Although the overall theme was waste management, from planning and policies, to regulatory issues, to reuse and recycling, many sessions focused on engineering aspects of solid waste management, including landfill gas management, leachate and storm-water management, and landfill design. In general, many sessions are generally of interest to geosynthetic professionals, covering all aspects of design.

Mercer Lecture by J.P. Giroud

A highlight of the Conference Opening Session was the Mercer Lecture, presented by Jean-Pierre Giroud, and entitled "Contribution of geosynthetics to the geotechnical aspects of waste containment". No stranger to IGS Members, Dr. Giroud is a former IGS President and one of the founding fathers of the utilization of geosynthetics throughout civil engineering projects worldwide.

Typical of a Giroud presentation, his lecture contained the conventional descriptions of the "what" and "how" associated with geosynthetic usage, but also touched on why these systems work. His explanations were crystal clear to even the non-engineering participants present. In addition, he touched on those aspects of geosynthetic research and applications that we have yet to fully understand, such as temperature effects on geosynthetic performance, emphasizing the need for further study and dialogue.

The Mercer Lecture highlighted the contribution of geosynthetic materials and the practice of geosynthetic engineering to the waste containment industry. As pointed out in the lecture, innovation in materials and design practices has resulted in safer, more secure management of our wastes, and the marriage of geotechnical engineering and civil engineering to the practice of geosynthetic engineering has been a significant benefit for the waste industry. Even so, Dr. Giroud mentioned that all geosynthetic solutions are associated with challenges and showed that these challenges are met through research and development efforts, of which he gave several examples.

In the first part of the lecture, Dr. Giroud addressed the contribution of geosynthetics to liquid control. Composite liners, which associate



SARDINIA 2005

Jean-Pierre Giroud delivers the 2005 Mercer Lecture at Sardinia 2005.

clay (and/or bentonite geocomposites) with geomembranes, are orders of magnitude more effective than clay alone. However, Dr. Giroud showed that geotechnical engineers are challenged by aspects of material behavior that are unusual in traditional geotechnical engineering, such as: desiccation of clay or bentonite, and geomembrane wrinkling due to thermal expansion, two mechanisms that may impair the effectiveness of composite liners. Also, Dr. Giroud mentioned the challenges associated with geosynthetic drainage materials, such as: the equivalency between geosynthetic and granular leachate collection layers, and the design of leakage collection layers to accommodate the flow generated by concentrated leaks. The first part of the lecture was concluded by a comparison

between single and double liners, in particular in the case of landfills in developing countries.

The second part of the lecture addressed the contribution of geosynthetics to stability. Dr. Giroud pointed out that geotechnical engineers have to face challenges such as: the development of slip planes in slopes with multiple interfaces, the influence of



From left to right: J.P. Giroud (2005 Mercer Lecturer, IGS Past President), Susan Thorneloe (US EPA), Bas de Leeuw (United Nations), Paolo Russo (Italian Parliament), Raffaello Cossu (Symposium Co-Chair), Anna Karamat (European Commission), Daniele Cazzuffi (IGS President), Rainer Stegmann (Symposium Co-Chair).

pore pressure on the behavior of waste, and the influence of gas pressure on the stability of landfill covers. In particular, Dr. Giroud showed that geosynthetic drainage materials, which appear to be equivalent to granular drainage materials from the viewpoint of the impact of drainage on slope stability (based on traditional steady-state flow calculations), are in fact not equivalent as shown by transient flow calculations. Thus, a greater factor of safety regarding flow capacity is required from geosynthetic drainage materials to achieve the same safety regarding stability as granular drainage materials.

At the end of the lecture, Prof. Cossu, Symposium Co-Chair, thanked Dr. Giroud for a lecture that presented a balanced view of the many uses of geosynthetics in waste containment. In essence, the message conveyed by the Mercer Lecture presented at *Sardinia 2005* is that geosynthetics solutions are safe because they are supported by sound engineering and research.

Session Topics

After the introductory lecture, the Symposium proceeded with sessions including waste management policies and strategies, and sanitary landfilling (design, operations, and closure) to name a few.

Of particular interest to IGS Members are the papers on the design and performance of geomembranes for landfill capping layers, including papers documenting years of exposure to landfill gas and leachates. Continuing research and study contribute to the knowledge of landfill systems and their long-term durability.

Bioreactor Landfills and Geosynthetics

Continuing interest in bioreactor landfills has been demonstrated at each of the past several Sardinia symposia. This year's conference affirms the growing commitment to recirculation of leachates as a multi-part management strategy for control of leachates and maximization of landfill airspace.

Geosynthetics components of landfill containment systems con-

tinue to play a critical role to the efficacy of these projects, as effective containment and efficient drainage of the recirculated materials are essential to performance. As more and more research and demonstration projects are initiated worldwide, for bioreactor options, we will continue to seek geosynthetic solutions, coupled with state-of-the-art geotechnical engineering to ensure that the processes are optimized.

An Overall Success

Sardinia 2005 was an important symposium that brought together representatives from all over the world to share their insights and experiences and advance the global state of practice. It is evident that geosynthetics are a featured and very important element of landfill design and closure.

For more information and to order Proceedings, contact Euro-Waste (Padova, Italy):

euowaste@tin.it

reported by Robert Wallace, IGS Member, and Daniele Cazzuffi, IGS President

XVI International Conference on Soil Mechanics and Geotechnical Engineering, 16ICSMGE

Held on 12 to 16 September 2005, Osaka, Japan

The 16ICSMGE was held on 12 to 16 September 2005, in Osaka, Japan. The Conference was jointly organized by the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE), Science Council of Japan (SCJ), and The Japanese Geotechnical Society (JGS) under the main theme "Geotechnology in Harmony with the Global Environment." A total of 1,764 individuals from 69 countries participated in the Conference, making it a resounding success.

Five Keynote Lectures:

Geocharacterization and properties of natural soils by in situ tests, F.

Schnaid (Federal Univ. Rio Grande do Sul, Brazil)

Computational modeling of large deformations and failure of geomaterials, F. Oka (Kyoto Univ., Japan)

Environmental issues in geotechnical engineering, C.D. Shackelford (Colorado State Univ., USA)

Challenges of offshore geotechnical engineering, M.F. Randolph (Univ. of Western Australia, Australia)

Pile foundations: experimental investigations, analysis and design, C. Viggiani (Univ. of Napoli Federico II, Italy)

Terzaghi Oration: Associating with advancing insight, F.B.J. Barends (Technical Univ. of Delft, The Netherlands)

Heritage Lecture: *Development of geotechnical earthquake engineering in Japan*, I. Towhata (The Univ. of Tokyo, Japan)

Lectures on Major Projects: *Second phase construction project of*



Opening Address by Prof. T. Adachi.

Kansai International Airport - Large-scale reclamation works on soft deposits, T. Furudoi (Kansai International Airport Land Development Co., Japan); *Challenges in offshore geotechnics in Southeast Asia*, C.F. Leong (National Univ. of Singapore); and *Study on the geotechnical engineering problems at the Three Gorges Project*, A. Wu (Yangtze River Scientific Research Institute, P.R. China.)



Presidential speech by Prof. W. van Impe.

Practitioner-Academic Forum

As one of the highlights of the Conference, a two-day Practitioner-Academic Forum was organized by H.G. Poulos (Australia). L. Valenzuela (Chile), S. Crawford (New Zealand), and P. Day (South Africa) represented the Practitioners, and F. Tatsuoka (Japan), P. Mayne

(USA), and M. Bolton (UK) represented Academia.

Specific Geosynthetics-Related Activities

There were many presentations related to geosynthetics including slope, embankment, foundation, wall, soil, and abutment reinforcement; contaminant barrier walls; and drainage applications to name a few. During his keynote lecture, Prof. Shackelford commented on the role of geosynthetic composite liners in landfills. The **2005 Mercer Lecture** by Dr. J.P.Giroud had been scheduled, but unfortunately was cancelled due to unforeseen circumstances.

Workshops

Six workshops were held by the ISSGME Technical Committees during the Conference with the following topics:

- Geotechnical investigations for offshore and near-shore developments
- Geotechnical aspects related to foundation layers of pavements and rail track
- Performance-based design in earthquake geotechnical engineering

- Geotechnical aspects of environmental engineering
- Case histories in unsaturated soil mechanics
- Laboratory tests

Third International Young Geotechnical Engineering Conference (3rd iYGEC)

The *iYGEC* was held in parallel with *16ICSMGE* and was organized by JGS under the sponsorship of ISSMGE. Three young geotechnical engineers were given awards during the Closing ceremony.

Conference Papers and Proceedings

Visit www.millpress.com for information to obtain the Proceedings. The invited lectures can be downloaded from the Conference web site at www.icsmge2005.org/.

New President and the Next ICSMGE

The Incoming President, Prof. Pedro Seco Pinto (Portugal), was elected at the Council Meeting on 11 September and the next ICSMGE will be held in Alexandria, Egypt on 5 to 9 October 2009.

reported by Masashi Kamon, IGS Member, Secretary General of the 16ICSMGE Organizing Committee

XVIII Italian National Conference on Geosynthetics

Held on 12 October 2005, Bologna, Italy

The XVIII Italian National Conference on Geosynthetics was held on 12 October 2005 in Bologna. The Conference was organized jointly by the Italian IGS Chapter (AGI-IGS) and the Bologna Engineers and Architects Association (ASSIABO) on behalf of ANIAI (Italian Engineers and Architects Association) and with the participation of SIIV (Italian Road Infrastructures Society) under the auspices of the Italian Transportation and Infrastructure Ministry and Bologna University.

More than 160 participants

attended the Conference, which was divided into two different sessions. The first session was chaired by Michele Maugeri (AGI-IGS President) and focused on the use of geosynthetics in road and railway embankments; one keynote lecture and five papers were presented. The keynote, presented by Nicola Moraci (University of Reggio Cala-



From left to right: Pietro Rimoldi, Michele Maugeri, Pierpaolo Fantini, Daniele Cazzuffi, Nicola Moraci, and Alberto Bucchi.

bria), focused on the different applications of geosynthetics in road and railway embankments. In particular, the different applications of geosynthetics in reinforced embankments were analyzed.

The five papers presented details on the design and construction problems related to some of these applications. In particular, the papers focused on seismic and cyclic behaviour of reinforced embankments, and on Italian case histories in which a wide range of geosynthetics were used for rein-

forcement and drainage.

The second session was chaired by Daniele Cazzuffi (IGS President) and focused on the use of geosynthetics in road pavements and railway construction; one keynote lecture and six papers were presented. The keynote, presented by Alberto Burchi (University of Bologna), addressed problems affecting the design of geosynthetics in road pavements and railway constructions. The six papers presented design criteria for road pavements and railway constructions, labora-

tory and in situ tests carried out to design multilayer pavement systems, and Italian case histories using a wide assortment of geosynthetics and metallic materials.

At the end of each session, a fruitful and interesting discussion on the different topics took place. The next Italian National Conference on Geosynthetics will be held in October 2006, in Bologna.

*reported by Nicola Moraci
IGS Member*

11th International Conference on Computer Methods and Advances in Geomechanics

Held in Torino, Italy, 19 to 24 June 2005

The Eleventh International Conference on Computer Methods and Advances in Geomechanics (11th IACMAG Conference) took place on 19 to 24 June 2005 in Torino, Italy, with approximately 350 participants attending from 40 different countries. The Conference was sponsored by the IACMAG (International Association of Computer Methods and Advances in Geomechanics) and organized by the Politecnico di Torino, Department of Structural and Geotechnical Engineering and AGI (Associazione Geotecnica Italiana – Italian Geotechnical Society). The Conference Chair was Giovanni Barla.

The Conference was devoted to the “Prediction, Analysis and Design in Geomechanical Applications” and addressed the most recent developments and relevant issues in computer methods as applied to different areas of geomechanics. Emerging and important topics, the application of new research developments, future needs, documented case studies integrated with theory, laboratory and field tests, and validation procedures were discussed in plenary and parallel sessions and workshops.

Geosynthetics-Related Conference Highlights

The subject of geosynthetics was well represented – “reinforcing” the growing importance of geosynthetics in the field of geotechnical and civil engineering in general. Of particular note, the **Rankine Lecture by Prof. R. Kerry Rowe** (IGS Past-President) on “Long term performance of contaminant barrier systems” was given prior to the Closing Ceremony and was chaired by the IGS President, Daniele Cazzuffi. A Keynote Lecture was given by Prof. Ian Moore on numerical modelling of geosynthetics. Also, an Invited Lecture was presented by Prof. Richard J. Bathurst (IGS Past-President) on constitutive modelling of geosynthetics in reinforcement applications. The IGS is particularly proud of its strong representation at the Conference!

Conference Sessions

There were 16 sessions in all, with Session 7 being entirely devoted to “Ground improvement, reinforcement, geosynthetics.” Several

other geosynthetics-related papers were selected and presented in other sessions (e.g., during sessions devoted to Geo-environmental Engineering, Neural Networks, and Case Histories). The technical sessions were well organized and well attended and were each followed by lively discussion periods. There were also poster presentations and technical exhibitions.

During the Opening Session, there were speeches by the Rector of the Politecnico di Torino, Prof. Giovanni Del Tin, Dean of the Engineering Faculty, Prof. Francesco Profumo, and Prof. Chandra Desai, President of IACMAG.



From left to right: Kerry Rowe, Rankine Lecturer; Daniele Cazzuffi, IGS President; Giovanni Barla, IACMAG Conference Chair; Nielen van der Merwe, ISRM President; and Michele Maugeri, Italian IGS Chapter President.

Italian Chapter (AGI-IGS) Meeting

The IACMAG Conference also hosted the meeting of the Italian Chapter of International Geosynthetic Society (AGI-IGS). The meeting was devoted to the organization of the *XVIII Italian National Conference on Geosynthetics* (see page 10 for details on this Conference).

Workshops

Prior to the Conference, a three-day course on "Application of finite elements and constitutive models in

Geotechnical Engineering," sponsored by the Dutch Research School Structural Engineering, was offered at Politecnico di Torino Lingotto. There were two additional workshops on "Numerical Methods in Tunnel Engineering" and "Flow-like landslides and other types of fast-slope movements - mechanics and modelling."

Conference Proceedings

The IACMAG Conference Proceedings may be purchased by visiting

the Conference web site (www.iacmag2005.it). The Proceedings are available in print (four volumes) and on CD-ROM. Volumes 1 to 3 contain 272 papers, which were selected from 419 abstracts submitted. Volume 4 is a collection of 56 contributions including overview lectures, keynote lectures, and issue papers.

reported by Giovanni Barla, IGS Member, Marco Barla, and Michele Maugeri, IGS Italian Chapter President

6th International Conference on Ground Improvement Techniques

Held on 18 and 19 July 2005, University of Coimbra, Portugal

The *Sixth International Conference on Ground Improvement Techniques* was held on 18 and 19 July 2005 at the University of Coimbra, Portugal, and was attended by more than 110 participants coming from 24 different countries. The Conference was supported by the Portuguese Geotechnical Society, the International Association of Engineering Geology (IAEG) Commission No 18: Collapsible Soils, and the Cooperative Research Centre for Railway Engineering & Technologies, Australia.

The Honourable Conference Chair was Prof. S.L. Lee from the National University of Singapore. IGS Member, Prof. Isabel Pinto from the University of Coimbra, Portugal, was Conference Chair, and Prof. Silva Cardoso from the University of Porto, Portugal, was the Advisory Committee Chair.

Objective

Today, ground improvement represents one of the most

important branches of geotechnical engineering because it turns otherwise poor and problematical soil into suitable ground for engineering purposes, e.g., land reclamation and construction on soft and weak soils. There have been tremendous advances in ground improvement techniques in the last few years incorporating new and innovative technologies: geosynthetics being one such example. With ever-increasing pressure to develop areas deemed in the past as too problematic or costly, a sound knowledge of present and future techniques to improve such ground

is vital. The Conference objective was to cover a broad spectrum of the available and recently developed ground improvement techniques and to provide a forum for academics, researchers, practicing engineers, and developers to exchange experiences on design, implementation, and behaviour of improved ground.

Conference Program

The two-day Conference was divided into two parts: Day 1 was dedicated to the Honourary Conference Lecture, Keynote Lectures, and Special Sessions; and Day 2

was devoted to the General Sessions. There were several general topics presentations that focused on the use of geosynthetics, e.g., geosynthetic-reinforced soil retaining walls, prefabricated vertical drains, and geosynthetic-reinforced unpaved roads.

Honourary Conference Lecture

"Treatment of soft ground by Fibredrain and high energy impact in highway embankment



Conference Opening Session (left to right): Prof. Silva Cardoso (Advisory Committee Chair), Prof. António Correia (President, Portuguese Geotechnical Society), Prof. Simões da Silva (President, Dept. of Civil Engineering, University of Coimbra), Prof. Buddhima Indraratna (Cooperative Research Centre for Railway Engineering & Technologies, Australia), Prof. Isabel Pinto (Conference Chair).

construction,” presented by Prof. S L Lee, National University of Singapore, Singapore

Keynote Lectures

“Improvement of granular media and formation soil using geosynthetics with special reference to rail track environment,” presented by Prof. Buddhima Indraratna, University of Wollongong, Australia

“Engineering properties of fibrous peats,” presented by Prof. Gholamreza Mesri, University of Illinois, USA

“Heavy tamping integrated dynamic compaction control,” presented by

Dr. Dietmar Adam, Technical University of Vienna, Austria

“Ground improvement methods for liquefaction remediation,” presented by Dr. Gopal Madabhushi, Cambridge University, UK

“A semi-probabilistic approach to the design of jet grouted umbrellas in tunnelling,” presented by Dr. Alessandro Flora, Università di Napoli Federico II, Italy

“Design of jet grouting cut-offs,” presented by Dr. Croce Paolo, University of Cassino, Italy

Special Session Topics

- Innovative techniques in ground improvement

- Ground improvement for roads and railways

Proceedings

To order Conference Proceedings, e-mail :

cipremier@singnet.com.sg.

Next Conference

The 7th Conference on Ground Improvement Techniques is likely to be in 2007. For more information keep an eye on

www.cipremier.com.

reported by Isabel Pinto
IGS Member

International Symposium on Tsunami Reconstruction with Geosynthetics

8 to 9 December 2005, Bangkok, Thailand

The international symposium on *Tsunami Reconstruction with Geosynthetics – Protection, Mitigation and Rehabilitation*

of Coastal and Waterway Erosion Control will be held in Bangkok, Thailand, on 8 to 9 December 2005 at the Asian Institute of Technology (AIT)

under the auspices of the IGS. The IGS, in cooperation with the King Mongkuts University of Technology Thonburi (KMUTT) and the Asian

KEYNOTE LECTURES		
Japan	Prof. F. Tatsuoka, J. Koseki, M. Tatyama and T. Uchimura	Remedial Work using Geotextiles to Reinforce Embankments and Soil Retaining Walls Damaged during Recent Earthquakes and Heavy Rainfalls in Japan
UK	Prof. Robert Sarsby	Limited Life Geotextiles (LLGs) for Soil Reinforcement
Japan	Prof. Hideki Ohta	Japanese Tradition of Tsunami Disaster Mitigation and Rehabilitation
Japan	Prof. Nubuo Shuto	Tsunamis: Their Coastal Effects and Defense Works
Australia	Prof. Buddhima Indraratna	Effect of Tsunami on Coastal Ground Conditions and Appropriate Measures for Rail Track Rehabilitation
Japan	Prof. Kasuya Yasuhara	Geosynthetics Structures for Shore Protection - Recent Developments of Revetments Made with Geosynthetics
INVITED LECTURES		
UK	Prof. Colin J.F.P. Jones	The Potential Application of Geosynthetics to Reduce Structural Damage caused by Tsunamis
China	Prof. Shui-Long Shen and Ye-Shuang Xu	Analysis of the Performance of Coastal Embankment Protected by Geotextile on Soft Subsoil
Germany Australia	Dr. Fokke Saathoff, Prof. Hocine Oumeraci, Simon Restall	Australian & German Experiences on the Use of Geotextile Containers
Mexico	Ing. Enrique Alvarez del Rio	Coastal Erosion Control and Beach Rehabilitation with Geotextile Tubes in Yucatan, Mexico
Singapore	Dr. Tan Siew Ann and K.K. Oo	Stone Column FEM Modeling: 2D & 3D Considerations Illustrated by Case History
Singapore	Dr. Chu Jian and Prof. S.W. Yan	Soil Improvement Techniques for Coastal Protection

Center for Soil Improvement and Geosynthetics (ACSIG) is inviting you all to participate in the Symposium.

It will take years of effort from different engineering disciplines to recover from the recent devastation caused by the Tsunami in South Asia. Geosynthetics can play an important and vital role in protection, mitigation, and rehabilitation efforts in affected coastal areas. Traditional construction techniques utilizing rock, concrete, and steel are being increasingly challenged by alternative geosynthetic solutions used in revetments, scour protection, berms, artificial reefs, reclamation, and dunal stabilization to name but a few. The use of geosynthetics has advantages (over traditional techniques) such as speed of construction, flexibility and durability, use of local soil materials rather

than imported quarry products, and cost effectiveness.

The objective of the Symposium is to bring together experts in these fields such that all participants can learn the latest geosynthetics developments, technologies, applications, and design techniques for erosion control, as well as for repair and rehabilitation of infrastructure and, particularly, how these can be applied to the rehabilitation of the Tsunami-devastated areas.

In addition to the Keynote and

Invited Lectures, there will be approximately **24 paper presentations by individuals from Australia, Canada, China, Germany, India, Indonesia, Korea, Kazakhstan, Malaysia, Taiwan, Thailand, and the United Kingdom.**

Contact Information

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IGS Council Members Participating in the Tsunami Relief Initiative

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Member AAC, Korea

Cheng-Gang Bao

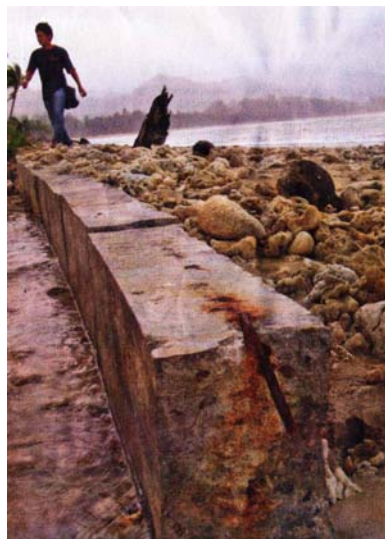
Member AAC, China

G.V. Rao

Member AAC, India

Recent Tsunami Reconstruction Lectures Indonesia and Philippines, July and August 2005

In June 2005, the Asian Institute of Technology (AIT) held the Tsunami Forum: see the July 2005 issue of *IGS News* for a synopsis of the Forum. In July and August 2005, I was fortunate to have the opportunity to give two invited lectures in the Philippines and one in Indonesia on the use of geosynthetics for tsunami reconstruction. These lectures are briefly summarized below. Also, I am very



pleased to report that geosynthetics will be used for two tsunami reconstruction projects in which I am participating, one in the south of Thailand, which is an AIT project funded by USAID, and the other in Banda Aceh, Indonesia, in cooperation with the University of Indonesia.

It is critical that we continue to deliver the message of the benefits of incorporating geosynthetics in the reconstruction of various types of infrastructures that were damaged by the December 2004 tsunami. The photo to the left is an example of a poorly designed coastal structure; examples such as this reinforce the importance of our Society's mission and message.

Lecture at Cagayan de Oro City, Philippines, 25 July 2005

This lecture was held at Mindanao Polytechnic State College (MPSC) in Cagayan de Oro City (CDO), Philippines. The lecture was held in cooperation with the local chapter of the Philippine Institute of Civil Engi-

neers (PICE). Approximately 300 participants attended the lecture.

Lecture at Iligan City, Philippines, 27 July 2005

This lecture was held at Mindanao State University (MSU) – Iligan Institute of Technology (IIT) in Iligan City, Philippines. Approximately 100 participants attended the lecture.

Lecture at Semarang, Indonesia, 3 August 2005

This was an invited lecture at the *International Conference on Geotechnical Engineering for Disaster Prevention and Rehabilitation*, which coincided with the annual meeting of the Indonesian Geotechnical Society. There were approximately 300 participants. Among the foreign lecturers were Prof. H. Ohta, President of Japanese Geotechnical Society, Dr. C.T. Chin of Moh and Associates in Taipei, Taiwan, Prof. S.R. Lo of Australia, Prof. J. Chu of Nanyang Technological University (NTU) in Singapore, as well as Profs. C.F. Leung, S.A. Tan, and

K.K. Phoon of the National University of Singapore (NUS) in Singapore. Dr. P. Menge of Dredging

International represented Prof. W.F. Van Impe, President of ISSMGE.

reported by Dennes T. Bergado, President of IGS-Thailand

NAGS 2005 / GRI 19 Conference

14 to 16 December 2005, Las Vegas, Nevada, USA

The North American Geosynthetic Society (NAGS) and the Geosynthetic Institute (GSI) are pleased to announce the cooperative *NAGS 2005 / GRI-19 Conference* to be held in Las Vegas, Nevada, USA, from 14 to 16 December 2005 at the Flamingo Hotel Conference Center. The Conference is also being held under the auspices of the IGS.

GSI will hold sessions in the mornings and NAGS hold sessions in the afternoons, which will complement each other. This unique format should service the interests of all participants with added emphasis on challenges and opportunities in the field of geosynthetics.

Technical Content

GRI-19 – Morning of Wednesday, Thursday, Friday

Session 1: Use of Low Permeability Backfill Soils in Geosynthetic-Reinforced Walls

Session 2: Use and Design of Geosynthetics in Heap Leach Systems

Session 3 (Part I): Hot Topics in Geosynthetics

Session 3 (Part II): Hot Topics in

Geosynthetics

NAGS – Afternoon of Wednesday, Thursday, Friday

Session 1: Reinforcement in Seismic and Static Applications”

Session 2: Geosynthetics in Base Reinforcement

Session 3: Geosynthetics for Reinforcement in Pavement Systems and Perspective on Geosynthetic Education

Session 4: Student Papers

Session 5: Geosynthetics in Drainage and Construction Site Run-off

Session 6: Geosynthetics in Containment Applications

For a complete list of all session papers/presentations visit either the NAGS web site at:

www.nagsigs.org/conferences.html,

or the GSI web site at:

www.geosynthetic-institute.org/nextconf.htm. In addition to paper presentations, there will be a student competition and a poster session presented over the course of the three-day conference.

Student Paper Competition

Several student papers have been selected for presentation at the Conference. The students will be competing for the IGS Student Award, which will enable one student to attend the *8th International Conference on Geosynthetics* in Yokohama, Japan, in September 2006. A combined score from the paper evaluation and oral presentation by the technical committee will decide the winner of the competition.

Other Events and Meetings

On 13 December 2005, there will be NAGS Board and GMA Executive Council Meetings and GSI Focus Group Meetings. The GSI Annual Meeting will take place during the evening of 14 December 2005.

Contact Information

For updated program and exhibitor/ sponsorship information, or to register, visit the NAGS website above, or e-mail Jane Harris at: janeharris@nagsigs.org, or call the Conference Hotline at 1/416 741 8862.

Call for Papers: Geo-Environmental Engineering 2006

3 to 4 April 2006, Kyoto, Japan

Geo-Environmental Engineering 2006 (6th Japan-Korea-France Joint Seminar on Geo-Environmental Engineering) will take place from 3 to 4 April 2006 at the Fukui Institute for

Fundamental Chemistry, Kyoto University, Kyoto, Japan, and will be held under the auspices of the IGS. The last five seminars have been joint seminars between Japan and Korea, but this sixth seminar will be held between Japan, Korea, and France.

and scientific communities, in terms of waste management and remediation of contaminated lands, and related topics.

The main goal of *Geo-Environmental Engineering 2006* is to share information, experiences and research to give Conference participants greater knowledge and the ability to help revitalize their communities.

Geo-Environmental Engineering 2006
Sixth Japan-Korea-France Joint Seminar on Geo-Environmental Engineering
April 3-4, 2006, Kyoto University, Japan



Conference Topics

- Waste management
- Landfill liners and covers
- Geotechnical re-use of solid waste
- Environmental assessments
- Risk assessment and management
- Monitoring of contaminated sites
- Clean-up technologies and ground improvement
- Lessons from the field and case studies

Call for Papers

Papers are invited on the topics outlined above. Abstracts of no more than 200 words should be submitted by e-mail by 30 November 2005 to the Conference Secretariat at

inui@geotech.gee.kyoto-u.ac.jp.

Enter *Geo-Environmental Engineering 2006* at the beginning of the e-mail, and include your name, full address, and conference topic in the main body of your e-mail.

After acceptance of the abstract, paper instructions will be sent to each author by 15 December 2005. **The deadline for complete papers is 31 January 2006.** Conference papers will be peer-reviewed by experts in the field of geo-environmental engineering and, if selected, will be published in the Conference Proceedings and available to delegates at the time of registration.

Conference Secretariat

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Chairpersons of Organizing Committee

- Masashi Kamon, Kyoto University, Japan
- Junbom Park, Seoul National University, Korea
- Ha-ik Chung, Korea Institute of Construction Technology, Korea
- Jean-Pierre Gourc, University of Grenoble, France

XIII Danube-European Geotechnical Engineering Conference

29 to 31 May 2006, in Ljubljana, Slovenia

The Slovenian Geotechnical Society, and the Road and Transportation Research Association of Slovenia are organizing the *XIII Danube-European Conference on Geotechnical Engineering* that will be held in Ljubljana, Slovenia, on 29 to 31 May 2006. The Conference is being held under the auspices of the ISSMGE and the IGS.

The theme of the Conference is "Active geotechnical design in infrastructure development." To date, the Conference has attracted professionals from all over the world.

Timeliness of the Conference

The Conference is being held one year after the election of the new ISSMGE Board. Thus, it will be an opportunity for the Technical Committees of ISSMGE to meet for the first time and start with the organization of their work for the new four-year term.

The Conference is also being held two years after many Danube European countries joined the

European Union. The adaptation of these countries to European standards has brought, and continues to bring, many interesting experiences, especially in the field of construction, re-construction, maintenance and refurbishment of infrastructure.

Conference Topics

Below are some of the main Conference topics; for a more detailed listing, visit the Conference web site listed below.

- Measurement and interpretation of ground properties: geotechnical and environmental aspects
- Improvement of ground properties
- Case histories of interactive geotechnical design
- Static and dynamic soil structure interaction
- Risk assessment and risk management
- Geotechnical challenges related to transport infrastructures
- Durability of infrastructures



Official Languages

The official languages of the Conference will be English and German. Simultaneous translation will be provided.

Exhibitors and Sponsors

The Conference organizers welcome exhibitors and sponsors interested in presenting their projects, products, equipment, materials, and services, which are related to the above listed Conference topics. For more information, visit the Conference web site.

For More Information

Additional information will be available in the Second Bulletin, which will be released in December 2005. Otherwise, please contact:

Slovenian Geotechnical Society
E-mail: danube.2006@fgg.uni-lj.si
www.danube-conference2006.si

5th International Congress on Environmental Geotechnics

Opportunities, Challenges and Responsibilities for
Environmental Geotechnics, Cardiff, Wales, UK, 26 to 30 June 2006

The International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE) and the British Geotechnical Association (BGA, the British member society of the ISSMGE) are pleased to announce the *Fifth International Congress on Environmental Geotechnics (5ICEG)*, which will be held between the 26 and 30 June 2006 in Cardiff, Wales, UK. The Congress will be held under the auspices of the IGS. *The next IGS Council meetings will take place in conjunction with the 5ICEG.*

Conference Program

There will be a keynote lecture, three feature lectures, nine theme workshop sessions, a poster session, and a parallel exhibition.

Keynote Lecture: Dr. M. Eisa, Programme Manager, UNIDO, Vienna, "Persistent Organic Pollution - Sustainable Solutions"

Feature Lecture: Prof. G. Blight, Professor Emeritus, University of the Witwatersrand, South Africa, "Catastrophic flow failures of refuse dumps - why they occur and simple procedures to prevent them"

Feature Lecture: Prof. R. Kerry Rowe, Vice-Principal (Research)

and Civil Engineering Professor, Queen's University, Canada, "Geosynthetics for Environmental Geotechnics"

Feature Lecture: Dr. M. Head, Director of Infrastructure, TRL Ltd, UK, "Reuse of Waste Material in Construction"

Workshop Sessions

Papers under the following session themes will be presented:

- Remediation
- Barrier Design (Nuclear Waste Disposal)
- Testing and Monitoring
- Sustainability
- Fate and Transport
- Waste Reuse/Waste Management (Radioactive Waste)
- Regulation and Risk Management
- Tailings/Sludge Ponds/ Underwater Geoenvironmental Issues
- Mine Sites, Tailing Dams, Dredgings, and Lagoons
- Integrated Management of Groundwater & Contaminated Land

Each of the nine workshop sessions will include an introductory lecture

presenting an independent state of the art on the session theme, which will be discussed and validated by prominent panelists, a discussion leader and a session chair. Delegates will also be invited to discuss the issues raised by the submitted papers and session panelists within each workshop sessions.



A dedicated **Poster Session** will be held during the Congress, where a sample of the accepted papers will be presented and discussion between authors and Congress delegates encouraged.

Congress Secretariat

For more information on the Congress (e.g., technical tours, social program, etc.), visit the Congress web site, and/or contact:

Dr. David-Huw Owen
5ICEG Congress Secretariat
Geoenvironmental Research Centre
Cardiff School of Engineering,
Cardiff University, UK
E-mail: OwenDH@cf.ac.uk
www.grc.cf.ac.uk/5iceg/

IGS MEMBER REMINDER

The recent bylaws ballot for 2004 resulted in unanimous approval to shift to electronic balloting and communication.

Please ensure the IGS Secretariat has received your e-mail address.

Message to all IGS Members - Articles Most Welcome

If you have an interesting article, case history, etc., on the use of geosynthetics in construction and/or reconstruction projects, consider submitting it for publication in *IGS News*. For more information, please e-mail the Editor, Karina McInnis at

mcinnis@post.queensu.ca.

Correction, July 2005, *IGS News*

"Tsunamis, Earthquakes, and Geosynthetics"

On page 9 of the above mentioned article, Krakatau Island was incorrectly referenced as now being larger than it was when the Krakatau volcano erupted 120 years ago. Currently, the Island is in fact much smaller than it was when the volcano exploded in 1883 (122 years ago). We apologize for any confusion this may have caused our readers.



GFR becomes Geosynthetics

With its February/March 2006 issue, *Geotechnical Fabrics Report (GFR)* is changing its name to *Geosynthetics*. The cover will still recognize the previous identity by including "formerly GFR" below the new name, and the interior content will remain open to submissions from the field. Complementing the name change is a magazine redesign.

Geosynthetics International

An Official Journal of the IGS: Electronic Journal Free to IGS Members

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 subscribe at a rate of £325/US\$585. An individual rate for those non-members whose organization subscribes, but would like an additional personal subscription (including the update CD) will be available for £60/US\$108.

The update CD is issued annually as part of the subscription for non-IGS Members and includes all papers published in that year. IGS Members can opt to buy the CD for US\$100.

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mation regarding submissions. The Journal strives to provide the authors with quick, constructive reviews, and we appreciate the author's hard work in addressing these comments and quick return of revised papers.

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www.geosyntheticssociety.org/Journals_GG.htm

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Founded 50 years ago in Auckland, New Zealand, Permathene is a unique, innovative and dynamic civil and environmental specialist offering complete geosynthetic solutions, including design, manufacture, supply and installation.

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Tel: 64 9 968 8888

Fax: 64 9 968 8890

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Taipei (Service Office)
Kaoshiung (Service Office)
Thailand: Bangkok (Service Office)

Factory in Taiwan

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Yu-Shi Ind. Park, Tachia
Taichung, Taiwan

Products

ACE Geosynthetics Enterprise Co., Ltd. produces geogrids and woven geotextiles. The annual capacity is 80 million square meters.

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ACE Geosynthetics Civil Engineering Division is a pivotal affiliate in the Business Department. In this Division, there are more than 15 civil engineers on staff and four professional engineers in the areas of hydraulic engineering, water resource engineering, civil engineering, and geotechnical engineering. Three main duties of this division:

- Seek new materials and construction technologies.

ACE Geosynthetics Enterprise Co., Ltd. has been a Corporate Member of the IGS since 2003.



- Reinforced embankments with double façade
- Reinforced abutments and piers
- Broadening of road embankments
- Rehabilitation of landslides
- Reinforced tunnel portals
- Reinforced embankments for rock fall protection
- Reinforced embankments for sound barrier walls

The types of applications used in railroad construction are similar to those used for road construction. The reinforced Protection wall is a good structure for absorbing train impact energies.

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Other Civil Engineering Fields

- Reinforced sea walls, bulwarks, and piers.
- Reinforced burst barrier walls.
- Ground improvement
- Quality Control

Product quality control and assurance is a priority at ACE Geosynthetics. ACE also measures quality in providing top notch customer service. ACE has been awarded ISO-9001, BTTG, and Japan material certifications.

For more information, please visit ACE Geosynthetics website:

www.geoace.com

- Consult on the application of geosynthetics.
 - Conduct case designs for customers.
 - Application of Geosynthetics
 - Reinforced Retaining Structures
- The reinforced retaining structures used in slope protection can be classified into two groups:
- reinforced earth-retaining walls (mechanical stabilized retaining walls), and
 - reinforced soil slopes.

Transportation Construction

Geosynthetics are widely used in transportation construction projects. In road construction, geosynthetics applications include:

- Reinforced retaining walls with single façade

Tsunami Reconstruction with Geosynthetics
Bangkok, Thailand
8-9 December 2005
Contact: Prof. Dennes T. Bergado
E-mail: bergado@ait.ac.th

Polyester and PET 2005
Amsterdam, The Netherlands
12-15 December 2005
www.mbspolymer.com/globalconferences

GRI-19 and NAGs 2005
Las Vegas, Nevada, USA
14-16 December 2005
E-mail: janeharris@nagsigs.org
www.nagsigs.org/conferences.html

The International Erosion Control Association Annual Conference
Long Beach, California, USA
20-23 February 2006
Contact: Kate Nowak
E-mail: kate@ieca.org
www.ieca.org

Polyethylene 2006
Zurich, Switzerland
21-23 February 2006
www.mbspolymer.com/globalconferences

GeoCongress 2006
Atlanta, Georgia, USA
26 February - 1 March 2006
Contact: Dr. David Frost
E-mail: david.frost@ce.gatech.edu
www.asce.org/conferences/geocongress06/

Geotechnical Symposium in Roma
A Symposium to Celebrate Prof. Tatsuoka's 60th Birthday
Rome, Italy
16-17 March 2006
Contact: Hoe Ling
E-mail: geotech@civil.columbia.edu
www.civil.columbia.edu/~ling/roma/

21st International Conference on Solid Waste Technology and Management
Philadelphia, Pennsylvania, USA
26-29 March 2006
E-mail: solid.waste@widener.edu
www2.widener.edu/~sxw0004/call.html

First Euro Mediterranean Symposium on Advances in Geomaterials and Structures
Hammamet, Tunisia
3-5 May 2006
E-mail: hedi.hassis@enit.rnu.tn

Third International Symposium on Contaminated Sediments
Shizuoka, Japan
23-25 May 2006
Contact: Masaharu Fukue
E-mail: fukue@scc.u-tokai.ac.jp
soildyn.oc.u-tokai.ac.jp/~iscs2006/

XIIIth Danube-European Conference on Geotechnical Engineering
Ljubljana, Slovenia
29-31 May 2006
E-mail: danube.2006@fgg.uni-lj.si
www.danube-conference2006.si

GeoShanghai International Conference
Shanghai, China
2-4 June 2006
Contact: Dr. Jie Han
E-mail: jiehan@ku.edu
www.geoshanghai.org

CIWM 2006: Changing the Face of Waste Management
Paignton, Torbay, United Kingdom
13-16 June 2006
E-mail: events@ciwm.co.uk
www.ciwm.co.uk/pm/414

5th International Congress on Environmental Geotechnics
Cardiff, Wales, United Kingdom
26-30 June 2006
Contact: Dr. David-Huw Owen
E-mail: OwenDH@cf.ac.uk
www.grc.cf.ac.uk/5iceg

International Conference on Physical Modelling in Geotechnics
Hong Kong, China
4-6 August 2006
Contact: Ms. Shirley Tse
E-mail: gcf@ust.hk
ihome.ust.hk/~gcf/ICPMG2006/index.htm

COBRAMSEG 2006
Parana, Brazil
27 August 2006
Contact: Prof. Alessander Kormann
E-mail: alessander@ufpr.br
www.cobramseg2006.com.br

Vth European Conference on Numerical Methods in Geotechnical Engineering
Graz, Austria
6-8 September 2006
Contact: Florian Scharinger
E-mail: florian.scharinger@tugraz.at
www.numge06.tugraz.at

8th International Conference on Geosynthetics (8ICG)
Yokohama, Japan
18-22 September 2006
Contact: **8ICG Conference Secretary**
E-mail: info@8icg-yokohama.org
www.8icg-yokohama.org

International Solid Waste Association 2006 World Congress
Copenhagen, Denmark
1-5 October 2006
www.iswa2006.dk

IV International Conference on Soft Soil

Engineering
Vancouver, British Columbia, Canada
4-6 October 2006
Contact: Dr. Dave Chan
E-mail: dave.chan@ualberta.ca
ravenweb.civil.ualberta.ca/icsse

III International Conference on Scour and Erosion
Amsterdam, The Netherlands
1-3 November 2006
Contact: Cora Hoogveen
E-mail: mail@icse2006.org

GRI-20
Location in the USA to be announced
December 2006 or January 2007
Contact: Marilyn Ashley
E-mail: mvashley@verizon.net

Mechanics Of Unsaturated Soils
Bauhaus-Universität Weimar, Germany
7-9 March 2007
Contact: Prof. Tom Schanz
E-mail: secretary@cns4.de
cns4.de/uss2007/default.aspx

3rd Asian Conference on Unsaturated Soils
Nanjing, China
21-23 April 2007
Contact: Dr Abraham C.F. Chiu
E-mail: geotech2@hhu.edu.cn
www.geohohai.com/english/unsat.htm

1st North American Landslide Conference
Vail, Colorado, United States
3-8 June 2007
www.mines.edu/academic/geology/landslide

IV International Conference on Earthquake Geotechnical Engineering
Thessaloniki, Greece
25-28 June 2007
Contact: Prof. Kyriazis Pitilakis
E-mail: kpitilaki@civil.auth.gr
www.4icege.org

14th European Conference on Soil Mechanics and Geotechnical Engineering
Madrid, Spain
24-27 September 2007
Contact: secretary@ecsmge2007.org
www.ecsmge2007.org

13th Asian Regional Conference on Soil Mechanics and Geotechnical Engineering
Kolkata, India
10-14 December 2007
Contact: Dr. N. Som
E-mail: nitin_som@vsnl.com

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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.

The International Geosynthetics Society



OBJECTIVES OF THE IGS

The International Geosynthetics Society was formed with the following objectives:

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

WHY BECOME A MEMBER OF THE IGS?

First, to contribute to the development of our profession.

By becoming an IGS Member you can:

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

Second, to enjoy the benefits.

The following benefits are now available to all IGS Members:

- the 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 auspices;
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- the possibility of being granted an IGS award.

Visit the IGS Web Site
www.geosyntheticssociety.org

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Membership fee schedule: Individual US\$45.00 Corporate US\$1,000.00 Benefactor's contribution (at least US\$200.00)

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