

NEWSLETTER OF THE INTERNATIONAL GEOTEXTILE SOCIETY

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Growth and Outreach by Dr. R. Kerry Rowe President of the IGS

For the IGS, the nineties have had a very good start because they started with the 4th International Conference on Geotextiles, Geomembranes and Related Products held in The Hague, May 28-31, 1990. The conference was a resounding success and the organizers are to be congratulated on the excellent organization and technical quality of the conference. Special thanks are due to the Conference Chairman (former IGS Vice-President) Professor Koos van Harten and Secretary General, Gert den Hoedt.

Following the success of the conference and the decisions of the IGS General Assembly held in The Hague, we have much to do over the next four years. In this article I would like to outline for you my thoughts for the future and to summarize the actions already initiated.

The plan for the next four years can be summarized in two words - growth and outreach.

Growth clearly includes increased membership; but it means more. It means growth in benefits to members. It means growth in local activities. It means growth in the number and size of chapters. It means growth in the reputation of the IGS. It means growth in committee activity and member involvement. It means growth in the technical state-of-theart.

Outreach is directed at educating the population of potential users of Geotextiles, Geomembranes and Related Products (and hence potential IGS members) both amongst today's practising professional engineers and amongst the students who will be tomorrow's users, designers and specifiers. It is directed at ensuring good communications between the IGS and its chapters, its members and its potential members. It is directed at keeping the combined cost of membership of the IGS and its chapters as small as possible. It is directed at reaching out to developing countries. It is directed at being flexible and being responsive to local needs.

At the first meeting of the new IGS Council, held on May 31, 1990 in The Hague, a number of committees were

established to begin the implementation of the 'Programme for Action' which I provided to members prior to the IGS elections on May 30, 1990. The addresses and names of the committee chairmen are given on page 14 of this Newsletter. These committees will be doing most of their work by mail and all IGS members are invited to make submissions to, and to become involved in the work of, the open committees.

Work has already begun. For example, a new editor (Dr. Richard Bathurst) and associate editors (Mr. D. Cazzuffi - Europe, Dr. Akagi - Asia) have been appointed to the IGS News (see page 14 for a list of their addresses). They welcome news from all IGS members.

This issue of IGS News also contains information on the new student membership which has been defined by the Education Committee (Chairman Mr. D. Cazzuffi). The committee will now focus on the promotion of student membership and in conjunction with the Corporate Members Committee will work on the development of material for use in educational institutions. The Awards Committee has been established and this issue of IGS News contains a call for submissions for the next IGS Awards; note that submissions must be sent to IGS Secretary Mr. Wim Voskamp.



Dr. R. Kerry Rowe.

The Promotion Committee has been busy providing information to the press concerning the 4th International Conference and the IGS General Assembly. Those who attended the IGS General Assembly will be pleased to know that a committee under the chairmanship of Mr. P. Stevenson is working on procedures to streamline the next General Assembly to be held in Singapore in 1994. A Benefits Committee has been established (Chairman Mr. J. Perfetti) to develop more benefits for members.

A Standards Committee (Chairman Dr. J.M. Rigo) is working on a catalogue of Geomembrane standards.

Under the Chairmanship of Professor Floss (Vice-President of the IGS) a committee has been established to examine current impediments to the formation of chapters and to make recommendations concerning how the membership of chapters can be increased. This committee is also responsible for promotion of the IGS in developing countries. If you would like to offer suggestions or to take a part in the activities of this very important committee please write to Professor Floss (see page 14).

Conferences and local seminars will be a high priority for the next four years. No doubt many members would like to organize, or have organized conferences, seminars or lectures. For example, one important part of 'outreach' will be transmitting information gained at the 4th International Conference to members and potential members around the world. The IGS is fully behind professional, non-commercial, technical presentations. It has a Conference Committee (under Chairman Mr. Bernard Myles) which provides guidance to those seeking IGS recognition or help. If you are considering a conference, seminar or lectures, please let us know by means of a letter to Mr. Myles, with a copy to myself and the new IGS News Editor (Dr. Bathurst), so that it will be listed in the IGS News.

The next four years represent a new phase in the life of our Society, with new challenges which will demand a great deal of time and energy on the part of the officers and council members. However, it is important to emphasize that the Society is only what the members make it; we welcome the advice and constructive criticism of all members and hope that members will take an active part in the life of the Society either through participation in committees or in local chapters and the organization of local activities.

I feel honoured to have been elected President of the IGS and look forward to working with you over the next four years.

A Special Word of Thanks

Under the leadership of Professor Schaerer, the first President (1983-1986), and Dr. Giroud, the second President (1986-1990), our Society has undergone a period of remarkable growth and development over the past six years. This achievement has been the result of a tremendous amount of effort on the part of the past officers and council members of the IGS and, as we move into the nineties, we should express our very sincere gratitude to those IGS officers and council members who have just retired from office.

Professor Schaerer has now completed six years of very dedicated service to the IGS, firstly as President and then as Past President and Chairman of our first IGS Awards Committee. As an Honorary member he will continue to contribute to the IGS in his own very special way.

After a period as Vice-President (1983-1986) and as President (1986-1990) Dr. Giroud now becomes Past President (1990-1994). Dr. Giroud initiated the formation of the IGS at a meeting held in Las Vegas in 1982. Since that time he has devoted an enormous amount of effort to the development of the Society. When he stood for election in 1986 he offered the Society leadership and membership - and he delivered both. It would take a page and a half to list the achievements of the IGS in the four years he has been President (see IGS News Vol. 6, No.1, pp.2 & 3). Suffice it to say that membership has grown by 150%, the number of chapters has increased from one to five, and the new Council begins its work with a very detailed set of guidelines and a structure that will provide a very sound basis for future expansion as we move into the 90's. Dr. Giroud has been an outstanding President. It has been said that "he will be a hard act to follow"; no truer words were ever spoken.

Professor Koos van Harten steps down as Vice-President. He has made many contributions and for those of us in The Hague, he will probably be most remembered for the role he played chairing the organization of a fantastic conference - the 4th International Conference on Geotextiles, Geomembranes and Related Products.

Dr. Guy Massenaux has provided the organizational backbone to the IGS since its inception. His experience and dedication were summarized by Dr. Giroud in his speech offering the first plaque 'for special service to the IGS' when he quoted an unknown IGS member as saying that without Dr. Massenaux "there would be no IGS today". He has indeed made an exceptional contribution to the IGS.

Many council members also completed their terms of office - Messrs Barker, Sembenelli, Schneider, Tonus and Warner. Space does not permit a listing of their many contributions to the IGS - but those of us who have served on the Council know how important these contributions have been. We will miss you on Council - thank you indeed.

Many council members continue or begin new terms of office and Mr. Peter Stevenson will continue as Treasurer. We also owe these individuals a vote of thanks for their past dedication and we look forward to a continuation of this dedication in the years to come.

R.Kerry Rowe President of the IGS

Call for Members of New IGS Committies

At the first meeting of the new IGS Council (held May 31, 1990) eight 'open committees' were created and chairmen appointed. As the name implies the membership of 'open committees' is open to all members of the IGS upon application to the chairman of the committee. The work of all committees will be primarily by mail. All members of a committee are obliged to respond to correspondence from the committee chairman.

If you would like to play a more active part in the life of our Society by being a member of one of these committees, or would like more information on the committee, please contact the chairman (whose address is listed on page 14). If you have any general questions, suggestions or concerns regarding committees please contact Dr. R. Kerry Rowe (President of the IGS).

Each committee will develop its own role and will initiate and follow up on their own work plan.

As a starting point, a brief summary of the committees and their potential role is given below:

Committee for Development of New Chapters Chairman Prof. Dr.Ing. R. Floss

- To find ways of encouraging the formation of chapters in countries where there are already a significant number of IGS members (or members of related societies).
- To find ways of forming chapters and providing 'outreach' to countries where geotextiles, geomembranes and related products have not been widely used. This will include paying particular attention to developing countries.

Education Committee: Chairman Mr. D. Cazzuffi

- To promote student membership and provide liaison with student groups.
- To develop resource material for educational institutions.

Benefits Committee: Chairman Mr. J. Perfetti

- To examine and recommend means of providing more benefits to IGS members.
- To examine the effectiveness of present benefits.

Conference Committee: Chairman Mr. B. Myles

- To take a pro-active role in the promotion of conferences, seminars and/or lectures which meet IGS objectives.
- To review requests for IGS support/auspices from groups organizing conferences.
- To provide assistance to IGS members wishing to organize conferences.
- To provide assistance to the organizers of the 5th International Conference in Singapore (in co-ordination with the IGS representative on the organizing committee Dr. J-P Giroud).
- To prepare the call for submissions for the 6th International Conference in 1998.

Publications Committee: Chairman Prof. K. van Harten

- To provide material for publication in IGS News.
- To review IGS News after each issue.
- To provide communication links with other related publications (Geotextiles & Geomembranes; trade magazines; newsletters, etc.).

Promotions Committee: Chairman Dr. P. Rankilor

- To prepare and distribute press releases to the media.
- To develop and publicize IGS promotion brochures.
- To prepare and man an IGS booth for regional and international conferences.
- To promote IGS publications.
- To promote the IGS in developing countries.

Standards Committee: Chairman Prof. J-M Rigo

- To develop catalogues of standards (The committee is presently working on a catalogue of Geomembrane Standards)
- To promote international standardization.
- To provide and interface with standards groups (ISO, CEN, ASTM, BSI, etc.).

Voting Procedures/By-laws Committee: Chairman P. Stevenson

- To review and recommend alternative voting procedures for the IGS General Assembly.
- To review and, as appropriate, recommend changes to the IGS by-laws.

Inventory of Current Geotextile Test Methods and Standards

Testing geotextiles becomes increasingly important and difficult with the development of sophisticated design methods that require equally sophisticated test methods.

The IGS Standards Committee has prepared an inventory which provides essential information on geotextile testing and is an indispensable tool for all those involved in design, testing, research and specifications. The inventory is available as a reference book from the IGS Secretariat (see page 15). It contains:

- a list of regulating authorities and their addresses;
- a list of available methods organized by the type of test;

 a description of each test method with a diagram and a listing of all relevant parameters.

The information presented in this book is also available on 3 1/2" and 5 1/4" disks for IBM compatible PCs. The user-friendly software is able to show quickly and easily all information on available test methods. It can also sort data according to authority, country, type of test, etc. The report can be displayed on a screen or on a printer.

The book and the disk version are available from the IGS Secretariat at a cost of \$75 and \$95 US respectively for members, or for \$100 and \$120 US for non-members.

Student Membership of the IGS

The good news:

At the Ordinary General Assembly held in The Hague, the IGS members voted overwhelmingly to create a student member category. Now for only US\$10, any full-time registered student at a university or college may become a Student Member of the IGS.

The benefits of membership include:

- IGS News
- Special Student discounts at all IGS sponsored/supported conferences, seminars, etc.
- Listing in a special student members category in the IGS Directory (this may help both the student and future employers in making contact).
- Eligibility for awards (and in particular the IGS Young Members Award).
- Listing of theses relating to geosynthetics in IGS News.

How to join:

Each institution where there are interested students will have a designated IGS 'contact' member. This contact member would:

- assist the students in organizing local activities (lectures, field trips, etc.)
- collect the \$10 membership fees and remit them together with a completed student application form to the IGS Treasurer, Mr. P. Stevenson (see page 15 for his address).

How to get advice, assistance and more information

For more information on how to become student members; write, call or fax the Chairman of the Education Committee, Mr. D. Cazzuffi, ENEL - Centro di Ricerca Idraulica e Strutturale, Via Ornato 90/14, MILANO, Italy I-120162 (Tel: (3.92) 88478445, Fax: (3.92) 88478450.

When to join

NOW! Student members are welcome immediately. Once your membership fee is received by Mr. Stevenson you begin to receive the benefits of being a member of the IGS and if you join between now and the end of 1990 your membership will continue until December 1991.

IGS Awards - Call for Submissions

IGS Awards have been established by the Council of the IGS in order to honour producers, users, engineers, and scientists who make outstanding contributions in the field of manufacturing, application, and knowledge of geotextiles, geomembranes, and related products.

Purpose of the IGS Awards

The IGS Awards will be granted to individuals or groups of individuals in recognition of outstanding contributions either completed, or the validity of which has been demonstrated, during 1989-1990.

Awards will be made every two years. Consequently, there will be an awards competition again for 1991-1992, 1993-1994.

The Awards

There will be two categories of Awards:

- Young IGS Member Achievement Award for IGS members who are less than 36 years of age on 31 December 1990 (student members are eligible); and
- IGS Award, regardless of age.

A maximum of 5 awards will be granted per period.

The Award will consist of a specially commissioned medal and a diploma. It will be presented at, or in connection with, the IGS General Assembly. The winning entries will also be given large publicity by other means.

Entries

All IGS members can compete. Entries must be mailed no later than 31 March 1991 to the Secretary of the IGS, Mr. Wim Voskamp (see page 15 for the address).

Entries describing special achievements in any field related to IGS objectives must be submitted by the candidates themselves under the following headings: products; testing and testing equipment; instrumentation; monitoring and performance evaluation; design and design methods; fundamental aspects; construction and construction methods; any combination of the above; others.

The Awards Rules specify the various other requirements for submission. The text of these rules and further details can be obtained by contacting the Secretariat of IGS.

The Awards Committee will review all entries and will determine the award recipients using a point system. The recipients will be chosen by 2 January 1992.

Obviously, all members of the Awards Committee have a duty to keep secret all discussions of the Awards Committee.

The Officers and Council Members of IGS hope that the creation of these Awards will foster a keen interest from IGS members. IGS members may send either entries for themselves or nominations for potential candidates, to the Secretary of IGS, Mr. Wim Voskamp. Any candidate who is nominated, will be contacted by the Secretary and asked to prepare an entry.

Fourth International Conference - The Hague

The 4th International Conference on Geotextiles, Geomembranes and Related Products was held in The Hague, The Netherlands 28 May - 1 June 1990. The conference was a great success and attracted more than 680 conference registrants and more than 110 accompanying persons. A total of 61 companies took part in the Exhibition portion of the program and this event attracted an additional 400 registrants. A total of 92 papers and 3 keynote addresses were given. The conference papers and keynote addresses were grouped into three broad categories: soil reinforcement, water control and environmental control. In addition there were 42 contributions to the Poster Session.

The conference participants were welcomed by the Secretary General G. den Hoedt and by the Chairman of the conference Prof. K. van Harten. The conference was officially opened by J.R. Hoogland, the Director of Water-Management, Ministry of Transport and Public Works, who reminded the audience of the important role that geosynthetics has played in the age-old struggle by the Dutch against the sea. Opening addresses were also given by Dr. J-P Giroud Past-President of the International Geotextile Society and Prof. A. Verruijt from Delft University of Technology (photo).

An excellent social program was offered by the conference organizers and the excursion program on the closing day provided the participants with a choice of cultural and technical visits.

Prof. K. van Harten and the Organizing Committee are to be congratulated for their efforts in making this conference a memorable one.

More information on the 4th International Conference will appear in the next Newsletter.

Proceedings for the 4th International Conference are available as follows:

Price in The Netherlands: Dfl 307.40
Price in Europe: Dfl 290.
Price in U.S.A.: US\$ 160
Publisher in Europe: A.A. Balkema

B.O. Box 1675 3000 BR Rotterdam, The Netherlands

Publisher in U.S.A.: A.A. Balkema,

Old Post Road, Brookfield, VT 06036

U.S.A.



Prof. Verruijt presenting the opening address.

Address by Dr J-P Giroud, President of the IGS (1986-90) to the IGS Assembly, The Hague, The Netherlands, 30 May 1990.

Members of the IGS: Eight years ago, in 1982, I envisioned a professional society for those interested in geotextiles and geomembranes. I presented the concept in several locations. I made a formal proposal at the Second International Conference on Geotextiles in Las Vegas, where the concept was adopted by representatives from a dozen countries around the world. A year later, in 1983, the International Geotextile Society was officially formed. In 1986, at the Third International Conference on Geotextiles, I was elected President of the IGS.

Being the first elected by the General Assembly to serve as President for a four-year term, I realized that I had the responsibility to set the example, to make sure that the Council would set the example, and to make sure that the IGS would set the example. We should not forget that not long ago our discipline was not taken seriously by members of other wellestablished disciplines. We were accused of being driven by commercial interests, by people who did not understand the creative role played by the manufacturers in our discipline. Clearly, geotextiles and geomembranes were not considered a respectable discipline. Today, our discipline is recognized and respected and this is due, in large part, to the fact that the IGS is highly regarded worldwide as an outstanding professional society. This remarkable achievement of the IGS benefits not only the IGS members but all those interested in geotextiles and geomembranes.

Although it was clearly my mission to ensure that the IGS would be recognized as a full fledged professional society and be respected by all engineers and scientists, my priority was to ensure that the needs of the IGS members, whether individual or corporate, be met. To this end, a lot has been accomplished as indicated by the long list of achievements given in the last issue of IGS News, the IGS newsletter. At this point, I would like to remind you that four years ago, as a candidate-president, I gave all IGS members a five-page program describing in detail a large number of specific actions I was planning to accomplish as president. It is normal for a candidate-president to propose a program, but it is unusual for a president to mention this program at the end of his term. However, this is exactly what I am doing now and I am proud to tell you that this program has been fully implemented:

- The program said we would increase the membership, and we increased it by 150%, including a significant increase in the number of corporate members, and I take this opportunity to thank them for their support, which is essential to the IGS.
- The program said we would expand the IGS newsletter, it has been expanded, its quality is extremely high, and I congratulate Kerry Rowe, the editor of IGS News, for the excellent work he did.

- The program said we would revise the by-laws of the IGS; they have been revised, I strongly recommend that the General Assembly approves the amendments proposed by the Council, and I express our gratitude to Etienne Leflaive, who prepared those amendments, for the excellent work he did.
- The program said we would increase the number of chapters; thanks to Professor Fukuoka, we had one chapter as early as 1985, in Japan; we have four additional chapters now in North America, United Kingdom, Southeast Asia, and India and the Council has just approved the by-laws of the Chinese Chapter.
- The program said we would create awards to encourage technical excellence in our discipline; we carefully prepared the rules for these awards, we appointed a committee of international experts acting in total independence under the chairmanship of Past-President Schaerer, whom I would like to congratulate for his action, and, as a result of the ethical procedure adopted by the Awards Committee, the prestige of the IGS Awards is already widely acknowledged.
- The program said I would personally visit all chapters of the IGS and actively participate in one of their meetings; I did visit all chapters, delivered many speeches on behalf of the IGS, and, at conferences organized by the chapters, I presented technical papers, at least when they were accepted by the selection committee.
- The program said we should intensify our cooperation with technical journals; "Geotextiles and Geomembranes" has become an official journal of the IGS, and I take this opportunity to express the gratitude of the IGS to the editor of Geotextiles and Geomembranes, Dr. Ingold, for his enthusiastic cooperation as well as his inflexibility regarding standards of quality.
- The program said we would update the Inventory for Geotextile Testing, this inventory has been updated, and its presentation has been significantly improved; we are all grateful to Professor Rigo and his team for this publication.
- The program said we would prepare a promotion brochure, and this was done beautifully by Steve Warner.

These are only some examples of the actions that were announced, promised, planned and implemented.

In addition to accomplishing this program, my task was to manage the IGS, and this was the invisible part of the iceberg. The financial management of the IGS was potentially the most difficult but it turned out to be my easiest task because it was thoroughly handled by the Treasurer, Peter Stevenson, and I want to thank him for his outstanding performance. The rest of my management activities included a wide variety of matters and I will give you an idea of what they were. For example:

• I handled all the correspondence related to the selection process of the venue of the next International Conference. It was, of course, up to the Council to make the decision

- and, after a careful review of the proposals, Singapore was selected. I invite all of you and all your colleagues to be in Singapore in 1994.
- I exchanged a large amount of correspondence with dozens of countries for various purposes such as the formation of a new chapter or the organization of a local conference. For this type of activity, it is important for the president to have enough authority to be heard, and to have a good understanding of international matters to know what can or cannot be done.
- I have reviewed every issue of IGS News, our newsletter, to avoid any commercialism in the articles, being well aware that we would be poorly judged if this would happen. I also wrote an editorial in IGS News on a regular basis to stay in contact with the membership.
- I studied a number of proposals for new activities, new publications, etc. and, for example, I am pleased to announce that the Council has approved the creation of a prestigious lecture to be held every two years in conjunction with the International Society for Soil Mechanics and Foundation Engineering.
- In one country, with the support of the Council, I took vigorous action to protect the free use of generic terms such as geotextile, geomembrane, etc. which was threatened by commercial interests.
- I also tried to do my best to help the members of the IGS who approached me on an individual basis, and I wrote a number of letters to obtain such things as an academic promotion or a free airplane ticket for a member to attend a conference, with a success which is a measure of the prestige of the IGS.
- I even had to participate in a couple of football games, and in retrospect I am very fortunate that the official sport of the IGS is not rock climbing.
- One of the most important tasks was of course to organize the work of the IGS Council, which met every six months. I chaired a total of eight Council meetings, lasting two days each, which required the preparation of extremely long agendas. A typical agenda is a 200-page volume and it includes all the documents that the Secretary, Guy Massenaux, and I gather in the six months preceding a Council Meeting.

The members of the IGS Council should be commended for their remarkable dedication. Most of the members of the IGS Council attended all meetings, and those meetings were scattered around the world. This involved approximately 150 intercontinental flights, paid by the council members themselves. Several council members volunteered for tasks that did not bring any glory and they should be commended for that. I want to give only one example. You have seen the excellent IGS stand at the exhibition: this stand has been designed and redesigned and constructed by Peter Rankilor, and attended by his personal assistant; we are very grateful to Peter Rankilor for this generous contribution to the IGS.

In order to receive proper guidance from the Council, I imposed long meetings to provide ample time for discussion.

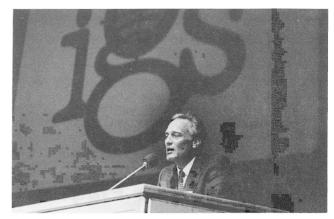
However, this policy of close cooperation with the Council was not always easy. You have to realize that all discussions at the Council are in English, that two-thirds of the Council members do not have English as their native language, which does not make things easy, and the other members do have English as their native language, which is even worse. During these four years I had excellent working relationships with the Council and I feel extremely fortunate that I had this opportunity to work closely with the most distinguished individuals in our discipline.

The considerable amount of work that I described would have been impossible without help and I was extremely fortunate, and we are all extremely fortunate, that during this crucial period, the Secretary of the IGS was Guy Massenaux. His experience and excellent organization were essential to the success of the IGS in the past eight years; but in spite of all the help that I received, there were times when, alone in my office, I had to make a difficult decision, for example, a decision on a way to approach a problem that had some international implications. In cases like that, there is nothing worse than being alone, nothing worse than not knowing who to call to discuss the matter, and you cannot call anybody, you must call somebody who is equally dedicated to the same cause, and somebody with knowledge and experience. And these are the times when I would pick up the telephone and call Guy Massenaux. I prefer not to think of what would have been my life during eight years, and what would have been the IGS, without these telephone calls. Naturally, I knew that, in all difficult cases, I could count on the advice and help of all the officers: Past-President Schaerer, Vice-President van Harten, Treasurer Stevenson, and, of course, Guy Massenaux.

Some IGS members have suggested that because of all the experience gained in managing the IGS I should serve another four-year term. I have many reasons not to do so. First, we are proposing today to change the by-laws of the IGS and to limit the term of president to four years, therefore I want to set the example, although I am not obliged to do so. Those who wanted me to serve two terms should not be disappointed because I feel that in these past four years I have served at least two terms, and I still have to serve four years as an officer, becoming past-president.

Also, the IGS I wanted to build was an IGS that was not too dependent on the drive and the work of an individual who may be too dedicated because he badly wants the success of the initial concept he proposed. My mission would not be successfully accomplished if the IGS built under my responsibility does not succeed without me. All along those years my ambition was to build an IGS that has its own momentum and that could be successfully managed by a variety of people with their own different approaches, provided they have one thing in common, which is to serve the members and the discipline. To give you an example, in order to ensure the continuity of the IGS I have encouraged the Council to adopt guidelines for most IGS activities; and, with the cooperation of Guy Massenaux, I have carefully compiled these guidelines into a 100-page handbook, in order to help our successors. Therefore, continuity will not be a problem.

Also, changing the guard can only help the IGS to evolve, and I invite my successors to consider that the kind of IGS that I have promoted and implemented with the cooperation of Guy Masseneux and Peter Stevenson is not necessarily the best



Dr. J-P Giroud presenting his address to the IGS General Assembly.

structure for the future. The centralized organization that we have developed was absolutely necessary to start the IGS on the right foot and to establish it as a strong society. I think that the IGS in the future may need a different type of organization, some kind of federation of national or regional chapters in order to better meet the needs of a growing number of members. I think we have approximately reached the size where a centralized organization is no longer practical and no longer desirable. I certainly want to be remembered as the one who proposed the concept of the IGS. I certainly want to be remembered for my contribution to the building of the IGS, but I certainly do not want to be remembered as someone who promoted a rigid structure that could not encourage evolution and adaptation. To use a geotechnical analogy, during the past eight years we have built strong foundations for the IGS, and my successors should take advantage of these strong foundations to construct a tall and beautiful building. It would be wrong to be simply satisfied with those foundations and to build nothing on them. That would be equivalent to forcing the IGS members to live in a basement. They would sooner or later move elsewhere.

The strength of the IGS can now be used for ambitious goals.

In leaving this position there might be a little bit of nostalgia but also great pride that in eight years the initial vision has been transformed into the reality that we have today. Certainly, during these eight years, the IGS has been a major component of my professional life and my personal life. My dedication would have been impossible without sacrifices by my business partners and in particular, Joe Fluet, to whom I am very grateful, and my wife who knew that, for her, the three letters I.G.S. meant "I Give up Sundays". What I have done would also have been impossible without the continuous support of the membership, and I am grateful to all members of the IGS for having given me the opportunity to accomplish what started as a personal vision and became a major component of our profession. I know that I have demanded a lot from many of you and I know that some of you think that sometimes I was taking this too seriously, but:

- yes indeed I took it seriously;
- yes indeed I took seriously the fact that eight years ago my proposal of creating a professional society was adopted;
- yes indeed I took seriously the mandate you gave me four years ago;

- yes indeed I took seriously the mission I had to accomplish;
- yes indeed, I take seriously what I am telling you now;
- yes indeed, I am asking you to take seriously what you are doing here today.

You must take it seriously and select a new president who has the energy and the experience to do the job. You must take

it seriously and select council members who have the dedication to actively participate in all council meetings and the capability to properly represent you. You have to take it seriously and actively participate in the local activities that will be organized by an increasing number of IGS chapters in different countries. Yes, take it seriously, bring your contribution to the IGS, and, as a result, what we have built together in the past eight years will not be in vain but will benefit a growing number of people; yes, take it seriously and you will, like me, be proud of serving the IGS and our discipline.

IGS Plaque to Guy Massenaux

At the IGS General Assembly meeting at The Hague, Dr. J-P Giroud announced that the IGS Council had decided that a plaque should be given to individuals for outstanding service to the IGS. Dr. Giroud explained that in a secret vote the Council had unanimously decided that this plaque should be given for the first time to Dr. Guy Massenaux for his outstanding services to the IGS over many years. In reviewing the contributions of Guy Massenaux, J-P Giroud noted that without his competence, experience, vision and dedication there would be no IGS today.

The plaque was commissioned by Professor Schaerer, Past-President of the IGS and Chairman of the Awards Committee and was presented by Dr. Giroud. The plaque reads:

"To Guy Massenaux for his contribution to the formation of the IGS, 1982 to 1983, and his outstanding services as Secretary, 1983 to 1990."



Dr. G. Massenaux

IGS Council Meeting

26 May 1990 - The Hague - The Netherlands

The IGS Council met on 26 May 1990 in The Hague, The Netherlands, all its members being present. It was the last time it convened under the chairmanship of Dr. J-P Giroud.

- The Council confirmed that only those members who have paid their 1990 fee (or their proxy) and have registered, could take part in the General Assembly meeting.
- The Council reviewed the preparation of the booth at the exhibition held concurrently with the International Conference on Geotextiles, Geomembranes and Related Products. Mr Rankilor agreed to write a document listing actions taken in preparation of the IGS booth, difficulties met, results, and his recommendations in view of 1994.
- The preparation for the Fifth International Conference, to be held in Singapore in 1994, was briefly discussed. Dr. J-P Giroud was recommended to provide liaison between the IGS Council and the Singapore Organizing Committee.
- The accounts spanning the period 1986-1990 presented by the Treasurer, Mr P. Stevenson, were accepted and his budget for the year 1990 approved. The Auditors report found the IGS accounts in good order.

- A Mercer lecture sponsored by Netlon Ltd and held in conjunction with the International Society for Soil Mechanics and Foundation Engineering is being set up. The IGS Council designated M. Fukuoka and P. Sembenelli to sit on the Selection Committee as representatives of IGS.
- The Council agreed that a Test Inventory be written for geomembranes (Dr. J-M Rigo). Test methods potentially applicable to geomembranes would also be collected but such a selection would have to be restricted to pure testing (no specifications or recommendations).
- The Council recommended that it take a second look at the Guidelines for International Conferences with respect to relations with organizers and registration fees. With regard to other Conferences, the Council supported the principle of a questionnaire being drafted that would help evaluate the purpose and value of planned conferences (Mr Perfetti in charge). The idea of a Conference Committee was revived and will be recommended for consideration at the next Council meeting.

- The implications of "Post"-Conferences (used as a follow-up of the International Conference) will be investigated.
 The feasibility of organizing such Conferences (e.g. in Japan or Australia or the U.S. West Coast) will be investigated.
- The Council was informed of the possible publication of three new magazines on geotextiles and related products. IGS support under one form or another had been requested by the publishers. The Council would, for the time being, not support any of them. Time would be needed to judge their quality, consistency, etc. If necessary, possible support could be reviewed when enough issues had been published. Recommendations were also made to
- members of the Council who contribute articles for magazines not to implicate the IGS in any manner.
- The proposed by-laws of the Chinese Chapter (still to be founded) have been received and were approved by the Council. There were no further formal obstacles to a Chinese Chapter being set up to geographically cover the continental area of the People's Republic of China.

Dr. J-P Giroud, outgoing President of IGS, warmly thanked the members of the Council for their support and cooperation during his term of office.

(Reported by Dr. G. Massenaux)

GeoServices' Distinguished Lecturer and IGS Anniversary

On 10 November 1989, GeoServices Inc. Consulting Engineers presented its seventh distinguished lecturer: Dr. Etienne Leflaive of the Company for the Application of Texsol, Paris, France. The subject of Dr. Leflaive's lecture was soil reinforcement with continuous yarns and design of reinforced soil structures. Past lecturers in GeoServices' distinguished lecturer series include Dr. J-P Giroud, Professor Tim Stark, Professor Colin Jones, and Mr. Daniele Cazzuffi.

This well attended presentation was followed by a reception hosted by Dr. R. Bonaparte and Dr. N.D. Williams at GeoServices' office in Norcross, Georgia near Atlanta. The industry's latest achievements and activities were discussed by one hundred attendees, including IGS council members who came from around the world to attend the Council meeting on 11-12 November.

To conclude the evening, a surprise birthday cake was presented to the IGS council members by Terri Coburn, GeoServices' office manager, to commemorate the IGS' sixth anniversary: indeed, the IGS was founded on 10 November 1983, in Paris.



Dr. J-P Giroud and Mrs. Giroud with the birthday cake.



Dr. E. Leflaive presenting his lecture.

News of Members

Sprague joins Niclon

C. Joel Sprague has joined **Nicolon Corporation** as a Staff Geosynthetics Engineer and will direct the company's geosynthetic engineering and research activities. Mr. Sprague is a registered Professional Engineer in North and South Carolina and has twelve years of experience in civil and geosynthetics engineering, most recently as Senior Geosynthetics Engineer with Hoechst Celanese Corporation.

Gundle Announces Increased Roll Width of its Liner Product

Gundle has announced the development of what is believed to be the widest polyethylene liner in the industry without factory seams. Gundle Lining Systems, Houston, Texas, the largest manufacturer of high density polyethylene liners in the world, are now manufacturing material that is over 10 m wide in various thicknesses. The new width of liner is available as Gundline HD (high density polyethylene). It is suggested that the 10 m wide liner allows for faster installation by the reduction of field seams.

Corporate Profiles

As indicated in IGS News, Vol. 4, No. 2, the IGS Council has decided that in each issue of the IGS News three Corporate Members will be allocated space to allow them to introduce their company or association and present their

achievements. The criteria for selection of corporate profiles were described in IGS News, Vol.4, No. 2, p. 7. There is no charge for having a corporate profile published; it is a benefit of membership.

Netlon Limited by Jim Paul Kelly Street, Blackburn, Lancashire, England, BB2 4PJ

Netlon Limited is the original manufacturer and patent holder for the 'Tensar' range of high tensile strength polymer geogrids. 'Tensar' grids are now produced under licence in the U.S.A. by the Tensar Corporation and within the next 12 months will be produced in Japan by a new company, Nippon Tensar Ltd., a joint venture between giants Mitsui and Mitsubishi.

Netlon has been manufacturing a wide range of extruded polymer nets since 1959. These products have been used in the construction of roads and airfields over soft ground, in erosion control and in stabilizing the face of steep embankments.

The need to increase the strength and rigidity of the products to allow them to be used in soil reinforcement led to the development of the 'Tensar' process. The unique manufacturing process gives a range of oriented polymer grids which have high tensile strength, high stiffness and full integrity of junctions. The high strength junction ensures that the primary reinforcement mechanism is that of interlock between the soil particles and the grid.



Netlon geogrid used for slope stabilization.

The application areas for 'Tensar' products are diverse with major works in sub-base reinforcement of embankments over soft foundations. Other significant applications include steep-faced embankments, landslide repairs, reinforced soil retaining walls, asphalt reinforcement and erosion control.

All grids from the U.K. manufacturing plant conform to the quality assurance standards of BS5750 and ISO 9002. 'Tensar' grids have been independently assessed and certified by the British Board of Agreement in the U.K. and the Institut für Bautechnik in West Germany for reinforced soil structures.

To assist with the design of 'Tensar' products in soil reinforcement, a design team has been established at the head office in England. Specially developed computer programs are used to analyze reinforced soil retaining walls, reinforced embankments and reinforced pavement structures and are of assistance in the rapid production of project-specific design suggestions.

The products are sold internationally through a network of distributors. Each distributor has its own technical capabilities but is supported by locally based Area Managers in Europe, the Middle East and South East Asia.

Recent major projects include asphalt reinforcement on airfield runways in Sweden, a geocell mattress foundation to a waste pit in West Germany, flood protection embankments in Malaysia, reinforced road construction in Oman and steepfaced, blast protection structures in the U.K.

Continuous development ensures that new products are regularly being introduced to meet the needs of a growing and more technically demanding market.

New Corporate Member

The IGS is pleased to welcome The Reinforced Earth Company (U.S.A.) as a new corporate member. The Reinforced Earth Company offers a variety of engineered products including precast concrete components for retaining walls, bridge abutments, mineral storage facilities and other applications. The company offers MATREX high strength geosynthetics for temporary walls, slope steepening, waste containment and landslide stabilization. Other products include the TECHWALL

precast counterfort retaining wall system as well as a variety of noise and security barrier products.

The company prepares preliminary feasibility studies and cost estimates, designs the structure, prepares construction plans and specifications, supplies all manufactured components, and provides on-site construction assistance.

Amoco Fabrics and Fibers Company

by L. Stauffer 900 Circle 75 Parkway Suite 300 Atlanta, Georgia, U.S.A.

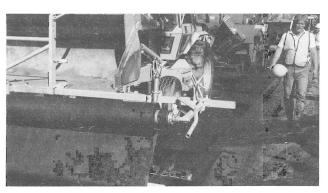
Amoco, which celebrated its Centennial in 1989, has been involved in the geotextile industry since the late 1960s. The Amoco Fabrics and Fibers Company, a subsidiary of the Amoco Chemicals Company, now covers the world with its geotextile sales offices, and has manufacturing operations in Canada, England, Scotland, West Germany, Australia and Brazil. In the near future Amoco will also have a manufacturing plant in China.

The Amoco Fabrics and Fibers Company began in 1968, when the Amoco Chemical Company bought Patchogue Plymouth, an industrial textile company located in the Southeastern United States. Polypropylene sandbags were the first geotextile product, and other woven geotextiles soon followed. In 1979, Amoco added nonwoven production capacity, producing AmoPave asphalt overlay and heavierweight nonwoven polypropylene fabrics. Today, Amoco manufactures a complete line of both woven and nonwoven geotextiles.

Because it manufactures both woven and nonwoven geotextiles, Amoco has acquired extensive expertise in both technologies. These technologies are constantly being expanded at Amoco's Research and Development Center, located in Atlanta, Georgia, where teams of engineers and scientists work to develop new products to meet the changing needs of the geotextile markets.

Recent geotextile developments include high-strength woven fabrics, and nonwovens designed for use in the waste control industry. In developing new products, engineers in marketing, technical service, manufacturing and R&D are brought together to design, manufacture, test, and trace the new product through its first uses in the field. This ensures that the new product meets the customer's requirements, with no surprises.

One recent project where Amoco's nonwoven geotextiles were used for the waste control industry was the Puente Hills Landfill in California, U.S.A. Over 30,000 m^2 of Amoco's geotextiles were used to cushion and protect the geomembrane



Amoco asphalt overlay fabric being used in Atlanta GA, U.S.A.

liner. By including this type of nonwoven geotextile in the design, the integrity of the geomembrane liner was greatly enhanced.

Another project, begun in 1983, but phases of which continue today, uses Amoco's woven geotextiles to help stabilize soft organic silt along the Georgia (U.S.A.) coastline. In one instance, by using Amoco's woven geotextiles in bridge approaches, it is estimated that the approach areas were shortened by 20 percent, and approximately \$2 million was saved over the amount initially planned.

Amoco sells its geotextiles through a worldwide network of trained distributors. In the United States, sales and marketing are headed by Richard Carriker; in Europe, by Philip Hartog and Wouter Van Wijk. As an IGS corporate member since 1986, Amoco is dedicated to providing top-quality geotextiles and services to engineers around the world.

Through its involvement in IGS and other organizations, such as the Industrial Fabrics Association International, the North American Geosynthetics Society (NAGS), ASTM, and INDA, Amoco keeps on top of changing needs in the geotextile markets around the world, and acts quickly to meet those needs. Amoco has a history of being a major industry supporter, devoting both financial help and manpower to support the geosynthetics industry.

Huesker Synthetic Gmbh & Co.

The founding of the Huesker Company dates back to 1864, when the cotton weaving trade started in Gescher, Westphalia. The enormous potential of synthetic fabrics was first realized as long as 40 years ago and in 1958 the first filter fabrics and dyke sandbags were manufactured. As the product range expanded in subsequent years, it was only logical to establish Huesker Synthetic in 1973 as an independent company.

Today, after 30 years activity in the geotextile market, Huesker Synthetic manufactures 400 different products from synthetic yarns. Polyester, polypropylene, polyethylene and polyamide yarns are used for making grids, woven, nonwoven or compound fabrics.

Huesker Synthetic sells its products worldwide under the well known tradename HaTe. Particular mention should be made here of nonwoven fabrics or reinforced nonwoven fabrics with a mass per unit area up to 2000 g/m² for protecting the geomembrane in the construction of refuse tips. Incomat concrete mats have proved very successful in preventing erosion of subsoil and embankments in hydraulic engineering. HaTelit, polyester grids for asphalting, have been in practical use for over 20 years. Stabilenka, reinforcement woven

fabrics with strengths up to 1000 kN/m, enable embankments to be built on soft ground. Fortrac polyester grids were specially designed to reinforce unbound base areas and steep slopes.

There is a variety of HaTe products which offers a practical solution for almost every problem. Special products for solving

individual problems are discussed with the client and after careful research and development work they are manufactured to the clients requirements. Of course, practical experience over the decades and extensive knowledge of textiles and construction techniques has been a great help. In addition to a wide product range of geotextiles and grids, Huesker offers a range of creative consulting and engineering services.

Geotextiles & Geomembranes: an Official Journal of the IGS

In 1991 the Journal continues with 6 issues per year in order to provide a more frequent service to subscribers and more timely publication for the authors. The subscription price for 1991 has been set at Pounds 160 (U.K.). The reduced subscription offer to individual IGS members represents a 40% discount off the full price, i.e. Pounds 96 (U.K.).

Reduced subscriptions are available directly from the publisher:

Subscription Department Elsevier Applied Science Publishers Crown House, Linton Road, Barking, Essex IG11 8JU United Kingdom The editor, T.S. Ingold, the Editorial Chairman, J-P Giroud, the IGS Editorial Board Representative, K. van Harten, and the IGS President, R. Kerry Rowe, all hope that IGS members will 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. T.S. Ingold Mulberry Lodge St. Peters Close, St. Albans Hertfordshire AL1 3ES United Kingdom

(Instructions to authors are also available from Dr. T.S. Ingold)

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Call for Papers

All members of the IGS are highly encouraged to submit original technical papers to Geotextiles & Geomembranes. This is a high quality journal with a wide circulation in more than 40 countries. Publication of a paper in Geotextile and Geomembranes is an excellent way of ensuring that those

interested in geotextiles, geomembranes and related products around the world are aware of your work. Papers which have not been published in full elsewhere may be submitted to Dr. T. S. Ingold at the address listed at the top of this page.

IGS Awards Presented at 4th International Conference

On the opening day of the 4th International Conference on Geotextiles, Geomembranes and Related Products at The Hague, a number of awards were presented to IGS members by the Chairman of the IGS Awards Committee, Professor C. Schaerer.

IGS Award

The IGS Award was presented to Joseph E. Fluet, E. Ray Steinle and their team at GeoServices Inc., Consulting Engineers, Boynton Beach, Florida, U.S.A. for their work "Geosynthetic Quality Assurance, A Practical New Technology".

Young IGS Member Achievement Award

The first award in this category was presented to Dr. Richard Jewell of the University of Oxford, U.K. for his work "Reinforced Soil Wall Analysis and Behaviour".



Recipients of the IGS Awards (Left to Right) Mr. E. Ray Steinle, Mr. Joseph E. Fluet, Dr. Richard Jewell. Prof. C. Schaerer (Chairman of the Awards Committee) is in the background.



Dr. A. Arman (Left) Vice-Chairman of the Awards Committee presenting finalist certificates to Dr. R. Kerry Rowe on behalf of himself, Dr. K. L. Soderman and Mr. B.L.J. Mylleville. A similar certificate was presented to Dr. Rudolph Bonaparte, in absentia.

Special Finalist Recognition Awards

In order to recognize outstanding entries for the IGS Award, two Special Finalist Recognition awards were presented. The first award was presented to Dr. R. Kerry Rowe representing the team of Dr. Rowe, Dr. K.L. Soderman and B.L.J. Mylleville of the University of Western Ontario, London, Canada for their work "Development of a Fundamental Understanding of the Behaviour of Geosynthetic Reinforced Embankments".

The second award was presented in absentia to Dr. Rudolph Bonaparte of GeoServices Inc. Consulting Engineers, Norcross, Georgia, U.S.A. for his work on "Geonet Drainage Layers for Waste Containment Facility Lining Systems".

Readers may refer to the November 1989 issue of IGS News for a more detailed profile of IGS members who have received this first series of awards and summaries of their winning entries.

News of Members

OeMV Expands Plastics Division - Joint Venture with Rhone Poulenc/Paris

PetroChemie Danubia Geo.m.b.H. of Austria, a subsidiary of OeMV, acquired the geotextile operations from the French corporation Rhone Poulenc, S.A.

The Polyfelt group of companies (sales revenues of 600 million Austrian Schillings, 200 employees) is a subsidiary of PCD and one of the worldwide leading manufacturers of geotextiles made of polypropylene.

This acquisition will strengthen Polyfelt's position in the global markets and increase the market share significantly. Polyfelt manufactures geotextiles in Linz, Austria and Evergreen, U.S.A. and will expand the production capacity significantly with a new technology. The growth of the global geotextile market is estimated between 6% and 10%.

A new corporation, "BIDIM Geosynthetique S.A." will be founded and will market the geotextile products manufactured in France. This corporation will be owned 60% by OeMV and 40% by Rhone Poulenc, with a share capital of 130 million Austrian Schillings.

Reinforced Soil Embankment at Home Farm, Brighton

Over 20,000 m² of Tensar geogrids have recently been installed by Mackley Construction in two reinforced soil embankment faces at the new business park for G.J. King and Son (Developments) Ltd. park at Home Farm, Brighton, U.K. One of these faces, which is 150 m long and stands at a maximum face angle of 79°, is 10.5 m high, the highest in the U.K. using the 'wraparound' method.

Consulting Engineers, Dixon Hurst Partnership specified geogrids to maximize the available land area of the business park which is adjacent to a railway cutting. Earthworks on the site comprised a cut and fill operation within a dry valley using chalk excavated from the adjacent hills. Main contractor J.T. Mackley and Company Limited constructed the steep reinforced embankment faces to form the site boundary on the railway cutting side. The method of construction, which involves wrapping the grids around turfs to form a vegetated face, allows a variable slope angle to be achieved.

(Reported by R. Whalley)

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The IGS Council

Elected in 1988: M. Fukouka (Japan); E. Leflaive (France); B. Myles (U.K.); P. Rankilor (U.K.); K. van Harten (The Netherlands). Elected in 1990: A. Arman (U.S.A.); D. Cazzuffi (Italy); J. Perfetti (France); S.D. Ramaswamy (Singapore); J-M Rigo (Belgium).

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The IGS News is published 3 times per year. Material for publication should be submitted to the Editior 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**.

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A separate IGS Secretariat Telephone number and Fax number will be announced in the next issue of the IGS News.

Calendar of Events

Fiber Society 50th Technical Conference

Princeton, U.S.A. 19-23 August 1990 Contact: TRI P.O. Box 625 Princeton, NJ 08542 U.S.A.

Microbiology in Civil Engineering

Conference Cranfield, U.K. 3-5 September 1990 Contact:

Mrs. Mary Northwood Silsoe College Silsoe, Bedford MK45 4DT U.K.

International Reinforced Soil Conference

Glasgow, U.K.

Olasgow, Ch.R.
10-12 September 1990
Contact: Prof. Alan McGown
Dept. of Civil Engineering
University of Strathclyde
Rottenrow

Glasgow G4 ONG, U.K.

ASCE Specialty Conference

KAJIMA CORPORATIÓN - JAPAN

Regulation, Performance, Construction and Operation of Waste Containment Systems San Francisco, U.S.A. 6-7 November 1990 Contact: Dr. R. Bonaparte

GeoServices 5950 Live Oak Parkway Norcross, GA, 30093, U.S.A.

Two Day Courses on: "Designing with Geosynthetics"

U.S.A. 8-9 Nov. 1990 U.S.A. 15-16 Nov. 1990 U.S.A. 29-30 Nov. 1990 Milwaukee, Philadelphia,

Contact: Marilyn Ashley or Paula Koerner Geosynthetic Research Institute

Drexel University
West Wing - Rush Building #10
Philadelphia, PA 19104, U.S.A.
(215) 895-2343

Two Day Seminar on "Landfill Closures: Geosynthetics, Interface Friction and New Developments":
15-16 December 1990 - 4th GRI Seminar Contact: Marilyn Ashley or Paula Koerner Geosynthetic Research Institute Drexel University
West Wing - Rush Building #10
Philadelphia, PA 19104, U.S.A. (215) 895-2343

(215) 895-2343

Geosynthetics 91

Atlanta, U.S.A.
25 February-1 March 1991
Contact: Secretary General NAGS
c/o IFAI 345 Cedar St., Suite 800 St. Paul, MN 55101

ASCE Specialty Conference

U.S.A.

ASCE Specialty Conference
Grouting, Soil Improvement & Geosynthetics
New Orleans, U.S.A.
25-28 February 1992
Contact: Dr. I. Juran
Dept. of Civil Engineering
Louisiana State University
Baton Rouge, LA 70803 U.S.A.

5th International Conference on Geotextiles, Geomembranes and Related Products.

and Relateu
Singapore
5-9 September 1994
Contact: Prof. S.D. Ramaswamy
National University of Singapore
Dept. of Civil Engineering
Kent Ridge Crescent
Singapore 0511

Note: Highlighted items are organized under

List of Corporate Members of the IGS

ACME STW INC. - U.S.A. AKZO INDUSTRIAL SYSTEMS B.V. - THE NETHERLANDS AMOCO FABRICS AND FIBRES CO. - U.S.A. ASAHI CHEMICAL INDUSTRY CO. LTD. - JAPAN ASSOCIATE SUISSE DES PROFESSIONNELS DE GEOTEXTILES - SUISSE (ASPG/SVG) - SWITZERLAND BELTON INDUSTRIES INC. - U.S.A. DON & LOW LTD. - U.K. DU PONT DE NEMOURS INT. S.A. - SWITZERLAND EXXON CHEMICAL GEOPOLYMER LTD. - U.K. FIBERTEX APS - DENMARK FRITZ LANDOLT AG - SWITZERLAND GUNDLE LINING SYSTEMS, INC. - U.S.A. HOECHST CELANESE CORPORATION - U.S.A. HUESKER SYNTHETIC GMBH AND CO. - GERMANY INDUSTRIAL FABRICS ASSOCIATION INTERNATIONAL (IFAI) - U.S.A. JAPAN SPUNBOND - JAPAN

KARL MAYER TEXTILMASCHINENFABRIK GMBH - GERMANY KUMAGAI GUMI CO. LTD. - JAPAN KURARAY CO. LTD. - JAPAN MAEDA CORPORATION - JAPAN NAUE FASERTECHNIK GMBH - GERMANY NETLON - U.K. NICOLON B.V. - THE NETHERLANDS OHBAYASHI CORPORATION - JAPAN OKASAN KOGYO CO. LTD. - JAPAN POLYFELT GMBH - AUSTRIA RHONE-POULENC FIBRES - FRANCE TEXSOL - FRANCE THE TENSAR CORPORATION - U.S.A. THE REINFORCED EARTH CO. - U.S.A. TISZAI VEGYI KOMBINAT - HUNGARY TOKYU CONSTRUCTION CO. - JAPAN UCO N.V. - BELGIUM SHIMIZU CO. - JAPAN

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 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 telecopy 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
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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) \$40 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 Route 4, Box 607 Easley, SC 29640 U.S.A.

| 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 telefax numbers are also your personal numbers). If the address below is your personal address please check this box | In this area, write a short description of your activities as you wish it to appear under your address in the next IGS Directory (e.g. "Consulting Engineer", or "Salesperson for XYZ Geotextile Company"). If the name of your company already appears in the above address, you need not repeat it in this area. |
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| A check is enclosed The applicant her | reby agrees to pay the above total amount upon receipt of an invoice |
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