

IGS NEWS

NEWSLETTER OF THE INTERNATIONAL GEOTEXTILE SOCIETY

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

VOLUME 10 NO 2

JULY 1994

Bibliothek
HRSTUHL UND PRÜFAMT FÜR GRUNDLAGEN
BODENMECHANIK UND FELSMCHANIK
Technische Universität München
Außenstelle Pasing
Baumbachstraße 7
D 81245 München

PRESIDENT'S REPORT

by

Professor R. Kerry Rowe

Introduction

This is my last President's Report prepared for IGS News. The last four years, since my election in May 1990, have been exciting, hectic and rewarding. At the outset of my term, I indicated that the program for the following four years could be summarized in two words: growth and outreach. I am now delighted to report that substantial progress was made over the past four years, although much still remains to be done. In the following paragraphs I would like to summarize some of the activities and progress that has been made.

Membership

There has been a substantial growth in IGS membership over the past four years. Individual membership has risen from 901 in 1990 to 1476 in 1993 (a 64% increase). The 1994 figures will not be known until after the Singapore Conference. The number of corporate members has increased from 35 in 1990 to 54 in 1994 (a 54% increase) and the number of chapters has risen from 5 prior to 1990 (in order of formation— Japanese, North American, United Kingdom, Southeast Asia, and India) to 13 in 1994. The new chapters are (with dates of approval by the IGS Council shown in brackets) Chinese (May 1990), Indonesian, Italian and Netherlands (October 1992), French, German and Korean (October 1993) and Latin American (tentatively approved October 1993, presently in formation). Our membership is drawn from 56 countries around the world.

Conferences

The various chapters have organized numerous technical seminars over the past four years. Although not widely known outside the area in which they are held, these meetings are a critical part of the IGS activities since they are accessible to a large number of IGS members and potential members and provide a means of technology transfer which is one of the key objectives of the IGS. The means by which these activities are organized varies from chapter to chapter in order to suit local conditions, howev-

er all chapters have worked extremely hard since their formation to provide services to their membership. It is hoped that the number of chapters will continue to grow since they provide the best means of transmitting knowledge about geosynthetics to the general population of potential users.

In addition to the many local activities discussed above there have been at least 10 regional or international conferences related to geosynthetics that have been organized with the support of the IGS. These include:

- Geosynthetics '91 – North American Conference, held in Atlanta, USA
- K'Geo '92 – Conference of the German Speaking Countries held in Luzern, Switzerland
- Geofab '92 – International Symposium on Geotextiles and Filtration and Drainage, held in Cambridge, UK
- Geofilters '92 – International Conference on Filters and Filtration Phenomena in Geotechnical Engineering, held in Karlsruhe, Germany
- Third Geosynthetics Symposium of China – held in Yizheng, PR China
- IS Kyushu '92 – International Symposium on Soil Reinforcement, held in Kyushu, Japan
- International Symposium on Applications of Geosynthetic Technology, held in Jakarta, Indonesia (1992)
- Geosynthetics '93 – North American Conference, held in Vancouver, Canada
- Recontres '93 – Geotextiles and Geomembranes Conference, held in Paris, France
- Sardinia '93 – International Landfill Symposium, held in Sardinia, Italy

Of course we are now currently preparing for the Fifth International Conference on Geotextiles, Geomembranes and Related Products to be held in Singapore 5-9 September 1994. The organization for this conference is running smoothly. An excellent technical session has been prepared and based on my sneak preview of what is to come, I feel confident that the conference will be an outstanding technical success. However, there is much more to a conference than the papers. There will be an outstanding exhibition where we can keep up with the latest product developments, a computer display area where you can be updated on current advances in computer technology related to geosynthetics and a social program that will allow us to meet old friends and to make new friends in an informal atmosphere. Air fares to Singapore are surprisingly low and accommodation is available to meet a wide range of budgetary requirements. I look forward to seeing you in Singapore.

Publications and Information

In 1990, Dr. Richard Bathurst was appointed as the new editor for IGS News. Dr. Bathurst has done an excellent job maintaining the quality of IGS News which is one of the important benefits of membership of the IGS. Geotextiles and Geomembranes (an official journal of the IGS) has continued to publish excellent papers under the editorship of Dr. Ingold. We welcome Dr. N. John as the new editor of Geotextiles and Geomembranes. After considerable negotiations I am delighted to report that the cost of individual subscription to Geotextile and Geomembranes has dropped substantially and now is affordable for many individuals (see page 12). Dr. Giroud and Dr. Ingold have recently taken the helm of a new geosynthetics journal, Geosynthetics International. It is a sign of the maturity of our discipline that there are now two international journals devoted to geosynthetics. In addition, there are numerous highly respected geotechnical journals that publish articles related to geosynthetics.

Some years ago, the publishers of Geosynthetics World offered to provide GW free to IGS members. Despite a change in ownership, this practice is continued and we are very grateful to the present publisher of GW (Mr. A. Baker) for providing this free benefit to IGS members. The IGS directory has seen some transformations as a result of the growing number of IGS members and the need to maintain control of the costs. The last IGS directory (1994) contains details of IGS activities and membership to the end of December 1993. The directory has now expanded to become a 200 page document which provides convenient means of identifying and communicating with the key individuals in the geosynthetics community around the world.

Dr. J.P. Giroud has just finished the second volume of the Geosynthetics Bibliography. This two volume document provides an excellent means for all IGS members to quickly identify relevant papers relating to any particular aspect of geosynthetics. This bibliography is published under the auspices of the IGS. Volume 1 can be obtained as described on page 13. Details on the cost and publication date for Volume 2 will follow in the next issue of IGS News.

The Technical Committee has also been active and produced two recent documents, the list of IGS symbols

and a bibliography of codes of practice. The list of symbols was mailed to all individuals submitting papers to the Fifth International Conference. The bibliography will also be made available to all the attendees of the Fifth International Conference. Both documents are available free to IGS members as a benefit of membership.

Promotions

The Promotions Committee, under the chairmanship of Mr. P. Stevenson, has been active in developing promotional materials including most recently a brochure in Spanish. In conjunction with the American Society of Civil Engineers (ASCE) the Promotions Committee is currently preparing two videos relating to the use of geosynthetics in road applications and in landfills. The committee is also organizing the IGS booth for Singapore.

IGS Awards

The IGS Awards Committee, which consists of Mr. G. den Hoedt (Chairman), Professor T. Akagi, Mr. S. Corbet, Dr. E. Gartung, and Professor J. Lafleur, is currently reviewing a large number of submissions for IGS Awards. The IGS Awards will be presented at 1400 hours on 6 September at the International Conference in Singapore.

Organization of the Society

IGS Council meetings have taken place on a timely basis in carefully selected locations: The Hague (The Netherlands), Atlanta (USA), Milan (Italy), Fukuoka (Japan), and Milan (Italy). The last IGS Council meeting for the retiring Council will be held on 4 September in Singapore. The first IGS Council meeting of the newly elected IGS Council will be held on 7 September in Singapore.

The bulk of the organizational work for the IGS has been performed by the Secretary (Mr. Wim Voskamp) and the Treasurer (Mr. Peter Stevenson). The society has now grown to a sufficient size that it is becoming necessary to modify the administration of the society and this will be discussed at the Ordinary General Assembly in Singapore.

A Word of Thanks

Much has been achieved in the past four years due to the work of a number of very dedicated individuals. Firstly, I would like to express my appreciation to the executive of each of the IGS chapters for their hard work in organizing local activities. I would also like to express my appreciation to the following members of the IGS Council for their very substantial contributions to the IGS over the past four years.

- Dr. J.P. Giroud, Immediate Past-President, IGS Liaison with the organization of the Fifth International Conference, author of the Geosynthetics Bibliography and provider of sage advice whenever it was needed.
- Mr. Peter Stevenson, Treasurer of the IGS and Chairman of the Promotions Committee.
- Mr. Wim Voskamp, Secretary of the IGS and Secretary of the Corporate Members Committee and Awards Committee.
- Professor Rudolf Floss, Vice-President and Chairman of the Committee for the Development of New Chapters.

- Professor T. Akagi, Council Member and Associate Editor (Asia) and Vice Chairman of the Awards Committee.
- Dr. Richard Bathurst, Council Member and Editor of IGS News.
- Ing. Daniele Cazzuffi, Council Member and former Chairman of the Education Committee and current Chairman of the Standards Committee.
- Dr. Barry Christopher, Council Member and Vice Chairman of the Technical Committee.
- Mr. Daniel Fayoux, Council Member and Chairman of the Benefits and Membership Committee.
- Professor Masami Fukuoka, Council Member and Chairman of the Japanese Chapter.
- Professor Jean-Pierre Gourc, Council Member and Chairman of the Education Committee.
- Dr. Richard Jewell, Council Member and Chairman of the Voting Procedure/By-laws Committee.
- Dr. Colin Jones, Council Member and Chairman of the Publications Committee and European Activities Committee.
- Mr. Chris Lawson, Council Member and Chairman of the Technical Committee.
- Dr. Salem D. Ramaswamy, Council Member and Chairman of the Fifth International Conference on Geotextiles, Geomembranes and Related Products.

Dr. J.P. Giroud will no longer be on the IGS Council after the Singapore Conference. Dr. Giroud and Professor Fukuoka have attended every IGS Council meeting ever held and both have made outstanding contributions to the IGS over more than a decade since its initial inception to the present.

Announcement

IGS Ordinary General Assembly

6 September 1994, Singapore

The fourth Ordinary General Assembly of the IGS will take place on Tuesday 6 September 1994 from 1400 to 1700 hrs in Singapore, during the 5th International Conference on Geotextiles, Geomembranes and Related Products. During the assembly, important decisions will

be made for the future of the IGS. These decisions will include: amendments to the By-laws; the date and location of the following Ordinary General Assembly; and the election of the President and Vice-President of the IGS.

Instructions to the Attendees of the IGS General Assembly

1. The IGS General Assembly will take place in the Raffles City Convention Centre, 4th level, The Westin Stamford and Westin Plaza, 2 Stamford Road, Singapore on 6 September 1994 following the Awards Ceremony which begins at 1400 hrs.
2. All conference attendees are invited to attend the Awards Ceremony. Only IGS members, who have paid their fee for 1994 may vote at the IGS General Assembly.
3. Payments must reach the US account of the Treasurer or the Credit Suisse Bank Account No. 110525-02 in Zurich, Switzerland not later than 10 August 1994. Fee payment can also be made at the IGS booth on 5 September. No payment will be accepted on the day of the General Assembly. Anyone who has not paid membership fees by 1700 hrs on 5 September 1994 will not be authorized to vote or act as a proxy at the General Assembly.
4. The proposed agenda for the IGS General Assembly is included on page 4 of this IGS News. Members who want to suggest new items for the agenda of the General Assembly may do so in writing either to the President of the IGS or to the Secretary. Latest deadline: 6 August 1994 (art. 7.02.03 of the IGS By-laws). New items can still be suggested from the floor at the General Assembly itself, subject to approval of the delegates. However, for organizational reasons, this is not advised.
5. Minutes of the preceding General Assembly are available on request from the Secretariat (see item 5 of the proposed agenda on page 4 of this issue of IGS News).
6. It is noted that amendments to the By-laws must be adopted with two-thirds majority of the votes of the members present or represented at the General Assembly (art 7.03.04 of the IGS By-laws).
7. An IGS member who has paid his/her membership fee for 1994, and who is unable to attend, may delegate another IGS member as his/her proxy to attend and vote at the IGS General Assembly. A model of the proxy form was sent to every IGS member together with the Postal Ballot materials. Additional forms can be made by photocopying the mailed form. An original can be obtained directly from the Secretariat.
8. When in Singapore, any IGS member will receive an IGS Delegate Package when he/she registers for the Conference. Those members who do not attend the Conference are requested to obtain their IGS Delegate Package from the IGS booth. In case of any problem with the registration as an IGS member, you are requested to go to the IGS booth. Members with proxies can obtain additional IGS Delegate Packages from the IGS booth.

9. The IGS Delegate Package will be distributed at the IGS booth to IGS members who have not registered at the Conference on 5 September 1994.

10. Only Delegates with their IGS Delegate Package will be able to vote at the IGS General Assembly. Delegates who have proxies must obtain packages for their proxies as well (e.g. if Ms. X has 3 proxies she should obtain 4 packages).

11. Other Candidates for the election of President and/or

Vice-President can be nominated from the floor at the General Assembly. The Candidates must be personally present to accept their nomination during the General Assembly.

12. Voting forms with blank space for Candidates from the floor will be prepared and included in the IGS Delegate Package.

13. If there is only one Candidate for a position, the President will declare the Candidate elected by acclamation.

Call to the General Assembly of the IGS

All IGS members are invited to attend the Ordinary General Assembly which will be held on Tuesday 6 September 1994 immediately following the IGS Awards Ceremony which begins at 1400 hrs. The Awards Ceremony is open to both IGS and non-IGS members.

If the required quorum of 40% of the votes is not present or represented at the Assembly, a new General Assembly will be held for which the quorum rules will be suspended. In this case the second General Assembly will be held on Tuesday 6 September 1994 at 1445 hrs.

The proposed Agenda for the General Assembly is printed below.

IGS General Assembly – Agenda

Singapore, 6 September 1994, 1400 hrs.

1. Award Presentation Ceremony (also open to non-IGS members).
2. Opening of the OGA and welcome of members (President).
3. Quorum (Secretary).
4. Presentation of the procedure for the General Assembly and appointment of poll tellers (Secretary).
5. Approval of the minutes of the preceding General Assembly (Secretary) – VOTE.
6. Address and report of the President of the IGS (President)
7. Report of the Secretary of the IGS (Secretary).
- 8a. Report of the Treasurer of the IGS (Treasurer).
- 8b. Report of the Audit Committee (Treasurer).
- 9a. Approval of the Financial Report (Treasurer) – VOTE.

9b. Proposed subscription fee (Treasurer) – VOTE.

10. Approval of the Society's activities (President) – VOTE.

11. Election of President and Vice-President (President).

11a. Presentation of Candidates(s) for President.

11b. Election of President – VOTE.

11c. Announcement of President-Elect.

11d. Election of Vice-President – VOTE.

11e. Announcement of the elected Vice-President.

11f. Announcement of the elected Council Members.

12. Announcement of the results of the Postal ballot regarding the name of the Society (Secretary).

13. Formation of an Office of the IGS and approval of the necessary changes of the By-laws as prepared by the Council (President) – VOTE.

14. Appointment of Audit Committee (President) – VOTE.

15. Selection of the date of the International Conference to be held after the next International Conference (President) – VOTE.

16. Selection of the date and location of the next General Assembly (Secretary) – VOTE.

17. Other business (President).

17a. Items from U.K. Chapter.

17b. Any other business.

18. Closing remarks (President).

W. Voskamp, Secretary of the IGS

Calendar of IGS meetings, September in Singapore

3 Sept	0900–1800 hrs	IGS Officers		6 Sept (after Awards Ceremony)	IGS General Assembly
4 Sept	0900–1600 hrs	IGS Council (1992–1994)		7 Sept 1300–1400 hrs	IGS Council (1994–1996)
4 Sept	1600–1800 hrs	Corporate Members Committee		8 Sept 1300–1400 hrs	IGS Officers (1994–1998)
6 Sept	1400 hrs	Awards Ceremony		9 Sept 0700–0900 hrs	IGS Council (1994–1996)

Continuity in the Administration of the IGS

Our Society has reached the point that it is necessary to separate administrative activities from the function of the Officers related to it. The IGS Officers and Council are recommending that the administrative organization of the IGS be changed. It is proposed that there be an administrative office of the IGS which will provide administrative support to the IGS. This office will be managed by one of the officers. The Council shall determine the conditions of the service. This change in administration will be proposed at the General Assembly and approval will be asked from the membership (although no formal approval is required). To enable a workable situation the following changes in the By-laws will be proposed to the membership which automatically includes approval of the proposed procedure:

Current By-laws:

9.02.02 The Secretary and the Treasurer are elected by the Council from the elected Council members, to serve until the next Ordinary General Assembly, held concurrently with an International Conference. This election by the Council is held before the end of the International Conference, if applicable.

9.02.04 The Assembly may decide to appoint the Secretary as a paid Officer. He/she then has no voting right. He/she is chosen and dismissable by a 2/3 majority of the Council.

Proposed changes to the By-laws:

9.02.02 The Treasurer is elected by the council from the Council members, to serve until the next Ordinary General Assembly, held concurrently with an International Conference.

9.02.04 The Secretary is elected by the Council from the Council members, to serve until the next General Assembly, held concurrently with an International Conference. The election by the Council is held before the end of the International Conference if applicable. Alternatively, the Assembly may decide to appoint the Secretary as a paid Officer. He/she then has no voting rights. He/she is chosen and is dismissable by a 2/3 majority of the Council. The Council shall determine the conditions of service of the paid Secretary.

W. Voskamp, Secretary of the IGS

Summary of the Minutes: 3rd General Assembly of the IGS

Van Gogh Hall – Netherlands Congress Centre
The Hague – The Netherlands
30 May 1990 – 1600 hrs

1. The President, Dr. Jean-Pierre Giroud declared the 3rd General Assembly open and the Secretary, Dr. Guy Massenaux, reviewed the Agenda and procedures.
2. The minutes of the 2nd General Assembly were approved.
3. The President, Dr. Jean-Pierre Giroud, the Secretary, Dr. Guy Massenaux and the Treasurer, Mr. Peter Stevenson presented their reports and invited questions.
4. The IGS auditors confirmed the accuracy of the accounts and of the Treasurers report. The report of the Treasurer was approved.
5. The Assembly approved by vote the Society's activities as presented by the Officers.
6. The Assembly approved the change in the By-laws which allowed the formation of a Student Membership Category, together with some other minor changes.
7. The proposed changes in the By-laws related to the Council and Officers elections were amended by the Assembly which decided that the President and the Vice-President would be elected at the General Assembly, leaving the election of the Secretary and the Treasurer to the newly elected Council. The re-eligibility of Council Members was limited to two terms (i.e. 8 years). The Assembly approved the changes in the By-laws in accordance with these amendments.

8. The President presented a Plaque for outstanding services to the IGS to Dr. Guy Massenaux.

9. The subscription fees for the years 1990-1994 were approved.

10. The Candidates for IGS President, Messrs. P. Leflaive and R. Kerry Rowe made short presentations to the Assembly, Dr. R. Kerry Rowe was elected as President.

11. Prof. Rudolf Floss was elected as Vice-President.

12. The Assembly decided that the 6th International Conference would be held in 1998.

13. The Assembly decided that the next Ordinary General Assembly would be held during the 5th International Conference on Geotextiles, Geomembranes and Related Products in Singapore in 1994.

14. The following individuals were elected Council members: Messrs. P.E. Stevenson, J.M. Rigo, D. Cazzuffi, A. Arman, W. Voskamp, J. Perfetti and S.D. Ramaswamy.

15. Messrs. H. Schneider, B. Myles and S. Warner were elected as members of the Audit Committee.

16. The past-President, Mr. Ch. Schaerer, thanked the outgoing President for all his work for the IGS. In his closing remarks Dr. J.P. Giroud wished his successor, the new IGS President Dr. R. Kerry Rowe, success and assured him of his full support.

Copies of the detailed minutes are available from the Secretariat.

W. Voskamp, Secretary of the IGS

Postal Ballot

In June the material for the Postal Ballot was mailed to all IGS members. The package contains ballot forms for the election of new Council members, the change of the name of the Society and a proxy form. It also includes a letter from the IGS President and the biographical data of the Candidates for Council.

It is very important that you fill in the Postal Ballot and return it as the subject of the change of the name of the Society is of vital importance to the members. The main reason that the Council decided to hold a postal ballot rather than a vote at the General Assembly is to allow all members to vote. A vote at the General Assembly would exclude the votes of the members that cannot attend the General Assembly. Furthermore, there are 14 Candidates for the 8 vacant positions on the IGS Council. The voting is now conducted using a preferential voting system which means that it is even more important for you to vote for your preferred Candidates.

The completed voting forms must be placed in the ballot form envelopes that are supplied in the package. Make sure that you fill in the identification form and that you put the identification form together with the ballot form envelope in the return envelope which is also supplied. During the vote counting process the return envelope will be opened and the identification form checked. Provided that the membership is valid, the sealed ballot form enve-

lope is then put in a box with other ballot form envelopes. All these ballot form envelopes are opened later and the votes counted.

On behalf of the IGS Council, the Officers have appointed Dr. Richard J. Bathurst as the IGS Election Official. He will invite two other IGS members to join him in supervision of the vote counting.

You are requested to send the return envelopes to the IGS Election Official, Dr. R.J. Bathurst before 1 August, 1994. His name and address are printed on the return envelope. The return address has been changed from that of the IGS Secretariat on request of the IGS Secretariat, Mr. Wim Voskamp, who is also a Candidate for Council in this election. In this way, the Secretary is not involved in the vote counting process. The results of the ballot will be kept secret until the new President and the new Vice-President have been elected at the General Assembly.

A proxy form has also been sent to all IGS members with the Ballot material. This form can be used to give a proxy to another IGS member to vote on behalf of an IGS member if he/she is unable to attend the General Assembly. IGS members who hold proxies should present the proxy forms at the IGS booth at the Conference. They will then get the IGS Delegate Package. The contents of the package are needed to be able to vote at the General Assembly.



Past-President of the IGS, J.P. Giroud (centre) receives the first IGS lapel pin from IGS President R. Kerry Rowe (right) in a ceremony attended by Prof. R. Floss, Vice-President of the IGS (left). The ceremony occurred on 8 May 1994, at the

end of the IGS Officers meeting held in Boca Raton, Florida, USA. IGS members will receive their individual membership pins at the registration desk at the Fifth International Geotextiles Conference in Singapore, 5-9 September.



5th International Conference on Geotextiles, Geomembranes and Related Products Singapore, 5–9 September 1994

Preparations are now moving into high gear with over 250 final papers accepted for presentation in oral and poster venues. Authors who are still awaiting acceptance letters should immediately contact:

Prof. G.P. Karunaratne, Chairman Scientific Task Committee at Fax: (65) 3532424

A significant number of good quality papers have been moved to poster presentations in order to give as many different authors the opportunity to present at least one paper in a lecture session.

Registrations have got off to a brisk start by the early birds and a steady influx of registrations continues each week. Indications are that the conference will have a record number of delegates. So, if you have not registered, you should do so now. Equally important, make your hotel and flight reservations as soon as possible. The committee's feedback is that the flights are getting full on some Singapore Airline routes.

There is still some exhibition space left and it is not too late yet to book space and arrange for an exhibition con-

tractor to design and construct your stand. This exhibition is surely a singular major event in which to promote your company in the world's fastest growing region. The Singapore venue will provide your company with the opportunity to demonstrate new materials, design technologies and construction methods in rapidly expanding South East Asia.

In the following article you will note that the three volumes of the conference proceedings will also be available on a CD-ROM. If you do not already have the necessary hardware, there is of course the opportunity to pick up one in Singapore, the Mecca of electronics.

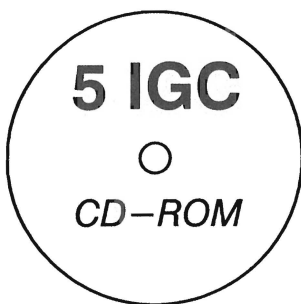
Finally, let us not forget the "World Cup". If you did not get to play in Pasadena, you can do so in Singapore!

Contact:

Eng. Pietro Rimoldi (Italy) Fax: (39) 39 9219200 who is collecting the names of interested players to organize the teams.

reported by G.P. Karunaratne

5th International Conference Proceedings on CD-ROM



5th International Conference on Geotextiles, Geomembranes and Related Products Singapore, 5–9 September 1994

For the first time, the IGS International Geotextile Conference will have its proceedings available in a CD-ROM version that will provide easy access to papers and information using a personal computer. The use of CD-ROM drives in universities, libraries, offices and homes is expected to increase dramatically over the next few years.

To partly subsidize the cost of producing the CD, advertising space is available in a product section after the 3

volumes of proceedings. The cost is only \$250US—per A4 size advertisement in full colour! No bromides need to be sent! We need only a clean copy of your printed advertisement in full colour to scan onto the CD. You can send as many pages as you wish at the rate quoted per page – so a permanent reproduction of product data and corporate profiles will not be too expensive.

Advertisement bookings for this CD-ROM format close on 31 July 1994. At such a small cost, it is too good an offer to miss! Contact:

R.S. Douglas
Conference Secretariat
SEAC-IGS, Thomson Road
P.O. Box 0177, Singapore 9157
Tel: (65) 3535511 Fax: (65) 3532424

reported by R.S. Douglas

Activities of the UK Chapter of the IGS

The activities of the UK Chapter of the IGS continue to expand with a regular programme of open evening meetings being held in many towns and cities across the UK. Each meeting is arranged jointly with one of the local associations of the Institution of Civil Engineers or similar geotechnical groups as part of their meetings calendar which ensures maximum local publicity for the events and removes the risk of dates clashing.

Topics covered in the 1993/94 session have included:

- durability of geosynthetics.
- geomembranes for landfill liner and other applications.
- geosynthetics specification testing and applications.
- European harmonization – geotextiles and geotechnics.

The final meeting in 1994 will be at the AGM of the UK Section on 7 December at the Institution of Civil Engineers in London followed by a joint meeting with the British Geotechnical Society that will include "A review of the 5th International Geotextile Conference, Singapore".

Plans for a full programme of meetings at centres in England, Scotland and, for the first time, Northern Ireland are already in hand for 1994/95. To maintain interest in the broad subject of geosynthetics, the programme of meetings will concentrate on the presentation of case studies of projects where use has been made of geosynthetics.

The UK Chapter, in association with ERA Technology is organizing a one day symposium on the subject of durability of geosynthetics to be held at ERA on 13 October 1994 during which delegates will be able to visit the laboratories and see at first hand the testing regimes which can

and should be carried out (see Calendar of Events on page 15 of this issue of IGS News).

The Chapter, working closely with UK Council Members, is attempting to increase membership and to promote the main aims of the IGS related to disseminating knowledge and promoting better communication on the subject of geosynthetics between designers, manufacturers and users. Current UK Chapter Officers are:

- Chairman – J. Paul, Netlon Ltd.
- Vice-Chairman – S.P. Corbet, G. Maunsell & Partners.
- Secretary – J. King, Don & Low Ltd.
- Treasurer – D. Wilson, CIS Const. Products.
- Membership – A. Bamforth, A.B.G. Ltd.
- Activities – R.I. Woods, Surrey University.
- Ass. Activities – G.R.A. Watts, TRL.
- Publicity – G.T. Kempton, Exxon.

reported by J. Paul, Chairman UK Chapter of the IGS

Japanese Standard Terminology for Geosynthetics by Professor K. Makiuchi, Nihon University, Japan

The Japanese Industrial Standard: JIS L 0221 "Glossary of Terms used in Geosynthetic Industry" will be issued soon. The glossary was prepared by the Committee on Geotextiles Vocabulary chaired by Professor M. Fukuoka and has recently been accepted by the Japanese Industrial Standards Committee.

Geosynthetics-related definitions continue to grow and discussion on the topic of terminology is ongoing throughout the world. However, the need to standardize technical terms in order to ensure proper communication between civil, chemical, textile and other disciplines is critical to the success of the growth of geosynthetics in Japan.

Under the direction of K. Makiuchi, the committee collected more than 900 terms used in the geosynthetics industry and attempted to classify and interrelate them. Finally, 88 terms were selected as keywords for use in terminology standardization and each term was given a brief definition. The review of terminology has resulted in a practical classification system for geosynthetic products, geosynthetics testing and geosynthetics function. The classification of geosynthetic products is illustrated in the diagram.

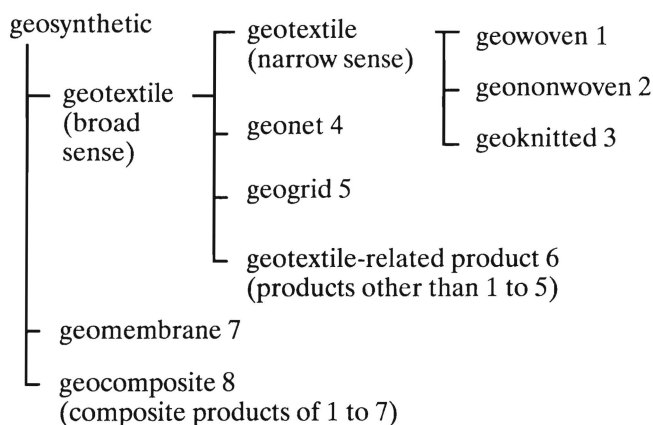
Terms related to products

Geocomposite, geogrid, geoknitted (knitted geotextile), geomembrane, geonet, geononwoven (nonwoven geotextile), geosynthetic, geotextile, geotextile-related product, geowoven (woven geotextile), joint, junction (knot), strand (rib), seam.

Terms related to testing

Accelerated test, apparent opening size, biological degradation, blinding (blocking), bridging, bursting strength (burst strength), burst test, CBR plunger test, chemical degradation, chuck (clamp, grip, jig), clogging, clogging test, cone drop resistance test, creep, creep test, cross-ma-

Classification of Geosynthetics



chine direction, degradation, durability, elongation, fatigue resistance, filter cake, gauge length, grab tensile test, initial tensile modulus, junction strength, leachate, leak detection, length of specimen between grips, machine direction, mass per unit area, necking, open area ratio, opening size of strand (open size of strand), penetration resistance, penetration test, percent elongation, permeability, permittivity, pull-out resistance, pull-out test, puncture resistance, puncture test, seam strength, secant tensile modulus, soil-geosynthetic friction, strength retaining ratio, stress crack, strip tensile test, survivability, tangent tensile modulus, tear test, tearing strength, temperature degradation, tensile strength, tensile test, thickness, transmissivity, trapezoidal tearing strength test, ultraviolet light resistance, weather resistance, weather test, wide-width strip tensile test.

Terms related to function

Drainage, erosion control, filtration, gas venting, prevention of scouring, prevention of soil draw-out, protection, reinforcement, sealing (lining), separation.

International Symposium on Geof foam

Geof foam is the term used since 1992 to describe any foam product used in a geotechnical application. The most commonly used geof foam material is a plastic called expanded polystyrene (EPS). Because of its low density (only 1% to 2% of the density of soil), a widely used function of EPS geof foam is as an ultra-lightweight material in "earthwork". This application of geof foam, pioneered in Norway in 1972 and long used throughout Europe and in Japan, is rapidly gaining recognition and acceptance in North America and Southeast Asia. Recently, a highway embankment that used a significant quantity of EPS geof foam as the key element in its construction was completed in the State of Hawaii, USA. This project was the catalyst for an international symposium on geof foam that was held on 30 March 1994 in Honolulu, Hawaii. The proceedings volume for this symposium has been prepared and is available as Manhattan College Research Report No. CE/GE-94-1. This 168 page document addresses the rele-

vant geotechnical engineering properties and durability of EPS geof foam, and also includes a large selection of recent case histories presented by speakers from Japan, Norway and the USA.

Copies of this report can be obtained by sending a cheque to:

Professor John S. Horvath, P.E.
Manhattan College
Civil Engineering Department
Bronx, NY 10471, USA.

The cheque must be in US dollars and made payable to John S. Horvath. The cost for mailing addresses in North, Central, and South America is \$30US. For all other locations the cost is \$40US.

reported by J.S. Horvath

EPA Proposes Recycled Polymer Content for Geotextiles

Editors Note: This article is reproduced from Industry Insight, June 1994 Vol. 1. No. 6 with the permission of the editor of I² - Ms. S. Meeker Bradford.

The US Environmental Protection Agency (USEPA) published "Comprehensive Guidelines for Procurement of Products Containing Recovered Materials" and the draft "Recovered Materials Advisory Notice" on 20 April 1994 which propose rules requiring the use of post-consumer recycled resin in the manufacture of polypropylene (PP) and polyester (PET) geotextiles on all projects funded by the Federal Government (EPA 40 COR Part 247). The guideline implements section 6002(e) of the Resource Conservation and Recovery Act (RCRA) which requires that each procuring agency purchase EPA designated items composed of the highest percentage of recovered materials practicable.

Currently in North America, 83% of all geotextiles are manufactured from polypropylene (PP). The EPA has proposed a minimum of 20% post-consumer recycled PP material be used in PP geotextiles and 50% recycled PET in PET geotextiles. EPA claims to have identified 7 geotextile manufacturers and 2 geocomposite manufacturers who use recovered material to make their products. The EPA also claims that geonet is a high strength product, and that ASTM standards do not preclude the use of recycled materials in geosynthetics. EPA proposes that recovered material geotextiles be used in road building, drainage, erosion control, soil stabilization, and for use in the gas collection layer and the protection layer between the drainage stone and the geomembrane liner in waste containment systems. A geotextile layer of a geocomposite would also be covered under this designation. There are no specifications for HDPE geotextiles.

Geomembranes, geogrids, and geonets are excluded, however the guideline does apply to plastic pipe. EPA has not identified any manufacturers of geogrids or geonets that use post-consumer materials, although the specifications reviewed by the EPA do not prohibit the use of such materials in these products. There are no technically prov-

en examples of geomembranes made with recovered post-consumer materials, and there are specifications that prohibit the use of recovered plastic in the manufacture of geomembrane liners.

Some geotextiles are currently manufactured with recovered PET and PP. In the draft "Recovered Materials Advisory Notice" (RMAN), EPA recommends that procuring agencies establish recovered materials content levels shown below, including the geotextile components of geocomposites and GCLs.

Recommended Recovered Materials Content Levels for Geotextiles and Related Products

Product	Resin	Post-consumer recovered materials
Geotextiles	PP	20-100%
Geotextiles	PET	50-100%

EPA requests information on whether there are sufficient supplies of post-consumer recovered PP of appropriate quality to meet the needs of the geotextile industry. EPA also requests information on whether there are any quality specifications for post-consumer PP feedstock, and whether separate standards should be recommended for woven and nonwoven geotextiles (either made of PET or PP resin), due to the higher strength properties of woven geotextiles. EPA also asks for information on geogrid and geonet performance.

Public comment on this issue officially ended on 20 June. However, late comments may be considered as late as 29 July 1994. Copies of the 20 April 1994 Federal Register including this EPA Guideline are available by contacting Melissa Smith (Synthetic Industries). Comments are being coordinated by Deron Austin, Chairman of IFAI's task group. Contact: Deron Austin (Synthetic Industries) at tel: 1 (615) 899-0444, or fax: 1 (615) 899-7619.

IGS Video on Geosynthetics in Landfills

The IGS video "Geosynthetics in Landfills" is currently in production. The goal is to have the film finished and ready for display and sale at the 5th IGC in Singapore. Video film, slides, product literature and case histories are under review by the director. The purpose of this review is to match sponsor supplied visual materials to the concepts articulated by the technical advisors in an outline for the work.

The next step is the drafting of the script and the melding of script and video. The process of matching visual materials to the message in the script involves much work including communication between the director and the several corporate sponsors who have supplied the visual materials.

Several firms have provided both funds and materials in support of this film and the IGS, its Officers, Council and membership are very appreciative of the support. Information to join the sponsors is available from P.E. Stevenson, Chairman Promotion Committee at the address given at the end of this article.

The video is envisioned to deal with the following based on a five page film outline created by the technical advisors: first, a statement of the generic landfill problem and the control of leachate, will be presented. Immediate-

ly following this introduction, the various functions of geosynthetics will be described. Next, geosynthetic solutions to containment, collection and control will be presented with details and specifics addressing the effectiveness of geosynthetics. The third section will trace the impact of geosynthetic technology, for example, the reduction in unintercepted leachate from 10-15% in the case of compacted soil liners to less than 1% when a synthetic lining system is used. This section will also illustrate how geosynthetics in concert with conventional materials yield very high performance in use. Section four will address the broad range and scope of geosynthetic materials used in landfills and relate them to the extraordinary range of applications in the field. The final sections will address composites and complicated products, the evolution of lining technology from the applications view point and close with reliability from the laboratory and testing perspective.

Comments and contributions to the video program should be forwarded to:

Mr. Peter E. Stevenson
226 Sitton Road
Easley, South Carolina 29642, USA
Tel: 1 (803) 855-0504 Fax: 1 (803) 859-1698

reported by P.E. Stevenson, Treasurer of the IGS

Call for Papers: Abstracts due 15 February 1995 **Geofilters'96**

Second International Conference on Filtration and Drainage in Geotechnical Engineering **29-31 May 1996, Montreal, Canada**

The Ecole Polytechnique of the University of Montreal announces the Second Conference on Filtration and Drainage in Geotechnical Engineering, to be held in Montreal, Quebec, Canada, 29-31 May 1996. The Conference is supported by the International Society for Soil Mechanics and Foundation Engineering, The International Geotextile Society and The International Commission on Large Dams.

The Conference will address new developments, and advances in all areas of filtration and drainage associated with analysis, design and performance of granular and geosynthetic filters and drains with emphasis put on case histories.

In keeping with the highly professional quality of the First Conference held in Karlsruhe in October 1992, the Organizing Committee expects a wide range of high quality contributions. Papers presenting novel ideas, theoretical and practical concepts are invited. Proposed themes are:

1. Properties relevant to filtration and drainage.
2. Filter and drainage design criteria.
3. Quality Control/Quality Assurance.
4. Case studies.

Papers are solicited in all areas of filtration/drainage phenomena, with emphasis on the specific topics listed above. Selection of papers will take into account originality and relevance. Practical and application oriented papers are welcome. Predominantly theoretical papers are normally expected to include experimental or other practical validation.

Authors are invited to submit title and abstract within the scope of the conference, to reach the Conference Secretariat by 15 February 1995. Abstracts may be submitted in English or French. They should be double spaced and approximately 500 words in length. The abstracts will be reviewed for their suitability to this conference. Selected authors will be invited to submit papers by 30 May 1995. Final manuscripts in English or French must be received before 30 October 1995.

All correspondence concerning the Conference should be addressed to:

Conference Secretariat GEOFILTERS'96
c/o Service des Congrès - Ecole Polytechnique
Campus de l'Université of Montreal
C.P. 6079 Succursale Centre Ville
Montreal, Quebec, Canada
Tel: (514) 340-3215 Fax: (514) 340-4440

New Codes of Practice of the Bundesanstalt für Wasserbau (BAW)

The Bundesanstalt für Wasserbau (BAW) in Karlsruhe, Germany has edited the following codes at the end of 1993:

1. Use of Geotextile Filters on Waterways (MAG), 1993 edition.
2. Use of Standard Construction Types for Embankment and Bottom Revetments on Waterways (MAR), 1993 edition.

The MAG is available in German and in English. The MAR is available only in German but will eventually be translated into English. Both codes can be ordered from the BAW-library, Kaßmaulstraße 17, D-76187 Karlsruhe (Fax: 49 721 9726 454). The following charges apply: MAG— DM 30,-; MAR DM 20,-. There is an additional charge for shipping.

Corporate Profiles

The IGS Council has decided that in each issue of the IGS News up to three Corporate Members will be allocated space to allow them to introduce their company or association and present their achievements. The criteria for selec-

tion of corporate profiles were described in IGS News, Vol. 4, No.2, p. 7. Alternatively, you can get details by writing to the Editor. There is no charge for having a corporate profile published; it is a benefit of corporate membership.

Tanaka Co., Ltd. by Masatoshi Tanaka 12-23 Miya-cho, Izumiotsu, Osaka 595 Japan

Tanaka Co., Ltd. was founded in 1953. At that time it produced many different kinds of spunbond and woven fabrics. In 1963 it began to produce a nonwoven geotextile and to market this product for civil engineering construction works.

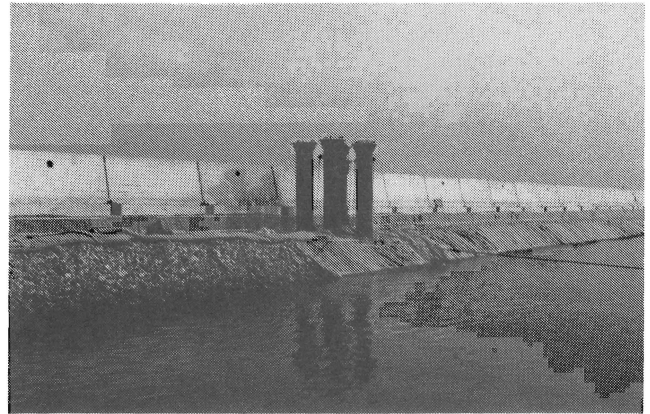
Today, Tanaka Co., Ltd., produces and sells specialty geotextiles through eight main offices and five branch offices located across Japan.

Its principal products are:

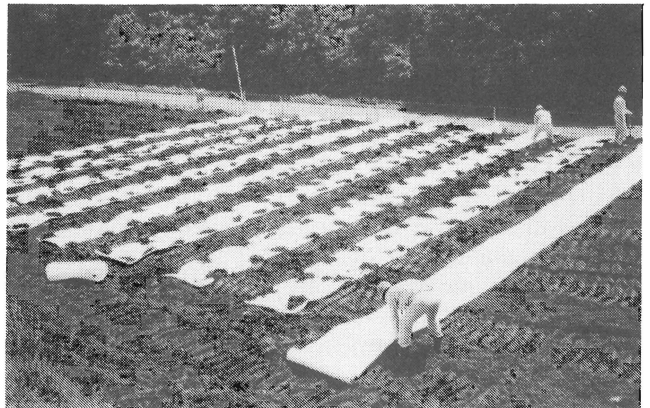
- A variety of staple nonwoven geotextiles.
- Polyester spunbond nonwoven geotextiles.
- A variety of three dimensional polypropylene monofilament geocomposites.
- A metallic net mat.
- A polyester fiber geogrid.
- A composite geomembrane.

A staple nonwoven geotextile, produced under the name "NEEDFL KEEPER", has been used in large quantities as part of the reclamation works at the Kansai Airport. It has proven effective over a long period of time to retain soils without damage due to severe wave action.

Our three dimensional composite monofilament "GEOSTREAM" product has been used for land reclamation projects and for the stabilization of compacted fills and as a horizontal drain material.



NEEDFL KEEPER used to retain soils as part of reclamation works at the Kansai Airport



GEOSTREAM used for stabilization of compacted fill

The Tanaka Co., Ltd. has been a corporate member of the IGS since 1992.

GEOSINTEX S.r.l.

**Via Leonardo da Vinci, 14, 36066 Sandrigo (VI), Italy
by Roberto Parise**

Geosintex S.r.l. is a company which has been involved in the geosynthetics field for several years. Geosintex is a subsidiary company of Edilfloor S.p.A., a major producer of nonwoven geotextiles in Italy. Edilfloor produces needlepunched geotextiles made of polypropylene, polyester and HDPE staple fibres. Edilfloor has recently begun the manufacture of some geocomposite products using woven geotextiles or geogrids and nonwoven geotextiles. Edilfloor has obtained the Quality Certificate from Det Norske Veritas according to the ISO 9002 standard.

Geosintex began as a branch company specializing in the promotion and sales of geosynthetic products to be used in geotechnical and marine engineering applications. Geosintex has a wide range of products, the principal ones being woven geotextiles and geogrids made from high tenacity yarns and polypropylene strips. Product specifications include data on tensile strength, elongation, friction, water permeability, mechanical damage, UV resistance, chemical and biological degradation. The products are commonly used in reinforcement, separation, drainage and filtration applications.

Over the years the company has concentrated on making woven geotextiles and geogrids and has helped to introduce these products and their applications to the Italian market. Now its main activities are focused on the application of geosynthetics in soil stabilization, coastal defence, landfill constructions and, above all, in the construction of reinforced retaining walls and slopes (wrap around green facing).

The technical staff is made up of one geologist and one consulting geotechnical engineer. Hence the company can offer its customers technical advice including full design services.

The most important projects that have incorporated Geosintex products are:

- Bank reinforcement and erosion control at the "Venezia Nuova" project (city of Venice and its lagoon defence).
- Construction of geogrid-reinforced embankments (6 to 7 metres high and from 100 to 400 metres long) to protect houses against rock falls in the Dolomiti mountain area.
- Construction of a natural "stadium" (for canoe world championship races) on the banks of a mountain river. The project used polyester geogrids and compacted soil, to create a stepped grass vegetated facing in order to minimize the environmental impact of the project.

Geosintex has been a Corporate Member of the IGS since 1993.



Polyester geogrid-reinforced embankment for protection against rock falls.

Geotextiles & Geomembranes: An Official Journal of the IGS

For 1994 the journal has increased its frequency from eight issues a year to monthly. This will provide subscribers with a more frequent service and authors will benefit from greatly improved publication times. The full subscription price for 1994 is £330UK or \$510US. Members of the IGS may subscribe at an 80% discount, i.e. £66UK or \$102US. Corporate members of the IGS may subscribe at a 50% discount, i.e. £165 or \$255US. Reduced subscriptions are available directly from the publisher and may be paid for by cheque or credit card. Please write to:

Subscriptions Department
Elsevier Science Ltd.
The Boulevard, Langford Lane, Kidlington
Oxford OX5 1GB U.K.

Fax: 44 (0) 865 843911

Members are reminded that to take advantage of this discount they must inform Elsevier Science Ltd. that they are a member of the IGS.

IGS members are encouraged to use Geotextiles & Geomembranes as an outlet for their technical papers and thus contribute toward the continuing success of this high quality publication which now has subscribers in over 40 countries worldwide. Papers should contain work not published in full elsewhere and should be sent to:

Dr. Nigel W.M. John
Department of Civil Engineering
Queen Mary & Westfield College
University of London
Mile End Road London, E1 4NS United Kingdom

Instructions to authors are available from Dr. Nigel John.

Professor Training Course for Geosynthetics a Success!

The Industrial Fabrics Association International (IFAI) recently conducted its first "Professor Training Course For Geosynthetics" at Auburn University in Alabama USA. The five day course was attended by twenty-four invited university professors. The attendees received detailed training to assist in teaching designing with geosynthetics. The professors were able to take the teaching materials, generic samples, and the knowledge gained, back to their own university classrooms.

The purpose of the course was to provide university professors with instructional materials that would assist them in teaching civil engineering students about geosynthetics. Geosynthetics have applications in many areas of geo-technical, environmental, and transportation engineering. The course notes were arranged topically so that each professor could build upon his existing class notes on a specific area.

Six instructors, highly knowledgeable in their fields, were invited from across the USA to address the attendees. Mr. Jerry DiMaggio, of the Federal Highway Administration, lectured on applications, testing, composition and manufacture of geosynthetics. Dr. Robert Holtz, University of Washington, lectured on pavement applications and the use of geosynthetics in embankments on soft foundations. Dr. Shobha Bhatia, Syracuse University, lectured on filtration and drainage and Dr. David Elton, Auburn University, addressed erosion control applications. Mr. Ryan Berg, a geosynthetics consultant, presented a detailed explanation of designing steepened slopes and mechanically stabilized earth walls. On the last day of the course, Dr. Robert Koerner, Drexel University, addressed landfill applications. The instructors spoke to a very receptive audience resulting in a good exchange of information, ideas and experiences.

Dr. David Elton, Civil Engineering Professor at Auburn University, was the Director of Instruction for the course. Dr. Elton organized the presentation, selected many of the materials distributed to the attendees and actively pursued funding for the course. Belinda Reutter and Elaine Ridgway, of the Auburn University Engineering Extension Service, performed a myriad of tasks that made the course error-free and truly enjoyable for all partici-

pants. They conducted all the mechanical details of housing, transportation, accounting and more with dispatch and efficiency.

The attendees received many instructional and technical materials. The primary teaching material was the participant notebook. Each instructor prepared an outline, notes, and references specifically designed for this course. These were compiled to form a comprehensive topical reference for the attendees to use in their courses.

The attendees also received many other course materials. These included design manuals, generic product samples, over 150 slides, a video, conference proceedings, a geosynthetics bibliography, and ASTM geosynthetics test standards.

The course was funded primarily by the IFAI Geotextile Division. Messrs. John Paulson and Roberto Montalvo directed the efforts as heads of the Geotextile Division Education Committee. The committee members provided primary direction to the entire program. The Federal Highway Administration, the US Environmental Protection Agency, the IFAI Geomembrane Division, and the North American Geosynthetics Society (NAGS) also provided funding as summarized below.

Funding Agency	Contact Person
IFAI Geotextile Division	Joe Dieltz
IFAI Geomembrane Division	Tim Arens
EPA	Bob Landreth
FHWA	Jerry DiMaggio
NAGS	Jay Beech

The technical instruction was complemented by a session on "Tips for Teaching Geosynthetics". The attendees discussed resources, technologies, and materials that make geosynthetics education effective. Many interesting teaching methods and ideas were discussed. Because of the valuable week spent at Auburn University attending the IFAI Professor Training Course For Geosynthetics, each professor will be able to add to their existing courses or to develop new courses for geosynthetics.

reported by D. Elton

VOLUME 1 of the GEOSYNTHETICS BIBLIOGRAPHY (discount price available to IGS Members)

The Geosynthetics Bibliography is a book in two volumes, prepared by J.P. Giroud, with the cooperation of J.F. Beech, A. Khatami and K. Badu-Tweneboah, of Geo-Syntec Consultants, and published under the auspices of the IGS. Volume 1, hard cover, 781 pages, is now available and can be ordered from its publishers, the Industrial Fabrics Association International (IFAI).

For a detailed review of the Geosynthetics Bibliography, refer to IGS News Vol. 9 No. 3 November 1993. Volume 2 will be published in the next few months. The regu-

lar price for Volume 1 is \$99US. **The discount price for IGS members is \$79US** (postage not included). To order Volume 1 of the Geosynthetics Bibliography contact:

Cindy Noldy
Industrial Fabrics Association International (IFAI)
345 Cedar Str., Suite 800
St. Paul MN 55101-1088 USA

Tel: 1 (612) 222-2508
Fax: 1 (612) 222-8215

Calendar of Events

International Conference Centrifuge 94
Singapore, 31 August – 2 September 1994

Contact: Dr. C.F. Leung
Dept. of Civil Engineering
National University of Singapore
10 Kent Ridge Crescent
Singapore 0511

Tel: (65) 7722281 Fax: (65) 7791635
E-mail: cvelc@nusvm.bitnet

**5th International Conference on Geotextiles,
Geomembranes and Related Products**
Singapore, 5–9 September 1994

Contact: Conference Secretariat, 5th IGC
Thompson Road, P.O. Box 0177
Singapore 9157

Tel: (65) 353-5511 Fax: (65) 353-2424

Durability of Geosynthetics Seminar
Leatherhead, UK, 13 October 1994

Contact: Angela Barkes
Conference Organiser
ERA Technology Ltd.
Cleeve Road
Leatherhead, Surrey KT22 7SA, UK

Tel: 44 (0) 372367000 (ext 2313) Fax: 44 (0) 372377927

Geosynthetic Research Institute Events:

Designing with Geosynthetics: Two Day Courses

17–18 November 1994 Philadelphia, PA, USA
19–20 January 1995 Washington, DC, USA
9–10 February 1995 Las Vegas, NV, USA

8th Annual GRI Conference on: Geosynthetic Resins, Additives and Their Formulations and 2nd International Mercer Lecture by J-P Gourc

13-14 December 1994 Philadelphia, PA, USA

Contact: Ms. Marilyn Ashely
GRI
Drexel University, Philadelphia, PA 19104

Tel: (215) 895-2343 Fax: (215) 895-1437

Geosynthetics'95

Nashville, Tennessee, USA
21–23 February 1995

Contact: Secretary General NAGS
345 Cedar Str., Suite 800
St. Paul, MN 55101 USA

Tel: (612) 222-2508 Fax: (612) 222-8215

**Geofilters'96 Second International Conference on
Filtration and Drainage in Geotechnical Engineering**
Montreal, Canada, 29–31 May 1996

Contact: Conference Secretariat GEOFILTERS'96
c/o Service des Congrès
Ecole Polytechnique
Campus de l'Université of Montreal
C.P. 6079 Succursale Centre Ville
Montreal, Quebec, Canada

Tel: (514) 340-3215 Fax: (514) 340-4440

Note: Highlighted items are organized under the auspices of the IGS or with the support of the IGS

IGS News Editors

Editor

Dr. R.J. Bathurst
Civil Engineering Department
Royal Military College of Canada
KINGSTON, ONTARIO, CANADA K7K 5L0
Tel: 1 (613) 541-6479 or 541-6391 Fax: 1 (613) 545-3481

Associate Editor (Asia)

Dr. T. Akagi
Toyo University
Department of Civil Engineering
2100 Kujirai Nakanodai
KAWAGOE-SHI, SAITAMA 350, JAPAN
Tel: 81 (492) 311211 Fax: 81 (492) 311722

Associate Editor (Europe)

Mr. D. Cazzuffi
ENEL – Centro di Ricerca Idraulica e Strutturale
Via Ornato 90/14
20162 MILANO, ITALY
Tel: 39 (2) 72248445 Fax: 39 (2) 72248450

The IGS News is published three times per year. Material for publication should be submitted to the Editor or one of the Associate Editors by 16 February, 16 June, 16 October for the March, July and November issues respectively. Short articles and/or good quality photos (with a caption) are always **very welcome**.

The IGS Council

Elected in 1990: D. Cazzuffi (Italy); S.D. Ramaswamy (Singapore). *Elected in 1992:* T. Akagi (Japan); R.J. Bathurst (Canada); B.R. Christopher (USA); R.A. Jewell (Belgium); C.J.F.P. Jones (UK); C. Lawson (UK). *Co-opted in 1991:* D. Price (Austria); D. Fayoux (Belgium). *Co-opted in 1992:* M. Fukuoka (Japan). *Co-opted in 1993:* J-P. Gourc (France). The IGS Council also includes the five IGS Officers elected for the period 1990–94.

Officers of the IGS

President

Prof. R. Kerry Rowe, P.Eng.
Geotechnical Research Centre
Faculty of Engineering Science
The University of Western Ontario
LONDON, ONTARIO, CANADA N6A 5B9
Tel: 1 (519) 661-2126 Fax: 1 (519) 661-3942

Treasurer

Mr. Peter E. Stevenson
226 Sitton Road
EASLEY, SOUTH CAROLINA 29642, USA
Tel: 1 (803) 855-0504 Fax: 1 (803) 859-1698

Immediate Past-President

Dr. J.P. Giroud
GeoSyntec Consultants
One Park Place, 621 N.W. 53rd Street, Suite 650
BOCA RATON, FLORIDA, 33487 USA
Tel: 1 (407) 995-0900 Fax: 1 (407) 995-0995

Vice-President

Prof. Dr.-Ing. Rudolf Floss
Technische Universität München
Lehrstuhl und Profamt für Grundbau
Bodenmechanik und Felsmechanik
Baumbachstrasse 7
D – 8000 MÜNCHEN 60, GERMANY
Tel: 49 (89) 8895200 Fax: 49 (89) 8349291

Secretary

Mr. W. Voskamp
IGS Secretariat
P.O. Box 2233
3440 DE WOERDEN, THE NETHERLANDS
Fax: 31 (3480) 30961

or: Akzo Industrial Systems B.V.
P.O. Box 9300
6800 SB ARNHEM, THE NETHERLANDS
Tel: 31 (85) 692644 Fax: 31 (85) 692666

List of Corporate Members of the IGS

Akzo Industrial Systems B.V. – Netherlands (1986)
Amoco Fabrics and Fibers Co. – USA (1987)
Asahi Chemical Industry Co. Ltd. – Japan (1984)
Associate Suisse Des Professionnels De
Géotextiles-Suisse (Aspg/Svg) – Switzerland (1984)
B+B Ground Treatment Ltd. – Singapore (1994)
Belton Industries Inc. – USA (1989)
Bidim Geosynthetics – France (1984)
C.I. Kasel Co., Ltd. – Japan (1992)
Daito Kogyo Co., Ltd. – Japan (1992)
Don & Low Ltd. – UK (1984)
Du Pont De Nemours Int. S.A. – Switzerland (1984)
Exxon Chemical Geopolymers Ltd. – UK (1988)
Fibertex Aps – Denmark (1984)
Fritz Landolt Ag – Switzerland (1985)
Geotextiles (M) Sdn Berhad – Malaysia (1991)
Geotechnics Holland BV – Netherlands (1991)
Geosintex SRL – Italy (1993)
Geotop Corporation – Japan (1994)
Gundle Lining Systems, Inc. – USA (1988)
Hoechst Celanese Corporation – USA (1984)
HL-Wienerberger Manufacturing (S) Pte Ltd.
– Singapore (1994)
Huesker Synthetic GmbH & Co. – Germany (1987)
Industrial Fabrics Association International (IFAI)
– USA (1985)
James Clem Corporation – USA (1992)
Japan Spunbond – Japan (1984)
Kajima Corporation – Japan (1985)
Kumagai Gumi Co. Ltd. – Japan (1987)
Kuraray Co. Ltd. – Japan (1989)
Maccaferri Gabions Singapore – Singapore (1994)
Maeda Corporation – Japan (1988)

Maeda Kosen Co., Ltd. – Japan (1992)
Mitsubishi Yuka Industrial Products Co., Ltd.
– Japan (1992)
Mitsui Petrochemical Industrial Products Ltd.
– Japan (1992)
Naue Fasertechnik GmbH & Co. KG
– Germany (1987)
National Seal Company – USA (1992)
Netlon – UK (1989)
Nicolon B.V. – The Netherlands (1984)
Nittoc Construction Co., Ltd. – Japan (1994)
Ohbayashi Corporation – Japan (1988)
Okasan Kogyo Co. Ltd. – Japan (1984)
Pavco S.A. – Colombia (1991)
Politex SPA – Italy (1993)
Polyfelt GmbH – Austria (1984)
Rhodia-Ster S.A./Rhone Poulenc Group
– Brazil (1994)
Shimizu Co. – Japan (1990)
Synthetic Industries Inc. – USA (1991)
SVUG – Czech Rep. (1993)
Taisei Corporation – Japan (1992)
Taiyo Kogyo Corporation – Japan (1992)
Tanaka Co. Ltd. – Japan (1993)
Tenax S.P.A. – Italy (1991)
The Tensar Corporation – USA (1989)
The Reinforced Earth Co. – USA (1989)
The Zenitaka Corporation – Japan (1992)
Tokyu Construction Co. – Japan (1984)
Uco N.V. – Belgium (1985)
Zeon Kasei Co., Ltd. – Japan (1992)

Dates indicate earliest year of continuous membership.

OBJECTIVES OF IGS (*)



The International Geotextile Society was formed with the following objectives:

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

WHY BECOME A MEMBER OF THE IGS?

First, to contribute to the development of our profession.

Becoming a member of the International Geotextile Society:

- Helps support the aims of the IGS, especially the development of geotextiles, geomembranes, and related products.
- Contributes to the advancement of the art and science of geotextiles, geomembranes, and related products, as well as their applications.
- Provides 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 available now to all IGS members:

- A directory of members, the IGS DIRECTORY, published every year, with addresses, telephone, telex and fax numbers.
- Newsletter, IGS NEWS, published three times a year.
- Reduced purchase price on all documents published by the IGS.
- Reduced registration fee and preferential treatment at all conferences organized under the auspices of the IGS.
- Reduced subscription fee for the journal "Geotextiles and Geomembranes".
- A central system for ordering selected publications.
- Possibility of being granted an IGS award.

MEMBERSHIP APPLICATION

Membership of the Society 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 Individual Members and (US) \$1000 for Corporate Members. Individuals or Corporations who voluntarily contribute a minimum of (US) \$200 annually to the Society, in excess of their membership dues, will be mentioned in the IGS Directory in a separate list as benefactors.

Send this completed form to:

Mr. P.E. Stevenson, Treasurer
226 Sitton Road
Easley, SC 29642
U.S.A.

Telephone: 1 (803) 855-0504
Fax: 1 (803) 859-1698

Eligibility (i.e. connection with geotextiles, geomembranes, or related products):

In this area, write your address as you wish it to appear in the next IGS Directory (your professional address is recommended but your personal address is acceptable provided the telephone, telex and fax numbers are also your personal numbers). *If the address below is your personal address please check this box:*

Bibliothek
LEHRSTUHL UND PRÜFAMT FÜR GRUNDBAU,
BODENMECHANIK UND FELSMCHANIK
Technische Universität München
Außenstelle Pasing
Baumbachstraße 7
D-81245 München

Title (circle one): Mr. Ms. Dr. Prof. Other _____

First Name _____ LAST NAME _____

Company, Division, Function (if applicable) _____

Address (Street or Postal Box) _____

City _____ Province/State _____

Postal Code _____ Country _____

Telephone _____ Telex _____ Fax _____

* A copy of the By-laws is available upon request.

Membership fee: Individual (US) \$45.00 Corporate (US) \$1000.00 Benefactor's contribution (at least (US) \$200.00): _____

Mode of Payment:

Check enclosed Draft sent to Credit Suisse

SIGNATURE _____

DATE _____

Charge my account
 Mastercard/Visa American Express
Account No: _____ Expiry date: _____

Name on card:
Authorized Signature: _____

IGS NEWS Published by the International Geotextile Society

Editorial Enquiries to: Dr. Richard J. Bathurst, Department of Civil Engineering,
Royal Military College of Canada, Kingston, Ontario, CANADA K7K 5L0
Phone: 1 (613) 541-6479 or 541-6391, Fax: 1 (613) 545-3481