

IGS NEWS



NEWSLETTER OF THE INTERNATIONAL GEOSYNTHETICS SOCIETY

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

VOLUME 17, NO. 3

NOVEMBER 2001

The IGS, An "International" Society Dedicated to the Scientific and Engineering Development of Geosynthetics

by Karina Labinaz, Editor

It would be remiss of me not to have a commentary on the tragic events of Tuesday, 11 September 2001 and all of the related events that have ensued. These events and images will be emblazoned in my mind for decades to come. I would like to offer my sincerest condolences to all of those who have been personally affected by these events.

When an individual focuses on the word "International" in the Society's name, what do they infer? What does this word mean to the Members of the IGS? The IGS is an organisation comprised of individuals all over world who are "Dedicated to the scientific and engineering development of geotextiles, geomembranes, related products, and associated technologies" regardless of race, religion, and ethnicity. It is during times such as this that I am especially proud to be part of such an organisation.

Even though I am aware of the various countries represented in the Society, as an exercise, I thought I would make a list of them all. I diligently flipped through all of the pages in the 2001 IGS Membership Directory and



wrote down the name of each country. What a pleasant surprise!

I contemplated listing them all in this editorial, but realised I just would not have the space, which is unfortunate because, until you see them all in a list, one does not realise how truly "International" the IGS is.

There are 1,779 Individual IGS Members from 62 different countries! In addition to this, there are Student Members from nine different countries around the world.

The IGS is a "young" organisation, just as geosynthetics is a relatively new discipline. There are many years of growth and development ahead for the Society. It would be idealistic of me to think that one day there will be representation of each country in the world within the IGS. However, it is goals such as this that help individuals and organisations achieve tremendous success. Much like the rebuilding that has and will eventually take place in the countries affected by recent and ongoing events, it would not and will not be a reality unless people are idealistic and have hope.

Here is to a future of continued growth and prosperity!

Inside this Issue of IGS News

- IGS Council Meeting Minutes, p. 2
- Call for Candidates: 2002 to 2006, p. 2
- Call for IGS Award Nominations, p. 3
- Student Awards REVISED: 2001 to 2002, p. 4



- IGS Chapter Plans, p. 5
- Italian IGS Chapter Report, p. 5
- Corporate Profile, p. 8
- Calendar of Events, p. 9

IGS Council Meeting Minutes

13 November 2001, Fukuoka, Japan (*IS Kyushu 2001*)

The IGS Council met on 13 November 2001 immediately before the opening of the *IS Kyushu Conference* on Earth Reinforcement.

Key actions taken by the Council were as follows:

- Approval of the year 2000 financial report
- Approval of the 2002 budget
- Planning of a student session at the 7th ICG in Nice, France, September 2002
- Awarding the 8th ICG to the Japanese Chapter to be held in Tokyo in 2006
- Awarding the regional conference *GeoAsia 2004* to the Korean Chapter to be held in Seoul in 2004
- Planning of the distribution of the educational CD (20 lectures) to each IGS member
- Approval of a plan for the standards committee to increase IGS membership awareness and involvement with existing and developing ISO standards



IGS Council Meeting attendees. Standing (left to right): W. Voskamp, V. Feodorov, F. Tatsuoka, J. Cowland, E. Palmeira, E.-S. Lee, S.P. Kaushish, B. Myles, S. Corbet, J. Paul, D. Cazzuffi, R.J. Bathurst, P. Stevenson, C.J.F.P. Jones, J.-P. Gourc. **Sitting (left to right):** M. Kamon, D. Fettig, G. Heerten, J. Lafleur, R. Stevenson.

- Approval of a plan for the Technical Committee to draft generic guidelines for installation and specification drafting

Council Elections

Nine candidates have announced intentions to stand for Council. The mail ballot will be posted in July 2002. Members have until 31 January 2002 to announce their intention to stand for election.

IGS News

A survey of the membership's opinion will be conducted concerning the content of *IGS News*.

Next IGS Meetings

The Spring Officers Meeting is still to be determined.

- **Officers Meeting:** Friday, 20 September 2002, 0900-1730, Nice, France
- **Council Meeting:** Saturday, 21 September 2002, 0900-1730, Nice, France
- **Council Meeting:** Thursday, 26 September 2002, 0730-0930, Nice, France

*reported by Peter E. Stevenson
IGS Secretary*

Call for Candidates for the IGS President, Vice-President, and IGS Council: Term 2002 to 2006

IGS Council Member Election

The IGS bylaws prescribe that up to half of the Council be elected every two years. Therefore, a postal ballot election will be held in May 2002 to elect eight Members to the IGS Council for a four-year term, starting in July 2002.

The eight IGS Council Members, whose term of office expires in June

2002, are:

- J. Collin (USA)
- S.P. Corbet (United Kingdom)
- Ph. Delmas (France)
- J.P. Gourc (France)
- G. Heerten (Germany)
- P. Rimoldi (Italy)
- P.E. Stevenson (USA)

- F. Tatsuoka (Japan)

The IGS bylaws stipulate that a Council Member may serve two consecutive terms; hence, Mr. S. Corbet, Dr. Ph. Delmas, and Mr. P.E. Stevenson are eligible for re-election. They will have completed one, four-year term as Council Members by June 2002. All three have declared their intent to stand

for re-election.

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 President and Vice-President Elections

The next IGS President and Vice-President will be elected at the Ordinary General Assembly to be held at the *Seventh International Conference on Geosynthetics (7th ICG)* in Nice, France, 22 to 27 September 2002.

According to the bylaws of the IGS, Prof. R.J. Bathurst will become an Officer of the IGS in his capacity as Immediate Past-President of the IGS following the Ordinary General Assembly. The Secretary and Treasurer, who are the other two officers of the IGS, will be elected by the new IGS Council from amongst its Members at a meeting of the IGS Council that will be held in Nice, France, after the Ordinary Gen-

eral Assembly. The election of the IGS President, Vice-President, Secretary, Treasurer, and the eight new Council Members and the appointment of the Immediate Past-President will be for a four-year period.

At the time of publishing, Daniele Cazzuffi has declared his intention to stand for IGS President and Chris Lawson has declared for IGS Vice-President.

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 once a 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 2002**. Candidates must strictly adhere to the 12 line limit to ensure equal presentation space for all candidates. In their letter to the IGS Sec-

retary, candidates must clearly identify their country of residence and position for which they are seeking election. IGS Members may run for more than one position, in which case a separate statement for each position is required.

Biographical notes, which do not exceed 12 lines, will be published in the March 2002 issue of *IGS News* (with the photo), on the IGS World Wide Web home page, and in the postal-ballot package sent to each IGS Member.

The next IGS Council meeting, following the election of new Council Members, will be held in conjunction with the *7th ICG*, 22 to 27 September 2002. At least three additional meetings will be held for those Members whose terms expire in 2006. Typically, these meetings are held in Asia, Europe, and North America.

Should you need further information, please contact the Secretary of the IGS, Mr. P.E. Stevenson, or the IGS President, Prof. R.J. Bathurst (see contact information on p. 11).

*reported by Richard J. Bathurst
IGS President*

IGS Awards: Call for Nominations 1998 to 2001 Nominations due 31 January 2002

IGS Awards will be granted in 2002 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 recognise 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., 1998 through 2001 inclusive). The awards will be presented at the IGS General Assembly to be held during the *7th ICG*, 22 to 27 September 2002 in Nice, France.

The winning entries will also be featured at the IGS booth at any conference held under the auspices of the IGS and will be publicised in *IGS News*, in a special press release on the IGS World Wide Web home page, and in other

publications.

Nominations must be received by the Secretary of the IGS no later than **31 January 2002** (submissions are due **31 March 2002**).

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 2001.

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

At least one candidate must be a Member of the IGS. Each entry is restricted to a maximum of four persons. All IGS Members are eligible with the excep-

tion of the President of the IGS and the Members of the Awards Committee.

In the case of a group submission to the Young IGS Member Achievement 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 1998 to 2001 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 p. 11) by **31 March 2002**. The nomination should include:

- a clear statement of the contribution of the candidate that is to be consid-

ered (e.g., if the contribution is a product, provide a clear definition of the product; if it is a paper(s) or book, provide a full reference for the paper(s)/book; if it is a report, provide a full reference for the report; 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 Publications Committee, Education Committee, Corporate Members Committee, and IGS Chapters will be invited to make nominations.

Candidates who have been nominated will be contacted by the IGS Secretary. Candidates will be asked to agree to stand for an award and will be required to submit materials as directed by the Awards Committee. All 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 will comprise five regular members including the

Chair (all Members will be appointed by the IGS Officers). The Members will be 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, Mr. Peter Stevenson, at the address given on p. 11 of this issue of *IGS News*.

*reported by Richard J. Bathurst
IGS President*

IGS Student Awards Program and the *REVISED* Seventh International Conference on Geosynthetics Graduate Student Paper Contributions

Deadlines 31 December 2001 and 31 July 2002

Revisions to the forthcoming Graduate Student Paper competition for the 7th ICG to be held in Nice, France, in September 2002 have been made. The IGS Council in concert with the organisers of the 7th ICG at a meeting held on 13 November 2001 in Fukuoka, Japan decided to change the nomination deadline and mandatory requirements for each paper.

IGS Student Awards Program

The IGS Student Awards will continue its successful inauguration with the second Award period of 2001 to 2002. The Awards will be assigned in the year 2002, and all successful candidates will attend the 7th ICG (Nice, France, 22 to 27 September 2002). The IGS Student Award was established to disseminate knowledge and to improve communication and understanding of geotextiles, geomembranes, related products, and associated technologies among young geotechnical and geoenvironmental student engineers around the world. An IGS Student Award will consist of a cheque of US\$1,000 for each winner. This award amount must be used to

cover conference participation costs (i.e., travel, accommodation, etc.). An IGS Student Award will be assigned to only one student per Chapter; the selected student should be a M.Sc. or Ph.D. student. Students must be no older than 35 in the year the award is granted. To ensure student representatives from each chapter participate in the program to the fullest extent possible the chapters must accomplish the following:

- Each Chapter must hold a contest or conduct a nomination process to select the student candidate to represent them.
- If a Chapter elects to participate with a student paper in the 7th ICG proceedings (see below), they must notify the IGS of the name of the student selected by **31 December 2001**. Otherwise the Chapter must advise the IGS of their student nomination by **31 July 2002**. The IGS will transfer funds to the student in advance of the Conference.

To insure the maximum benefit to the student, the organisers of the 7th ICG will:

- Provide a copy of the proceedings to the student.
- Provide admission to the sessions for the student.
- Organise a graduate student paper session at the 7th ICG and publish all accepted student papers in the Conference proceedings.
- Conference organisers are not required to provide the students with admission to social events.

Student Paper Contribution

Each student selected by the Chapter to receive an IGS Student Award is also invited to submit a one page abstract of a paper to be included in the Conference proceedings and for possible presentation at a special Graduate Student Paper Session organised by the 7th ICG. This is not a compulsory requirement for each Chapter student nominee. However, each chapter is encouraged to select a student who is willing to submit an abstract for the student paper session. The following rules apply:

- The student must be the primary (first) author of the proposed paper.

- The paper must be on geosynthetics in civil, geotechnical, or geoenvironmental engineering. Papers may be on theoretical concepts, design, applications, testing, or other topics related to geosynthetics.
- The abstract must be submitted in electronic form to the IGS Secretariat (igssec@aol.com) by **31 December 2001**.
- By 31 January 2002, the 7th ICG Secretariat will send paper format guidelines to the student selected in each chapter. Selected students will be invited to present their paper at a special student paper session during the 7th ICG.
- Full papers must be received by the 7th ICG Secretariat by **15 March 2002**.
- All student papers meeting the above deadlines and paper guidelines will be published in the 7th ICG proceedings after review by the 7th ICG Scientific Committee.

reported by Richard J. Bathurst (IGS President), Daniele Cazzuffi (IGS Vice-President), Jean-Pierre Gourc (IGS Council Member), and André Rollin

IGS Chapter's Action and Communication Plan

At the IGS Council Meeting held on 13 November 2001 in Fukuoka, Japan, during the *IS Kyushu 2001 Conference*, the following action items were decided upon and will be expected from each of the IGS Chapters:

- Chapters are encouraged to organize local meetings on a regular basis, according to their national traditions.
- Chapters are the focal point through which regional activities in their continent are undertaken, i.e. Europe (EAC), Asia (AAC), South America (SAAC), and we hope in the future Africa, Oceania, and North America, particularly as far as continental conferences (such as *EuroGeo* and *GeoAsia*) are concerned.
- Chapters are encouraged to promote the importance of IGS Member participation in the IGS International Conferences that take place every four years, together with the IGS General Assembly.
- Chapters are responsible to select a student to benefit from the IGS Student Awards Program that takes place every two years and coincides with International or "regional" Conferences.
- Chapters are also encouraged to submit nominations for the Young IGS Member Award and for the IGS Award, that takes place every two years.
- Chapters are responsible for nominating a list of educators in their geographic area who should receive free educational material from the IGS.
- Chapters are invited to select an *IGS News* correspondent, i.e., the person responsible for submitting updated information to the *IGS News* Editor. This person can write the articles themselves, or could

request other individuals in their Chapter to contribute articles on the activities of the Chapter.

- Chapters must submit an annual "Chapter Report" to the IGS.
- Chapters are required to forward the membership fees to IGS on time and also to submit accurate membership records and any amendments to the Chapter Bylaws.

Independently from these guidelines, chapters are encouraged to submit to the IGS any proposal at any time that could help the "scientific and engineering development of geotextiles, geomembranes, related products, and associated technologies".

*by Daniele Cazzuffi
IGS Vice-President*

Italian IGS Chapter Report

First Course on Geosynthetics

Terr@A, the Italian Association on Hydraulic Studies for the Environment (Centro Studi Idraulici per l'Ambiente) has organized an educational Course on Geosynthetics with the support of AGI-IGS, the Italian Chapter of the International Geosynthetics Society. The course "Geosynthetics: Application, Design Criteria, Construction" was held at the C.N.R. Center (Italian National Council on Research) in Milano, Italy, on 19 to 23 February 2001.

Despite the widespread use of geosynthetics, the scientific community

still requires better insight on design criteria, test procedures, and specifications for selection and construction. It is also of great importance that the results and information are disseminated, in order to update and improve the level of knowledge of the professionals involved in the design and application of geosynthetics.

For these reasons, the course was focused on providing design engineers and possible owners and personnel, from public administrations and construction companies, with the basic information to perform the following tasks: to select appropriate products for

various applications; to perform the necessary analyses; to define appropriate specifications for bid of quantities and construction procedures; to select the type of tests and test procedures; and to follow up and control proper installation procedures in different construction works.

The course was divided into the following sections:

- Product characteristics, functions, applications, and definitions
- Physical and mechanical characteristics of polymeric materials used for the production of geosynthetics

- Laboratory and in situ tests
- National and international standards
- Reinforced slopes and reinforced earth walls
- Stabilization of soft soils
- Landfills
- Various drainage problems: vertical drains, control of capillary rise and soil freezing, drainage trenches
- Erosion control in slopes
- Hydraulic structures: protection of natural rivers and beaches
- Hydraulic structures: dams and canals
- Tunnels and underground constructions

Lectures were delivered by the following professors and professional engineers: Paolo Bianco (Bologna),

Andrea Cancelli (University of Milano, Bicocca), Paolo Cancelli (Milano), Daniele Cazzuffi (Enel Hydro, President AGI-IGS), Pierpaolo Fantini (Harpo-Seic, Council Member AGI-IGS), Francesco Ferraiolo (Officine Maccaferri, Council Member AGI-IGS), Adrian Ionescu (Union Chamber European Experts, Unione Camere Esperti Europei), Ugo Maione (Politecnico di Milano, President of Terr@A), Rossella Monti (General Secretary of Terr@A), Pietro Rimoldi (Tenax, Vice President AGI-IGS), and Gabriella Vaschetti (Carpi Tech, Chiasso, Swiss).

Lectures were followed by seminars on specific topics that were given by the following experts: Mario Manassero (Politecnico di Torino), on landfills; Claudio Di Prisco (Politecnico di Milano), on reinforced foundations;

Paolo Carrubba (University of Padova), on instrumented reinforced soil walls; G.P. Armani (Public Administration on the safety of Po River and related areas Magistrato per il Po, Parma), on hydraulic works; and Michele Maugeri (University of Catania), on reinforced soil walls in seismic areas.

The course concluded with a forum dedicated to geosynthetic producers: a total of eight companies that specialise on the production and marketing of geosynthetic products had the opportunity to present newly fabricated materials and examples of recent applications.

*reported by Giovanni Bosco and
Pierro Rimoldi, Italian IGS Chapter
Council Members*

Geosynthetics International An Official Journal of the IGS

G *Geosynthetics International* 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.

The Editor of *Geosynthetics International* (Prof. T.S. Ingold), Co-Editor (Prof. R.J. Bathurst), and Chair of the Editorial Board (Dr. J.P. Giroud) have more than 30 years of combined experience with the publication of technical journals. They are assisted by a first-rate Editorial Board composed of international experts that are appointed to four-year terms and who represent a broad range of geosynthetics expertise.

Rapid publication of papers provides subscribers with current papers covering geosynthetics research, design, construction methods, and important case studies. Only papers peer-reviewed by experts are published.

Special issues devoted to specific, state-of-the-art topics have included

“Design of Geomembrane Applications”, “Liquid Migration Control Using Geosynthetic Liner Systems”, “Geosynthetics in Earthquake Engineering”, and “Liquid Collection Systems”.

Geosynthetics International is dedicated to the mission of the IGS, which is to promote the scientific and engineering development of geotextiles, geomembranes, related products, and associated technologies. *Geosynthetics International* offers a reduced subscription rate to Individual IGS Members. Individual IGS Members can subscribe for US\$150 per 6 issues. *Geosynthetics International* is offered to university and college libraries at US\$180 per 6 issues. The standard rate of US\$272 applies to all others.

Papers should be work not published in full elsewhere and should be sent to any of the following individuals:

Dr. T.S. Ingold, Editor
Geosynthetics International
Mulberry Lodge, St. Peters Close
St. Albans, AL1 3ES
United Kingdom
Tel.: 44/1727-842433
Fax: 44/1727-845266

Professor R.J. Bathurst, Co-Editor

Geosynthetics International
(see p. 11 for complete address)

Dr. J.P. Giroud, Chair
Geosynthetics International
J.P. Giroud, INC.
5837 North Ocean Boulevard
Ocean Ridge, Florida 33435, USA
Tel: 1/561-737-1642
Fax: 1/561-733-2809

For subscriptions, contact:

Ms. Susan Smeed
Geosynthetics International
Assistant Circulation Manager
IFAI
1801 County Road B West
Roseville, MN 55113, USA
Tel.: 1/612 222-2508
Fax: 1/612 631-9334

Visit the *Geosynthetics International* WWW site at <http://geo.rmc.ca/gi>

Recent Contents

Volume 8, No. 1 (2001)

“Liquid Flow Through Composite Liners due to Geomembrane Defects: Nonuniform Hydraulic Transmissivity at the Liner Interface”, N. Touze-Foltz, R.K. Rowe, and N. Navarro

“Elastic Analysis of Soil-Geosynthetic Interaction”, C. Zhan and J.H. Yin

"Comparison of the Durability of Geotextiles in an Alkaline Mine Tailings Environment", D.G. Grubb, W.E. Diesing III, S.C.J. Cheng, and R.M. Sabanas

"Long-Term Variations of Force and Strain in a Steep Geogrid-Reinforced Soil Slope", R.J. Fannin

Volume 8, No. 2 (2001)

"Investigation and Modeling of Two Composite Landfill Covers", C.A. Finley and R.D. Holtz

"Bentonite:Kaolinite Clay Liner", G.P. Karunaratne, S.H. Chew, S.L. Lee, and A.N. Sinha

"Shear Strength Characteristics of PVC Geomembrane-Geosynthetic Interfaces", R.P. Hillman and T.D. Stark

"Calibration and Validation of Design Methods for Geosynthetic-Reinforced Retaining Structures Using Partial Factors", J.P. Gourc, R. Arab, and H. Giraud

Volume 8, No. 3 (2001)

"Nonwoven Geotextile-Sabkha and Sand Interface Friction Characteristics

Using Pull-Out Tests", S.A. Aiban and S.M. Ali

"A Canopy Flow Equation for Erosion Control Geosynthetics", N. Hytiris, D.J. McKay, and P.S. Addison

"Influence of Creep and Stress-Relaxation of Geosynthetic Reinforcement on Embankment Behaviour", A.L. Li and R.K. Rowe

"Measurement of Geotextile-Water Characteristic Curves Using a Controlled Outflow Capillary Pressure Cell", M.A. Knight and S.M. Kotha

Geotextiles and Geomembranes

An Official Journal of the IGS

G *Geotextiles and Geomembranes* provides a forum for the dissemination of information on geosynthetics amongst research workers, designers, users, and manufacturers. The Journal increases general awareness, prompts further research, and assists in the establishment of international codes and regulations.

The following are welcome contributions: refereed technical papers covering research, design, construction, applications, and case studies; technical notes, book reviews, reports of conferences, and meetings; and letters to the Editor. All technical papers are open to written discussion. No limit to length is set and short notes are acceptable. Review articles may also be published at intervals, but the subject and contents of these should be discussed first with the Editor.

Dr. Jean-Pierre Gourc is planning to prepare a Special Issue on "Erosion". If you are interested in contributing to this special issue, please contact Dr. Gourc at the address on p. 11, or by e-mail: gourc@ujf-grenoble.fr.

The Editorial Board Members and reviewers have worked very hard over the past year to provide detailed, constructive reviews in a very timely manner. The average review period is less than three months. Papers come from a wide range of countries with approximately one third of the papers coming from the Americas, Europe, and the rest of the world. The rejection rate is 59%.

The Journal's Editor and Board Members are extremely appreciative of the authors' hard work in addressing the reviewers' comments and the quick return of revised papers.

All technical contributions and inquiries should be directed to:

Professor R. Kerry Rowe, Editor
Geotextiles and Geomembranes
Department of Civil Engineering
Ellis Hall, Queen's University
Kingston, Ontario, K7L 3N6
Canada
Fax: 1/613 533 2128
E-mail: kerry@civil.queensu.ca

Authors should submit four copies of their paper, which will subsequently be reviewed by at least two individuals. No original figures should initially be included.

Recent Contents

Volume 19, No. 1 (2001)

"The influence of soil reinforcement on the uplift behaviour of belled piles embedded in sand", K. Ilamparuthi and E.A. Dickin

"Centrifugal and numerical modelling of reinforced embankments on soft clay installed with wick drains", J.S. Sharma and M.D. Bolton

"Geomembrane-geotextile interface shear properties as determined by inclined board and direct shear box tests", Y. Wasti and Z.B. Özdüzgün

"A wind tunnel study on wind speed reduction of technical textiles used as

windscreen", W. Dierickx, D. Gabriels, and W. Cornelis

Volume 19, No. 2 (2001)

"Settlement and bearing capacity of geogrid-reinforced sand over collapsible soil", H.A. Alawaji

"Predictions of the uplift response of model belled piles in geogrid-cell-reinforced sand", K. Ilamparuthi and E.A. Dickin

"Design Dilemma: Use peak or residual strength of soil", D. Leshchinsky

Volume 19, No. 3 (2001)

"Failure mechanisms and bearing capacities of reinforced foundations", K. Yamamoto and K. Kusuda

"Large-scale drainage behaviour of composite geotextile and geogrid in residual soil", S.A. Tan, S.H. Chew, C.C. Ng, S.L. Loh, G.P. Karunaratne, Ph. Delmas, and K.H. Loke

"Strain measurement and interpretation of stabilising force in geogrid reinforcement", C.T. Gnanendran and A.P.S. Selvadurai

Volume 19, No. 4 (2001)

"1-D analytical solution for extensible and inextensible soil/rock reinforcement in pull-out tests", N. Gurung

"Field evaluation of the long-term performance of geocomposite sheet drains", J. McKean and K. Inouye

"Bearing capacity of strip footings supported on geocell-reinforced sand", S.K. Dash, N.R. Krishnaswamy, and K. Rajagopal

CORPORATE PROFILE

Corporate Members of the IGS 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.



The history of TC Mirafi began in 1953 when a catastrophic flood struck the coast of Holland. In this disaster, nearly 2,000 people lost their lives. Determined not to allow a recurrence of

this type of disaster, the resourceful Dutch began developing a new generation of dike. Working in concert, Dutch engineers and master craftsmen sought out materials that would withstand the most severe and erosive forces of nature.

Their search for innovative new products led them to Nicolon B.V. of Holland. Here they discovered an advanced line of tough industrial textiles that they used to reinforce and retain the dike soils.

Recognizing that the demand for such industrial products extended far beyond the Dutch coast, Nicolon Corporation, a Division of Royal Ten Cate (USA) Inc. was established in Cornelia, Georgia, USA in 1980.



Meanwhile, in Charlotte, North Carolina, USA, a line of experimental fabrics had been developed in the late 1960s using innovative fabric technology. The fabric, formed of "MIRAcle Fibers", was aptly named, Mirafi. Mirafi, Inc. went on to become known as "a company that started the industry".

In 1991, Nicolon and Mirafi joined forces to form the Nicolon Mirafi Group and continued to devote research, development, manufacturing, and marketing expertise to designing products that provide soil reinforcement, sedimentation control, erosion control, filtration, and drainage.

Moving into the 21st Century, the Nicolon Mirafi Group repositioned itself in the global market as part of the Royal Ten Cate worldwide structure, now known as Ten Cate (TC) Mirafi.

Today, TC Mirafi is a manufacturer of woven, nonwoven, and specialty geosynthetics for North, Central, and South America markets. Mirafi products are offered through a vast network of independent distributors supported by regional sales and engineering professionals. Mirafi products are used in a variety of civil, marine, geotechnical, and environmental applications such as soil reinforcement and stabilization, drainage, erosion control, waste containment, and roadway construction.

TC Mirafi manufacturing and logistics headquarters are located in Pendergrass, Georgia, USA. For further information, please contact:

Wally Moore
Vice President of Sales & Marketing
TC Mirafi
365 South Holland Drive
Pendergrass, Georgia 30567, USA
Tel: 1/706 693 2226
Fax: 1/706 693 4400
E-mail: tc_mirafi@rtcusa.net
[http:// www.tcmirafi.com](http://www.tcmirafi.com)



TC Mirafi has been a Corporate Member of the IGS since 1998.



CONFERENCES
SYMPOSIA
WORKSHOPS

CALENDAR OF EVENTS


SHORT COURSES
EXPOSITIONS
TRADE SHOWS

15th GRI Conference
Houston, Texas, USA
13-14 December 2001
Contact: Ms. Marilyn Ashley
Tel: 1/610 522 8440
Fax: 1/610 522 8441
E-mail: marilyn.ashley@coe.drexel.edu

International Deep Foundations
Congress: Down to Earth Technology
Orlando, Florida, USA
14-16 February 2002
Contact: Carol Bowers, Geo-Institute
Tel: 1/703 295 6352
Fax: 1/703 295 6351
E-mail: cbowers@asce.org
<http://www.geoinstitute.org>

International Symposium on Clay
Geosynthetic Barriers
Nuremberg, Germany
16-17 April 2002
Contact: Secretariat, IS Nuremberg 2002
Tel: 49/911 655 55 63
Fax: 49/911 655 55 92
E-mail: gbza@lga.de

II Spanish Geosynthetic Symposium
Madrid, Spain
16-18 April 2002
Contact: Asociacion Tecnica de Carreteras
Tel: 34/913082318
Fax: 34/913082319
E-mail: info@atc-piarc.com

12th Danube-European Conference on
Geotechnical Engineering
Passau, Germany
27-28 May 2002
Contact: Prof. Dr. Eng. W. Wittke
Tel: 0241/88987-33
Fax: 0241/88987-33
E-mail: wbi@wbionline.de

Capri 2002
Capri, Italy
24-28 June 2002
Contact: Fax: 39/2 2665731

International Workshop on
Environmental Geomechanics
Monte Verita, Switzerland
30 June-5 July 2002
Contact: Dr. Lyessse Laloui
Tel: 41/21 693 23 15

Fax: 41/21 693 41 53
E-mail: environmental.geomechanics@epfl.ch

International Conference on Physical
Modelling in Geotechnics
St. John's, New Foundland, Canada
10-12 July 2002
Contact: Ms. Abigail Steel, Secretariat
Tel: 1/709 737 8584
Fax: 1/709 737 4706
E-mail: icpmg@c-core.ca
<http://www.c-core.ca/icpmg/>

3rd International Conference on Water
Resources and Environment Research
Dresden, Germany
22-26 July 2002
Contact: Cathleen Schimmek
Conference Secretariat ICWRER 2002
Tel: 49/351 463 3931
Fax: 49/351 463 7162
E-mail: icwrer2002@mailbox.tu-dresden.de

4th International Congress on
Environmental Geotechnics
Rio de Janeiro, Brazil
12-16 August 2002
Contact: Secretariat, 4ICEG-RIO 2002
c/o Dr. M.C. Barbosa, COPPE-UFRJ
Fax: 55/21 280 9545
E-mail: 4iceg@pec.coppe.ufrj.br

NUMGE 2002, Fifth European
Conference on Numerical Methods in
Geotechnical Engineering
Paris, France
4-6 September 2002
Contact: Mme Nathalie Soude
Tel: 33/1 44 58 27 29
Fax: 33/1 44 58 27 06
E-mail: soude@mail.enpc.fr

12th European Conference on
Earthquake Engineering
London, United Kingdom
9-13 September 2002
Contact: Rachel Coninx, Secretariat
Tel: 44/7665 2314
Fax: 44/20 7233 1743
E-mail: 12ECEE@ice.org.uk
<http://www.12ecee.org.uk/>

7th International Conference on
Geosynthetics
Nice, France

22-27 September 2002
Contact: 7th ICG
Tel: 33/0 1 45 18 55 98
Fax: 33/0 1 45 18 56 55
E-mail: ips-conseil@wanadoo.fr
<http://www.7icg-nice2002.com>

First International Conference on Scour
of Foundations, ICSF-1
College Station, Texas, USA
17-20 November 2002
Contact: Professor Jean-Louis Briand
Tel: 1/979 845 3795
Fax: 1/979 845 6554
E-mail: briand@tamu.edu
<http://tti.tamu.edu/conferences/scour>

12th Asian Regional Conference on Soil
Mechanics & Geotechnical Engineering
Singapore
4-8 August 2003
Contact: Dr. C.F. Leung
Tel: 65/8742281
Fax: 65/7791635
Email: 12ARC@nus.edu.sg
<http://www.eng.nus.edu.sg/civil/conf/12ARC>

Grouting and Ground Treatment 2003
New Orleans, Louisiana, USA
23-28 February 2003
Contact: Michael Byle
E-mail: mbyle@gfnet.com

Fast Slope Movements – Prediction and
Prevention for Risk Mitigation
Sorrento, Italy
May 2003
Contact: AGI
Tel: 39/06 44249272
Fax: 39/06 44249274
E-mail: agiroma@iol.it

13th European Conference on Soil
Mechanics & Geotechnical Eng.
Prague, The Czech Republic
25-28 August 2003
Contact: Prof. Ivan Vanicek
Tel: 42/2 24354540
Fax: 42/2 3114206
E-mail: vaniceki@fsv.cvut.cz
<http://www.ecsmge2003.cz>

Note: Items in **bold print** are organised under the auspices of the IGS or with the support of the IGS.

Corporate Members of the IGS

- Agru Kunststofftechnik GmbH**
Austria (1996)
- Amoco Fabrics and Fibers Co.**
USA (1987)
- Araigumi Co., Ltd.** *Japan (1999)*
- Asahi Kasei Corporation**
Japan (1984)
- Association of RRR Construction System, The** *Japan (1998)*
- Atarfil, S.L.** *Spain (1999)*
- Belton Industries Inc.** *USA (1989)*
- Bettor MBT, S.A.** *Spain (2000)*
- Bidim Geosynthetics S.A.**
France (1984)
- Bidim Inde E Com Ltd. BBA Nonwovens** *Brazil (1994)*
- Bonar Technical Fabrics N.V.**
Belgium (1985)
- Cetco** *USA (1992)*
- Colas Group, The** *France (1996)*
- Colbond Geosynthetics**
The Netherlands (1986)
- Creative Polymer Industries Pte Ltd.** *Singapore (1997)*
- Dae Han Industrial Material Co., Ltd.** *Korea (1994)*
- Du Pont De Nemours Int. (Luxembourg) S.A.**
Luxembourg (1984)
- E & S Engineering Co., Ltd.**
Korea (1997)
- Earthshine Enterprise Co., Ltd.**
Taiwan, R.O.C. (2000)
- Emas Kiara Sdn Bhd**
Malaysia (1999)
- Engepol Ltda** *Brazil (2001)*
- Engtex AB** *Sweden (1995)*
- Fibertex A/S** *Denmark (1984)*
- Field Lining Services**
Panama (1998)
- Fiti Testing and Research Institute** *Korea (1997)*
- Fritz Landolt Ag**
Switzerland (1985)
- Geodesign Co., Ltd.** *Japan (1999)*
- Geofabrics Ltd.** *UK (1995)*
- Geofelt GmbH** *Austria (1996)*
- Geosynthetic Materials Association** *USA (1985)*
- Geosystem Co., Ltd.** *Japan (2000)*
- Geotechnics Holland B.V.**
The Netherlands (1991)
- Geosistemas Pavco S.A.**
Colombia (1991)
- GSE Lining Technology, Inc.**
USA (1988)
- Hojun Yoko Co., Ltd.** *Japan (2000)*
- Honeywell Performance Fibers**
USA (2001)
- Hong Leong Plastics Pte Ltd.**
Singapore (1994)
- Huesker Synthetic GmbH & Co.**
Germany (1987)
- Hui Kwang Chemical Co., Ltd.**
Taiwan, R.O.C. (2000)
- Integrated Geotechnology Institute Limited** *Japan (1998)*
- Ipetex, S.A.** *Portugal (1999)*
- Japan Spunbond Toray Industries**
Japan (1984)
- Juta a.s.** *Czech Republic (1998)*
- Kajima Technical Research Institute** *Japan (1985)*
- Kuraray Co., Ltd.** *Japan (1989)*
- Lys Fabrics S.A.** *Belgium (1998)*
- Maccaferri de Peru S.A.C.**
Peru (2000)
- Maccaferri do Brasil Ltda.**
Brazil (1998)
- Maeda Corporation** *Japan (1988)*
- Maeda Kosen Co., Ltd.**
Japan (1992)
- Mecaroute S.A.** *France (1996)*
- Mitsubishi Chemical Functional Products, Inc.** *Japan (1992)*
- Mitsui Chemicals Industrial**
Japan (1992)
- Naue Fasertechnik GmbH & Co. KG** *Germany (1987)*
- Nippon Zeon Co., Ltd.**
Japan (1992)
- Nittoc Construction Co., Ltd.**
Japan (1994)
- Obayashi Corporation**
Japan (1988)
- Officine Maccaferri S.P.A.**
Italy (1997)
- Okasan Livic Co., Ltd.**
Japan (1984)
- Polyfelt Ges.m.b.H** *Austria (1984)*
- Poly-Flex, Inc.** *USA (1996)*
- Presto Products Company - Geosystems Division** *USA (1996)*
- Punzonados Sabadell, S.A.**
Spain (2000)
- The Reinforced Earth Co.**
USA (1989)
- Reliance Industries, Ltd.**
India (1998)
- Serrot International, Inc.**
USA (1992)
- Sewon Geosyntech Co., Ltd.**
Korea (1997)
- Shimizu Corporation** *Japan (1990)*
- SI Corporation** *USA (1991)*
- Solmax International, Inc.**
Canada (1997)
- Steel Dragon Enterprise Co., Ltd.**
Taiwan, R.O.C. (1996)
- SVG (Swiss Association of Geotextile Professionals)**
Switzerland (1984)
- Taiyo Kogyo Co., Ltd. (Ocean)**
Japan (1996)
- Taiyo Kogyo Corporation (Sun)**
Japan (1991)
- Tanaka Co., Ltd.** *Japan (1993)*
- TC Mirafi** *USA (1998)*
- Tele Textiles AS** *Norway (1995)*
- Tenax S.p.A.** *Italy (1991)*
- Ten Cate Nicolon B.V.**
The Netherlands (1984)
- Tenox Corporation** *Japan (1998)*
- Tensor Corporation, The**
USA (1989)
- Tensor International** *UK (1989)*
- Terram Ltd.** *UK (1988)*
- Terratest Tecnicas Especiales, S.A.** *Spain (2000)*
- Thai Nam Plastic Public Co., Ltd.**
Thailand (1994)
- Tokyu Construction Co., Ltd.**
Japan (1984)
- Werkos** *Croatia (1999)*

Note: date is earliest year of continuous membership

IGS Council

Elected in 1998

S.P. Corbet (United Kingdom)
J. Collin (USA)
J.-P. Gourc (France)
Ph. Delmas (France)
G. Heerten (Germany)
P. Rimoldi (Italy)
F. Tatsuoka (Japan)
P.E. Stevenson (USA)

Elected in 2000

J.W. Cowland (Hong Kong)
D.R. Fettig (USA)
M. Kamon (Japan)
J. Lafleur (Canada)
E.-S. Lee (Korea)
M.-L. da Costa Lopes (Portugal)
B. Myles (United Kingdom)
J. Paul (United Kingdom)

Co-opted in 1998

W. Voskamp (The Netherlands)
E. Palmeira (Brazil)

Co-opted in 2000

V. Feodorov (Romania)
M. Sadlier (Australia)

Co-opted in 2001

S.P. Kaushish (India)

The IGS Council includes five IGS Officers serving for the period 1998 to 2002.

IGS Officers

President

Prof. Richard J. Bathurst
Department of Civil Engineering
Royal Military College of Canada
P.O. Box 17000, STN Forces
Kingston, Ontario K7K 7B4
CANADA
Tel: 1/613 541 6000, Ext. 6479
Fax: 1/613 541 6218
E-mail: bathurst-r@rmc.ca

Vice-President

Ing. Daniele A. Cazzuffi
ENEL.Hydro
Via G. Pozzobonelli, 6
20162 Milano
ITALY
Tel: 39/02 7224 3545
Fax: 39/02 7224 3640
E-mail: cazzuffi.daniele@enel.it

Immediate Past-President

Prof. Colin J.F.P. Jones
Department of Civil Engineering
The University of Newcastle
Newcastle upon Tyne, NE1 7RU
UNITED KINGDOM
Tel: 44/191 222 7117
Fax: 44/191 222 6613
E-mail: c.j.f.p.jones@newcastle.ac.uk

Treasurer

Mr. Wim Voskamp
Maasoord 27
3448 BM Woerden
The Netherlands
Fax: 31/348 430961
E-mail: voskamp@wxs.nl

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@aol.com

IGS News Editors

Ms. Karina Labinaz

Editor

IGS News
Department of Civil Engineering
Royal Military College of Canada
P.O. Box 17000 STN Forces
Kingston, Ontario K7K 7B4 CANADA
Tel: 1/613 541 6000, Ext. 6347
Fax: 1/613 541 6218
E-mail: labinaz-k@rmc.ca

Dr. J.-P. Gourc

Associate Editor (Europe)

IGS News
Grenoble University
IRIGM-Lgm
B.P. 538041 Grenoble Cedex 9
FRANCE
Tel: 33/76 51 49 46
Fax: 33/76 51 49 00
E-mail: gourc@ujf-grenoble.fr

IGS News Chapter Correspondents

Mr. Fred Foubert, Belgium, fred.foubert@centexbel.be
Mr. Gerhard Braeu, Germany, g.braeu@bv.tum.de
Dr. G.V. Rao, India, gvrao@civil.iitd.ernet.in
Dr. Giovanni Bosco, Italy, giovanni.bosco@ing.unitn.it

Prof. Katsuhiko Makiuchi, Japan, makiuchi@trpt.cst.nihon-u.ac.jp
Ms. Loretta Batali, Romania, loretta@hidro.utcb.ro
Mr. Peter Davies, South Africa, ktechpld@kaymac.co.za
Prof. San-Shyan Lin, Taiwan, sslin@ntou66.ntou.edu.tw

IGS News is published three times per year. Material for publication should be submitted to the Editor or the Associate 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 associated technologies; and
- participate in a forum for designers, manufacturers, and users, where new ideas can be exchanged and contacts improved.

Second, to enjoy the benefits.

The following benefits are now available to all IGS Members:

- a directory of Members, the IGS Directory, published every year, with addresses, telephone, e-mail, and fax numbers;
- the newsletter, *IGS News*, published three times a year;
- a reduced purchase price on all documents published by the IGS;
- a reduced registration fee and preferential treatment at all conferences organized under the auspices of the IGS;
- a reduced subscription fee for IGS-endorsed journals; and
- the possibility of being granted an IGS award.

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

First name:

Last name:

Company name:

Address:

City: Province/State:

Postal code: Country:

Telephone:

Fax:

E-mail:

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

Send this completed form to:

IGS Secretariat

P.O. Box 347

Easley, SC 29641-0347

USA

Telephone: 1/864 855 0504

Fax: 1/864 859 1698

E-mail: igssec@aol.com

Eligibility (i.e., your connection to geotextiles, geomembranes, related products, and associated technologies):

Mode of payment:

Check enclosed drawn on a US bank

Draft sent to: Bank of America
Easley, South Carolina USA
ABA Routing No. 053904483
Account No. 733005326

Signature:

Date:

Credit card (circle one): Mastercard Visa American Express

Account number:

Expiration date:

Name on card:

Authorized signature:

IGS News is published by the International Geosynthetics Society

For editorial enquiries contact: Ms. Karina Labinaz

Department of Civil Engineering, Royal Military College of Canada

P.O. Box 17000, STN Forces, Kingston, Ontario, CANADA K7K 5L0

Tel: 1/613 541 6000, Ext. 6347 or 1/613 533 3108, Fax: 1/613 541 6218, E-mail: labinaz-k@rmc.ca