

IGS NEWS

NEWSLETTER OF THE INTERNATIONAL GEOSYNTHETICS SOCIETY

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

VOLUME 10 NO. 3

NOVEMBER 1994

A MESSAGE FROM THE NEW IGS PRESIDENT

Professor Colin J.F.P. Jones

As the incoming President of the IGS, it is my pleasure to report to the membership that the Society has never been healthier. Individual membership continues to grow together with the number of Chapters and Corporate members. At the time of the Singapore Conference there were 1,476 members, 13 Chapters and 58 Corporate members. The Society is represented in 56 countries and is recognized as a major international society.

Name of the Society

The name of the Society, selected by the founding members in 1983, was the "International Geotextile Society". This title has served the Society well for over ten years. However, the growth in the range and diversity of our discipline has been such that the word "geotextile" could no longer accurately describe the range of functions and growing interests of the Society. The results of the postal ballots presented at the Ordinary General Assembly held in September as part of the Singapore Conference showed an overwhelming support for the proposal to update the name of the Society (see related article, p.11). The new name of the Society (with subtitle) is "The International Geosynthetics Society, dedicated to the scientific and engineering development of geotextiles, geomembranes, related products and associated technologies". The old name had a familiar ring and it is pleasing to note that the word geotextile is still retained in the dedication.

New Council

The change in the name of the Society was based upon a postal ballot. A postal ballot was also used to elect the new IGS Council. Everything worked very smoothly, and on behalf of the Society I should like to thank Dr. Richard J. Bathurst for

his work in organizing and reporting on the elections.

The following individuals were elected to the Council:

New members:

Prof. Robert D. Holtz - USA
Dr-Ing Georg Heerten - Germany
Ing Pietro Rimoldi - Italy
Dr. Fumio Tatsuoka - Japan
Dr. James G. Collin - USA

Re-elected:

Mr. Wim Voskamp - The Netherlands
Ing Daniele A. Cazzuffi - Italy,
Prof. Jean-Pierre Gourc - France

In addition to the above, the following members remain on the Council: Prof. M. Fukuoka (Japan), Dr. Barry Christopher (USA), Mr. Chris R. Lawson (UK), Dr. Richard Jewell (Belgium), and Prof. T. Akagi (Japan). The Immediate Past President of the Society, Prof. R. Kerry Rowe, is an automatic appointment to the Council.

At the first meeting of the new Council, Prof G.P. Karunaratne (Singapore) and Mr. Peter Stevenson (USA) were co-opted to serve on the Council.

The by-laws of the Society require the President and the Vice-President to be elected at the General Assembly. Prof. Richard J. Bathurst was elected Vice-President.

The new Officers of the Society following the election are:

(Continued on page 2)

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

PRESIDENT'S REPORT (cont.)

(Continued from page 1)

President: Prof. Colin J.F.P. Jones (UK)
Immediate Past President: Prof. R. Kerry Rowe (Canada)
Vice- President: Prof. Richard J. Bathurst (Canada)
Secretary: Mr. Peter Stevenson (USA)
Treasurer: Mr. Wim Voskamp (The Netherlands)

Traditionally the offices of Secretary and Treasurer of the Society have had a heavy workload. I am particularly pleased that the new Council has been able to retain the services of Wim Voskamp and Peter Stevenson. Members will notice that they have exchanged roles from the last Council.

Publications and Information

A major requirement of any society is good communications. Since 1990 Dr. Richard Bathurst has fulfilled the role of Editor of the IGS News with distinction. Dr. Bathurst has now passed editorship of the News to Dr. David Elton of Auburn University in the United States. I should like to welcome Dr. Elton as the new Editor of the IGS News. We are very pleased that he has accepted this important position in the Society. I encourage all members to submit news of general interest to Dr. Elton for publication in the IGS News (see related article, p.9).

For a number of years Geotextiles and Geomembranes was the official journal of the IGS, dedicated to learned society activities. During the Singapore Conference the Council agreed

to accept the publication Geosynthetics International as a second official technical journal of the Society. It is a sign of the growth and application of geosynthetics that the Society now has two technical journals (see related article, p.13).

Our last issue of IGS News reported that Dr. J.P. Giroud had completed the second volume of the Geosynthetics Bibliography. The Bibliography is published under the auspices of the Society. The details of how the second volume can be obtained from the IFAI are given on the enclosed flyer. The Bibliography is a major work and members will be pleased to know that the Council has agreed that periodic updating of the Bibliography is essential and that this will be organized through the IGS.

The Future

The election of a new Council provides the opportunity to take stock of what the Society has achieved and to look to the future. In Singapore, a review of the needs of the members of the Society was initiated. This review is aimed at the next four years and is being undertaken by each of the committees of the IGS Council. The review will form the main agenda for the next Council meeting, which will be held during the Geosynthetics '95 Conference in Nashville, Tennessee, USA, on 21 - 23 February. Details of the findings of the review and their implications will be reported in future issues of the IGS News.

5th International Conference on Geotextiles, Geomembranes, and Related Products - a Singapore Success!

The 5th International Conference on Geotextiles, Geomembranes and Related Products was held in Singapore 5-9 September and marks the first time that this international conference has been held in Southeast Asia.

The Conference was organized by the Southeast Asia Chapter (SEAC) of the IGS and held under the auspices of the IGS. The conference was co-sponsored by the Department of Civil Engineering, National University of Singapore and the School of Civil and Structural Engineering, NanYang Technological University. The conference was also given the support of the International Society for Soil Mechanics and Foundation Engineering. The conference was held at the Raffles City Convention Center and Westin Hotel which provided an impressive venue.

The conference attracted more than 700 registrants from 45 countries (see chart, p.5). A total of 58 companies took advantage of the Exhibition portion of the program which was also very well attended.

Conference participants were welcomed to the conference by the Guest of Honor, Mr. Matthias Yao, Senior Parliamentary Secretary for the Ministry of National Development and the Ministry of Defence, and by the President of the IGS, Professor R.K. Rowe. Professor Rowe took pleasure in reminding the audience that the location of Singapore for the conference was appropriate given the great economic growth in Southeast Asia and the important role of geosynthetics in civil engineering infrastructure development in the region.

Following the Opening Ceremony, the conference Special Lecture was delivered by Dr. J.P. Giroud and was titled "Quantification of Geosynthetic Behavior". The lecture was focused on several examples of geosynthetics applications in which correct theoretical modelling was able to predict observed phenomena. Dr. Giroud entertained his audience by clearly demonstrating that "common sense" can sometimes lead to the wrong conclusions. Careful examination of the facts and a proper understanding of physical processes are required to en-

sure that theoretical models give the correct answer. Following Dr. J.P. Giroud's talk, President R. Kerry Rowe announced that henceforth the opening Special Lecture at each IGS Conference will be called the "Giroud Lecture" (see related article, p.5).

A total of 209 papers were presented in three parallel sessions over a five day period. Three keynote lectures were also given during the conference prior to the start of the morning technical sessions. The first keynote lecture was given by Dr. R.J. Bathurst and was titled "Geosynthetic Reinforced Segmental Retaining Wall Structures in North America". The paper upon which the lecture was based was co-authored with Mr. M. Simac. The lecture traced the development of geosynthetic-reinforced modular block wall technology in North America and highlighted the analytical models and specialized testing protocols that were developed by the writers to ensure rational methods of analysis and provide data for safe design. The second keynote lecture was given by Professor A. Cancelli and Mr. D. Cazzuffi and was titled "Environmental Aspects of Geosynthetic Applications in Landfills and Dams". The presentation was focused on the role of geosynthetics in landfills and dams and provided an excellent summary of the important role of geosynthetics in these structures. The third keynote lecture was given by Professor T. Akagi and was titled "Hydraulic Applications of Geosynthetics to Filtration and Drainage Problems with Special Reference to Prefabricated Band-Shaped Drains".

A total of 281 papers were bound in three hardcover volumes. The quality of the volumes is excellent and much effort was taken by the conference organizers to ensure a uniform and high quality presentation of the papers. The efforts of Prof. G.P. Karunaratne, Dr. Chew Soon Hoe and Prof. Wong Kai Sin were particularly valuable in this regard. The Special Lecture and three Keynote Lectures were published in a preprint volume for the conference but will appear in a fourth bound volume of conference proceedings together with conference discussions. The topics of the papers in the proceedings cover the full range of geosynthetics applications. However, the influence of the region on the technical content of the conference can be noted in papers presented in two sessions that described the use of "natural" geosynthetics manufactured from jute, coconut and sisal.

The conference organizers also provided each registrant with a Conference Souvenir Volume that contained the conference program and biographical data on all the authors together with a photograph. This marks a conference first for the IGS. However, the most impressive example of technological advance in the computer age was the publication of the conference proceedings in full-color on CD-ROM. Details on how to purchase the conference proceedings and the CD-ROM can be found on page 16 of this newsletter.

On the final day of the conference three parallel panel discussion sessions were held to provide the participants with the opportunity to hear summary statements of the issues raised during the conference in each of three theme areas: Soil reinforcement (Dr. R. Jewell -session chair); Filtration and Drainage (Professor J-P. Gourc -session chair); and Environmental Protection (Dr. R.M. Koerner -session chair). Each session chair was ably assisted by a panel of experts. These sessions were well-attended and provided lively discussion and interaction with the conference attendees.

Complementing the technical sessions, were poster sessions held on three days of the conference and a Computer Display Program. A total of 95 posters were displayed by authors of papers contained in the conference proceedings. The computer display program marks another innovative first for an IGS conference and gave several of the participants the opportunity to display the latest in geosynthetics-related software.

In addition to the technical and exhibition portions of the 5th International Conference there was a very successful social program. Particularly memorable was the Conference Banquet held on the evening of 8 September. The participants were treated to colorful displays of Chinese, Malay and Indian Classical dances by local entertainers. The banquet meal comprised an astonishingly large number of local dishes that delighted the palate of all the participants. Many of the banquet participants took the opportunity to be draped under a very large snake courtesy of a local snake charmer. The Australian contingent entertained the crowd with a series of musical skits poking fun at the personal mannerisms and well-known expressions used by some high-profile members of the geosynthetics community (no one was spared). Many of the attendees took the time while in Singapore to explore the city. All were impressed with the beauty of the city, its cleanliness and its efficiency.

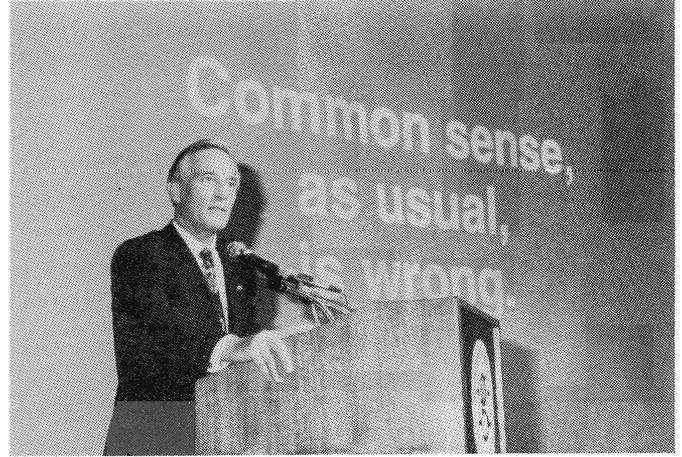
During the closing ceremony on 9 September, Dr. R.M. Koerner, on behalf of the North American Geosynthetics Society, invited all participants to meet again in North America in 1998 for the 6th International Conference. It was only fitting that Dr. Koerner should remark that the organizers of the 6IGC will have their work cut out for them to meet the excellent standard set by the organizers of the 5IGC.

On behalf of all the attendees, the writer would like to take the opportunity to thank Professor S.D. Ramaswamy (Chair of the Organizing Committee of the 5IGC), Mr. R.S. Douglas (Secretary General), G.P. Karunaratne (Chair, Scientific Task Committee), Mr. Chew Soon Hoe (Secretary) and the other members of this team for a job well done.

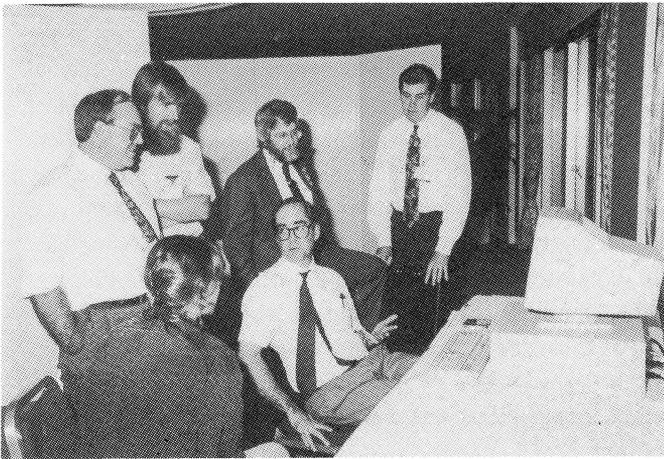
*reported by R.J. Bathurst
Vice President of the IGS*



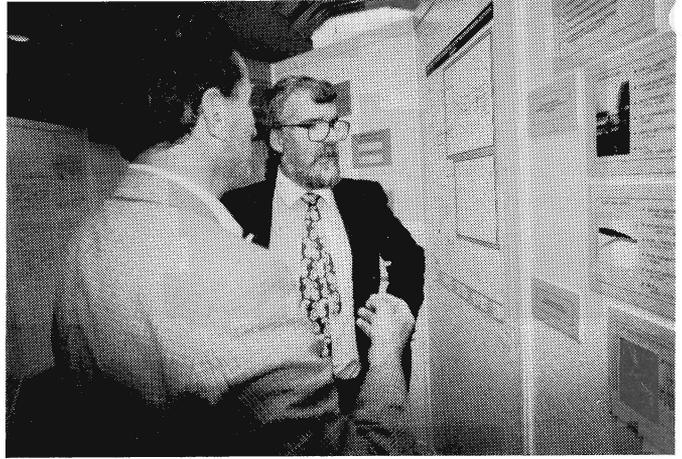
IGS head table at 5IGC. (seated, L to R): Mrs. and Mr. P. Stevenson, Mrs. and Dr. J.P. Giroud, Mr. and Mrs. G. den Hoedt; (standing, L to R): Dr. R.J. Bathurst, Prof. C.J.F.P. Jones, Prof. R.K. Rowe, Mr. W. Voskamp.



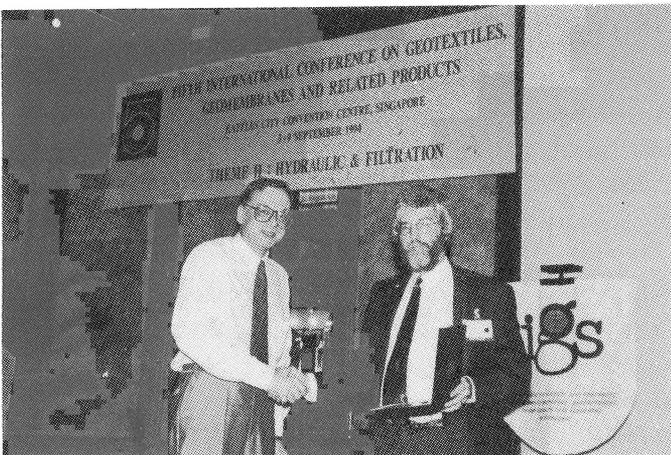
Dr. J.P. Giroud delivers the Special Lecture at the 5IGC.



Dr. R.J. Bathurst (seated) demonstrates software to (L to R) S. Corbet, A. Dawson, R.K. Rowe, and R. Bowers at the 5IGC computer session.



Dr. I. Peggs discusses his poster presentation at the 5IGC Poster Session.



At the 5IGC, Dr. T.S. Ingold accepts the IGS Plaque from then IGS President R. Kerry Rowe in recognition of his contributions to the IGS.



Snake charmer with Mr. Daniel Fayoux (left) at the 5IGC.

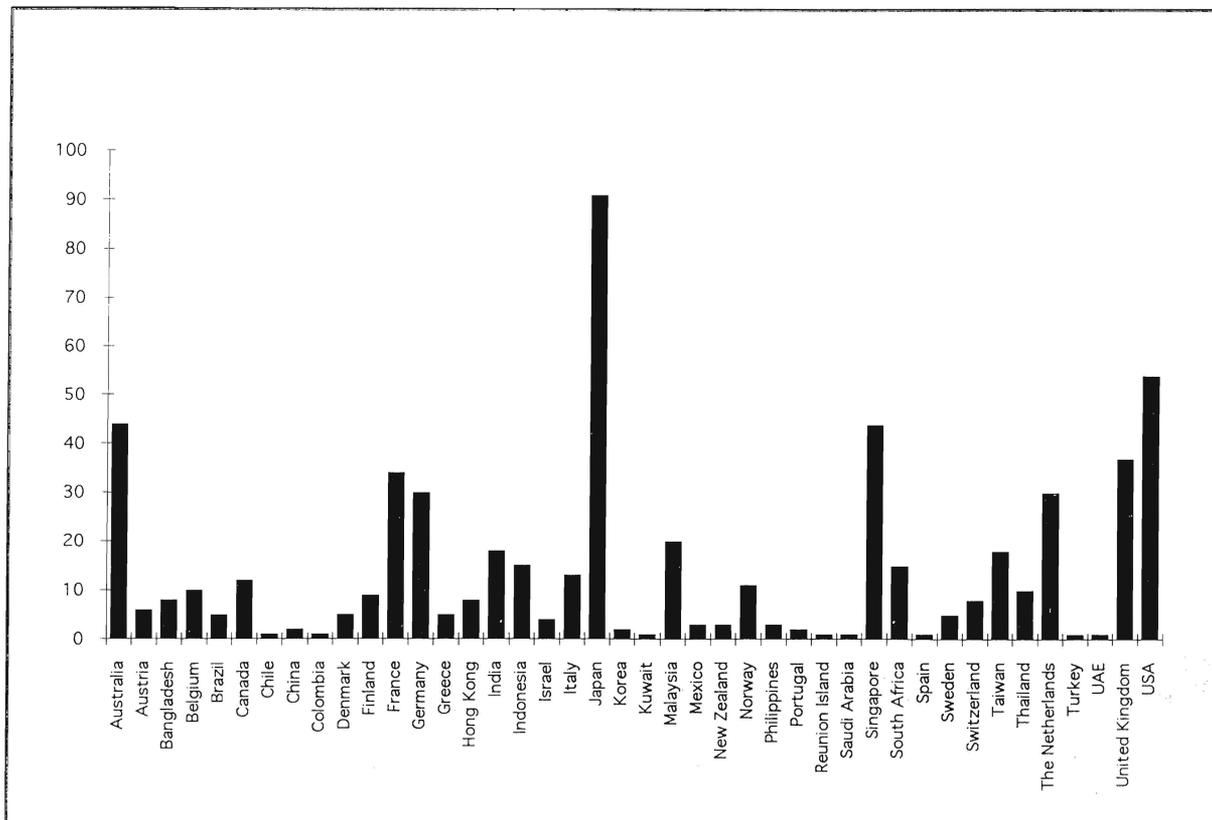


Chart showing 5IGC attendees by country.

IGS Introduces the "Giroud Lecture"

Prof. R. K. Rowe, President of the IGS, was pleased to announce after the Special Lecture by Dr. J.P. Giroud at the 5th IGS that this traditional opening lecture of the international conferences of the IGS will henceforth be called the "Giroud Lecture".

This honor is conferred in recognition of the numerous contributions of Dr. Giroud to the technical advancement of the geosynthetics discipline over a period of 24 years and his many contributions to the development of our society.

Dr. Giroud has done pioneering work in the field of geotextiles and geomembranes since 1970. He coined the words geotextile and geomembrane, and was instrumental in the for-

mation of the International Geotextile Society of which he was President until 1990.

Dr. Giroud is the author of one book, two book chapters, and more than a hundred papers on geosynthetics. He is the editor of a book of geosynthetics case histories, in addition to four books and a hundred papers on other geotechnical engineering subjects. Most recently he has completed Vols. 1 and 2 of the **Geosynthetics Bibliography** and launched the journal *Geosynthetics International* with Dr. T.S. Ingold.

*reported by R.J. Bathurst
Vice President of the IGS*

Dr. T.S. Ingold Receives the IGS Plaque

The IGS is pleased to announce that Dr. T.S. Ingold is the recipient of the IGS Plaque. This award was given to Dr. Ingold at a special ceremony at the 5th IGC in Singapore.

The award was given to Dr. Ingold in recognition of his contribution to the advancement of the geosynthetics disci-

pline through service as editor of the journal *Geotextiles and Geomembranes* from 1984 to 1994. Dr. Ingold is currently the editor of the new journal *Geosynthetics International*.

*reported by R.J. Bathurst
Vice President of the IGS*

State of the IGS

by IGS Past President R. Kerry Rowe

(Editor's Note: the following remarks are taken from then-IGS President Rowe's remarks to the IGS Ordinary General Assembly held during the 5IGC)

It is my pleasure to present the President's Report. Four years ago I stood before you in The Hague and outlined a program for growth and outreach. I am delighted to report that we have successfully implemented that program and substantial gains have been realized. I would like to summarize some of the achievements and activities of the past four years.

With respect to membership, we have seen an 80% growth in individual members, 260% in Chapters and 80% in Corporate Members.

During the past four years, Chapters have become a primary focus of activity for the IGS. The Chapters represent both growth and outreach. In terms of growth we have grown from 5 Chapters before 1990 to 13 Chapters today and the 14th Chapter is in the process of being formed. But even more important is the fact that these Chapters are organizing local activities for the members, often in a language other than English, and hence are serving to meet the primary objective of the IGS - dissemination of knowledge as broadly as possible. I have personally had the opportunity to visit seven of the Chapters during my term as President while other Officers of the IGS have visited four more to represent the IGS.

The UK Section was formed in 1987. It is our oldest European Chapter and has a well established routine of lectures and related activities. Of particular note was their organization of Geofad'92, a conference on geotextiles in filtration and drainage.

The Dutch and French Chapters were formed in 1992 and 1993 respectively. These Chapters are based on the long established NGO and CFGG. Both organizations have a long history of organizing local activities. In 1993, the French Chapter organized the conference Recontres '93. The Dutch Chapter is preparing to host the First European Conference on Geosynthetics to be held in 1996.

The Italian Chapter was formed in 1992 and the German Chapter in 1993. Both have brought in many new IGS members and are being organized in co-operation with the existing Geotechnical Society (and Section of ISSMFE). Each has made an excellent start in terms of developing activities related to geosynthetics. In 1993, the Italian Chapter hosted the IGS Council Meeting in Milan. This was followed by an excellent symposium in Bologna which was attended by the IGS Officers and Council.

The Chinese Chapter was formed in 1990 and is now a well established Chapter that organizes numerous symposia and has produced guideline documents both for its members and for the

many thousands of others in China who are interested in geosynthetics. I had the privilege of representing the IGS at one of their very well attended symposia held in Yi Zheng in 1992.

The Japanese Chapter is our oldest, having been formed in 1985. Under the outstanding leadership of Professor Fukuoka it is also one of our most active Chapters. The Japanese Chapter has regular technical meetings, a newsletter, and a number of active technical committees. Japan hosted the IGS Council Meeting in 1992 and this was followed by a symposium held in Tokyo where the Officers and many Council Members had an opportunity to make technical presentations and to meet the members of the Chapters as well as the large number of IGS Corporate Members from Japan. In addition, Professor Fukuoka played a very important role in helping establish a Korean Chapter of the IGS.

The Korean Chapter is our newest Chapter on the Pacific Rim and was formed in 1993. It has begun to organize local activities. The IGS was represented at their first meeting by Professor Fukuoka, who presented the keynote lecture.

The Indian Chapter was formed in 1988 and is a well established Chapter which organizes many activities, conferences and publications. The Indian Chapter has extended an invitation for the IGS Council to meet in India at some time in the near future.

The Indonesian Chapter is relatively new and has started well. There are a great many geotechnical challenges in Indonesia where geosynthetics offer a good solution. I had the pleasure of attending the inauguration of the Indonesian Chapter in 1992, and also their first activity - the International Symposium on Geosynthetic Technology.

The South East Asian Chapter was formed in 1988. As you know, they are our host for the 5th International Conference and, over the past four years, they have devoted an enormous amount of energy to its planning and preparation.

Finally, turning to the Americas, we have two Chapters. NAGS - The North American Geosynthetics Society - is a large and active group. Of particular note are the regional conferences they hold every two years. The most recent, Geosynthetics'93, was held in Vancouver, BC, Canada, and set a new record for geosynthetic conferences with over 1400 attendees. They are presently organizing Geosynthetics'95, to be held in Nashville, TN, USA. NAGS acted as host for an IGS Council Meeting in Atlanta in 1991 and also for an Officers' Meeting in Vancouver in 1993. NAGS will also be the host for the 6th International Conference on Geosynthetics to be held in North America in 1998.

The Latin America Chapter is our newest Chapter. Formed in 1994, it has recently completed voting for by-laws and Offi-

State of the IGS (cont.)

cers and is presently preparing to organize its first activities. This is an area where we can anticipate substantial growth.

I have spent some time briefly reviewing the Chapters because they are such an important part of the IGS. One third of the membership fee that each individual member pays to the IGS goes back to the Chapters, provided that they use it to organize local activities - and it is partly through these activities that we can promote knowledge and appropriate use of geosynthetics around the world.

In addition to the Chapters, the IGS has many other activities. Of special importance to us is the orderly organization of conferences. The Past President of the IGS acts as a key resource person in the organization of the forthcoming international conference. For this 5th Conference in Singapore, Past President Giroud and Mr. Gert den Hoedt have done an excellent job in assisting the organizers. Work has already started on the 6th Conference in 1998 where I, as Immediate Past President and J.P. Giroud as a *Compulsive Worker* for the IGS will represent the IGS on the organizing committee.

The IGS also seeks to encourage and support other conferences which provide generic dissemination of knowledge regarding geosynthetics as part of their program. Examples include the successful Kyushu series of conferences on soil reinforcement and the Sardinia series of landfill conferences, where the IGS developed a special session on QA/QC relating to geosynthetics in landfills. A summary report on this workshop was published in a recent issue of IGS News.

A European activities committee was formed two years ago. Under the chairmanship of Professor Colin Jones, they are working towards developing a regular series of European conferences on geosynthetics. The first of these conferences is planned for 1996 in The Netherlands.

Education and reaching out to students is another very important area where progress has been made, thanks to the work of the Education Committee and its Past Chair, Mr. Daniele Cazzuffi. This is an area where much more needs to be done. For example, a recent initiative of the Industrial Fabrics Association International, supported financially by NAGS, was a five-day Professor Training course held at Auburn University. This Course involved the development of resource material to help educators and students know when, where, and how to use geosynthetics. It is hoped that this very successful course for 24

university teachers will be expanded in the future (*the IFAI has since consented to sponsor the course again in 1995; editor*).

At present, students pay \$10(US) to become an IGS student member. To encourage student membership, the IGS Council has decided that where students are related to an IGS Chapter, the Chapter can keep the \$10 fee to help support student activity and involvement. Provided that the Chapter notifies the IGS of the names and addresses of these students, they will receive both the benefits of being a student member of the Chapter and of the IGS. I firmly believe that this new initiative which can now be undertaken because of the strong financial position of the IGS will serve to substantially increase the number of student members. The Education Committee is also planning to distribute videotapes of important lectures - such as the special lecture and keynote lectures at this conference to Chapters to be made available for use by students.



Professor R. Kerry Rowe addresses the 5IGC.

Over the past four years, the Promotions Committee has had two chairmen. Under the leadership of the second, and present chairman, Mr. Peter Stevenson, the committee has been very active. One small example is the IGS pin - these pins will invite questions and will give members an opportunity to promote the IGS. All IGS members are entitled to a pin.

Another example at this conference is the IGS booth and IGS promotions at the 5th International Conference and for that I wish to express special thanks to Pete and Rosemary Stevenson, who worked so hard to prepare and staff the booth. The Promotion Committee has also prepared membership brochures and most recently has been working to develop two generic videos relating to geosynthetics. The first deals with landfills, and the second with geosynthetics in roads and highways.

Over the past four years, I have enjoyed serving as Chairman of the Corporate Members Committee. We have held meetings of this committee in Europe, North America, and Japan and have welcomed the opportunity to meet with the corporate members and listen to their suggestions - most of which have been implemented. Examples range from the formation of associate corporate members category of membership, to the IGS pins, to preparation of promotional videos and much more.

The Technical Committee, under the leadership of Chris Lawson and Barry Christopher, was formed two years ago. Their first task was to develop graphical symbols and update the

(Continued on page 8)

State of the IGS (cont.)

(Continued from page 7)

list of algebraic symbols for use in preparation of materials for the 5th International Conference. Their second task was to develop a bibliography of design handbooks, which was just published. If you need copies of these or other IGS publications such as the IGS Test Inventory you should contact the IGS Secretary (see p.19 for address).

Publications are a very important part of the life of the IGS. You should all be very aware of our excellent newsletter, IGS News, and I would like to congratulate the Editor of the past four years, Dr. Richard Bathurst, and his Associate Editors, Mr. Daniele Cazzuffi and Professor Toshinobu Akagi, for the outstanding job they have done.

Journals are also an essential means of communicating technical information. Geotextiles and Geomembranes is a well established journal which publishes excellent papers on geosynthetics. It has long been an official journal of the IGS and recently we were successful in negotiating a major reduction in subscription cost to this journal for IGS members. The new Editor is Dr. Nigel John (see article, p.10).

Recently, Drs. Ingold and Giroud, who had steered Geotextiles and Geomembranes to success, launched a new journal - Geosynthetics International - and this, too, has become an official journal of the IGS (see related article, p13). With two specialized journals, our discipline has really come of age.

I should also express our thanks to Geosynthetics World for having kindly distributed the magazine free to IGS members over the past few years. Both Geosynthetics World and Geotechnical Fabrics Report have worked hard to promote the IGS.

A very important contribution to publications has been the preparation of the **Geosynthetics Bibliography**, which has been prepared under the leadership of Dr. J.P. Giroud. If you haven't seen it you should; it is an essential addition to any geosynthetics library.

The IGS Awards Committee, under the chairmanship of Mr. Gert den Hoedt, has also been very active and is to be congratulated on its excellent work.

Following the last General Assembly in The Hague, Mr. Bob Denis was prompted to write a letter to IGS News suggesting that the G in IGS should be changed from "Geotextile" to "Geosynthetics". Well, as you know, this generated considerable discussion in IGS News followed by a secret ballot regarding the change of the name - there was overwhelming support for the change. Now we will be IGS - the International Geosynthetics Society.

In closing I wish to say some words of thanks. I was elected four years ago with an ambitious program. I have found these

years to be both exciting and rewarding and we have achieved that which I set out to achieve - but this is only because of the hard work and dedication of many individuals and groups.

Firstly, there are the IGS Corporate Members, who are an essential part of our Society. It is their contributions and support that make many of our activities possible. They deserve thanks from all of us.

Secondly, there are the Officers of the IGS Chapters - for it is they who make the local activities and the IGS supported conferences happen.

Thirdly, there are the IGS Council Members and Committee Chairmen who dedicate much of their time to developing activities and benefits for the membership.

Fourthly, I would like to thank the IGS Officers. Professor Floss as the Vice President has offered continuous support and has developed a German Chapter. Mr. Wim Voskamp and Mr. Peter Stevenson have done an outstanding job of administering our Society. While growth and outreach are good for the Society, they create many challenges for those who must ensure the efficient day-to-day running of the Society. They have dealt with these challenges willingly and efficiently. They have produced the IGS Directory which has had to undergo a transformation because of our increased membership; they have dealt with many problems that remain unseen problems because of their hard work; and they have been totally dedicated to the IGS - they (and their wives) are the unsung heroes of the IGS.

Then there is J.P. Giroud - well, what can one say! From my perspective as President, he has been an outstanding Past President. Always ready with advice and help when it was needed. He has acted as advisor to the 5th International Conference, prepared the **Geosynthetic Bibliography** and as if that were not enough launched a new journal. As he steps down from 11 years as an Officer and Member of IGS Council, I am tempted to say that his departure will be greatly felt, but somehow I am sure that J.P.'s presence will continue to be felt even if he is not officially on the Council.

These four years have indeed been exciting and rewarding - but also tiring. We have achieved a great deal - but much remains to be done. I am pleased to hand over a vibrant, active and financially sound Society to the care of our new Officers and Council; to wish them well over the next four years and to offer my continued support and energies as Immediate Past President.

Finally, I thank you, the membership, for giving me this opportunity to serve; it has been a pleasure and a privilege to have met so many of you and to have made some contribution to the well being of our Society and Discipline.

IGS News Editorship Changes

A new editor of IGS News has been appointed. Dr. David J. Elton was unanimously selected at a meeting of the IGS Council during the Singapore conference. Dr. Elton is an Associate Professor of Civil Engineering at Auburn University, in Auburn, AL, USA. Dr. Elton teaches classes in geosynthetics, has conducted several short courses on geosynthetics and was the Organizer of the Industrial Fabrics Association International's Professor Training Course for Geosynthetics. This week-long course taught Civil Engineering professors how to teach geosynthetics design (see IGS News, Vol. 10, no. 3, p.13).

Dr. Elton is a life-long resident of the U.S. As a result, the readership may note that the English in this IGS News has a more American flavor than past editions (although "soccer" will continue to be called "football").

The IGS News format will be composed on a personal computer using MS Publisher, a modern Windows-based desktop publishing package. The camera-ready copy will be printed using a 600 dpi laser printer.

As always, contributions to IGS News are actively sought. Reports of new developments, political and economic news that affects geosynthetics, conference proceedings or any other related events are most welcome. Pictures are always a welcome addition to any story. Please feel free to send all contributions, either by mail, fax or email. Email is especially welcome. Comments and suggestions for improving IGS News are always invited.

Please send your contributions to:

Dr. David J. Elton, IGS News Editor
Civil Engineering Department
Auburn University, AL 36849
USA

Tel.: 1 (205) 844 6285

Fax: 1 (205) 844 6290

email: ELTON@ENG.AUBURN.EDU

or to either of the associate editors, listed on page 18.

The IGS Recognizes Technical Excellence at IGS Awards Ceremony by Mr. G. den Hoedt

The IGS held the IGS Awards Ceremony on 6 September just prior to the Ordinary General Assembly in Singapore.

The IGS Award is presented to individuals or groups who have made an outstanding contribution to the development and use of geotextiles, geomembranes, related products and associated technologies through their scientific and technical achievements. Each award was presented in recognition of achievements completed and/or the demonstrated validity of which was demonstrated during the four-year period 1990 through 1993. To be eligible for an IGS award a candidate must be an IGS member.

The IGS Award rules allow for two award categories:

* The Young IGS Member Achievement Award for IGS members who were less than 36 years of age on 31 December of the last year of the award period.

* The IGS Award (regardless of age). A maximum of five awards in this category are permitted.

A call for nominations was announced in IGS News Vol. 9, No. 3 November 1993 with submissions due by 1 March 1994. A total of 16 nominations were received by the IGS Secretariat and each candidate or group of individuals was invited to submit supporting materials to the IGS Award Committee chaired by Mr. G. den Hoedt. The other

committee members were Professor T. Akagi, Mr. S. Corbet, Dr. E. Gartung and Professor J. Lafleur. The committee met for two days in order to carry out its evaluations. The committee used the following criteria to make its final decisions:

- * scientific value
 - contribution to state of the art
 - clear analysis of the problem(s)
 - logical interpretation of the facts
 - deductions and development of new models
 - breakthrough(s)
- * application value
 - ease of application
 - potential for wide-spread use
 - success of implementation
 - impact on society
- * originality
- * overall quality of presentation

The competition was tough due to the high quality of the submitted entries. After careful examination the committee felt that there were six excellent candidates for the IGS Award, one more than allowed by the IGS Award Rules. It

(Continued on page 10)

The IGS Recognizes Technical Excellence (cont.)

(Continued from page 9)

was decided to grant a "Special Recognition Finalist Diploma" in order to recognize one of these six entries.

The Award Ceremony was hosted by Mr. G. den Hoedt with individual awards presented by each of the Committee members. The 1994 award winners and award citations follow:

Dr. Fumio Tatsuoka, Mr. Masaru Tateyama, Dr. Osamu Murata, and Dr. Hisashi Tarumi

IGS Award

Title of entry: Development of a geosynthetic-reinforced soil system using a rigid facing and its application for permanent railway structures.

Citation: Based on a comprehensive scientific approach, a safe and economic system for use of geosynthetic reinforcement in railway structures has been developed and implemented successfully.

Dr. J.P. Giroud and Dr. R. Bonaparte

IGS Award

Title of entry: Prevention of groundwater contamination using geosynthetics.

Citation: The awareness that geomembranes do leak led to detailed investigations into leakage control and the development of improved design techniques.

Dr. Robert M. Koerner

IGS Award

Title of entry: Contributions to the advancement of geosynthetics design.

Citation: This award is made in recognition of his outstanding achievement in advancing knowledge in all aspects of geosynthetic engineering and unraveling the art of geosynthetics to engineers worldwide.

Dr. Richard J. Bathurst

IGS Award

Title of entry: Geosynthetic reinforced segmental retaining

walls.

Citation: The development of design tools based on theoretical and experimental research facilitate the full use of the properties of the components.

Dr. Richard Jewell

IGS Award

Title of entry: Strength and Deformation in Reinforced Soil Design

Citation: The 1990 Young IGS Members Achievement Award was described as his stepping stone. His continued efforts have been turned into a milestone which cannot be ignored by any engineer designing geosynthetic reinforced structures.

Dr. Ian Peggs

IGS Special Recognition Finalist Diploma

Title of entry: Defining and communicating the influence of polymer microstructure on the performance and durability of HDPE (and other) geomembranes.

Citation: The recognition of the importance and identification of stress cracking in geomembranes led to the development of quality control systems for improved installations.

Dr. James A. McKelvey, III

Young IGS Members Achievement Award

Title of entry: The effect of equipment loading and tapered cover soil layers on geosynthetic lined landfill slopes.

Citation: The entry is a well presented parametric study with the potential for further development.

The next series of IGS Award and Young IGS Members achievement Award will be given for work carried out during the period 1991 through 1995. All IGS members are eligible. If you believe that your technical achievements have advanced our geosynthetics discipline or you are aware of any individuals or groups of IGS members who have made a valuable contribution, please forward a nomination to the IGS Secretary. Look for more details in the Call for Award submissions to appear in a forthcoming issue of IGS News.

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 £330(UK) or \$510(US). Members of the IGS may subscribe at an 80% discount, i.e. £66(UK) or \$102(US). Corporate members of the IGS may subscribe at a 50% discount, i.e. £165(UK) or \$255(US). 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.

Results of IGS Ballot for Change of Name of the Society

Since the meeting of the Ordinary General Assembly held in the Hague on 30 May 1990 there has been a lively discussion amongst the membership concerning the name of the society. The view held by most members was that the word "Geotextile" in the name "IGS, the International Geotextile Society" was too narrow and did not reflect the breadth of "geosynthetics" in our discipline. A number of editorials and articles were published in IGS News that addressed this issue and explored alternative titles (see: Vol. 6, No. 3, November 1990; Vol. 7, No. 1, March 1991; Vol. 7, No. 2, July 1991; Vol. 7, No. 3, November 1991; Vol. 8, No. 1, March 1992; Vol. 9, No. 1, March 1993, Vol. 9, No. 2, July 1993). In addition, each of the IGS Chapters was asked for their input on a suitable name for our society.

In November 1992 the IGS Council voted to hold a postal ballot on the change of the name of the society prior to the Ordinary General Assembly in Singapore. The postal ballot was

mailed to all IGS members and Corporate Members in June of 1994. The recommendation of the IGS Council was that the membership vote to change the name of the society to "**IGS-the International Geosynthetics Society**" - **dedicated to the scientific and engineering development of geotextiles, geomembranes, related products and associated technologies**, and to approve of the consequent changes to the relevant articles of the IGS By-laws.

A total of 646 votes were received. Support for the name change was overwhelming with 617 votes in favor and 29 against. The results of the ballot were reported at the Ordinary General Assembly in Singapore by Dr. R.J. Bathurst who served as the IGS Election Officer.

*reported by R.J. Bathurst
Vice President of the IGS*

The 8th Italian Conference on Geosynthetics in Earth Structures

by D. Cazzuffi, Associate Editor, IGS News

More than 160 professionals attended the 8th Italian Conference on Geosynthetics held in Bologna on 20 October 1994. Organized by Associazione Ingegneri e Architetti della Provincia de Bologna, the Italian Chapter of IGS (AGI-IGS Section) and the BolognaFiere, the conference was dedicated to a review of some selected Italian contributions presented at the 5th International Conference on Geotextiles, Geomembranes, and Related Products (Singapore, 5-9 September 1994).

The opening addresses were presented by Ing. G. Tasselli, President of the Italian Society of Engineers and Architects, Prof. A. D Tommaso, Chairman of the Italian Group of RILEM (Reunion Internationale des Laboratoires d'Essais sur les Materiaux et les Constructions), Prof. E. Lorenzini, Dean of the Faculty of Engineering in Bologna University and Ing. D. Cazzuffi, Vice President of the Italian Chapter of IGS (AGI-IGS Section), who also read a letter from Prof. C. Jones, President of IGS.

The Conference was opened by Prof. R. Jappelli, who presented a very interesting one hour General Report. Next, Prof. A. Cancelli and Ing. D. Cazzuffi illustrated the highlights of their Singapore keynote lecture on the environmental aspects of geosynthetics applications in landfills and dams.

The morning session consisted of four different presentations. Two were dedicated to reinforcement studies and applications (by Ing. G. Dondi and Ing. P. Rimoldi, respectively), while the remaining two papers were dedicated to drainage and filtration studies and applications (by Geol. M.

Avanzini and Ing. G. Sembenelli, respectively).

As in the previous Italian Conferences, the lunch break included a tour of the exhibits dealing with geotextiles, geomembranes and related products at the International Exhibition of Building Industrialization (SAIE).

The afternoon session was dedicated to the presentation of four different papers, dealing mostly with barrier systems: two of them were research-oriented (by Prof. E. Pasqualini and Ing. F. Montanelli, respectively), while the remaining two were concentrated on applications (by Ing. A. Scuero and Ing. D. Cazzuffi, respectively).

The proceedings of the 7th Italian Conference on Geosynthetics (see IGS News, Vol. 9 No.3 November 1993) were distributed during the 8th Conference. They are published in a 92 page issue of the Italian technical journal "L'Ingegnere e l'Architetto" (No. 1-4/ 1994). Each contribution is in English with an Italian abstract. The publication is dedicated to the use of geosynthetics in retaining structures and landfills. The proceedings of the 7th Italian Conference on Geosynthetics in Earth Structures, edited by D. Cazzuffi, are now available at a cost of \$30.00(US) + postage \$10.00(US) from:

Associazione Ingegneri e Architetti
della Provincial di Bologna
Strada Maggiore, 13, 40125 Bologna, ITALY
Fax 39 51 230001

Announcement of New IGS Council Members, 1994

In November 1993, the IGS Council decided that an election for eight vacant seats on the Council would be organized in 1994 by postal ballot.

A call for candidates was published in IGS News, Vol. 9, No. 3, November 1993, with the deadline for submission of candidacy set as 14 February 1994. An additional call for candidates appeared in IGS News, Vol. 10, No. 1, March 1994, and the deadline extended to 10 May 1994. Dr. R.J. Bathurst was appointed IGS Election Officer by the IGS Officers.

A total of 14 candidates put their names forward. The postal ballot was mailed to all IGS members and Corporate Members in June 1994. The following candidates were elected to four year terms on the IGS Council effective 6 September 1994:

Dr. Jean-Pierre Gourc (France)
Dr. Robert D. Holtz (USA)
Mr. Wim Voskamp (The Netherlands)
Mr. Daniele Cazzuffi (Italy)
Dr. Fumio Tatsuoka (Japan)
Dr. George Heerten (Germany)
Mr. Pietro Rimoldi (Italy)
Dr. James G. Collin (USA)

At a meeting of the new IGS Council on 7 September the following IGS members were co-opted to the Council:

Professor G.P. Karunaratne (Singapore)
Mr. Peter E. Stevenson (USA)

The other Council members currently in mid-term are:

Mr. Chris Lawson (UK)
Professor M. Fukuoka (Japan)
Dr. Richard Jewell (Belgium)
Professor T. Akagi (Japan)
Dr. Barry Christopher (USA)

At the same meeting the members elected Mr. Stevenson as the new Secretary of the IGS and Mr. Voskamp as the new Treasurer. The President (Dr. C.J.F.P. Jones), Vice President (Dr. Richard Bathurst) and Immediate Past President (Dr. R.K. Rowe) are automatically members of the IGS Council in their capacities as Officers of the IGS.

*reported by R.J. Bathurst
Vice President of the IGS*

Call For Papers: INTERNATIONAL SYMPOSIUM ON EARTH REINFORCEMENT - IS KYUSHU '96 12-14 November 1996

The Japanese Society of Soil Mechanics and Foundation Engineering is sponsoring the International Symposium on Earth Reinforcement in Kyushu, Japan, 12-14 November 1996. This symposium is also held under the auspices of the IGS.

The aim of this symposium is to discuss various problems on earth reinforcement for the benefit of collecting and exchanging knowledge concerning recently developed techniques and to spread this knowledge to all the countries of the world for further development.

The conference will cover earth reinforcement techniques for embankments, wall structures, foundations, slopes and excavations. Emphasis will be placed on standardization of design and testing methods, numerical methods for design, case histories, and monitoring systems.

The three-day program will include special lectures, keynote lectures, oral presentations and discussions, poster presentations, and technical exhibitions.

CALL FOR PAPERS

Interested authors are requested to submit the paper title with a 1-page abstract (about 300 words in English on A size sheet) to:

Professor Hidetoshi Ochiai
Department of Civil Engineering
Kyushu University
6-10-1, Hakozaki, Higashi-ku,
Fukuoka 812, JAPAN
Tel.: +81-92-641-1101 ext. 5232
Fax: +81-92-641-5195

TIME SCHEDULE

Submission of abstracts.....31 August 1995
Acceptance of papers.....31 October 1995
Submission of papers.....28 February 1996
Final acceptance.....30 April 1996

This symposium is a continuation and expansion of the two previous international symposia IS Kyushu '88 and '92, which were held in 1988 and 1992 at the same location.

GEOSYNTHETICS INTERNATIONAL

Becomes an Official Journal of the IGS

At the IGS Council meeting held in Singapore on 4 September 1994, it was agreed that Geosynthetics International would be adopted as an official journal of the IGS. Consequently the second issue of Geosynthetics International, published recently, bears the IGS logo on the cover. At the IGS General Assembly, on 6 September 1994, it was announced that the membership had voted to change the name of the Society of the International Geosynthetics Society. Geosynthetics International congratulates the IGS on this change of name and is pleased to see that the names of the journal and society are aligned.

To provide close liaison between IGS and Geosynthetics International, the IGS Vice President, Dr. Richard Bathurst, has been appointed as the IGS representative on the Editorial Board of Geosynthetics International. In recognition of the adoption of Geosynthetics International by the IGS, the Industrial Fabrics Association International, publisher of Geosynthetics International, has introduced a special reduced subscription rate for individual IGS members. For individual IGS Members the rate is now \$99 (US) per six issues with the standard rate of \$225 (US) applying to non-IGS Members, IGS Corporate Members and other corporations or institutions. Further details are available from Ms. Susan Palmer of the Industrial Fabrics Association International at the address given below.

Although new, Geosynthetics International has been well received by the engineering community. The first issue was well produced and packed with close to one hundred pages of high calibre technical papers with subjects ranging from the cyclic loading behavior of geogrids to the effects of solar radia-

tion on geomembranes. The second issue of Geosynthetics International carries five papers covering geosynthetic load-strain behavior after installation damage, reinforced soil structures with poorly draining backfill, shattering cracks in geomembranes, pumping of fines at the subgrade/subbase interface and the performance of a geomembrane landfill cover. Thanks to the Editorial Board, excellent papers have already been reviewed and selected for the third and fourth issues.

Those wishing to submit a paper to Geosynthetics International should contact:

Dr. T.S. Ingold, Editor
Mulberry Lodge, St. Peters Close
St. Albans, AL1 3ES, UK.
Tel.: 44-727-842433 or 44-727-845266
or the Chairman of the Editorial Board
Dr. J.P. Giroud
GeoSyntec Consultants
621 N.W. 53rd Street, Suite 650
Boca Raton, FL 33487, USA
Tel. 1-407-995-0900, Fax: 1-407-995-0925.

To subscribe to Geosynthetics International, contact:

Ms. Susan Palmer
Industrial Fabrics Association International
345 Cedar Street, Suite 800
St. Paul, MN 55101, USA.
Tel.: 1-612-222-2508, Fax: 1-612-222-8215.

reported by T.S. Ingold and J.P. Giroud

5th IGC Football: The Legend Continues



The Anglo/Nordic football team defeated the Latins, 1-0, at the 5IGC football match. A three team round robin football match was conducted. The traditional rivals; the Anglo/Nordic alliance and the Latin team were joined by students from the National University of Singapore (NUS). Three contests were held with the following result: Anglo/Nordic 1, Latins 0; NUS 1, Latins 0; Anglo/Nordic 0; NUS 0, best of three shootout resulted in Anglos 2, NUS 1.

The first IGS football match was held in 1986 in Vienna during the Third International Conference. Spectators saw the Latin team swamp the Anglo/Nordic alliance 12-2. 1988 saw a demonstration match at the Rilem Conference on Asphalt Paving in Liege with the Latins emerging victorious again. At the Hague in 1990, during the Fourth International Conference, a close contest ended with three goals for the Anglo/Nordic alliance and four for the Latins. This game featured a full stadium, cheering supporters and FIFA officiating.

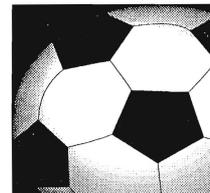
Highlights of the key contest: The Latins won the toss and opened with probing attacks resulting in two early but wide shots on goal. This was followed by a cross from the left wing which passed the goal untouched. At mid-game Pietro Rimoldi broke through the middle, exploiting both skill and speed. Despite furious defense, he unleashed a tremendous volley to the upper right corner. A deflection by the goal keeper resulted in

a rebound from the cross bar which the Anglo/Nordic alliance took upfield and launched their attack on the Latin goal. Momentum shifted and the Anglos succeeded with Dennis Hewitt scoring the game's only goal. Hot from their victory the Anglo/Nordic alliance looks forward to the continuation of this feature of the IGCs. The next contest will be in North America at the 6th International Conference in 1998.

The second match: The Latins were forced to play two games back to back. The result of the second game was not in their favor. The equatorial heat of Singapore gave the fresh NUS team the advantage despite a furious defense led by Cazuffi and Rimoldi. The match ended 1-0 for the NUS.

The third match: Heat was a factor in the third match between the Anglo/Nordic alliance and NUS also. The Anglos defended in depth allowing NUS one shot on goal and a free kick, which was saved by the goaltender. The Anglo/Nordic alliance was hard pressed to launch an attack and the match ended 0-0 in regulation. In the last moments before the precipitous fall of the tropical night the professional referee organized a best of three shootout which the Anglos won 2-1.

*reported by Peter Stevenson
Secretary, IGS*



5th IGC Football



The Latins: Standing (left to right) Anastase Collios (Greece), Enrico Coluzzi (Italy), Ennio M. Palmeira (Brazil), Flavio Montez (Brazil), Hans von Kanel (Switzerland), Daniele Cazzuffi (Italy), Alessandro Ghinelli (Italy). Kneeling (left to right) M. Abramento (Brazil), Fillippo Montanelli (Italy), Pietro Rimoldi (Italy), Massimo Ciarla (Italy), Pierpaolo Fantini (Italy).



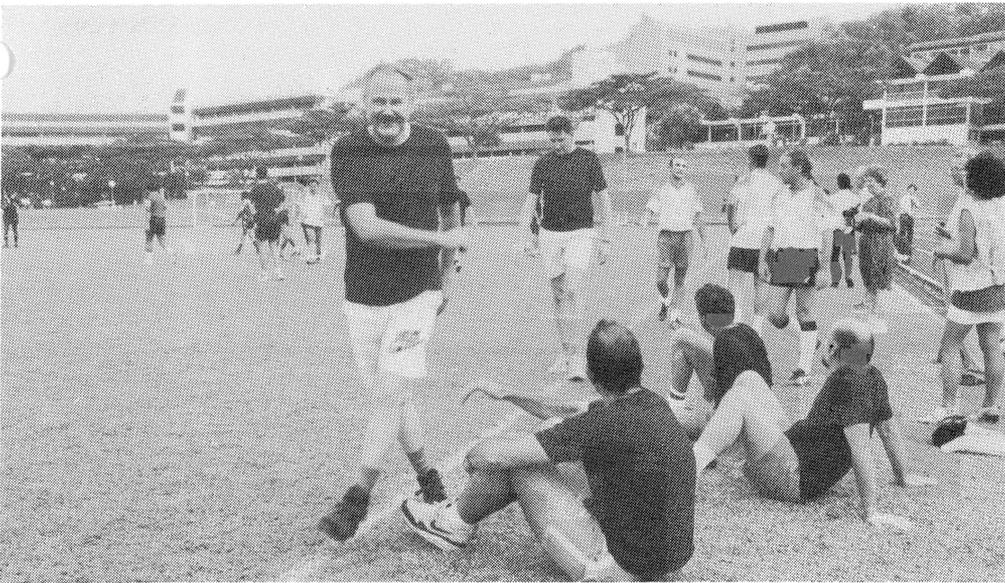
Anglo/Nordic alliance: Standing (left to right) Max Nods, Arnstein Watn, J. Müller-Rochholz, Peter Little, A. Loveday, Robert Douglas. Kneeling (left to right) Joe Cavanaugh, Tim Laumakis, Jim Collin, Dennis Hewitt, Pete Stevenson, Eric Steen, A. Bezuijen. Sitting: Shiram Dikram.



National University of Singapore (NUS): Standing (left to right) Loo Leong Huat (referee), Gopinath Amargol, John Choy, Ishak bin Rahman, Jalil bin Din, Yeo Chun Fing, Krishna Sanmugam, Dr. Chew S.H. Squatting (left to right) Tamil Selvam, Lingesh, Kamsan bin Rasman, Arfa bin Ismail, Rakesh Menon, Jayashree R.



Pietro Rimoldi breaks through the Anglo-Nordic defense.



Professor Müller-Rochholz celebrates the Anglo/Nordic victory.



Max Nods defends against the NUS attack.

IGS Committees

At the first meeting of the IGS Council on 9 September 1994 in Singapore the Chairs and Vice-chairs of IGS Committees were nominated and elected by the Council members. Committee Chairs are as follows:

Committee	Chair	Vice-chair(s)
European Activities	G. Heerten	C. Lawson
Education	R.D. Holtz	J-P Gourc and F. Tatsuoka
Technical	B. Christopher and C. Lawson (co-chairs)	
Chapters	R.J. Bathurst	P. Rimoldi and G.P. Karunaratne
Promotion	P. Stevenson	R. Jewell
Standards	D. Cazzuffi	J. Collin
Publications	R.J. Bathurst	
Corporate Members	C.J.F.P. Jones	

IGS members who wish to assist any committee are invited to contact the Committee Chair directly or through the IGS Secretary, P.E. Stevenson (address on p.19).

*reported by P.E. Stevenson
IGS Secretary*

5th IGC Proceedings Available

The address for purchase of 5th International Geosynthetics Conference Proceedings, bound volumes and CD-Rom is :

South East Asia Chapter of IGS Tel: (65) 353-5511
 Kent Ridge P.O. Box 1204 Fax: (65) 472-4355 or (65) 353-2424
 Singapore 9111

SALE PRICE per set of Proceedings, 5IGC (including surface postage) US Dollars					
Number of Sets	Vols. 1, 2, and 3	Vols. 1, 2, and 3 PLUS CD-ROM	Vol. 1, 2, 3 and 4 (4 to be publ. in 1995)	Vols. 1, 2, 3 and 4 (4 to be publ. in 1994) PLUS CD-ROM	CD-ROM
One	250	275	295	320	55
Five or more	220	240	260	290	50
10 or more (IGS Chapters only)	200	220	235	255	45
Add per set for Air Mail delivery	60	60	90	90	15

Geosynthetics Video Available

The video "Geosynthetics in Landfills" will become available on 1 December 1994. Produced by the IGS in cooperation with the American Society of Civil Engineers, it will cost \$100.00(US). Technical editors: J.P. Giroud and J. Fluet. Sponsors: Akzo Nobel Geosynthetics Co., CETCO Colloid Environmental Technologies Company, GeoSyntec Consultants, Gundle Lining Systems Inc., Hoechst Celanese Corporation, Huesker Inc., International Geosynthetics Society, National Seal Company, Polyfelt Americas, Polyflex Inc., Serrot Corporation, Synthetic Industries - Construction Products Di-

vision, and Tensar Environmental Systems.

Order from:
 Peter Stevenson
 P.O. Box 347
 Easley, SC, 29641 USA
 Tel.: 1 (803) 855-0504. Fax: 1 (803) 859-1698.

Send check or money order, American Express, Visa or MasterCard.

Thai Nam Plastic Public Co., Ltd.

by Mr. Kiet Mangkornkarn, President and Managing Director

Thai Nam Plastic Public Co., Ltd. was established in September 1972. Since then our PVC calendered production line has been producing PVC film and sheet (flexible and rigid) for various industries.

One of our products is a geomembrane liner. This product is made in a variety of sizes, including single and laminated sheets from 0.25 mm to 3.00 mm thick, up to 2.20 meters wide. These sheets are formulated with a high grade PVC resin, a heat stabilized plasticizer and a UV stabilizer to protect them from extreme weathering and environmental stress.

During the past 12 years the company has sold and installed over 7 million square meters of these liners in Thailand, and over 3 million square meters overseas.

Thai Nam Plastics offers geomembrane protection systems for environmental protection and water storage including:

- Water basin liners
- Waste treatment basin liners
- Building and construction liners
- Soil erosion controls
- Agriculture and marine culture applications
- Landfill liners and caps



· Separation applications

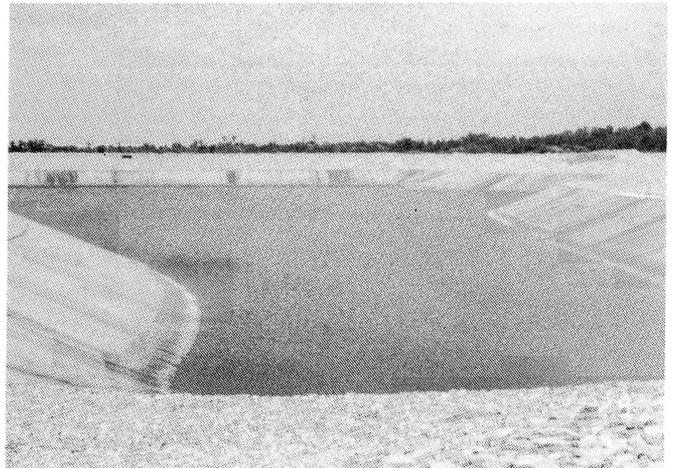
The photographs show construction at the Banpakong Industrial Estate (II), one of the most successful industrial land developments for light to heavy industry companies located approximately fifty km southeast of Bangkok. This facility, lined with a 1 mm PVC liner, holds 5 million cubic meters of water in a single 500,000 square meter reservoir. The PVC geomembrane liner provides protection from salt water and phosphatic soil. Many projects of this nature have been completed by Thai Nam Plastics, to the satisfaction of the clients.

Reinforced PVC sheet is also available. In addition, Thai Nam Plastic manufactures sponge leather cloth, floor covering and mats. The company also provides consulting services and installation of its products on a turn-key basis.

Thai Nam Plastic Public Co., Ltd. holds a position of leadership in the liner industry in Thailand. Thai Nam is pleased to be a part of the International Geosynthetics Society since 1994. Thai Nam Plastics may be contacted at:

75-77 Chalermkhet 2 Street
Suan Mali, BANGKOK
10100 THAILAND

Tel.: 66-2-2260277, 66-2-2240051, FAX: 66-2-2260269,
66-2-2240768



Construction at the Banpakong Industrial Estate (II)

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 selection 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.

Calendar of Events

Geosynthetic Research Institute Events:

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

Designing with Geosynthetics: Two Day Courses

19-20 January 1995 Washington, DC, USA

9-10 February 1995, Las Vegas, NV, USA

Contact: Ms. Marilyn Ashley, GRI

Drexel University

Philadelphia, PA, USA 19104

Tel.: 1 (215) 895-2343 Fax: 1 (215) 895-1437

Geosynthetics'95

Nashville, Tennessee, USA

21-23 February 1995

Contact: Secretary General NAGS

345 Cedar St., Suite 800

St. Paul, MN 55101 USA

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

International Erosion Control Association (IECA) 26th Annual Conference and Trade Exposition

28 February - 3 March 1995, Atlanta, GA, USA

Contact: IECA

P.O. Box 4904, Steamboat Springs, CO 80477

USA

Tel.: 1 (303) 879-3010 Fax: 1 (303) 879-8563

International Symposium on Earth Reinforcement

IS KYUSHU '96

12-14 November 1996, Abstracts due 31 August 1995.

(see p.12 for details)

Geosinteticos '95 - Second Brazilian Symposium on Applications of Geosynthetics 26-28 June 1995, Sao Paulo, Brazil

Contact: Secretariat ABMS

IPT - Predio da Geotechnica

Caixa Postal 7141

01064- Sao Paulo - SP - Brazil

Fax: 11 55 11 815 2285

Sardinia '95 Fifth International Landfill Symposium
Cagliari, Sardinia, Italy, 2-6 October 1995

Contact: G.M. Motzo

CISA- Environmental Sanitary Engineering Centre

Via Marengo 34

09123 CAGLIARI

ITALY

Tel.: 39 (70) 271-652 Fax: 39 (70) 271-371

Geofilters '96 Second International Conference on Filtration and Drainage in Geotechnical Engineering

Montreal, Canada, 29-31 May 1996

Abstracts due: 15 Feb 1995.

Contact: Conference Secretariat GEOFILTERS'96

c/o Service des Congres

Ecole Polytechnique

Campus de l'Universite de Montreal

C.P. 6079 Succursale Centre Ville

Montreal, Quebec, Canada

Tel.: 1 (514) 340-3215 Fax: 1 (514) 340-4440

Note: Items with borders are organized under the auspices of the IGS or with the support of the IGS.

IGS News Editors

Dr. David J. Elton, **Editor**

Civil Engineering Department

Auburn University, AL, 36849 USA

Tel.: 1 (205) 844 6285

Fax: 1 (205) 844 6290

email: ELTON @ ENG . AUBURN . EDU

Dr. T. Akagi, **Associate Editor (Asia)**

Toyo University

Department of Civil Engineering

2100 Kujirai Nakanodai

KAWAGOE-SHI, SAITAMA 350, JAPAN

Tel.: 81 (492) 311211 Fax: 81 (492) 311722

Mr. D. Cazzuffi, **Associate Editor (Europe)**

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 1992: T. Akagi (Japan); B.R. Christopher (USA); R.A. Jewell (Belgium); C. Lawson (UK). Elected in 1994: D. Cazzuffi (Italy); J. Collin (USA); J.P. Gourc (France); R. Holtz (USA); G. Heerten (Germany); P. Rimoldi (Italy); F. Tatsuoka (Japan); W. Voskamp (The Netherlands); Co-opted in 1992: M. Fukuoka (Japan). Co-opted in 1994: G.P. Karunaratne (Singapore); P. Stevenson (USA). The IGS Council also includes the five IGS Officers elected for the period 1994-98.

Officers of the IGS

President

Prof. Colin J.F.P. Jones
Department of Civil Engineering
The University of Newcastle upon Tyne NE1 7RU
UNITED KINGDOM
Tel.: 44 091 222-7117 Fax: 44 091 222-6613

Treasurer

Mr. Wim Voskamp
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

Immediate Past 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

Vice President

Dr. Richard J. Bathurst
Civil Engineering Department
Royal Military College of Canada
KINGSTON, ONTARIO, CANADA K7K 5L0
Tel.: 1 (613) 541-6000 ext. 6479 Fax: 1 (613) 545-3481

Secretary

Mr. Peter E. Stevenson
P.O. Box 347
EASLEY, SOUTH CAROLINA 29641, USA
Tel.: 1 (803) 855-0504 Fax: 1 (803) 859-1698

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 Geotextiles-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)
Dae Han Industrial Materials Co., Ltd. - South Korea (1994)
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-Weinerberger Manufacturing (S) Pte Ltd. - Singapore (1994)
Huesker Synthetic GmbH & Co. - Germany (1987)
Industrial Fabrics Association International (IFAI) - USA (1985)
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)
Thai Nam Plastic Public Co., Ltd. - Thailand (1994)
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 Geosynthetics 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, related products, and associated technologies;
- (4) to encourage through its members the harmonization of test methods, equipment and criteria for geotextiles, geomembranes, related products and associated technologies.

WHY BECOME A MEMBER OF THE IGS?

First, to contribute to the development of our profession.

Becoming a member of the International Geosynthetics Society:

- Helps support the aims of the IGS, especially the development of geotextiles, geomembranes, related products, and associated technologies.
- Contributes to the advancement of the art and science of geotextiles, geomembranes, related products, and associated technologies.
- 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 fees for the journals "Geotextiles and Geomembranes" and "Geosynthetics International".
- 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:

IGS Secretariat

P. O. Box 347

Easley, SC 29641

U.S.A.

Telephone: 1 (803) 855-0504

FAX: 1 (803) 859-1698

Attach card or fill in your address as you wish it to appear in the next IGS Directory (your professional address is recommended but your personal address is acceptable if the tel., telex and fax numbers are also your personal numbers). *If the address below is your personal address please check this box:*

Eligibility (i.e. connection with geosynthetics, related products or associated technologies):

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 _____

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

Membership fee: Individual (US) \$45 Corporate (US) \$1000 Benefactor's contribution (at least (US) \$200): _____

Mode of Payment:

Check enclosed Draft sent to Credit Suisse
8021 ZH-Werdmeuhleplatz
Zurich, Switzerland
Account No. 110525-02 USD

Mastercard/Visa American Express

Account No.: _____ Expiration date: _____

Name on card:

Authorized Signature:

SIGNATURE _____

DATE _____

IGS NEWS Published by the International Geosynthetics Society

Editorial Enquiries to: Dr. David J. Elton, Department of Civil Engineering, Auburn University, AL, USA 36849
Tel.: 1 (205) 844-6285, FAX: 1 (205) 844-6290, email: ELTON@ENG.AUBURN.EDU