

IGS NEWS

NEWSLETTER OF THE INTERNATIONAL GEOSYNTHETICS SOCIETY

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

VOLUME 13 NO. 1

MARCH 1997

Candidates for IGS President, Vice President and the IGS Council Deadline for Nominations Extended to 31 July 1997

The November issue of IGS News did not reach all IGS members in time for all potential candidates to meet the previous deadline for nominations which was 1 March 1997. For this reason the IGS Officers and Council at a meeting held in Long Beach, California on 10 March 1997 decided to extend the due date for nominations to 31 July 1997. Biographical notes of candidates received by the original due date of 1 March 1997 can be found on the IGS Web site (<http://igs.rmc.ca>) and on page 5.

The next IGS President and Vice President will be elected at the Ordinary General Assembly to be held during the 6th International Conference on Geosynthetics in Atlanta, Georgia, USA, 25-29 March 1998. In addition, the results of a postal ballot to fill eight positions on the IGS Council will be announced.

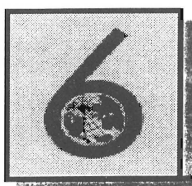
IGS members who wish to run for President, Vice President or Council are invited to write to the IGS Secretary. Signed letters of application together with a biographical note (not exceeding 12 lines) should reach the Secretariat of the IGS no later than 31 July 1997 (address on p19).

In their letter to the IGS Secretary, candidates should clearly identify their country of residence and the position that they are running for (President, Vice President or Council Member). IGS members may run for more than one position,

in which case a separate statement for each position is required. The names of new candidates and biographical notes which do not exceed 12 lines will be published on the IGS Web site. The names of all candidates and biographical notes will be contained in the postal ballot package to be mailed to all IGS members in the fall of 1997.

Under the by-laws of the IGS, only IGS members are eligible for these positions. The election of IGS President and Vice President will be held during the Ordinary General Assembly. The election of IGS Council Members will be held by postal ballot during the fall of 1997 and the results of this ballot will be announced at the Ordinary General Assembly after the election of the new IGS President and Vice President.

According to the by-laws of the IGS, Professor C.J.F.P. Jones will continue as an officer of the IGS in his capacity as Immediate Past-President of the IGS following the Ordinary General Assembly. The Secretary and Treasurer, who are the other two officers of the IGS, will be elected by the new IGS Council from amongst its members at a meeting of the IGS Council held in Atlanta after the Ordinary General Assembly. The election of the IGS President, Vice President, Secretary, Treasurer and the eight new Council Members and the appointment of the Immediate Past-President will be for a period of four years.



**6IGC Coming to Atlanta, GA, USA
25 through 29 March 1998 (article on p2)**

visit the IGS Web site at <http://igs.rmc.ca> for an update on the 6IGC

The members of the IGS Council whose term of office expires in March 1998 are: Mr. D. Cazzuffi (Italy), Dr. J. Collin (USA), Prof. J-P. Gourc (France), Prof. R. Holtz (USA), Mr. G. Heerten (Germany), Mr. P. Rimoldi (Italy), Prof. F. Tatsuoka (Japan), Mr. W. Voskamp (Netherlands).

Dr. Collin, Prof. Gourc, Prof. Holtz, Mr. Heerten, Mr. Rimoldi and Prof. Tatsuoka are eligible for re-election having completed one four year term as Council Members in 1998.

If elected, candidates must be able to travel to and attend all IGS Council meetings which are held at least once a year. Meetings of the IGS Council are generally held in conjunction with international conferences which many officers and Council members may be attending. The next

two Council meetings following the Atlanta meeting will likely be held in Europe and in North America.

The by-laws of the IGS prescribe that half of the Council be elected every two years. Hence the next postal ballot to elect Council members after Atlanta will be held in the summer of 2000.

For further information, please contact the Secretary of the IGS, Mr. P. Stevenson, or the President of the IGS, Prof. C.J.F.P. Jones. (addresses on p19).

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



The Sixth International Conference on Geosynthetics



The International Conference is the premier event in the geosynthetics calendar. Like the Olympics it only occurs once every four years, and, like the 1996 Olympics, the next IGS International Conference will be held in Atlanta, Georgia, USA from 25 to 29 March 1998.

Arrangements for the Conference are essentially complete. The organizers have placed great emphasis on quality, both with respect to the technical papers to be presented and to the facilities. The scope of the Conference ranges from the traditional uses of geosynthetics to consideration of the most advanced concepts and developments associated with the geosynthetics industry.

Four keynote lectures, including the first Giroud Lecture, and a major exhibition, will provide a framework for the Conference. In addition to the five theme subjects covering hydraulics, environmental, geotechnical, transport and durability, specialist interests will be catered for in eighteen technical workshops. An extensive social program has been developed.

Atlanta is an exciting city to visit with easy access, good transportation and a large selection of well priced accommodations. The Sixth International Conference on Geosynthetics will be the event of 1998. I encourage everyone with an interest in geosynthetics to attend.

*submitted by Prof. C.J.F.P. Jones
President, IGS*

PRESIDENT'S MESSAGE by Professor C.J.F.P. Jones

In the last issue of the IGS News, Prof. Holtz, the Past Chairman of the Education Committee, wrote an article on the importance of education to the IGS, which had been prompted by a letter from Dr. Mark Meyers of the US Army Corps of Engineers. The importance in opening up the education debate was acknowledged by Prof. Holtz and this public debate is a very welcome sign that the IGS Council's initiative in highlighting this subject is close to IGS members' needs and interests.

It is perhaps inevitable that the education needs of IGS members in different parts of the world will differ, sometimes significantly. The structure of the construction industry varies widely from country to country and the uses and applications of geosynthetics mirrors this difference. There are some areas and elements of education which are common to all, but inevitably the form that IGS education will take needs to be tailored to individual countries. Anyone who has experienced education in different countries or continents can appreciate the difference in emphasis and style, and it is important that

the individual Chapters become involved in the debate in order to accurately reflect these national requirements and cultural differences.

Where possible, the IGS role is to provide a framework for education which can take a number of forms. To date, the most successful element of IGS education globally has been the two videos produced by the IGS in conjunction with the American Society of Civil Engineers with generous support from many IGS members. These videos cover the use of geosynthetics in landfills and in transportation applications. Any educator who is a member of the IGS and active in teaching geosynthetics can apply to their local Chapter for free copies of the videos.

Other recent IGS developments which have important educational aspects include the standardization of nomenclature and symbols used with geosynthetics and the development of the IGS Web site.

Referring back to Prof Holtz' recently stated views on education needs, equal success might be derived by providing generic computer programs for analysis or educational slide sets. With respect to the latter, the US Federal Highway Administration has generously offered their recently updated

slide set on geosynthetics to the IGS for use world wide. I would urge all members interested in the education debate to express their views either through their local Chapter or directly to Mr. Jim Paul, the new Chairman of the IGS Education Committee.

IGS ELECTIONS

by Professor R. Kerry Rowe

Immediate Past President of the IGS

The activities and, indeed, the health of our Society are crucially dependent on the officers and Council that you elect. Although it is only months ago that you elected half of the IGS Council, it is already time to start preparing for the election that will be held in 1998 (see related articles on p1 and p5).

The IGS was formed following a meeting of interested people at the Second International Conference on Geotextiles (Las Vegas, USA, 1982). It was "officially" founded in Paris in November 1983. Its growth in members has been impressive with 413 individual and 22 corporate members in 1986, 901 individual and 35 corporate members in 1990, 1644 individual and 59 corporate members in 1994, and 1492 individual and 71 corporate members as of January 1997.

The number of IGS Chapters has grown steadily and there are now 15 Chapters who play a key role in carrying out the IGS mission of collecting and disseminating knowledge concerning geosynthetics and promoting the advancement of the discipline.

The previous Presidents since the formation of the IGS have been Professor Charles Schaerer (1983-1986), Dr. Jean-Pierre Giroud (1986-1990), Professor R. Kerry Rowe (1990-1994) and Professor Colin Jones (1994-1998). The past Vice Presidents have been Dr. Jean-Pierre Giroud (1983-1986), Professor Koos van Harten (1986-1990), Professor Rudolf Floss (1990-1994), and Professor Richard Bathurst (1994-1998).

At the Sixth International Conference on Geosynthetics, to be held in Atlanta, 25-29 March 1998, the current IGS President, Professor Colin Jones, will be become Immediate Past President (remaining on the Council in that position), and I will move off the Council and a new President and Vice President of the IGS will be elected.

The President provides the leadership and general direction to the Council and the Society. He makes sure that things get done! The Vice President assists in the organization of the Society. Historically the role has varied somewhat from term to term, depending on the Vice President's interpretation of his duties and the President's views. However one key role played by the Vice Presidents has been to assist in the formation of new chapters as Chair of the "Committee for the Development of New Chapters".

We are very fortunate that already three outstanding and experienced IGS Council members have put forward their names as candidates for the position of President and Vice President. Professor Richard Bathurst (current IGS Vice President) has declared his intention to be a candidate for the President of the IGS. Mr. Chris Lawson (a Council member, co-chair of the IGS Technical Committee and Chair of the Asian Activity Committee) has declared his intention of being a candidate for Vice President of the IGS. Mr. Daniele Cazzuffi (a Council member and Chairman of the IGS Standards Committee) has also declared himself a candidate for Vice President of the IGS.

There will also be an election for eight positions on the IGS Council (i.e. the members who were elected in 1994). Your retiring members of Council are 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). The IGS by-laws stipulate that a Council member may serve two consecutive terms. Thus, Drs. J. Collin, J-P. Gourc, R. Holtz, G. Heerten, P. Rimoldi and F. Tatsuoka are eligible for re-election. Dr. Holtz has decided not to run for re-election.

The IGS Secretary and Treasurer are elected by the IGS Council following the election of the Council members and the President and Vice President. There will be a postal ballot for the election of the IGS Council members. The results of this postal ballot will be announced at the IGS General Assembly in Atlanta following the election of the President and Vice President. The President and Vice President will be elected at the IGS General Assembly in Atlanta in March 1998.

It is essential that we have proactive Council members representing a broad spectrum of disciplines and geographic regions. The energy and enthusiasm of the IGS Council members will dictate the level of activity and success of our Society over the next four years. Thus it is crucial that we get excellent candidates for all of the elected positions. The first IGS Council meeting of the new Council will be held in Atlanta in March 1998.

Should you need any further information regarding the election, see IGS News v12, no.3, p8, or contact the Secretary of the IGS, Mr. P. Stevenson, or the President of the IGS, Professor C.J.F.P. Jones (see page 19 for addresses).

Candidates for IGS President, Vice President and the IGS Council: Nominations Received by 1 March 1997

The IGS members who have submitted their nominations for President, Vice President and Council by 1 March 1997 are listed below together with a biographical note of each candidate. Additional nominations for all positions will be accepted until 31 July 1997.

There is currently only one candidate for President: Professor Richard J. Bathurst.

There are currently two candidates for IGS Vice President: Mr. Daniele Cazzuffi and Mr. Chris Lawson.

The IGS President and Vice President will be elected at the Ordinary General Assembly to be held during the 6th International Conference on Geosynthetics in Atlanta, Georgia, USA, 25-29 March 1998.

There are currently ten declared candidates for the eight available positions on IGS Council. The eight positions will be filled using a postal ballot scheduled for the fall of 1997.

Candidates for the IGS Council are:

Dr. James G. Collin
Mr. Stephen P. Corbet
Dr. Philippe Delmas
Prof. Jean-Pierre Gourc
Dr. Georg Heerten
Dr. Ennio M. Palmeira
Mr. Pietro Rimoldi
Mr. Som Sarkar
Mr. Peter E. Stevenson
Prof. Fumio Tatsuoka

Candidate for President of the IGS (one position)

Professor Richard J. Bathurst (Canada)

Dr. Richard J. Bathurst has been on the Council of the IGS since 1992 and was Editor of the International Geotextile Society Newsletter (IGS News) from 1990 to 1994. He is currently Vice President of IGS and serves as Chair of both the Publications Committee and Chapters Committee. In these positions he has created and maintained the IGS Web site, and overseen the formation of three new IGS Chapters. Professor Bathurst was Organizing Chairman of Geosynthetics'95 held in Nashville, TN, and Chair of the Technical Committee of Geosynthetics'93. He has been an active Board Member of the North American Geosynthetics Society since 1991 and is currently NAGS President.

Dr. Bathurst has been awarded numerous research grants and has authored or co-authored more than 120 papers in refereed journals, conference proceedings and research monographs. Dr. Bathurst has been an invited keynote speaker at

international conferences and was awarded the International Geosynthetics Society Award in 1994 for his work on geosynthetic reinforced retaining wall systems. Dr. Bathurst is co-editor of the technical journal *Geosynthetics International* which is produced at his university and serves on the editorial board of two other international journals and the *Geotechnical Fabrics Report*. In addition he serves on committees of the Transportation Research Board (USA), Canadian Geotechnical Society, and TC-17 (ISSMFE). Professor Bathurst has taught numerous short courses on geosynthetics in North America and is a frequent consultant to North American companies in the geosynthetics industry.

Professor Bathurst was granted a Ph.D. in Soil Mechanics from Queen's University at Kingston, Canada in 1985 and has been with the Civil Engineering Department at the Royal Military College of Canada (RMCC) in Kingston, Ontario since 1980. He was Associate Dean of Research at RMCC from 1990 to 1993 and is currently Professor and Head of the Civil Engineering Department. Dr. Bathurst also holds a cross-appointment as Professor of Civil Engineering at Queen's University at Kingston.

Professor Bathurst is committed to leading the IGS into the next millennium by offering strong leadership based on the experience gained through active participation in the management and advancement of the IGS over a period of seven years.

Candidates for Vice President of the IGS (one position)

Ing. Daniele Cazzuffi (Italy)

After a degree in Civil Engineering (Politecnico di Milano, 1979), Mr. Cazzuffi joined the Research Centre on Hydraulics and Structures (CRIS) of ENEL in 1981. He has been involved in research and design programs regarding the use of geosynthetics in many applications, particularly in the field of geotechnical, hydraulic and environmental engineering. Mr. Cazzuffi has been a Visiting Professor in Geotechnics at Florence University and presently at Trento University. He is also author or co-author of more than 100 technical papers and an active member of many different national and international technical committees, such as ISSMFE, and ASTM D35; Geosynthetics. In particular, he is chairman of WG 3 (Mechanical Tests on Geotextiles) both in ECN (European Committee on Standardization) and ISO (International Standards Organization). Mr. Cazzuffi has been a Council Member of the IGS since 1990 and Vice President of the Italian Chapter since its formation in 1993. He will surely play an active role in the organization of EuroGeo2 in the year 2000 in Bologna. He has been an Associate Editor of IGS News for Europe (1990-1994) and Chairman of the IGS Education Committee (1990-1993). Presently he is Chairman of the IGS Standards Committee.

Mr. Chris Lawson (Malaysia)

Mr. Chris Lawson graduated from The University of New South Wales specializing in geotechnical engineering and geosynthetics. Over the last 20 years he has worked in geosynthetics in Australasia, Asia and Europe. During this time he has developed an international understanding of geosynthetics issues. Chris is the author of over 50 papers on geosynthetics, much of it pioneering work. Chris has been an active member of CEN, ISO, British Standards and Australian Standards committees on geosynthetics. He has also been a member of the British Standards committee on reinforced soil - BS8006. Chris has been a member of the IGS Council since 1992 where he serves as Co-Chairman of its Technical Committee and Chairman of its Asian Activities Committee. Chris brings a wealth of international experience to the IGS. He is currently based in Malaysia where he is Chief Executive Officer of an industrial group.

Candidates for IGS Council (eight positions to be filled)

Dr. James G. Collin (USA)

Dr. Collin received his Ph.D. in Geotechnical Engineering from the University of California, Berkeley. His thesis evaluated the effects of reinforcement stiffness (inextensible versus extensible) on the internal stress within reinforced soil structures. Dr. Collin started his own consulting firm, The Collin Group, in 1995, specializing in geosynthetics and soil improvement. He is an adjunct professor at the University of Maryland, where he teaches graduate level courses on Designing with Geosynthetics and Soil Improvement. He also teaches a National Highway Institute course on Geosynthetic Engineering. Prior to starting The Collin Group, Dr. Collin was Vice President at Tensar Earth Technologies, where he was responsible for the development of design technology for new applications of geosynthetics. He has published over thirty papers on the use of geosynthetics as soil reinforcement. Dr. Collin has worked for Woodward-Clyde Consultants, STS Consultants, and a major US construction company. He is an active member of the Editorial Board of the Journal of Geotechnical Engineering of ASCE, a member of TRB, ISSMFE, ASTM, NAGS, and a registered Professional Engineer in 20 states.

Mr. Stephen Peter Corbet (United Kingdom)

Mr. Steve Corbet, C.Eng MICE, has been a member of the UK Section of IGS since 1986 having served on the UK organizing committee for the whole period, currently UK Chairman until November 1997. He is a Civil Engineer, by training and practice, currently working for the Maunsell Group, a large UK based international consultancy, where he leads the Geotechnical Group. He has been involved with the use of geosynthetics since 1975 and has specialized in developing good designs using geosynthetic materials, with a particular reference to the proper specification of geosynthetics. He has served on the BSI and CEN Technical Committees which have, and are drafting the test and application stan-

dards for geotextiles and geomembranes. Mr. Corbet believes that his work with geosynthetics and his contacts in Europe and the Far East will allow him to make a very useful contribution to the work of the IGS Council.

Dr. Philippe Delmas (France)

Dr. Philippe Delmas studied civil engineering at the Ecole Centrale des Arts et Manufactures (Paris) and obtained his Ph.D. on geotextiles at the University of Grenoble in 1979. He spent 12 years as research leader on geosynthetics and slope stability in the Laboratoire Central des Ponts et Chaussées (Equipment Ministry, France) and taught in the Civil Engineering School and supervised Ph.D. research. He joined Bidim Geosynthetics in 1991 and he is presently Vice President of the Polyfelt Group in charge of Technical Marketing and Product Development. His experience covers all the applications of geosynthetics and soil improvement methods in roads, railways and environmental applications. He has published more than 80 communications in technical journals and symposiums on these topics. Since 1983, he has worked actively in the standardization of geosynthetics on the French level as Chairman of the French Standardization Committee, on the international level in ISO, and on the European level since 1991 as conveyor of the CEN TC189 WG1 requirements. He was also a member in the OECDTC5 (Geotextiles in roads/1987-1989), ISSMFE TC (Geotechnics of Landfill Recommendations/1991-1995) and ISSMFE TC9 (Geosynthetics) since 1989. Chairman of the French bi-annual Congress on Geosynthetics - Recontres in 1993, 1995 and 1997. He is also Chairman of the Organizing Committee for the 7IGC to be held in Nice in 2002 and Chairman of the French Chapter of the IGS (CFG) in 1994 and since 1996.

Dr. Jean-Pierre Gourc (France)

Dr. Gourc has a Degree (Eng.) in Civil Engineering from Insa Toulouse - France (1969) Degrees (Dr. - Eng - 1975 and Dr. Sciences - 1982) in Soil Mechanics from the University of Grenoble-France. He is Professor of Mechanics and Geotechnical Engineering at Grenoble University and manager of a research team "Geotechnical and Environmental Engineering, Geotextiles, Geomembranes" (6 permanent researchers and 10 students) at IRIGM Grenoble University from 1978. The research conducted by this team is related to local behavior, laboratory tests to standardize, numerical modeling, design and large scale experimentation. The main topics addressed are soil reinforcement, filtration and drainage, and erosion and waste disposal. He is the author of 80 technical papers in the field of geosynthetics and has given several invited lectures: keynote at the 4th International Symposium on Earth Reinforcement Practice, Kyushu (Japan, 1992), Mercer Lecture, 13th International Conference of Soil Mechanics, Delhi (India), GRI, Philadelphia, (USA, 1994), and keynote at the First European Conference on Geosynthetics, Maastricht (NI, 1996). He is the author of a CD-ROM "Geosynthetics and Environment", Chairman of the Scientific Committee of the biennial French Conference on geosynthetics, Rencontres 1993, 1995, 1997, member of the Council of

the French Chapter of IGS and past-president of the French Chapter. He is a member of the French delegation CEN and ISO, European Activities Committee of IGS, and member of the IGS Council (Education Committee).

Dr.-Ing. Georg Heerten (Germany)

Born in 1949 he was educated in Civil Engineering at the Technical University of Hanover, Germany, with a specialty in hydraulic engineering. Since 1975 he has been involved in geosynthetic research, development, production and applications. He is active in many international and national societies and standardization organizations (IGS, ISSMFE, PIANC, CEN, ISO, DIN) and has published more than 40 papers on geosynthetics. At present he is Managing Director of the German geosynthetics company, Naue Fasertechnik GmbH & Co. KG, which is a corporate member of the IGS as well as a member of the German IGS Chapter. Since his election to IGS Council in 1994 he has been Chairman of the European Activities Committee (EAC) of the IGS, and is in charge of the organization of the EuroGeo Conferences. He is also a member of the board of the German Society for Geotechnics (DGGT, Deutsche Gesellschaft für Geotechnik, Essen) since the "Baugrundtagung" in Berlin in September 1996.

Dr. Ennio Marques Palmeira (Brazil)

Dr. Ennio Marques Palmeira was born in Rio de Janeiro, in 1953. He graduated in Civil Engineering in 1977 and obtained his Master's degree in 1981 at the Federal University of Rio de Janeiro working on geosynthetic reinforced unpaved roads. In 1987 Dr. Palmeira obtained his D.Phil. degree at the University of Oxford, UK, working on the interaction mechanisms between soils and geosynthetic reinforcement. Currently he is an Associate Professor at the University of Brasilia, Brazil, teaching graduate and undergraduate courses on geotechnical engineering and supervising MSc and Ph.D. students in research activities on geosynthetics including soil reinforcement, filtration and drainage, erosion control and waste disposal. He has published about 100 papers and has also done geotechnical consulting, mostly for projects involving geosynthetics. Dr. Palmeira was awarded the International Geosynthetics Society Award in 1996 for his technical contribution to the geosynthetics discipline in South America.

Ing. Pietro Rimoldi (Italy)

Age 37. Degree: Civil Engineering (Politecnico di Milano University, Milan, Italy, 1984); Present position: Director of the Geosynthetics Division, Tenax SpA; Professional experience: Development of new geosynthetics products, many field and laboratory test programs on geosynthetics; design of several important geosynthetics projects around the world; author of more than 80 international papers on geosynthetics; active member of international associations (ISSMFE, IECA, etc.) and technical committees, such as ISO (TC38-SC21; Geotextiles), CEN (TC189; Geotextiles and Related Products), ASTM (D35; Geosynthetics); Certified Professional Soil Erosion and Sediment Control Specialist,

USA; Chartered Professional Engineer, Italy; Council Member of the International Geosynthetics Society (IGS); Council Member of the Italian Chapter of AGI-IGS; Member of the Board of Directors of the Geosynthetics Institute (GSI) in the USA; Vice President of the Asian Society for Environmental Geotechnology (ASEG).

Mr. Som S. Sarkar (India)

Age 46. Degree: Master of Civil Engineering (Jadavpur University, Calcutta, India); Present position: Accredited Consulting Engineer and Managing Director of Tenax Geosynthetics p. Ltd., in India; Professional experience: 23 years in geotechnical consultancy engineering practice and geosynthetic industry, working in design and construction of foundation structures and environmental geotechnology issues of erosion and landslide control and reinforced soil structures. Active Member of ISSMFE, IGS and Geosynthetic Committee of Bureau of Indian Standards (BIS), Vice President of Asian Society of Environmental Geotechnology (ASEG), Vice Chairman of Indian Geotechnical Society, Delhi, and Member of several technical and organizing committees for international symposia.

Mr. Peter E. Stevenson (USA)

Mr. Peter Stevenson has served the IGS as Treasurer from 1984 to 1994 and as Secretary from 1994 to present. In addition he has sat as Chairman of the Promotion Committee since 1991 producing the IGS videos "Geosynthetics in Landfills" and "Geosynthetics in Transportation Applications". If elected to the Council, he will stand for re-election as Secretary for 1998-2002 by the Council. For the Tensor Corporation (USA) Corporate Development Group, he is responsible for business opportunity and product development. Entering the geosynthetic industry in 1980 with Burlington's Industrial Textile Division, Mr. Stevenson has managed James River Corporation's Fibretex nonwoven business as well as his own firm, Acme STW and a consulting practice. His undergraduate degree in Economics is from Columbia College, Columbia University and his masters degree in Business Administration is from New York University's Stern School of Business. Mr. Stevenson has been a member of ASTM D35 since its inception, past chair of the INDA Geosynthetics Interest Group, member of INDA's Test Method committee and is active in affiliation with TRB, ASCE and other geosynthetic professional efforts.

Dr. Fumio Tatsuoka (Japan)

Dr. Tatsuoka is Professor of Civil Engineering, Department of Civil Engineering, University of Tokyo. He is the author of numerous technical papers and monographs. He was awarded the best paper award for young researchers (1974), the best paper award (1986) and the best technical contribution award (1994) from the Japanese Geotechnical Society; the 1994 IGS award; the 1995 best paper award from the Japanese Society for Civil Engineers; the 1996 Hogenogler Award from ASTM and the 1996-1997 Mercer Lec-

tuership from the ISSMFE/IGS. Dr. Tatsuoka is: Editor in Chief of *Soils and Foundations*, JGS. He is an Editorial Member of the *ASTM Geotechnical Testing Journal*, *Geotextiles and Geomembranes*, *Geosynthetics International*, and *Ground Improvement*. He is ISSMFE Chairman of TC 29 on

Laboratory Stress-Strain Testing Methods, ISSMFE Council member, and Chairman of the Technical Committee on Design Methodologies for Geosynthetic Reinforcement of Walls, Slopes and Embankments, IGS.

IGS Council Meeting, Maastricht, The Netherlands 28-29 September 1996

The Council of the IGS met on 28-29 September 1996 in conjunction with the First European Conference on Geosynthetics, EuroGeo1, hosted by The Netherlands Chapter of the IGS.

The Council meeting was convened by President Jones with the following members present: R. Bathurst, K. Rowe, P. Stevenson, W. Voskamp, J. Collin, J. Lafleur, G.P. Karunaratne, H. Chung, T. Akagi, C. Lawson, B. Christopher, P. Rimoldi, J. Paul, G. Heerten, F. Tatsuoka, A. Scuro, J-P. Gourc, and D. Cazzuffi.

A review of the previous Council minutes (Beaune, France, Sep 1995) resulted in three decisions. First, the IGS video "Geosynthetics in Transportation" would be distributed to the Council members and chapter presidents as well as those educators who received the landfill video. Second, President Jones will redraft the Code of Ethics for review by the Past Presidents. The revised document will be published in the IGS News (see related article on p10). Finally, Vice President R. Bathurst will provide the newly elected members of the Council with a copy of the IGS slide presentation.

In response to a query by the UK Chapter of the IGS, the IGS policy concerning honorary membership was affirmed. Honorary membership in the IGS is the sole province of the IGS Council. There are three honorary members at this time; Past President Charles Schearer, Professor Masami Fukuoka and Mr. Gert den Hoedt. Chapters are encouraged to nominate candidates for honorary membership but must recognize that the Council will assess the application and accept or decline the nomination. The principal criteria is extraordinary contribution to the IGS and the discipline. Honorary membership in a chapter is the sole province of the chapter. Chapters must fund their honorary memberships in the IGS at the same dues schedule that applies to regular members. Honorary membership in the IGS is for life and is funded by the IGS.

Another matter raised by the UK Chapter concerned the burden imposed on a chapter to support the corporate membership of the IGS which is resident in the chapter country. The Council formed a temporary plan covering 1996 and 1997. In this period, the IGS will fund chapter support of corporate membership at the sum of US\$50.00 per corporate member within the chapter country.

At the time of the Council meeting the IGS membership totaled 1415. A significant concern about student membership was raised. There is a conflict between the academic year and the IGS calendar which is annual. The result is that stu-

dent interest and membership is understated at the end of the calendar year. A student membership drive was planned for the fourth quarter of 1996.

Several items of interest were reported:

- the French Chapter introduced six new corporate members to the IGS
- Professor Tatsuoka will present the Mercer lecture at EuroGeo1 and Madras, India in 1996 and Geo'97 in 1997
- three new chapters were formed in 1996: Brazil, Romania and South Africa
- an Asian Activities committee, chaired by C. Lawson was formed after the model of the European Activities committee chaired by G. Heerten
- the IGS Web site is in full operation
- *Geotextiles and Geomembranes* is reported to be reorganized and functioning
- a survey of geomembrane standards has been prepared by the Standards Committee, chaired by D. Cazzuffi, and will be distributed at Geo '97
- more than 500 abstracts have been received for the 6th International Conference in Atlanta in March 1998
- preliminary bids for the 7th International Conference are under revision with final bid packages to be reviewed during Geo '97
- EuroGeo2 will be held at Bologna, Italy in the year 2000, hosted by the Italian Chapter of the IGS. EuroGeo2 will be held coincident with a major construction materials exposition with the deliberate intent of providing the broadest appeal to the conference and exposition visitor.

A design method committee has been formed under the chairmanship of Professor Tatsuoka. Membership includes R.K. Rowe, C. Jones, R. Bathurst, D. Leshchinsky, W. Voskamp, H.I. Ling, J-P. Gourc, J. Wu, M. Fukuoka and P. Stevenson. IGS members who wish to participate are encouraged to contact Professor Tatsuoka at the University of Tokyo, Institute of Industrial Science, 7-22-1 Roppongi, Minatoku, Tokyo, 106 Japan. Tel.: 81 3 3402 6231 ext. 2570, Fax: 81 3 3479 0261, telex 2423216, email tatsuok@hongo.ecc.u-tokyo.ac.jp. The committee held a working session in Kyushu, Japan, coincident with Kyushu '96 and will meet at Geo '97.

From the moment of his installation as President of the IGS, Colin Jones has driven the Council toward an educational role. Newly elected Council member, Jim Paul, has accepted the Education committee chair and one of his first activities is the formation of a program to distribute the Geosyn-

thetics Bibliography, created by J.P. Giroud, and published by the Industrial Fabrics Association International, to university libraries. The IGS will purchase and donate the Bibliographies to nominated universities around the world.

The next Council meeting will be held at Long Beach,

California immediately preceding the Geo '97 conference and exhibition, hosted by the North American Chapter of the IGS

*reported by Mr. P. Stevenson
Secretary, IGS*

IGS Awards Nominations Sought for the Period 1994-1997 (deadline for nominations 1 September 1997) (deadline for submissions 1 December 1997)

Purpose

IGS Awards will be granted in 1998 to individuals or groups of individuals who have made an outstanding contribution to the development and use of geotextiles, geomembranes, related products or associated technologies through their scientific and technological achievements. Awards will be made for the recognition of achievements completed and/or the validity of which has been demonstrated during a four year period preceding the year of the award (i.e. 1994 through 1997 inclusive).

Types of awards

There are two awards:

- The Young IGS Member Award for IGS members who are less than 36 years of age on 31 December 1997
- The IGS Award (regardless of age).

A maximum of five IGS Awards will be granted. Each award will consist of a specially commissioned medal and a diploma. The awards will be presented at the IGS Ordinary General Assembly to be held during the 6th International Conference on Geosynthetics, 25-29 March 1998 in Atlanta, Georgia, USA.

The winning entries will also be featured at the IGS booth at any conference held under the auspices of the IGS and will be publicized in IGS News, in special press releases, on the IGS Web home page, and in other publications.

Candidates

All candidates must be members of the IGS. All members of the IGS are eligible with the exception of the President of the IGS and the members of the Awards Committee.

In the case of a group submission to the Young IGS Member Award all members of the group must satisfy the age requirement. Any individual or group that is a candidate for the Young IGS Member Award is automatically considered for both award categories (unless requested otherwise by the candidate). However, a candidate may only receive one award for the 1994-97 period.

Nominations

Nominations of candidates should be typed in English on plain paper (not letterhead) and submitted to the IGS Secretariat at the address on p19.

The nomination must include: a clear statement of the contribution of the candidate that is to be considered (e.g. if a product, provide a clear definition of the product; if a paper(s) or book, give a full reference of the paper(s)/book; if a report, give a full reference to the report; if a construction method, give a clear description of the method and any references, etc.). Include a statement indicating the originality and significance of the candidate's contribution to the discipline (i.e. in the field of geotextiles, geomembranes, related products and/or associated technologies).

Nominations may be made by any IGS member other than members of the Awards Committee. Under the IGS Awards rules, any IGS member can nominate himself/herself for any award.

The Publications Committee, Education Committee, Corporate Members Committee and IGS Chapters are invited to make nominations. Candidates who have been nominated will be contacted by the IGS Secretary. Candidates will be asked to agree to stand for an award and will be required to submit materials on their candidacy as outlined in the IGS Awards Rules and Procedures. All nominations and award entries will be treated with the strictest confidence by the IGS Secretary and the Awards Committee.

IGS Awards Committee

The Awards Committee will comprise five regular members including its chairman (all members will be selected by the IGS President from a list approved by the IGS Council). The members will be selected so as to represent a broad cross-section of geosynthetic-related technologies and experience. The Secretary of the IGS will attend all meetings of the Awards Committee as an observer and coordinator.

Further Information

The full text of the IGS Awards rules can be obtained by contacting the IGS Secretary (p19).

International Geosynthetics Society Code of Ethics

INTRODUCTION

The International Geosynthetics Society is a professional society composed of many types of members: producers, suppliers, contractors, consultants, academicians, students and others. This variety presents many different points of view and interests.

Our geosynthetics discipline and industry, however, requires that all members support a common code of conduct when dealing with other members of the society, other members of our industry, and the general public who expect the IGS to be a leader in promoting the common good of the geosynthetics discipline.

In 1994 the Corporate Members Committee requested that the IGS Council develop a Code of Ethics in order to increase the credibility and image of the IGS and to remind our members of our professional responsibilities.

This request was approved and the IGS Council in February 1995 tasked this writer to prepare a draft Code of Ethics. The draft was published in the July 1995 edition of the IGS News and on the IGS Web site. Comments were invited from all interested persons.

Based on received comments, two Past Presidents of the IGS, Dr. J.P. Giroud and Prof. R. K. Rowe, and President of the IGS, Prof. C.J.F.P. Jones, revised the draft document.

The final version of the Code of Ethics was presented to the IGS Council during the 10 March 1997 meeting in Long Beach, California. It was unanimously approved by the Council.

This Code of Ethics is clearly a voluntary code but reflects our wish that members of the IGS execute the mission of our society within a framework of the highest professional conduct.

*Mr. Pietro Rimoldi
Council Member, IGS*

IGS CODE OF ETHICS

1. General Principles

1.1 Each Member of the IGS agrees that the aims of the Society include:

- to collect, evaluate and disseminate knowledge on all matters relevant to geosynthetics, related products and associated technologies;
- to provide, through its meetings and published proceedings, a means of communication and understanding between designers, manufacturers and users of geosynthetics and specifically encourage cooperation between the manufacturing and civil engineering communities;
- to promote advancement of the state of the art of geosynthetics and their applications;
- to encourage the harmonization of geosynthetics test methods, equipment and criteria.

1.2 All Members of the IGS have the obligation and responsibility to follow the aims of the Society and to be guided by the highest standards of ethics, personal honor and professional conduct.

2. Relation of Members to the Public

2.1 Each Member of the IGS shall avoid and discourage misleading statements and/or participation in unsound practices.

2.2 A Member of the IGS shall not knowingly participate in the publication of any report or document for any unsound or illegitimate undertaking.

2.3 A Member of the IGS shall not give professional opinion or make a recommendation without being as thoroughly informed as might reasonably be expected considering the purpose for which the opinion or recommendation is desired. The degree of completeness of information upon which the opinion or recommendation is based shall be made clear.

2.4 In representing IGS or in the presentation of professional papers at IGS and associated conferences, a Member shall avoid explicit commercialism of his/her company or products.

2.5 A Member of the IGS shall not knowingly issue a false statement or false information.

3. Relation of Members to Employer and Client

3.1 A Member of the IGS shall protect, to the fullest extent possible, the interest of his/her employer or client insofar as such interest is consistent with the law and his/her professional obligations and ethics. A Member of IGS shall engage, or advise his/her employer or client to engage, and cooperate with other producers, experts and specialists whenever the employer's or client's interests would be best served by such service.

3.2 A Member of the IGS who finds that their obligations to their employer or client conflicts with their IGS professional obligation or ethics shall try to have such conflicting conditions corrected.

3.3 A Member of the IGS retained by one client shall not accept, without the client's consent, an engagement by another if the interests of the two are conflicting.

3.4 A Member of the IGS shall not divulge information given in confidence and shall not use, directly or indirectly, any employer's or client's information in any way that would violate the confidence of the employer or client.

4. Relationship of Members to Each Other

4.1 A Member of the IGS shall not falsely or maliciously attempt to injure the reputation of another member.

4.2 A Member of the IGS shall freely give credit for work done by others to whom the credit is due, shall knowingly refrain from plagiarism in oral and writ-

ten communications, and shall not knowingly accept credit rightfully due to others.

4.3 A Member of the IGS shall expect fair compensation for his/her work and shall not compete unfairly with others.

4.4 A Member of the IGS shall endeavor to cooperate with others in the profession and encourage the ethical

dissemination of technical knowledge.

5. Duties to the Society

5.1 A Member of the IGS shall uphold this Code of Ethics by precept and example and encourage, by counsel and advice, other Members to do the same.

5.2 A member who knowingly violates the Code of Ethics may be subject

to sanction by the IGS Council. In cases of gross violation of the Code of Ethics, this can include dismissal from the Society in accordance with clause 4.03 of the Bylaws. Dismissal for cause cases must formally appear on the Agenda of the Council. Members being considered for dismissal must be afforded an opportunity to comment to and/or appear before the Council before it reaches its decision.

IGS Publishes Third Edition of Recommended Descriptions of Geosynthetics Functions, Geosynthetics Terminology, Mathematical and Graphical Symbols

The IGS is pleased to announce the third edition of the IGS mathematical and graphical symbols document. This document was originally published in paper format in February 1995. It has been placed on the IGS Web Site (<http://igs.rmc.ca>) to provide IGS members with continually updated geosynthetics descriptions, terminology and mathematical and graphical symbols.

Since publication of the second edition in November 1993 the geosynthetics industry has continued to progress rapidly. Consequently, for the third edition it has been decided to include additional information specifically related to descriptions of geosynthetics functions and geosynthetics ter-

minology. This has been done in order to standardize, on an international basis, many of the descriptions used in the geosynthetics industry.

The majority of symbols contained in this document are identical to those published in the second edition in November 1993. However, some changes and a number of additions have been included which reflect the continued growth and diversification in geosynthetics technology.

*submitted by Mr. P. Stevenson
Secretary, IGS*

The North American Geosynthetics Society's New Leadership and New Activities by Martha Barnes, NAGS Managing Director

NAGS held a General Assembly 12 March during Geosynthetics'97 in Long Beach, California. Geosynthetics'97 was co-organized by NAGS and the Industrial Fabrics Association International (IFAI) and included more than 1,600 attendees (the largest conference on geosynthetics ever held in the world!), 104 exhibitor booths and the delivery of 87 technical papers. For the first time, NAGS members sported NAGS member ribbons and lapel pins at the conference.

The election for positions on the NAGS Board of Directors was carried out for the first time via a postal ballot held this winter. The winners were announced at the General Assembly. The new NAGS Board of Directors for the term 1997-1999 are:

- President: Richard Bathurst, Royal Military College of Canada
- President Elect: John Paulson, Strata Systems, Inc.
- Treasurer: Ryan Berg, geotechnical consultant
- Immediate Past President: Barry Christopher, geo-engineering consultant
- Vice President: Rick Thomas, TRI/Environmental Inc.

- Vice President: Shobha Bhatia, Syracuse University
- Vice President: Alice Comer, US Bureau of Reclamation Materials Engineering and Research Laboratory (MERL)
- Vice President: Karen Henry, US Army Corps of Engineers Cold Regions Research and Engineering Laboratory (CRREL)
- Managing Director/Secretary: Martha Barnes

At the General Assembly, out-going President Barry Christopher reported that the Society is in excellent condition with 436 full members and 104 student members across 12 universities in 1996.

The membership approved the use of postal ballots for future elections and to conduct any other business of the chapter requiring the vote of NAGS members. The membership agreed that the postal ballot vehicle ensures that all NAGS members can exercise their vote on important issues without attending future General Assemblies.

The NAGS Award of Merit was presented to Robert Landreth, formerly of the US Environmental Protection Agency, for his impressive contributions to geosynthetics in environ-

mental containment applications (see related article below).

Out-going Treasurer John Paulson reported that the Society ran a small deficit for 1996. He explained that member dues alone are not enough to support the organization's activities. However, NAGS anticipates running a surplus in each of the next three years by earning income for its role in the biennial NAGS/IFAI Geo-conferences in 1997 and 1999 and the Sixth International Conference on Geosynthetics (6IGC) to be held 25-29 March 1998 in Atlanta, Georgia, USA. The 6IGC is organized under the auspices of the International Geosynthetics Society (IGS) and sponsored by IFAI and NAGS. More than 300 abstracts have been accepted for this conference. In addition, there will be 18 workshops, an active companion program, the traditional football (North Americans read: soccer) tournament and a golf tournament.

Geosynthetics'99 will most likely be held in the Boston area in March of 1999. Rick Thiel of Thiel Engineering was named Chair of the Organizing Committee and Rick Thomas



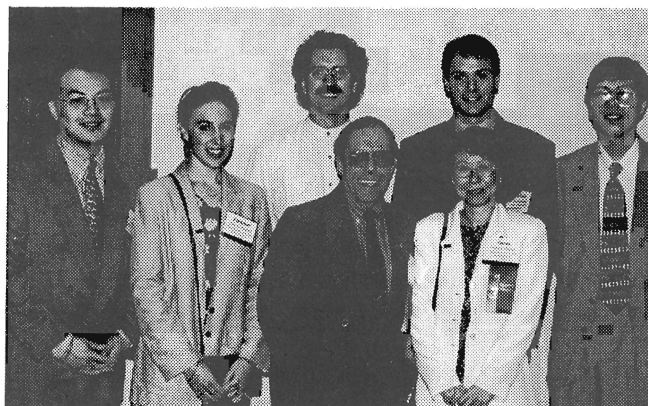
1997-1999 Nags Board of Directors (l to r): J. Paulson, S. Bhatia, R. Thomas, B. Christopher, R. Bathurst, A. Comer (not shown: K. Henry, R. Berg)

of TRI/Environmental was named Chair of the Technical Committee. Larry Well of CH2M Hill was also appointed to the Organizing Committee as Advisor.

The prestigious NAGS Awards of Excellence and the Student Paper Competition were again held in conjunction with the conference. More information on these events will be included in the April issue of NAGS News in the *Geotechnical Fabrics Report*.

In direct response to requests by members for more regional activities, the past presidents of NAGS have developed a full day seminar to be taught regionally by past presidents and local experts. The first seminar will be held in the Boston area in April 1997.

NAGS members can request a copy of the Minutes of the General Assembly by contacting Martha Barnes, NAGS Managing Director, at Tel.: 1 612/225-6943, Fax: 1 612/222-8215 or email: nags@ifai.com.



NAGS Student Paper Competition Contestants (l to r): W. Lee, F. Montgrain, J.-F. Berard (winner), Dr. A. Rollin (co-chair), R. Brachman, Dr. G. Hsuan (co-chair), J. Han.

NAGS Honors Landreth with Lifetime Achievement Award

Mr. Robert E. Landreth was honored with the Lifetime Achievement Award from the North American Geosynthetics Society (NAGS). Mr. Landreth has just retired from the U.S. Environmental Protection Agency (EPA), most recently as Chief of the Municipal Solid Waste and Residuals Management Branch at the Risk Reduction Engineering Laboratory in Cincinnati, Ohio. Many EPA regulations are directly related to projects that Mr. Landreth initiated, directed, managed, and distributed. Achievements resulting from his oversight and involvement include:

- Chemical resistance testing of geomembranes
- Composite liner concept of a geomembrane over a compacted clay liner
- Double liner concept with leak detection capability
- Utilization of geosynthetic clay liners (GCL) as alternatives to compacted clay
- Design methodologies for a variety of geosynthetic-related systems (filter design, stress-crack resistance testing, plastic pipe design, and others)

- Full scale field demonstrations on the behavior of GCL's final covers of landfills

The award was presented at the NAGS General Assembly in Long Beach, California, USA during Geosynthetic'97 on 12 March 1997. Dr. John F. Beech made the award.

reported by R. Koerner, IGS Member



NAGS Award of Merit Winner Mr. Robert Landreth. (l to r) Dr. R. Koerner, M. Landreth, R. Landreth, Dr. J. Beech

The South African Geosynthetics Interest Group becomes the Official South African Chapter of the IGS

Background

Four years ago a local specialist interest group was established in the field of geosynthetics. Formed under the wing of the geotechnical division of the South African Institution of Civil Engineers (SAICE), it was decided from the start to involve members of the geosynthetics industry who were not necessarily members of SAICE. This resulted in South Africa's major geosynthetic producers and contractors becoming involved in the group.



Need for Impartiality

A cornerstone of the group's constitution is that it may not become a vehicle to be exploited for commercial gain. The main purpose of the group is to further the understanding of geosynthetics in the South African civil engineering field. This group suffers from many misconceptions on the applications of geosynthetics mainly due to a lack of exposure to research and a dearth of knowledge of the pros and cons of these materials.

In the past, reputable manufacturers, suppliers and contractors active in the field of geosynthetics have had access to most of the information required to ensure competent specification and application, but had no noncommercial mechanism to expose the industry to this knowledge.

Similarly, the engineering specifiers and designers had no mechanism or organizations that could give them advice

on the strengths and weaknesses of the geosynthetics available on the South African market. The suppliers of the geosynthetics were the only obvious source of the information and a nagging uncertainty remained in the professional's mind, as to whether he or she had been informed of all the factors to be considered in the use of a given geosynthetic.

Establishment of gig

Hence, the need for a nonpartisan interest group was identified. It was duly formed under the name of the Geosynthetics Interest Group (gig) by members of the SAICE Geotechnical

division, helped by staff members of the leading local geosynthetic manufacturers.

A number of lectures on geosynthetics were given under the auspices of gig over the next two years, with several local and visiting international specialists in their particular fields delivering addresses on geosynthetic clay liners, geogrid reinforced fills and filtration.

Having met the constitutional requirements of both the SAICE and the IGS, gig became the official South African Chapter of the IGS, effective 1 January 1997. Its first President is Fred Gassner (a director of consulting engineers Wates Meiring & Barnard), who initiated and guided the establishment of the group.

*submitted by Mr. F. Gassner
President, South African Chapter, IGS*

IGS Membership Summary

The "International" in the International Geosynthetics Society is becoming more apparent every year. From auspicious beginnings, the IGS has grown to represent many nations. The growth parallels the world-wide growth in the production and use of the "...geotextiles, geomembranes, related products and associated technologies" that appears on the masthead of every IGS News, the IGS Website and many IGS publications.

While the Society continues to grow, members are encouraged to solicit and encourage their professional associates to join. Commercial firms are especially encouraged to join as Corporate Members. The success of the IGS, and its ability to serve its members depends on the concerted efforts of the members to serve the Society and, thus, themselves.

Current IGS Membership is shown in the table at right.

IGS Statistics as of January 1997	
Benefactors	2
Individual Members	1492
Corporate Members	71
Student Members	60
Chapters	15

*submitted by Mr. P. Stevenson
Secretary, IGS*

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, v4, no. 2, p7. 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.

C.A.R.P.I Italia S.r.l. Arona, Italy

by Alberto M. Scuero, CARPI Group President

C.A.R.P.I Italia S.r.l. is the head company of the CARPI Group, geomembranes specialist and contractors since 1963. CARPI is a specialized contractor in the field of waterproofing hydraulic and civil engineering and environment protection structures using low permeability synthetic membranes. CARPI started its activity in roofing and construction of swimming pools. Shortly after, CARPI moved into new fields of activities, pioneering the first membrane installations on hydraulic structures. In the late 1960s, geosynthetics for waterproofing were not widely available and the range of products was quite limited. Installations were based on standard low performance products, protected by soil, concrete or another substance. This consideration, and others, led to the establishment of SIBELON in 1972.

SIBELON now produces low permeability geomembranes (flexible polyvinylchloride, corrugated polyvinylchloride, flexible polypropylene) and geocomposites, coupling geomembranes with polyester geotextiles. Custom products can be manufactured according to specific requirements. Examples include corrugated membranes embedded in concrete for waterproofing and upgrading of hydropower canals, and membranes sandwiched between geotextiles for waterproofing bridge decks.

Significant projects constructed by CARPI include:

- the first canals with exposed membranes
- canals with exposed geomembrane where increased water flow was one of the goals
- confinement of polluting sites with vertical barriers
- the first dams with exposed geomembranes
- the highest rockfill dam waterproofed by a geomembrane, a world record
- hydraulic tunnels with high velocity water flows
- a floating cover built directly on liquids for biogas collection
- first permanent monitoring system with geoelectrical methods for geomembranes in landfills
- bridge decks
- underwater installation of geomembranes.

Expansion led to the creation of subsidiaries in Brazil, France, Portugal, Switzerland, and the USA. CARPI Brazil, CARPI France, CARPI Portugal, CARPI TECH, and CARPI USA, are the companies which promote and implement the Group's installations in the respective areas of influence.

CARPI has constructed floating covers with and without gas collection, has waterproofed all types of dams, power supply and irrigation canals, hydraulic tunnels, reservoirs, civil works, landfills and caps, underground structures, tunnels, roofs, and foundations. Due to research and field experience, and an alliance with an underwater service company, CARPI has the capability of installing its systems underwater. The group can provide material testing and manufacturing, engineering, and installation.

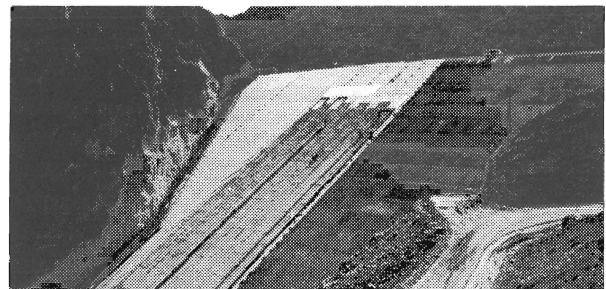
CARPI is a contractor, entering into contacts with various makers of geomembranes, to execute any size project worldwide. Manufacturers of waterproofing membranes, who are requested by their customers to supply their products for high demanding applications, should look at CARPI as a contractor able to execute "impossible" projects.

The Group has the capability of providing complete services, from the initial study through construction, in dry areas and underwater, using materials manufactured by the group or supplied by other manufacturers. CARPI can provide turnkey projects, with a single warranty.

For more information, contact:

Alberto M. Scuero, CARPI Group President
Via Monte Blanco 5
28041 Arona
Italy
Tel.: 39 322 234444 Fax: 39 322 241868

CARPI has been a member of the IGS since 1996. Alberto Scuero, President of the Group, is a member of the IGS Council and Representative of the IGS Executive Council on the European Activities Committee.



Bovilla Dam, Albania, the highest rockfill dam in the world waterproofed by a geomembrane.

IGS Chapter Reports

Editor's note: Other Chapter reports will be published in the July and November 1997 issues.

Japanese Chapter

On 14 Feb 1997, the JCIGS general assembly was held in Tokyo. The following items were reported and approved by the membership.

1) Membership as of the end of Dec 1996

Individual members: 196

Student members: 14

Corporate members: 21

2) JCIGS Publications in 1996

a) JCIGS Membership directory, Mar

b) JCIGS Journal *Geosynthetic Technical Information*: Mar, Jul, and Nov

c) Japanese translation of the IGS video "Geosynthetics in Transportation Applications", Sep

d) Proceedings of the International Symposium on Recent Case Histories and Developments in the Design of Geosynthetic Reinforced Soil Retaining Walls, Nov

e) Proceedings of the Eleventh Geosynthetics Symposium, Dec

3) Programs sponsored by the JCIGS in 1996

a) JCIGS General Assembly, Tokyo, 21 Feb

b) International Symp. on Recent Case Histories and Developments in the Design of Geosynthetic Reinforced Soil Retaining Walls, Tokyo, 9 Nov: 120 participants

c) The Eleventh Geosynthetic Symposium, Tokyo, 9 Dec; 14 papers were presented; 70 participants

d) Contributions to the Sessions on Geosynthetics: the Annual Meeting of the Japanese Geotechnical Society (JGS), Kitami, 17-19 Jul and the Annual Meeting of the Japan Society of Civil Engineers (JSCE), Nagoya 17-19 Sep

4) Activities of JCIGS Committees

The dates of the committee meetings held are as follows:

a) Steering Committee: 3/25, 6/14, 9/11, 12/9

b) Planning Committee: 3/11, 4/5, 5/10,

6/14, 7/12, 9/11, 10/11, 12/9

c) Programs Committee: 4/5, 9/4, 10/11, 11/22, 12/3

d) Editorial Committee for JCIGS Journal: 4/15, 8/26, 12/9

Editorial Subcommittees: 3/4, 3/18, 3/25, 4/5, 6/26, 7/16, 8/7, 10/29, 11/18, 11/22

e) Geomembrane Technical Committee: 1/29, 2/29, 3/29, 4/29, 5/29, 6/21, 7/24, 9/3, 10/18

f) Design Methodology Technical Committee: 11/11

g) Auditing: 2/21

5) Contacts with IGS

a) Council Meeting: Attended by Professor T. Akagi and F. Tatsuoka in Maastricht on 28-29 Sep

b) IGS News: The Annual Reports of JCIGS published in March and Jul 1996 issues

c) List of JCIGS Members: Transmitted to IGS

6) Election of JCIGS officers for 1997 (see Appendix A)

7) Programs proposed for 1997 (see Appendix B)

8) Treasurer's Report

In 1996 the Chapter revenue was 10,064,952 yen, while the expenditures were 9,678,126 yen resulting in a nominal surplus of 386,826 yen with no reserve fund.

Appendix A: JCIGS Officers for 1997

Chairman: Masami FUKUOKA

Advisors: Shingeru TANAKA and Toyotoshi YAMANOUCHI

Secretary General: Komei IWASAKI

Board Members: Hiroshi ABE, Toshinobu AKAGI, Hitoshi ARAI, Fumihito HASHIZUME, Takashi Horiguchi, Shigekazu HORIYA, Shigeyosi IMAIZUMI, Takeo ISHIMARU, Masao ITOH, Kiyomaro KASAHARA, Hiroataka KAWASAKI, Yoji KIKUCHI, Norio KONISHI, Koji KUMAGAI, Katsuhiko MAKIUCHI, Takayuki MASUO, Hiroshi MIKI, OSAMU MURATA, Kazuyuki NAKAMURA, Tatsuaki NISHIGATA, Jun NISHIMURA, Moriichi NITTA, Masahiko SAKAGUCHI, Sigeru

SUZUKE, Shin-ichi TAKAHASHI, Fumio TATSUOKA, Hideki TSUKAMOTO, Yoshiharu WATARI, Tomomasa YAMADA, Tsuneo YAMASHITA, Shin-ichi YAMATO and Susumu YOSHIKAWA

Treasurer: Kenkichi MARUYAMA

Auditors: Shigekazu HORIYA and Tomomasa YAMADA

Liaison Secretary: Toshinobu AKAGI

Secretaries: Norio YOSHIOKA, Shiro OKURA and Machiko KUMAGAI

Appendix B: Programs proposed for 1997

1. Publication of the JCIGS Membership Directory in March, JCIGS Journals to be issued in March, July and November, Notes for the Third Geomembranes Seminar in April and Geosynthetics Seminar for Students in July and Proceedings of the Twelfth Geosynthetics Symposium in December

2. Sponsorship of the Third Geomembrane Seminars in April

3. Sponsorship of the Geosynthetics Seminar for students in July

4. Sponsorship of the Geosynthetics Seminar on Recent International Conferences in October

5. Sponsorship of the Twelfth Geosynthetics Symposium in December

6. Committee activities by the steering committee: Planning Committee, Programs Committee, Editorial Committee for JCIGS Journal and Technical Committees

7. Participation in the IGS: JCIGS will continue to be in close contact with the IGS, send the Japanese Council Members to the IGS Council meetings to be held in Long Beach on 9-10 Mar 1997 and support Prof. Tatsuoka, Chairman of the IGS Technical Committee on Design Methodologies

8. Promotion of IGS membership drive with a goal to increase by five percent by the end of 1997

*submitted by T. Akagi
IGS Council Member*

Romanian Chapter Activities Report

Activities:

1. A short course of lectures was organized in Mar 1996 at the University of Timisoara, together with ECOLAND-TEMPUS project 08246-94, regarding the use of geosynthetics in landfill applications.
2. A symposium was organized in Apr 1996 in Ramnicu Valcea, together with the Minet S.A. The topic of the symposium was the use of geotextiles in hydraulic works and road construction.
3. A seminar was organized in May 1996, in Bucharest, together with the National Department of Land Reclamation. The seminar focused on the use of geotextiles for bank protection works and dike repairs on the Danube River.
4. A seminar was held in Jun 1996 at the University of Timisoara, within the TEMPUS project 08246-94, regarding

the insertion of courses on geosynthetics in the curricula of the construction faculties in Romania.

5. An excellent University Course titled "Design and Technology of Reinforced Soil Structures" was organized in Nov 1996, in cooperation with the Faculty of Land Reclamation and Environmental Engineering.
6. Six members of our Association, including President Valentin Feodorov, participated in the first European Geosynthetics Conference, organized in Maastricht between 30 Sep and 2 Oct 1996.
7. The Association has three divisions: geotextiles, reinforced soil structures, and geomembranes.
8. The Association gained new members, including students from the Faculty of Land Reclamation and Environmental Engineering.

Publications:

The first issue of the R.A.G.G. Bulletin was published in Apr 1996. The second issue was published in Sep 1996.

Membership and Offices:

Individual members: 33; student members: 4. Officers are as follows:

- President: Mr. Valentin Feodorov - IRIDEX GROUP Ltd.
- Vice Presidents: Mr. S. Constantinescu - Institute for Transport Designs, Prof. Cornel Mitoiu - Ministry of Waters, Forest and Environmental Protection
- Secretary General: Mrs. Magdalene Bostenaru - Institute for Textile Research
- Treasurer: Mrs. Mariana Olteanu - IRIDEX GROUP Ltd.

*reported by Valentin Feodorov
President, Romanian Chapter, IGS*

Geotextiles and Geomembranes an Official Journal of the IGS

Geotextiles and Geomembranes is entering its 15th volume in 1997. Several special issues are planned including: "Geosynthetic Landfill Liners", and "Field Performance of Geosynthetics and Geosynthetic Related Systems".

Elsevier is providing two new services: Contents Direct which delivers the contents page of every issue of *Geotextiles and Geomembranes* directly to your PC, two to four weeks before publication. To subscribe, send your request to Cdsubs@elsevier.co.uk - be sure to include your full name and address AND your email address. ESToC - Our Table of Contents service provides details on contents from January 1995 onwards, with search facilities and links to other publications in our catalogue: <http://www.elsevier.nl/locate/estoc/> .

Geotextiles and Geomembranes has its own Web page, containing full information about the journal, including Aims and Scope, Editorial details, and Notes for Authors: <http://www.elsevier.nl/locate/geotexmem/> .

Volume 15 of *Geotextiles and Geomembranes* is being published in 1997 and will comprise 6 issues. The full subscription price for 1997 is UK280, US\$454 or Dfl728. Individual members of the IGS may subscribe at an 80% discount, i.e. UK56, US\$91, Dfl146. Corporate members of the IGS may subscribe at a 50% discount, i.e. UK140, US\$227, Dfl364. Reduced subscriptions are available directly from the publisher and may be paid for by check or credit card to:

Subscriptions Department
Elsevier Science Ltd
The Boulevard
Langford Lane, Kidlington
Oxford, OX5 1GB
UK

Fax: +44 (0) 1865 843911

IGS members are reminded that **to take advantage of this discount they must inform Elsevier Science that they are members of the IGS**. Free sample copies of the journal may be requested from Mrs. E. Phillips, Marketing Services, at the same postal address shown above.

Submit technical contributions to:

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

Instructions for authors are available from Dr. Nigel John. Alternatively, they can be found on the Elsevier Web at: <http://www.elsevier.nl/locate/geotexmem/> .

Geosynthetics International

an Official Journal of the IGS

Geosynthetics International is an official journal of the IGS. Consequently, each issue of *Geosynthetics International* is published with the IGS logo on the cover.

In recognition of the adoption of *Geosynthetics International* by the IGS, the Industrial Fabrics Association International (IFAI), publisher of *Geosynthetics International*, has introduced a special reduced subscription rate for individual IGS members. For individual IGS Members the rate is now US\$99 per six issues with the standard rate of US\$225 applying to non-IGS Members, IGS Corporate Members and other corporations or institutions. A special rate of US\$125 / 6 issues is available for university libraries. IGS members are encouraged to use *Geosynthetics International* as an outlet for their technical papers and thus contribute toward the continuing success of this high quality publication.

Two special issues are scheduled for 1997: "Geosynthetics in Earthquake Engineering" and "Leachate and Liquid Migration Control."

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

Editor, Dr. T.S. Ingold
Mulberry Lodge, St. Peters Close

St. Albans, AL1 3ES, UK
Tel.: 44-1727-842433
Fax: 44-1727-845266

Co-Editor, Dr. R.J. Bathurst (see p19)

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

For subscriptions, contact:

Ms. Kim Bauer
IFAI
345 Cedar Street, Suite 800
St. Paul, MN 55101 USA
Tel.: 1 (612) 222-2508
Fax: 1 (612) 222-8215

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

Recent Case Histories and Developments in the Design of Geosynthetic-reinforced Soil Retaining Walls

An international symposium "Recent Case Histories and Developments in the Design of Geosynthetic-reinforced Soil Retaining Walls" was held at IIS, University of Tokyo, Japan, on 9 November 1996, chaired by Professor Fumio Tatsuoka. This conference is a follow-up of the previous one "Recent Case Histories of Permanent Geosynthetic-reinforced Soil Retaining Walls" held in 1992 at the same place.

The presentations were:

1. J. Koseki, University of Tokyo, Japan: Seismic stability of geosynthetic-reinforced soil retaining walls
2. L.E. Wichter, Technische Universitat, Germany: Recent case histories on reinforced backfill construction in Germany
3. P. Rimoldi, Tenax Group, Italy: Recent case histories in Europe of green-faced geosynthetic-reinforced structures
4. C.J.F.P. Jones, University of Newcastle upon Tyne, UK: Geosynthetic reinforced soil walls acting as crash barriers for automobiles and trains
5. R.J. Bathurst, Royal Military College of Canada, Canada: RMCC research on seismic design and performance of geosynthetic reinforced segmental retaining walls
6. J.-P. Gourc, Universite Joseph Fourier, France: Large scale experimentation up to failure of a reinforced structure by top loading
7. J.T.H. Wu, University of Colorado, USA: A MSB retaining

wall system with full-height concrete panel facing and sliding/yielding connection

8. H. Miyatake, Ministry of Construction, Japan: Research activities on reinforced soil wall in PWRI
9. C.-C. Huang, National Cheng Kung University, China: Large scale reinforced walls backfilled with clay at Cheng Kung University
10. W. Voskamp, Akzo Nobel Geosynthetics bv, The Netherlands: Flexible or stiff geogrids - state-of-the-art
11. R.K. Rowe, The University of Western Ontario, Canada: Insights gained into the behavior of reinforced soil walls based on finite element analysis and implications with respect to design
12. D. Leshchinsky, University of Delaware, USA: Analysis, design and case histories of geosynthetic tubes
13. H.I. Ling, University of Delaware, USA: Seismic stability and permanent displacement of GRS-RW

The number of participants was about one hundred. The following items were presented and discussed: 1) geosynthetic-reinforced soil retaining walls are an established technique for permanent important structures; 2) although geosynthetics are often called "extensible reinforcement," creep deformation of geosynthetic-reinforced soil structures is not a real problem; and 3) it is urgent to develop a rational seismic design methodology for high-level seismic loads.

The following day, the overseas participants visited the first prototype preloaded and prestressed geosynthetic-reinforced soil bridge pier at Maidashi near Hakata Station, Fukuoka City, Kyushu. The pier is 2.7m high and supports two 16.3m single track railway bridge girders with a maximum design load of 136 tonnes. The pier will be put into service this September. For more details, please refer to the

1996-1997 Mercer lecture by Tatsuoka et al. to appear in *Geosynthetics International*, v4, no. 2.

*submitted by Prof. Fumio Tatsuoka
IGS Council Member*

Geofoam News

International Symposium on Geofoam

The largest symposium to date dedicated exclusively to geofoam geosynthetic, ISEPS Tokyo '96, was held 29-31 October 1996 in Japan. This symposium commemorated 10 years of geofoam usage in that country that has culminated in being the current world leader in using this technology. There were 320 attendees from 16 countries. The large attendance was also indicative of the rapidly increasing worldwide interest and use of this technology which has enjoyed success in some countries since the 1960's.

The 36 paper proceedings of this symposium is available in either an English- or Japanese-language version. A 60-page, full-color booklet illustrating a wide variety of lightweight-fill applications in Japan is also available. This booklet is in Japanese but with sufficient English captions to make it useful to a broad audience. Information concerning the cost of the proceedings, case-history booklet, and related shipping costs can be obtained from:

EDO
c/o Construction Project Consultants, Inc.
No. 8 Matsuda Building
2-1-9 Okubo
Shinjuku-ku

Tokyo 169
Japan
Tel.: 81-3-32057911 Fax: 81-3-32057963
email: cps@mxd.meshnet.or.jp

Further information on this symposium as well as a wide variety of topics related to geofoam can be found on the following Web sites:

<http://www.geocities.com/~geofoam>
(also accessible through
<http://www.geocities.com/capecanaveral/2107>)

Lectures in South America

The worldwide interest in geofoam technology continues to increase. Following the very successful geofoam symposium, ISEPS Tokyo '96, in Japan in October 1996, Prof. John S. Horvath of Manhattan College in the USA presented a series of three lectures on geofoam in Buenos Aires, Argentina and Montevideo, Uruguay during 26-28 November 1996. A total of more than 100 engineers, architects, contractors, and manufacturers attended the lectures.

*submitted by Prof. John S. Horvath
IGS Member*

International Symposium on Mechanically Stabilized Backfill

The International Symposium on Mechanically Stabilized Backfill (MSB) was held in Denver, Colorado, USA, on 6-8 February 1997. Fifteen countries were represented by the 150 attendees.

The International MSB Symposium featured five keynote presentations delivered by F. Tatsuoka of Japan, P. Gotteland of France, M. Adams of the USA, P. Rimoldi of Italy, and R. Bathurst of Canada. In addition, 26 technical papers on theories and practice of reinforced soil technology were presented by practitioners and researchers from different parts of the world.

Awards were given by the Reinforced Soil Research Center to the five keynote speakers and K. Ketchart (a graduate research assistant) who gave a briefing on the bridge pier/abutment project located at the conference prior to the field trip.

The Symposium also featured panel discussions on four important issues: a) Long-Term Deformation (panelists: F.

Tatsuoka - discussion leader, T. Allen, G. Schmertmann, and J. Wu); b) Connection Strength Requirements (panelists: J. Collin - discussion leader, R. Barrett, N. Chou, D. Leshchinsky, and M. Simac); c) Design (panelists: J. Wu - discussion leader, T. Allen, R. Bathurst, R.- H. Chen, and D. Leshchinsky); and d) Seismic Performance and Design (panelists: H. Ling - discussion leader, R. Bathurst, D. Sandri, M. Sakaguchi, and F. Tatsuoka).

Panel discussions focused on issues of practical concern to those designing and constructing MSB. Although unanimous consensus was not reached on any issue, the information presented was very useful to designer-related problems. In this unique forum, progress was made in helping designers understand the divergent aspects and relative importance of each issue. In so doing, a designer now has better information to assess these issues on a project specific basis.

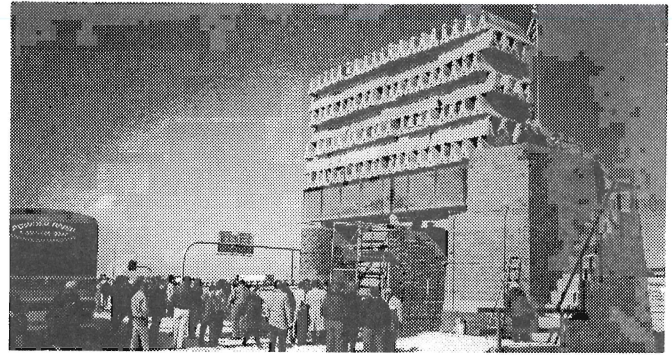
The Symposium's 150 attendees enjoyed a field trip to visit a recently completed reinforced soil project constructed by the Reinforced Soil Research Center of the University of

Colorado - Denver, the Colorado Department of Transportation, and Turner-Fairbanks Highway Research Center. The project is comprised of two bridge piers and one bridge abutment. These structures are 9.2m high and reinforced with layers of geotextiles (see picture). They were constructed inside a 3.9m deep pit, which will be filled with water at a later date to examine the effects of submergence. The behavior of the pier/abutment is currently being monitored under a sustained load of 2.3MN.

The Symposium was sponsored by the Colorado Department of Transportation, the Reinforced Soil Research Center of the University of Colorado - Denver, Turner-Fairbanks Highway Research Center of the US Federal Highway Administration, US Forest Service, the National Concrete Ma-

sonry Association, the National Association of County Engineers, and *Geotechnical Fabrics Report*.

reported by Dr. J.T.H. Wu and Mr. Michael Simac



Demonstration wall at the Conference site.



Calendar of Events



geotechnica '97

Cologne, Germany 13-16 May 1997

Contact: Cologne International Trade Fairs, Inc.

Tel.: 1 212 974 8835 Fax: 1 212 974 8838

CEN Joint Working Group Geomembranes

Frankfurt, Germany 13 May 1997

Contact: Fred Foubert

Tel.: +32-2287-08-30 Fax: +32-2230-68-15

Third International Conference on Ground Improvement Geosystems: Densification and Reinforcement, at Institute of Civil Engineers

London, UK 3-6 Jun 1997

Contact: C. Summers, Secretariat

PO Box 917, Newport Rd, Cardiff CF2 1XH, UK

Tel.: 44 (0) 1222 874000 ext 5920 Fax: 44 (0) 1222 874420

email: SummersC@Cardiff.ac.uk

"Designing with Geosynthetics" Courses

Philadelphia, PA, USA

#1 31 Jul - 1 Aug 1997

#2 21 - 22 Aug 1997

#3 4 - 5 Sep 1997

Contact: Ms. Marilyn Ashley, Geosynthetic Research Institute, Drexel University, Rush Building-West Wing Philadelphia, PA 19104 USA

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

Geosynthetics Asia '97 - Asian Regional Conference

Bangalore, India 26-29 Nov 1997

Contact: C.V.J. Varma, c/o Central Board of Irrigation and Power, Plot No. 4, Industrial Area Malcha Marg

Chanakyapuri, New Delhi, INDIA 110021

Tel.: 91 11 3015984/3016567 Fax: 91 11 3016347

email: cbip@cbipdel.uunet.in

Sardinia '97 Sixth International Landfill Symposium

Cagliari, Italy 13-17 Oct 1997

Contact: Anne Farmer, CISA-Environmental Sanitary Engineering Centre, Via Marengo 34-09123 Cagliari, ITALY

Tel.: 39/70-271652 Fax: 39/70-271371

Second Shanghai International Techtexile Exhibition & Conference (SITEC)

Shanghai, China, 3-5 Nov 1997

Contact: Eileen Tan at Miller Freeman Pte Ltd

100 Beach Road

#26-00 Shaw Towers, Singapore 189702

Tel.: 65-294-3366 Fax: 65-299-9782

Sixth International Conference on Geosynthetics

Atlanta, Georgia, USA 25-29 Mar 1998

Contact: Danette Fettig, IFAI, 345 Cedar St.

Suite 800, St. Paul, MN 55101-1088 USA

Tel.: 1 612 222 2508 Fax: 1 612 222 8215

email: ifaidan@aol.com

*Note: Items in **bold print** are organized under the auspices of the IGS or with the support of the IGS. Please submit calendar items to the Editor (address below).*

IGS News Editors

Dr. D.J. Elton, **Editor**
Civil Engineering Department
Auburn University, AL, 36849 USA
Tel.: 1 (334) 844 6285
Fax: 1 (334) 844 6290
email: elton@eng.auburn.edu

2100 Kujirai Nakanodai
KAWAGOE-SHI, SAITAMA 350, JAPAN
Tel.: 81 (492) 311211
Fax: 81 (492) 311722
email: akagi@krc.rng.toyo.ac.jp

FRANCE
Tel.: 33 76 51 49 46 Fax: 33 76 51 49 00
email: gourc@ujf-grenoble.fr

Dr. T. Akagi, **Associate Editor (Asia)**
Toyo University
Department of Civil Engineering

Dr. J-P. Gourc, **Associate Editor (Europe)**
Grenoble University
IRIGM-Lgm
B.P. 538041 Grenoble Cedex 9

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 Feb, 16 Jun, 16 Oct for the Mar, Jul and Nov issues respectively. Short articles and/or good quality photos (with a caption) are always **very welcome**.

The IGS Council

Elected in 1996: T. Akagi (Japan); B.R. Christopher (USA); H-S. Chung (Korea); C. Lawson (Malaysia); J. Laffleur (Canada); J. Paul (United Kingdom); A.M. Sciero (Italy); C.V.J. Varma (India). 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 1994: G.P. Karunaratne (Australia); P.E. Stevenson (USA). Co-opted in 1992: M. Fukuoka (Japan). The IGS Council includes the five IGS Officers serving 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
Newcastle upon Tyne, United Kingdom
Tel.: (091) 222-7117 Fax: (091) 222-6613
email: c.j.f.p.jones@newcastle.ac.uk

Treasurer: Mr. Wim Voskamp
P.O. Box 2233
3440 DE Woerden, The Netherlands
Fax: (31) 348 430961
email: voskamp@worldaccess.nl

Immediate Past President: Prof. R. Kerry Rowe
Geotechnical Research Centre
Department of Civil Engineering
University of Western Ontario

London, Ontario, Canada N6A 5B9
Tel.: 1 (519) 661-2126 Fax: 1 (519) 661-3942
email: kerry@engga.uwo.ca

Vice President: Dr. Richard J. Bathurst
Department of Civil Engineering
Royal Military College of Canada
P.O. Box 17000, STN Forces
Kingston, Ontario K7K 7B4, Canada
Tel.: 1 (613) 541-6000 ext. 6479, Fax: 1 (613) 541-6599
email: bathurst@rmc.ca

Secretary: Mr. Peter E. Stevenson
P.O. Box 347
Easley, South Carolina 29641-0347, USA
Tel.: 1 (864) 855-0504 Fax: 1 (864) 859-1698
email: igspete@aol.com

Corporate Members of the IGS

AFPG - Switzerland (1996)
AGRU Alois Gruber GmbH - Austria (1996)
Akzo-Nobel Geosynthetics B.V. - Netherlands (1986)
Amoco Fabrics and Fibers Co. - USA (1987)
Armater S.A. - France (1996)
Asahi Chemical Industry Co. Ltd. - Japan (1984)
Association Suisse Des Professionnels De Geotextiles (Aspg/Svg) - Switzerland (1984)
Belton Industries Inc. - USA (1989)
Bidim Geosynthetics - France (1984)
C.I. Kasei Co., Ltd. - Japan (1992)
Cetco - USA (1992)
Colas Group, The - France (1996)
C.A.R.P.I. Italia S.r.l. - Italy (1996)
Dae Han Industrial Material Co., Ltd. - Korea (1994)
Daito Kogyo Co., Ltd. - Japan (1992)
Devold Tele A.S. - Norway (1995)
Don & Low Ltd. - UK (1984)
Du Pont De Nemours Int. S.A. - Switzerland (1984)
E & S Engineering Co., Ltd. - Korea (1997)
Engtex AB - Sweden (1995)
Fibertex A/S - Denmark (1984)
Fritz Landolt Ag - Switzerland (1985)
Geofabrics Ltd. - UK (1995)
Geofelt GmbH - Austria (1996)
Geotextiles (M) Sdn Berhad - Malaysia (1991)
Geotechnics Holland B.V. - Netherlands (1991)
Geotop Corporation - Japan (1994)
Golden-Pow Co., Ltd. - Korea (1996)
GSE Lining Technology, Inc. - USA (1988)
HL-Weinerberger Manufacturing (S) Pte Ltd. - Singapore (1994)
Hong Kong Geosynthetics - Hong Kong (1996)
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)
Maeda Corporation - Japan (1988)
Maeda Kosen Co., Ltd. - Japan (1992)
Mecaroute S.A. - France (1996)
Mitsubishi Kagaku Sanshi Corporation - Japan (1992)
Mitsui Petrochemical Industrial Products Ltd. - Japan (1992)
Naue Fasertechnik GmbH & Co. KG - Germany (1987)
National Seal Company - USA (1992)
Netlon Ltd. - UK (1989)
Nicolon B.V. - Netherlands (1984)
Nippon Zeon Co., Ltd. - Japan (1992)
Nittoc Construction Co., Ltd. - Japan (1994)
Ohbayashi Corporation - Japan (1988)
Okasan Kogyo Co., Ltd. - Japan (1984)
Pavco S.A. - Colombia (1991)
Polyfelt GmbH - Austria (1984)
Poly-Flex, Inc. - USA (1996)
Presto Products - USA (1996)
Rhodia-ster Fipack S.A. - Brazil (1994)
Shimizu Corporation - Japan (1990)
Sotrap S.A. - France (1996)
Steel Dragon Enterprise Co. Ltd. - Taiwan (1996)
Synthetic Industries Inc. - USA (1991)
SVUG - Czech Republic (1993)
Taiyo Kogyo Corporation (Sun) - Japan (1991)
Taiyo Kogyo Co. Ltd. (Ocean) - Japan (1996)
Tanaka Co., Ltd. - Japan (1993)
Tenax SpA - Italy (1991)
Terram Ltd. - UK (1988)
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., Ltd. - Japan (1984)
UCO Technical Fabrics N.V. - Belgium (1985)

note: date indicates earliest year of continuous membership

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

The International Geosynthetics Society



OBJECTIVES OF THE IGS

The International Geosynthetics Society was formed with the following objectives:

- to collect, evaluate and disseminate knowledge on all matters relevant to geotextiles, geomembranes, related products and associated technologies;
- to improve communication and understanding regarding geotextiles, geomembranes, related products, and associated technologies as well as their applications;
- to promote advancement of the state of the art of geotextiles, geomembranes, related products, and associated technologies;
- 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.

By becoming a member of the International Geosynthetics Society you can:

- help support the aims of the IGS, especially the development of geotextiles, geomembranes, related products and associated technologies.
- contribute to the advancement of the art and science of geotextiles, geomembranes and related products, and associated technologies.
- participate in a forum for designers, manufacturers, and users, where new ideas can be exchanged and contacts improved.

Second, to enjoy the benefits.

The following benefits are available now to all IGS members:

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

IGS MEMBERSHIP APPLICATION

Membership of the International Geosynthetics Society (IGS) is open to individuals or corporations "...engaged in, or associated with, the research, development, teaching, design, manufacture or use of geotextiles, geomembranes, and related products or systems and their applications, or otherwise interested in such matters". The annual fee for membership is US\$45 for individuals and US\$1000 for corporate members. Individuals 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.

Attach card or fill in your address as you wish it to appear in the next IGS Directory

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

First Name _____ LAST NAME _____

Company _____

Address _____

City _____ Province/State _____

Postal Code/ZIP _____ Country _____

Telephone _____

Fax _____

Telex _____ email _____

Send this completed form to:

IGS Secretariat
P.O. Box 347
Easley, SC 29641-0347
USA

email: IGSSEC@AOL.COM
Tel.: 1 (864) 855-0504
Fax: 1 (864) 859-1698

- **Eligibility** (i.e. connection with geotextiles, geomembranes, related products and associated technologies)

PAYMENT

Membership fee schedule: Individual US\$45 Corporate US\$1000 Benefactors contribution (at least US\$200)

Mode of Payment:

Check enclosed

Credit Card (circle one) MasterCard/Visa American Express

Draft sent to: Credit Suisse
8021 ZH-Werdmeuhleplatz
Zurich, Switzerland
Account no. 110525-02 USD

Account no.: _____

Expiration date: _____

Signature: _____

Name on card: _____

Date: _____

Authorized signature: _____

IGS News is published by the International Geosynthetics Society

Editorial enquiries: Dr. David J. Elton, Civil Engineering Department
Auburn University, AL, USA, 36849

Tel.: 1 334 844 6285; Fax: 1 334 844 6290; email: ELTON@ENG.AUBURN.EDU