

NEWSLETTER OF THE INTERNATIONAL GEOSYNTHETICS SOCIETY

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

VOLUME 19, NO. 2

JULY 2003

Prestigious Jubilee Volume Honoring Karl Terzaghi and Heinz Brandl

n 2000, the members of the Institute for Soil Mechanics and Geotechnical Engineering of the Vienna Technical University planned to publish a special volume of the "Vienna Technical University Reports" to honor Professor Heinz Brandl on his 60th birthday.

Professor Brandl certainly deserved to be honored by his colleagues. He is regarded today as one of the few world-class experts who have a theoretical and practical experience extending over the entire field of modern geotechnical engineering. His many achievements are recognized in the various disciplines connected with geotechnical engineering, and his expertise in the field of geosynthetics is only one of the facets of his multiple talents.

Professor Brandl is well known to members of the geosynthetics discipline, in particular as Chair of the Organizing Committee of the *Third International Conference on Geosyn*- thetics (then called *International Conference on Geotextiles*). This Conference, held in Vienna in 1986, is



Professor Heinz Brandl

a very important milestone in our discipline: it was the first International Conference organized after the formation of the IGS. Professor Brandl has been a pioneer in the use of geosynthetics. For over more than 30 years, he has accumulated outstanding experience in research, practice and teaching, and he has shared this experience with the international engineering community by presenting keynote lectures at numerous conferences.

When Professor Brandl learned about the project of a special volume honoring him, he reacted with great modesty, suggesting that the emphasis be put on the 75th anniversary of the publication of Karl Terzaghi's fundamental book "Erdbaumechanik" (Soil Mechanics), which took place in 1925 in Vienna. The publication of "Erdbaumechanik" is often considered as the turning point where geotechnical engineering was no longer an art and became an engineering discipline. Shortly after the publication of "Erdbaumechanik", Karl Terzaghi founded the Institute for Soil Mechanics and Geotechnical Engineering (1928) in Vienna, which has been chaired by Professor Heinz Brandl since 1981.

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DOES THE IGS HAVE YOUR E-MAIL ADDRESS? NEW MEMBERSHIP BENEFITS REQUIRE ELECTRONIC COMMUNICATION. (See page 9 for details.)

Visit the IGS WWW site: http://www.geosyntheticssociety.org

Considering this historic background, the members of the Vienna Institute for Soil Mechanics and Geotechnical Engineering naturally adopted the concept of a Jubilee Volume honoring both Karl Terzaghi and his successor, Heinz Brandl. The Jubilee Volume has 380 pages and consists of a collection of 27 papers by most prominent authors, including all Presidents (at the time of preparation of the volume) and numerous Past-Presidents of the most renowned international societies and associations related to geotechnical engineering: the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE), the International Society for Rock Mechanics (ISRM), the International Association of Engineering Geology and the Environment (IAEG), the International Geosynthetics Society (IGS), the International Tunnelling Association (ITA), the International Commission on Large Dams (ICOLD), the World Road Association (PIARC), and the International Association for Bridge and Structural Engineering (IABSE).

The Jubilee Volume underlines the many connections between geotechnical engineering and other engineering disciplines and the cooperation between the societies and associations representing these disciplines. A volume with contributions from all current Presidents and many Past Presidents of the societies related to geotechnical engineering had never been published before. The fact that the most distin-

guished representatives of the most prestigious engineering societies were spontaneously willing to contribute to the Jubilee Volume clearly indicates that they associate Karl Terzaghi and Heinz Brandl in their respect and admiration. As noted in the Jubilee Volume by Ralph Peck, Past-President of the ISSMGE, "Terzaghi's approach to soil mechanics is alive and well in Vienna".

The IGS is well represented in the Jubilee Volume by papers written by Richard Bathurst, President at the time of preparation of the volume, and two Past-Presidents, R. Kerry Rowe and Jean-Pierre Giroud. The paper by Richard Bathurst is at the forefront of the state of the art by presenting a new technology, Segmental Retaining Walls; the paper by Kerry Rowe, From Soil Mechanics to Geosynthetics, appropriately strikes a historic chord; and the paper by Jean-Pierre Giroud deals with the subject that was so dear to Terzaghi, Filter Criteria.

Professor Brandl should be commended for having provided an opportunity for the IGS to be represented at the highest level of engineering disciplines, with seven other societies or associations, all significantly older than the IGS. The enthusiasm of our young discipline appears in the statistics: the three IGS papers cover 23% of the Volume, compared to 77% for papers from the other seven societies and associations.

Congratulations to Professor Brandl for inspiring this international effort.

The IGS and IGS News wish many more years of successful career to Professor Brandl "who has masterfully carried on Terzaghi's legacy of harmonious relationship between theory and practice, and has taken to the highest level of international reputation the very place where geotechnical engineering was born", as stated in the Jubilee Volume by J.P. Giroud, Past-President of the IGS.

Practical Information on the Jubilee Volume

A first edition of the volume, with limited circulation, was published in 2001. The second edition of the Jubilee Volume, which contains significant additions, is now available. The Jubilee Volume can be purchased from:

Institute for Soil Mechanics and Geotechnical Engineering Technical University of Vienna Karlsplatz 13

A-1040 Vienna, Austria. Fax: 43/1 58801 22199 Tel: 43/1 58801 22100

E-mail: heinz.brandl@tuwien.ac.at

The price is 50,00 Euros (including postal fees). This is an absolutely non-profit price.

The table of contents can be seen on the following web site: http://www.igb.tuwien.ac.at

> reported by Jean-Pierre Giroud IGS Past President

Call for Candidates for the IGS Council: Term 2004 to 2008

Correction: J.W. Cowland Missing from List of Candidates for Re-election in March 2003 Issue

IGS Council Member Election

The IGS bylaws prescribe that up to half of the Council be elected every two years. Therefore, *a postal ballot election will be held in May 2004* to elect eight Members to the IGS Council for a four-year term, starting in 2004.

The eight IGS Council Members, whose term expires in June 2004, are:

- J.W. Cowland (Hong Kong-China)
- D.R. Fettig (USA)
- M. Kamon (Japan)

- J. Lafleur (Canada)
- E.-S. Lee (South Korea)
- M.-L. da Costa Lopes (Portugal)
- B. Myles (United Kingdom)
- J. Paul (United Kingdom)

The IGS bylaws stipulate that a Council Member may serve two consecutive terms; hence, J.W. Cowland, D.R. Fettig, M. Kamon, E.-S. Lee, M.-L. da Costa Lopes, and B. Myles are eligible for re-election. They will have completed one, four-year term as Council Members by May 2004.

The IGS encourages any IGS Member, who is able to attend all IGS Council meetings, to consider standing for one of the Council positions. It is important that all geographical regions are represented on the Council and that its Members reflect the scope of the geosynthetics discipline.

Information/Instructions for All Candidates

Under the bylaws of the IGS, only IGS Members are eligible for these positions. Candidates must be able to travel to and attend the IGS Council meetings, which are held once a year. Meetings of the IGS Council are generally held in conjunction with international and regional conferences.

A signed letter of application together with a biographical note (not exceeding 12 lines) and a photograph should reach the IGS Secretary *no later than 31 January 2004*. Candidates must strictly adhere to the 12 line limit to ensure equal presentation space for all candidates. In their letter to the IGS

Secretary, candidates must clearly identify their country of residence.

Biographical notes, which do not exceed 12 lines, will be published in the March 2004 issue of *IGS News* (with photo), on the IGS World Wide Web home page, and in the postal-ballot package sent to each IGS Member.

The newly formed IGS Council will meet several times (typically in Asia, North America, or Europe) and, when possible, in conjunction with a major geosynthetics and geotechnical engineering event. The typical plan is one meeting per year in 2005, 2006, 2007, and 2008.

Should you need further information, please contact the IGS President, Ing. Daniele A. Cazzuffi, or the IGS Secretary, Mr. P. Stevenson (see contact information on p. 15).

reported by Karina Labinaz IGS News Editor

IGS Awards: Call for Nominations 2000 to 2003

NOTE: Nomination Deadline Extended to 30 October 2003

GS Awards will be granted in 2004 to individuals or groups of individuals who have made an outstanding contribution to the development and use of geotextiles, geomembranes, related products, or associated technologies through their scientific and technological achievements.

The Awards recognise the achievements completed and/or the validity of which has been demonstrated during a four-year period preceding the year of the Award (i.e., 2000 through 2003 inclusive).

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

Nominations must be received by the Secretary of the IGS no later than *30 October 2003*.

The Two IGS Awards

The Young IGS Member Award

This Award is for IGS Members who are less than 36 years of age on 31 December 2003.

The IGS Award

A maximum of five IGS Awards will be granted. Each award will consist of a specially commissioned medal and a diploma.

Candidates

For each entry, at least one candidate must be a Member of the IGS. Each entry is restricted to a maximum of four persons. All IGS Members are eligible with the 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 Achievement Award, all group members must satisfy the age requirement. Any individual or group that is a candidate for the Young IGS Member Achievement Award is automatically considered for both award categories (unless requested otherwise by the candidate). However, a candidate may only receive one award for the 2000 to 2003 period.

Nominations

Candidate nominations must be typed in English on plain paper (i.e., not letterhead paper) and submitted to the IGS Secretariat (see address on page 15). The nomination should include:

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

Nominations may be made by any IGS Member except for Members of the Awards Committee. Under the IGS Awards rules any IGS Member can nominate himself/herself for any award. The Education Committee, Corporate Members Committee, and IGS Chapters will be invited to make nominations.

Candidates who have been nominated will be contacted by the IGS
 Secretary. Candidates will be asked to agree to stand for an award and will be required to submit materials as directed by the Awards Committee. All nominations and award entries will be carried out in the strictest confidence by the IGS Secretary and the Awards Committee.

IGS Awards Committee

The Awards Committee will comprise five regular members including the Chair (all Members will be appointed by the IGS Officers). The Members will be selected so as to represent a broad cross section of geosynthetic-related technologies and experience. The IGS Secretary will attend all meetings of the Awards Committee as an observer.

The full text of the IGS Awards rules can be obtained by contacting the IGS

Secretary, Mr. Peter Stevenson, at the address given on p. 15 of this issue of *IGS News*.

reported by Karina Labinaz IGS News Editor

IGS Student Awards: 2003 to 2004

he IGS will continue the successful IGS Student Award program with the third award period of 2003 to 2004. The Awards will be assigned in the year 2004, and all successful candidates will attend IGS regional conferences in 2004, i.e., EuroGeo3 and GeoAsia 2004.

The IGS Student Award was established to disseminate knowledge and to improve communication and understanding of geotextiles, geomembranes, related products, and associated technologies among young geotechnical and geoenvironmental student engineers around the world.

An IGS Student Award will consist of a cheque of US\$1,000 for each winner. This award amount must be used to cover conference participation costs (i.e., registration fee, travel, accommodation).

An IGS Student Award will be assigned to only one student per Chapter; the selected student should be a M.Sc. or Ph.D. student. Students must be no older than 35 in the year the award is granted.

To ensure student representatives from each chapter participate in the program to the fullest extent possible the chapters must accomplish the following:

- Chapters must hold a contest or conduct a nomination process to select the student candidate to represent them.
- Chapters must notify the IGS of the name of the student selected by 31 January 2004.
- The IGS will transfer US\$750 to the student immediately upon receipt of chapter notification. IGS Student Award recipients will be asked to

submit a written report to the IGS on the regional conference and on the IGS-related conference activities. Upon receipt of the report, which is due within 30 days after the conference, the remaining US\$250 will be transferred to the student.

To insure the maximum benefit to the student, the organisers of the conferences must:

- Provide a copy of the proceedings to the student.
- Provide admission to the sessions for the student.
- Organise a recognition event for the students.

reported by Karina Labinaz IGS News Editor

North American Geosynthetics Society Conference in conjunction with 56th CGS and IAH Conferences

28 September to 1 October 2003 in Winnipeg, Manitoba, Canada

he North American Geosynthetics Society (NAGS) is pleased to announce that their 2003 conference will be held in Winnipeg, Manitoba, Canada in conjunction with the 56th national conference of the Canadian Geotechnical Society (CGS) and the fourth national conference of the International Association of Hydrogeologists (IAH) from 28 September to 1 October 2003.

The Conference theme is, "Two Rivers", reflecting the history of the founding of the City of Winnipeg at the forks of the Assiniboine and Red Rivers, and reflecting the collaboration between the CGS, the IAH, and NAGS in coming together to provide this Conference.

The Chair of the NAGS-sponsored

portion of the Conference is Dr. Barry Christopher (USA).

NAGS Component of Conference

This is indeed a new opportunity for NAGS to hold a conference in conjunction with other professional societies and thereby introduce other engineering professionals to geosynthetics and their applications. It is anticipated that the combined attendance of CGS and IAH Members will be a tremendous success and this partnership model can be used for future NAGS conferences in North America with other engineering societies.

Short Courses

Four short courses will be held, two of which deal with geosynthetics-related subjects.



Erosion Control Products in Channels, Slopes, and Stream Restoration (Sunday, September 28)

The speakers are Sam Allen, Shobha Bhatia, Don Lake, and Marc Theisen. The short course runs from 8:00 AM to 5:15 PM. The cost is regular \$250 and students \$150. The presentation topics are as follows:

Overview of Erosion Issues and Regulations (Don Lake)

- Overview of Design from the Manufacturer's Point of View (Marc Theisen)
- Overview of Material Testing and Standards (Sam Allen)
- Case Histories Channels, Slopes, and Stream Restoration (Shobha Bhatia)

For more information, contact Dr. James Blatz, blatzja@cc.umanitoba.ca.

Geosynthetics in Civil Engineering Practice (Saturday, September 27)

The speakers are Jean Lafleur, Paul Chiasson, Jonathan Fannin, Richard Bathurst, R. Kerry Rowe, and Brian William. The short course runs from 8:00 AM to 5:30 PM. The cost is regular \$235 and students \$180. The presentation topics are as follows:

- Geosynthetics Definitions, Properties, Test Method (J. Fannin)
- Reinforced Walls, Slopes, Embankments (R.J. Bathurst)
- Hydraulic Properties, Separation, Filtration (J. Lafleur)
- Drainage and Road Applications (P. Chiasson)
- Waste Containment Applications (R.K. Rowe)

 Construction Methods and Costs (B.Williams)

For more information, contact Dr. Rob Kenyon, rkenyon@kgsgroup.com.

Technical Tours

Tours are to be held on Sunday, September 28 2003. The tours will focus on visiting projects of technical or historical significance in the Winnipeg area. These sites have been chosen to provide a perspective of the many challenges faced by engineers at the turn of the century and more than 100 years later. Take a trip back in time to the site of the Transcona Grain Elevator and the St. Andrew's Lock and Dam. Fast forward to the Winnipeg Floodway Inlet structure and a demonstration of modern riverbank stabilization techniques using rock columns.

Paper Acceptance

Acceptance notification has been completed. If you submitted an abstract and have not received notification of acceptance, please contact Dr. James Blatz, e-mail: blatzja@cc.umanitoba.ca

Official Languages

The official languages of the Conference are English and French.

Conference Highlights

- · The Legget Award Luncheon
- CGS Awards Ceremony
- · Annual CGS Banquet
- Graduate Student Paper Award
- Colour night at Historic Fort Gibraltar
- The Icebreaker Reception

Social and Guest Program

The social program for both delegates and guests is designed to highlight the historical growth and development of Winnipeg around the junction of the "Two Rivers". Highlights will include Leo Mol Gardens, Royal Winnipeg Ballet, and The Forks and WAterfront Drive.

Contact Information

For more detailed requirements for paper submission, contact Kelly Rojas, Managing Director, North American Geosynthetics Society by telephone at 1/705 434 0180 or e-mail at kellyrojas@nagsigs.org. Please also visit the Conference's web page at http://home.cc.umanitoba.ca/~cgsman/cgs2003/

Third European Geosynthetics Conference, EuroGeo3 "Geotechnical Engineering with Geosynthetics"

1 to 4 March 2004 in Munich, Germany

he *Third European Geosynthetics Conference*, *EuroGeo3*, will be held on 1 to 4 March 2004 in Munich, Germany under the auspices of the IGS. It will be organised by the German Society for Geo-

technics with its national IGS Chapter (Chair: Prof. Rudolf Floss) in co-operation with European and national geosynthetics producers, and scientific and



Geosynthetics Conference March 01-04, 2004 Munich, Germany

engineering organisations. The Conference General Secretary is IGS Council Member Gerhard Bräu from the Technical University in Munich.

Building on the experience gained from the previous conferences, *EuroGeo1* and *EuroGeo2*, the focus of *EuroGeo3* is to provide a platform for scientific exchange as well as to attract end users from companies, engineering

offices, administrative bodies, and authorities. To achieve this, the nature of the event will be slightly changed from previous conferences.

Program

To emphasise the informative and educational aspects and reduce costs for participants, the Conference will be held at the Technical

University in Munich. A special series of lectures featuring applied and practical issues will be offered each day. Nevertheless, lectures and workshops encouraging scientific exchange will be the main pillar of the Conference. In addition, the Conference will feature participants, such as geosynthetics producers, laboratories, and developers of design programs, who will have an opportunity to promote their products and services not only during the planned technical exhibition but also in presentations or displays.

Planned Conference Topics

The following main topics are planned:

- case studies (preferably with measurement instrumentation),
- design approaches and calculation methods,
- quality management/control during production and on-site,
- economic benefits of using geosynthetics, and
- long-term experience using geosynthetic products and types of construction.

Everyone is warmly invited to send suggestions for presentations under the above headings. Further information is available on the Conference website or by request (see Contact Information).

Technical Exhibition

The technical exhibition will be run directly outside of the lecture theatres providing an excellent opportunity for exchange between scientists, producers and users. The number and size of booths for companies participating in the exhibition is limited.

Social Programme

The social programme will be oriented toward showcasing the Bavarian lifestyle including visits to famous castles, the beautiful countryside, outstanding museums, the lovely city of Munich, and drinking and eating in Bavarian style!

Technical excursions will be organised for the period immediately following the Conference.

Contact Information

For information regarding abstracts and pre-registration for the exhibition and the Conference, please contact:

EuroGeo3 – Munich 2004

Technische Universitaet Muenchen
Lehrstuhl und Pruefamt für Grundbau,
Bodenmechanik und Felsmechanik
Baumbachstrasse 7, 81245 Muenchen
Germany

Tel: 49/89 289 27139 Fax: 49/89 289 27189

E-mail: eurogeo3@bv.tum.de http://www.gb.bv.tum.de/eurogeo3

Asian Regional Conference on Geosynthetics – GeoAsia 2004 "Now and Future of Geosynthetics in Civil Engineering" 21 to 23 June 2004, Seoul, Korea

he International Geosynthetics Society-Korean Chapter (IGS-KC) is organizing the 2004 Asian Regional Conference on Geosynthetics (GeoAsia 2004) to be held on 21 to 23 June 2004, in Seoul, Korea.

Korea has one of the most rapidly growing geosynthetics industries due to an increasing demand for infrastructure development. *GeoAsia 2004* will provide an invaluable opportunity for Asian, as well as other geosynthetics industries around the world, to share their technical experience and views on challenges in the field of geosynthetics in the 21st Century.

A total of 150 to 200 participants are expected from Korea and around the world, with more than 100 abstracts having been submitted from overseas. Approximately 60 papers will be orally presented during the Conference. Poster sessions are also planned.

Conference Program and Topics

In addition to six parallel technical sessions, the Mercer Lecture by Prof. Bathurst and five Keynote Lectures will be delivered by internationally renowned colleagues including Prof. F. Tatsuoka (Japan), Prof. R.K. Rowe (Canada), Prof. R. Floss (Germany), and Prof. C.G. Bao (China).

A special session organized by TC9 of ISSMGE will also be a part of the technical program. The Conference topics include:

- Hydraulic applications
- Wall structures, slopes, and foundations: design and applications
- Roads and railways: design and applications
- Landfill and environmental applications
- Hydraulic functions: materials, tests, standardization, and quality
- Mechanical functions: materials, test, standardization, and quality
- Watertightness functions: materials, test, standardization, and quality
- Durability
- Micro-reinforcement

Important Deadlines

Submission of full papers: 31 October 2003

Notification to authors:

31 December 2003

Final submittal of paper: 28 February 2004

Author(s) should submit their paper(s) to:

Publications Committee Chair Prof. Han-Yong Jeon Faculty of Applied Chemical Eng. Chonnam National University 300 Yongbong-dong, Pukku Gwangju, Korea 500-757 Tel: 82/62 530 1775

Fax: 82/62 530 1779

E-mail: hyjeon@chonnam.ac.kr

Official Language

The official language is English.

Registration Fee

The regular registration fee for the conference is tentatively set at \$350, which will cover admission to all Conference sessions and the exhibition, technical tour, lunches, a Conference proceeding, coffee breaks, and the Welcome Reception. A tickets for the Farewell Banquet must be purchased and cost \$50 per person. Students can participate in the event at a reduced fee with the same benefits of regular registration.

Technical Tour

A half-day technical tour is being planned to visit landfill sites near Seoul. The technical tour will be open to any registered Conference attendee and accompanying persons.

Technical and Social Programs

The Organizing Committee, in cooperation with the Korean National Tourism Organization, will develop and offer Conference accompanying person's programs that includes a Korean folk village, a pottery village, historical palaces, performances of traditional folk dancing, and national park tours. Cultural programs will offer rare opportunities to experience Korea culture.

Hotel Accommodations

Accommodations can be arranged at Hotel KYMHK, which is a four-star hotel. Fifty rooms are reserved for the Conference at a approximately US\$100 for a single or double room. Participants can also choose any other accommodations nearby the Conference venue as they wish. More detailed information will be included in the Second Bulletin, which is scheduled for release at the end of July 2003.

For Further Information Contact

Prof. Chungsik Yoo Secretary General GeoAsia 2004 Department of Civil & Environmental Engineering Sungkyunkwan University Tel: 82/31 290 7518

Tel: 82/31 290 7518 Fax: 82/31 290 7549

E-mail: csyoo@yurim.skku.ac.kr

27th Meeting of Technical Committee 189 of the European Committee for Standardization in Gdansk, Poland

2 to 4 April 2003

he 27th Meeting of Technical Committee 189 (TC 189, Geotextiles and Geotextile-Related Products) of the European Committee for Standardization (CEN) was held in Gdansk, Poland, on 2 to 4 April 2003. It was the first CEN/TC189 meeting to be held in a country in which the national standards body is not a CEN member.

CEN/TC189 was organized by the Faculty of Hydro and Environmental Engineering, Gdansk University of Technology, and Technical Committee 142 on Geosynthetics (Polish Committee for Standardization). The Meeting was supported by the following corporate sponsors: Polyfelt, Drotest, Inora, and Keller.

The Committee debated in seven working groups on the following European Standards issues regarding geosynthetics:

- Geotextiles Requirements (CE marking) (WG1 - Arnstein Watn, Chair, due to the absence of the Chair, Philippe Delmas);
- Terminology (WG2 Helmut Zanzinger, Chair);
- Mechanical Testing (WG3 -Daniele Cazzuffi, Chair);
- Hydraulic Testing (WG4 Bernard Myles, Chair);
- Durability (WG5 Uwe Bornmann, Chair);

- Geosynthetic Barriers requirements (WG6 Kent von Maubeuge, Chair);
- Asphalt Reinforcement (Adhoc Group - Hans Rathmayer, Chair).

Sixty CEN members from national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and United Kingdom, and the Poland affiliated member of European Committee for Standardization, attended and participated in the Meeting.

On 2 to 3 April, debates and discussions within working groups resulted in detailed agreements in many standard documents concerning geosynthetics tests and requirements.

On 4 April the Plenary Session was opened by the Meeting Chair, Mr. Adam Bezuijen (Netherlands). Dr. Zyg-

munt Niechoda (Poland) welcomed the delegations on behalf of Polish Committee for Standardization, expressing the significance of choice of Poland for a CEN/TC 189 Meeting and presented Polish achievements in geosynthetics standardization. In total, 46 delegates from 15 countries attended the plenary session, including the CEN consultant (Mr. Cuche), an observer from EDANA (European Disposables and Nonwovens Association) and representatives from the Polish Committee for Standardization.

Mr. Fred Foubert (Secretary of CEN TC 189), introduced the Meeting work programme and explained the new CEN rules on the standardization cycle, i.e., time required for approval. He underlined that CEN wants to drastically reduce the duration the development and approval cycle to a maximum three years. This will, in many cases,



CEN/TC 189 meeting participants.

require a completely new approach (better selection of work items, faster processing of drafts, etc.).

Several delegates expressed the following concerns regarding these new rules: standardization work for most delegates is not part of the regular job and is being done on a voluntary basis; and standardization is a consensus process, which needs time.

In summary, the progress and

results of the 27th Meeting of CEN/TC 189 were presented at the General Assembly (April 4) by the Chair, Adam Bezuijen. Fourteen resolutions were approved concerning decisions on changes in obligatory documents or preparing new work items for standards.

The CEN Meeting participants also had the opportunity take pleasure in a guided tour through The Gdansk Old Town and Historical Feast at The

Gniew Castle. At the end of the Gdansk dinner, the IGS President, Daniele Cazzuffi, took the opportunity to present recent IGS activities and to encourage Polish colleagues to form an IGS chapter in Poland.

reported by Adam Bolt and Angelika Duszynska Gdansk University of Technology

International Conference on Fast Slope Movements – Prediction and Prevention for Risk Mitigation and Workshop on Occurrence and Mechanisms of Flows in Natural Slopes and Earthfills

(Napoli and Sorrento, Italy, 11 to 16 May 2003)

very year landslides cause loss of human lives, goods and property, as well as extreme damage to structures and civil infrastructure. Falls and flow-like slope movements are the most catastrophic landslides due to the high velocity and distance travelled by debris. While falls typically occur in fractured rock masses, flow-like landslides can involve every type of geological material.

Prediction of the site and time of occurrence of these catastrophic land-slides and the volume and velocity of the rock or soil mass that might be involved in the movements is a very difficult exercise. Therefore, mitigation of the associated risk is one of the major tasks for people engaged in land management.

Being aware of the social impact of these phenomena, the Associazione Geotecnica Italiana (AGI), the two Universities of Napoli, and the University of Salerno (under the auspices of the sister societies ISSMGE, ISRM and IAEG, the IGS, and the Italian Research Council (CNR-GNDCI)), organised a double event: an international conference on Fast Slope Movements - Prediction and Prevention for Risk Mitigation, which took place at the Castel dell'Ovo in the town of Napoli, and an invitational international workshop, on Occurrence and Mechanisms

of Flows in Natural Slopes and Earthfills, held in Sorrento, Italy. The two events were organised in the same week, between 12 and 16 May 2003. On 14 May, the participants at the two meetings had the opportunity of visiting the town of Sarno, which was affected by a series of catastrophic flowslides in May 1998.

Conference (11 to 13 May)

The Conference was opened by Kenji Ishihara with a speech on "Characteristics of Waterfront Landslides Induced by Earthquakes". The Conference included two main sessions, one on Risk Assessment and the other on Risk Mitigation.

The General Reporter of the first session was Leonardo Cascini. The panel members were B. Gravagnuolo, C. Faella, P. Mouroux, and M. Pastor.

The General Reporter of the second session was Norbert Morgenstern and the panel members included G. Barla, C. Bonnard, Y.C. Chan, and N. Nakamura. This second session was chaired by the IGS President Daniele Cazzuffi.

Two invited lectures were given by Tim Davies on "Run-out of Large Rock Avalanches and Volcanic Debris" and by Pasquale Versace on "Flowslide Mitigation in the Sarno Area after the Catastrophic Events of May 1998".

The Conference was concluded by a round table discussion including Paolo Canuti, as Chair, and C. Bonnard, J. Corominas, S. Evans, R. Fell, and H.K. Wong.

The proceedings of the first volume of the Conference, comprising 81 papers by authors from all around the world, have been published by Patron Editore and can be requested from AGI-Associazione Geotecnica Italiana (e-mail: agiroma@iol.it). The second volume with all of the speeches and discussions will be published soon.

Workshop (15 to 16 May)

The Workshop was opened by John Hutchinson who delivered a lecture on "A Review of Flow-Like Mass Movements in Both Granular and Fine-Grained Geological Materials". The Workshop included two main sessions on "Flows in Granular Soils" and "Flows in Fine Grained Soils".

The First Session was opened by three Introductory Reports delivered by Geoff Blight, Oldrich Hungr, and Milton Kanji. It also included a number of invited papers presented by A. Armanini, G. Sorbino, F. Colleselli, D. Calcaterra and A. Evangelista, S. Evans, C. Deangeli, T. Kokusho, W. Lacerda, A. Ledesma, A. Musso, and G. Wong.

The Second Session was opened by

two Introductory Reports given by Luciano Picarelli and Bill Savage, and included, as invited speakers, E. Bromhead, J. Corominas, L. Lemos, J.P. Malet, M. Parise, M. Angeli, and L. Vallejo.

Two Special Lectures were delivered, one by Serge Leroueil on "The

Mobility of Quick Clays: the Case of the St. Jean. Vianney Landslide" and the other by Homa Lee on "Mobilization of Submarine Flows: Examples and Questions". The second lecture was followed by two short presentations on the recent Stromboli submarine landslide, by P. Tommasi and N. Casagli. All presentations are being collected in a special volume that will be published in a few months.

reported by Luciano Picarelli Professor of Second University in Naples and Chair of IC FSM 2003

Geosynthetics International

eosynthetics International is an official journal of the IGS and has established itself as a premier peer-reviewed journal on geosynthetics. The Journal publishes technical papers, technical notes, discussions, and book reviews on all topics relating to geosynthetic materials (including natural fiber products), research, behaviour, performance analysis, testing, design, construction methods, case histories, and field experience.

Geosynthetics International is dedicated to the mission of the IGS, which is to promote the scientific and engineering development of geotextiles, geomembranes, related products, and associated technologies.

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

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

Fax: 44/1727-845266

E-mail: geo@ingold.demon.co.uk

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Fax: 1/613 541 6218 E-mail: bathurst-r@rmc.ca Dr. J.P. Giroud, Chair *Geosynthetics International* J.P. Giroud, INC. 5837 North Ocean Boulevard Ocean Ridge, Florida 33435, USA

Tel: 1/561-737-1642 Fax: 1/561-733-2809 E-mail: jpg@jpgiroud.com

Geotextiles and Geomembranes

eotextiles and Geomembranes is an official journal of the IGS and provides a forum for the dissemination of information on geosynthetics amongst research workers, designers, users, and manufacturers. The Journal increases general awareness, prompts further research, and assists in the establishment of international codes and regulations.

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

The Editorial Board Members and reviewers have worked very hard over the past year to provide detailed, constructive reviews in a very timely manner. The average review period is less than three months. Papers come from a wide range of countries with approximately one third of the papers coming from the Americas, Europe, and the rest of the world. The rejection rate is 59%. The Journal's Editor and Board Members are extremely appreciative of the authors' hard work in addressing the reviewers' comments and the quick return of revised papers.

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

All technical contributions and inquiries should be directed to:

Professor R. Kerry Rowe, Editor *Geotextiles and Geomembranes*Department of Civil Engineering Ellis Hall, Queen's University
Kingston, Ontario, K7L 3N6
Canada

Fax: 1/613 533 2128

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GeosFilter: a non-



Dae Han was founded in Korea in 1987 when the use of geosynthetics was not full scale in Korea. DAE HAN has been providing cutting-edge, timely and cost-effective technological geosynthetics solutions to a dynamic Korean industry and market. Currently, we are focusing on expanding our business into the global market place.

Services

Daehan is a manufacturing, contracting, and consulting company specialising in prefabricated vertical drains (PVDs), geotextiles, geofelt, geomats, geogrids, and fabric forms.

Products

VertiDrain: a pocket type of plastic drain board with a high-mechanical, high-strength polypropylene core and outside polyester geotextile filter that provides vertical drainage capacity of 25x10⁻⁶ m³/s under a pressure of 300 kPa. Thus, the drain does not increase "Well Resistance" which may arise from a falling off in drainage capability. The Aperture Opening Size (AOS) is 50 to 90 μm.

AceGrid: a PVC-coated low elongation/high strength polyester geogrid. ACEGrid is a superior heat/cold-resistant product. In addition, ACEGrid is chemically/biologically resistant product as it does not experience strength loss or create by-product when in contact with sewage.



woven, needle-punched polyester geotextile with excellent UV durability and resistance to corrosive bacteria in the soil and organic alkaline materials. It maintains stability between -40 and 100 degrees Celsius. GeosFilter is manufactured to various widths ranging from 2.1 to 4.2 m, thus, it can be well adapted to work a site.

GeosMat: a polyester or polypropylene woven mat used for (i) increasing the bearing capacity of weak soils at the base of roads, embankments, revetments, etc., (ii) separation of soils and subbase, and (iii) prevention of differential settlement on soft foundations. There are three GeosMat product series depending on the construction requirements of the project, e.g., required tensile strength, chemical resistance, creep resistance, etc.

GeosFormer: a geotextile "container" that is injected with fluid concrete or mortar to create a concrete "mat" that has several uses, e.g., preventing erosion of revetment slopes, river banks, abutments, gutters, and bridge piers. It is easy and quick to install even on complicated slopes, particularly with fast concrete hardening.

GeosWaterproof Mat: a woven geotextile layer between a nonwoven geotextile and polyethylene sheet used for semi-permanent containment applications such as artificial ponds, oil tank pads, and temporary waterway con-

> struction. The nonwoven geotextile prevents puncture damage by sharp stones, roots, etc. It has a strong chemical resistance against acids and alkalines.

GeosSiltProtector: a silt barrier that is installed under water to



prevent the spread of contamination that may arise from construction in rivers. GeosSP comprises a float, anchor, and liner and can endure the significant energies produced by tides and waves. It's containment of contamination efficiency ranges from 45 to 95%.

Company History

- November 1987: Daehan Geotextile established
- August 1989: Joined Korea Polypropylene Textile Ind.
- September 1991: Joined Korea Nonwoven Textile Ind. Association
- January 1992: Converted to Dae-Han Ind. Mat'l.co., Ltd.
- **January 1993**: Obtained Quality Assurance from FITI
- **February 1994**: Merged with Hanyang Construction Co.
- November 1996: Established joint venture with Geotechnics Holland B V
- March 2000: Obtained ISO 9002 certification
- June 2001: Joined Korean Geosynthetics Society as a Member
- **December 2002**: Obtained ISO 9001 certification

For more information about us, please do not hesitate to contact us or visit our web site www.geosko.com.

Dae Han Industrial Material Co., Ltd. has been a Corporate Member of the IGS since 1994.

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ZEON ENVIRONMENTAL MATERIALS CO., LTD.



We started our business in plastic recycling in 1981, under the parent company Nippon Zeon Co., Ltd, which is now called Zeon Corporation. To date, this business has been successful in all regions of Japan due to our reputation for quality products.

In addition to the above business activities, we entered into the geotextile market using our plastic recycling expertise and also developed synthetic latex road pavements (under Zeon Corporation). Our current products include plastic recycling, geotextiles, and road pavement for use in harbor construction, soil stabilization, waste treatment facilities, slope protection, and revetments.

It is our business policy not to only market these products, but also propose unique and quality-oriented application methods to our business and/or technical consultants clients.

Since July 2001, Zeon Environmental Materials Co., Ltd. became independent from the parent company, Zeon

Corporation, to be the only company division to deal with environmental materials as its core business in the Zeon Corporation Group.

In 2001, our turn over and the total number of employees were 3.8billion JPY and 90 people, respectively.

LOCAL OFFICES

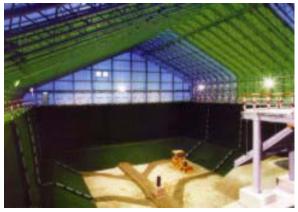
We have local offices in Tokyo, Sapporo, Sendai, Fukushima, Nagoya, Osaka, Wakayama, Kurashiki, Hiroshima, Yamaguchi, Fukuoka, Kumamoto, Kagoshima, and Okinawa.

CIVIL ENGINEERING DIVISION

Due to the significant requirement of developing advanced land use methodologies in Japan, the use of geotextiles in construction projects for soil and wall reinforcement, etc. has quickly expanded. In addition, waste disposal issues have also become increasingly important to ensure public safety from environmental contaminants, further increasing the role of geotextiles in Japan.

RRR CONSTRUC-TION SYSTEM (Reinforced Railroad/Road with Rigid Facing Construction System)

This method is used to construct permanent retaining walls having a near-vertical wall face by reinforcing the back-



Waste landfill system.

fill soil with a geotextile and by using a full-height rigid facing.

Log-Facing construction is a unique reinforcement soil wall construction method that uses recycled plastic logs as the wall facing.

WASTE LANDFILL SYSTEM

In waste landfill system construction, our system corresponds to the need for environmental preservation, which is critical in this day and age.

ZEON ENVIRONMENTAL MATE- RIALS CO., LTD is eco-friendly, continues its product development such that it contributes to society, and tackles an enterprise in environment from now on as corporate concept.

For the further information

Visit our website: www.zeon.co.jp

Or contact us at: Shuwa Shiba Park Building 2-4-1 Shiba Kohen, Minato-ku Tokyo, Japan Tel: 81/3 3578 7765

Fax: 81/3 3578 7766



Retaining wall with a near-vertical wall face constructed with recycled plastic logs.

Zeon Environmental Materials Co., Ltd. has been a Corporate Member of the IGS since 1992.

CORPORATE PROFILE

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BETTOR MBT, S.A. is a Spanish company engaging in research, development, manufacture, commercialisation and technical advice for the use of chemical products in construction applications. Bettor MBT, S.A. is the leading firm in Concrete Additives and Underground Construction (U.G.C.). Moreover, it has consolidated an important position as a result of its participation in well-known works, using products and systems related to Protection, Repair and Cleaning of Concrete, Industrial paving, and Waterproofing.

The organisation aims to satisfy customers based on our high-quality specialised chemical products, qualified advice, and attentive service. This allows us to offer optimum solutions in projects with a high level of technical complexity, thus, participating in important work and construction in Spain.

Bettor MBT aims to gain commercial and technological leadership in the Construction Chemical Industry in Spain and to maintain this position. The firm is at the forefront of innovation and technological leadership, and constantly seeks to improve, modernise and supplement its specialised products and systems in order to satisfy present and future needs.

We provide the finest service for the Construction Industry, with an organisation of true professionals. Moreover, the strict quality standards of our products, systems and services are guaranteed. Bettor MBT has recently undergone a new expansion.
Significant investments have been made in expanding and improving the R & D machinery, which has increased capacity in terms of analysing and testing materials.

We also have two training classrooms, for technological training courses and seminars for our customers and personnel, to maintain the level of professional qualification required in the construction sector.

We have two centres of production, logistics and distribution, as well as a network of Branch offices with their own warehouses, located throughout Spain.

ISO 14001 Certification

Bettor's commitment to the Environment entails the ongoing adaptation of our activities and management system. Therefore, the ISO 14001 certification has been obtained.

Certificate of Registered Company (AENOR)

Since 1993, due to the dynamic and regular process of ongoing improvement, Bettor MBT, S.A. holds the Certificate of Registered Company granted by AENOR, E.R. This certificate states that our quality assurance system for R & D, Production and After-Sales Service is in compliance with the UNE / EN / ISO 9001: 94 Standard, renewed in 1999 by the AENOR Certification

company.

PRODUCTS AND APPLICATIONS

Bettor MBT, S.A. has become a leader in the field of our historic Concrete and Mortar Additives division. Moreover, it has achieved a consoli-



dated position in a wide range of products and systems of application, which are grouped in the three Business Lines outlined below.

The different national, as well as international independent Laboratories, ensure compliance through certifications, seals of technical adequacy, official approvals, and tests that are always available to our customers.

Admixture Systems

Long-standing experience in this field, along with the intense work in Research and Development, on the international level as well as our own, are key factors which allow us to offer the most complete range of superfluidisers, fluidisers, aerators, antifreezes, waterproofing, curing agents and strippers, which have earned us national leadership in concrete and mortar additives.

Building Systems

This Business Line has the largest range of products that are divided into the following product lines: Systems of Concrete Protection, Repair and Cleaning; Cementing and anchoring machinery and structures; Sealing joints; and Ceramics.

Performance Flooring

This line of products includes: Systems for preparing Industrial Paving (Primers, joints, levellers and decorative finishes); Waterproofing systems (elastic waterproof coatings with epoxy-urea base, epoxy-polyurethane, bituminous, cementous, as well as acrylic resins).

Visit our website: www.bettor-mbt.es

Bettor MBT, S.A. has been a Corporate Member of the IGS since 2000.



CONFERENCES SYMPOSIA WORKSHOPS





SHORT COURSES EXPOSITIONS TRADE SHOWS

12th Asian Regional Conference on Soil Mechanics & Geotechnical Engineering

Singapore 4-8 August 2003 Contact: Dr. C.F. Leung Tel: 65/8742281 Fax: 65/7791635

E-mail: 12ARC@nus.edu.sg

http://www.eng.nus.edu.sg/civil/conf/12ARC

13th European Conference on Soil Mechanics & Geotechnical Eng. Prague, The Czech Republic 25-28 August 2003 Contact: Prof. Ivan Vanicek Tel: 42/2 24354540 Fax: 42/2 3114206

E-mail: vaniceki@fsv.cvut.cz http://www.ecsmge2003.cz

North American Geosynthetics Society (NAGS) Conference Winnipeg, Manitoba, Canada 28 September-1 October 2003

Contact: Dr. James Blatz E-mail: blatzj@cc.umanitoba.ca http://home.cc.umanitoba.ca/~cgsman/cgs2003

Sardinia 2003 S. Maraherita di I

S. Margherita di Pula, Cagliari, Italy 6-10 October 2003

Contact: Eurowaste srl via Beato Pellegrino, 23 I-35135 Padova, Italy Tel: 39/049 8726986 Fax: 39/049 8726987 E-mail: eurowaste@tin.it

http://www.sardiniasymposium.it

XVI Italian National Conference on

Geosynthetics Bologna, Italy 15 October 2003 Contact: AGI-IGS Tel: 39/06 4424 9272 Fax: 39/06 4424 9274 E-mail: agiroma@iol.it

5es Rencontres Géosynthétiques Fifth French Colloquium on Geotextiles, Geomembranes and Related Products 25-26 November 2003 in Colmar, France 10-11 February 2004 in Lille, France 30-31 March 2004 in Avignon, France Contact: Colloquium Secretariat

Tel: 33/01 41 96 90 93 Fax: 33/01 41 96 91 05

E-mail: secretariat.cfg@wanadoo.fr

http://www.cfg.asso.fr

13th African Regional Conference Marrakech, Morocco

8-11 December 2003 Contact: Professor R. Khalid Tel: 1/212 2 248 87 50 Fax: 1/212 2 223 41 88 E-mail: diremi@emi.ac.ma

17th Annual Conference on Geosynthetics

Las Vegas, Nevada, USA 15-16 December 2003 Contact: Ms. Marilyn Ashley Tel: 1/610 522 8440

Fax: 1/610 522 8441

E-mail: marilyn.ashley@coe.drexel.edu http://www.geosynthetic-institute.org

9th ANZ Regional Conference Auckland, New Zealand 9-11 February 2004 Contact: Stephen Crawford

Tel: 64/9 355 6054 Fax: 64/9 307 0265

E-mail: scrawford@tonkin.co.nz

EuroGeo3 Munich, Germany 1-4 March 2004

Contact: Technische Universitaet

Muenchen

Tel: 49/89 289 27139 Fax: 49/89 289 27189 E-mail: eurogeo3@bv.tum.de http://www.gb.bv.tum.de/eurogeo3

Fifth RILEM International Conference

Cracking in Pavements Limoges, France 5-8 May 2004

Contact: Chantal Iannarelli Tel: 33/1 47 71 90 04 Fax: 33/1 47 71 90 05 E-mail: c2s@club-internet.fr http://www.congres-scientifiques.com/

GeoAsia 2004 Seoul, Korea

Seoul, Korea 21-23 June 2004

Contact: Prof. Chungsik Yoo Tel: 82/31 290 7518 Fax: 82/31 290 7549

E-mail: asyoo@yurim.skku.sc.kr http://www.kgss.or.kr/geoasia2004

9th International Symposium on

Landslides

Rio de Janeiro, Brazil 28 June -2 July 2004

Contact: Secretariat 9 ISL - Rio 2004

Tel: 55/21 562 7200

Fax: 55/21 280 9545 or 55/21 290 6626 E-mail: 9isl@geotec.coppe.ufrj.br http://www.quattri.com.br/isl/

International Conference on Geotechnical Engineering Sharjah, United Arab Emirates

3-6 October 2004

Contact: Dr. Adnan A. Basma Dept. Civil Engineering

University of Sharjah, PO Box 27272

Sharjah, United Arab Emirates

Tel: 971/6 5050957 Fax: 971/6 5050401

E-mail: civeng@sharjah.ac.ae http://www.sharjah.ac.ae/academic/ engineering/civil/icge2004/index.htm

Geofilters 2004

Stellenbosch, South Africa 19-21 October 2004 Contact: Prof Andy Fourie University of the Witwatersrand

Tel: 27/11 717 7108 Fax: 27/11 3391762

E-mail: andyf@civil.wits.ac.za

15th South-East Asian Geotechnical

Conference (SEAGC) Bangkok, Thailand 22-26 November 2004

Contact: Dr. Wanchai Teparaksa Tel: 66/2 218 6460-2, 218 6575

Fax: 66/2 251 7304

E-mail: seagc15@eng.chula.ac.th http://www.eng.chula.ac.th/seagc15

16th International Conference on Soil Mechanics and Geotechnical Engineering

Osaka, Japan

12-16 September 2005 Contact: Prof. Masashi Kamon

Tel: 81/3 3251 7661 Fax: 81/3 3251 6688

E-mail: 16ICSMGE@jiban.or.jp

http://www.jiban.or.jp/

XIIIth Danube-European Conference on

Geotechnical Engineering Ljubljana, Slovenia 7-9 June 2006

Contact: Dr Janko Logar, Slovenian

Geotechnical Society

University of Ljubljana, Faculty of Civil

and Geodetic Engineering

SL1000 Ljubljana, Jamova 2, Slovenia

Tel: 386/1 4768 526

E-mail: jlogar@fgg.uni-lj.sl

8th International Conference on Geosynthetics (8ICG)

Yokohama, Japan 18-22 September 2006

Contact: 8ICG Conference Secretary

Tel: 81/3 3837 2503 Fax: 81/3 3837 5818

E-mail: info@8icg-yokohama.org http://www.8icg-yokohama.org

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IGS News is published three times per year. Material for publication should be submitted to the Editor or the Associate Editor by 31 January, 31 May, and 30 September, for possible publication in the March, July, and November issues, respectively.

The International Geosynthetics Society

OBJECTIVES OF THE IGS



The International Geosynthetics Society was formed with the following objectives:

- · to collect, evaluate, and disseminate knowledge on all matters relevant to geotextiles, geomembranes, related products, and associated technologies;
- to improve communication and understanding regarding geotextiles, geomembranes, related products, and associated technologies, as well as their applications;
- · to promote advancement of the state of the art of geotextiles, geomembranes, related products, and associated technologies; and
- to encourage, through its Members, the harmonization of test methods, and equipment and criteria for geotextiles, geomembranes, related products, and associated technologies.

WHY BECOME A MEMBER OF THE IGS?

First, to contribute to the development of our profession.

By becoming an IGS Member you can:

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

Second, to enjoy the benefits.

The following benefits are now available to all IGS Members:

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

IGS MEMBERSHIP APPLICATION

Membership of the International Geosynthetics Society (IGS) is open to individuals or corporations "... engaged in, or associated with, the research, development, teaching, design, manufacture or use of geotextiles, geomembranes, and related products or systems and their applications, or otherwise interested in such matters.". The annual fee for membership is US\$45 for individuals and US\$1000 for Corporate Members. Individuals of, or not of, corporations who voluntarily contribute a minimum of US\$200 annually to the IGS, in excess of their membership dues, will be mentioned in the IGS Directory in a separate list as benefactors.

Write your address Title (circle one): N First name: Last name: Company name:	US\$200 annually to the IGS, in excess of their membership does below as you wish it to appear in the next <i>IGS Directory</i> Mr. Ms. Dr. Prof. Other Position	Send this completed form to: IGS Secretariat P.O. Box 347 Easley, SC 29641-0347 USA Eligibility (i.e., your connection ucts, and associated technolog	Telephone: Fax: E-mail: n to geotextiles, g	1/864 855 0504 1/864 859 1698 igssec@aol.com
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IGS News is published by the International Geosynthetics Society

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