

NewsLetter

MAY 2011 EDITION

The South African Chapter of
the International Geosynthetic
Society 

Established in 1994 and Dedicated to the Scientific and
Engineering Development of Geosynthetics and Associated
Technologies

A newsletter of the Geosynthetics Interest Group of South
Africa in Association with the South African Institution of Civil
Engineering

PRODUCED BY GIGSA : www.gigsa.org

Drainage & Soil Reinforcement combine in a unique geosynthetic product

Introduction

Designing reinforced slopes constructed from cohesive fill is concerned with, firstly, providing adequate short-term stability in the reinforced slope. Once excess pore water pressures have dissipated the strength of the fill will increase and vertical and horizontal settlements will reduce considerably. Secondly, the long-term stability and settlement of the slope must be controlled by careful design of a drainage system at the back and underside of the reinforced block to prevent seepage forces developing which can lead to ultimate or serviceability limit states.

A combined reinforcement and drainage geosynthetic has been developed for stabilizing steep slopes in conjunction

with marginal and cohesive fills. The new geosynthetic consists of two components (Figure 1):

1. The reinforcement component comprises high tenacity polyester yarns encased in a durable polyethylene coating to both protect the load carrying elements and also to maintain the shape of the product, which is itself profiled to provide an integral drainage channel,
2. The drainage component includes a thermally bonded nonwoven geotextile that is fixed to the shoulders of the drainage channel. The geotextile acts as a filter allowing pore water from the fill to drain into the channel while at the same time retaining the soil particles.



Figure1: Schematic of combined reinforcement and drainage geocomposite (after Linear Composites Ltd, 2011)

BENEFACTOR MEMBERS (IN ORDER OF JOINING)

Engineered Linings • Kaytech • Aquatan • Geotextiles Africa • SRK Consulting • Jones & Wagener • Du Pont South Africa
Gundle Geosynthetics • ARQ Consulting Engineers • Reinforced Earth South Africa • Maccaferri South Africa • Gast • Fibertex
Fraser Alexander Construction • NexTube • Stefanutti Stocks Mining Services • Golder Associates • Rhino Geosynthetics

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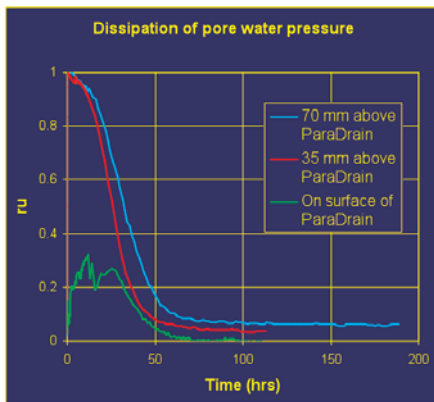
Drainage & Soil Reinforcement combine in a unique geosynthetic product

Research

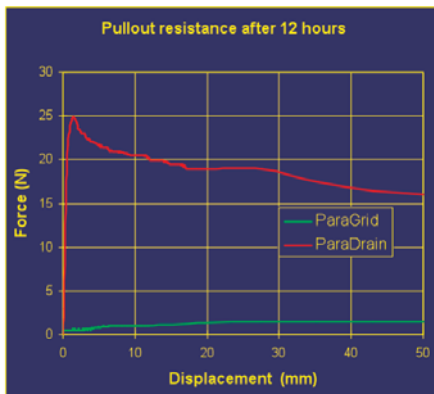
To provide engineers with performance characteristics, Paradrain® has been researched extensively at the University of Newcastle-upon-Tyne in the UK to measure the rates of pore water dissipation and pull-out resistance under various conditions. The dissipation of pore water testing was carried out using China Clay with a permeability of 1×10^{-11} m/s. Probes within the soil cell were arranged to measure the pore water pressure at different distances from the Paradrain®. Excess pore water pressure was generated by applying various external loads under undrained conditions, with only drainage through the Paradrain® being allowed.

Results

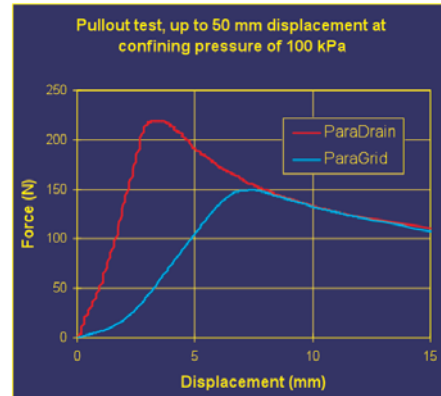
Paradrain® quickly and effectively dissipates excess pore water pressures to only 20% of its initial value within 48 hours of the start of the test (Graph 1). The excess pore water pressure on the surface of the Paradrain® only reaches 30% of the initial applied stress. Pull-out tests have been carried out on Paradrain® and Paragrid® (with no drainage component) in partial dissipation (12 hours) and after full dissipation of excess pore water pressure. Paradrain® develops higher pull-out resistance (Graph 2) which are not comparable with the conventional geogrid. The peak pull-out resistance is developed at 3mm displacement: 33% less than Paragrid® (Graph 3).



Graph 1: Dissipation of excess pore water pressure under confining stress of 50kpa at various distances above Paradrain® in English China Clay with $k = 1 \times 10^{-11}$ m/s. (after Kempton et al 2000.)



Graph 2: Pullout resistance after 12 hrs dissipation of pore water pressure (after Kempton et al 2000.)



Graph 3: Pullout resistance after full dissipation of pore water pressure

Case Study

During the 1999 typhoon season a build-up of pore pressures in a section of slope on the uphill side of a single carriageway road coupled with generally poor drainage resulted in the collapse of a slope and the closure of a road at Wan Li, near Taipei. The reconstructed slope at Wan Li, Figure 3, was constructed in two steps to a total height of 12 m and was reinforced with a combined drainage / reinforcement geocomposite, Figure 2. The silty clay soil recovered from the failed area was used as the backfill in the reinstated reinforced slope. This reduced the construction period and provided a significant cost saving, as expensive granular materials were not required.

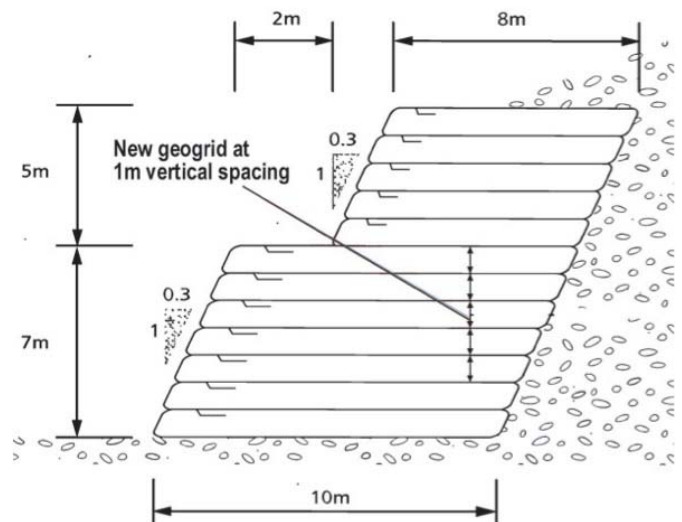


Figure 2: Cross section through reinstated slope at Wan Li, Taiwan.



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Drainage & Soil Reinforcement combine in a unique geosynthetic product



Figure 3 : Reinstatement of the slope

Conclusions

Paradrain® consists of polyester yarns encased in a polyethylene coating, and a nonwoven geotextile. It was developed in the late '90s with the aim to allow the construction of soil reinforcement structures using poor geotechnical material such as clayey soils. The nonwoven dissipates pore water pressures within the first 48 hours, increasing the pullout resistance and restraining deformation. The polyester geogrid achieves a maximum tensile strength of 200 kN/m guaranteeing a creep deformation of less than 1%. After a decade of use, Paradrain® is well known in the international geosynthetics field, assisting environmental protection by reducing the volume of earthworks and saving costs due to enabling lesser volumes of imported material.

References:

2000 G.T. Kempton, C.J.F.P. Jones, R.A. Jewell, P.J. Naughton: "Construction of slopes using cohesive fills and a new innovative geosynthetic material". Eurogeo 2 – 2000

For more information, please contact:

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MACCAFERRI
SOUTHERN AFRICA



Prez Sez

Dear members,

Welcome to our second newsletter for 2011, I hope you find it interesting and useful.

In the previous Prez-Sez I mentioned that we had two initiatives that the GIGSA Committee is focusing on at present. We now effectively have four!

- A CPD-accredited full-day training course by Prof. RK Rowe on 'Systems Engineering for Barrier Systems' in September 2011. We plan to host this course in South Africa, Namibia and Zambia as part of GIGSA's regional outreach programme. More details of these courses are presented in this newsletter.
- Three GIGSA introductory lectures on barriers, reinforcement and filtration & drainage at the 15th African Regional Conference to be held in Maputo over 18-20 July 2011. The lectures will be presented in a stand-alone session by Riva Nortjé; Garth James; as well as Kelvin Legge with Peter Davies respectively. IGS President Jorge Zornberg will also be talking at this conference. See this newsletter for more news on this event.
- International landfill design expert Richard Thiel (founder of Thiel Engineering of California) will be presenting a GIGSA-sponsored ½ day workshop on landfill stability at the IWMSA LIG "Landfill 2011" seminar in Durban over 18-20 October.
- As part of the same visit to South Africa, Rick will present a lecture on waste facility capping in Gauteng on the 20th or 21st of October. Details will follow once finalised. The lecture will be co-hosted by the SAICE Geotechnical Division at the SAICE H/O in Midrand.

News from the committee is that Peter Legg has been elected Treasurer of the International Geosynthetics Society

(which GIGSA is a chapter of). Wihan Visser of Jan Palm Specialist Engineers has also agreed to serve as and has been co-opted onto the committee as our Western Cape representative.

As GIGSA is as an organization dedicated to the scientific and engineering advancement of geosynthetics we are pleased to announce that we are contributing sponsors to two research and development projects.

- The University of Kwazulu-Natal is investigating the use of geosynthetics to stiffen earth embankments. The need for the investigation was identified during the design and construction of the Gautrain formation over the sinkhole prone Centurion areas. The work is to be carried out by postgraduate students under the guidance of Malcolm Jaros.
- The University of Cape Town is investigating the use of geosynthetics to reinforce shallow foundations. The work is to be carried out by postgraduate students under the guidance of Dr. Denis Kalumba.



Geosynthetic Greetings,

Anton Bain
President

bain@jaws.co.za

"scientia potentia est" (Attrib Sir Francis Bacon)



Unique Geogrid ensures Express Rail Track Maintenance



TriAx® being laid on the Kaapmuiden turnout

On a key junction of the busy Transnet freight rail route to South Africa's border with Mozambique, only five days possession could be spared to reconstruct a critical turnout and scissors crossing.

By using Tensar TriAx® (a unique multi-axial extruded geogrid) to mechanically stabilise the new sub-ballast layer, the contractors were able to complete the task and restore operation within schedule, minimising costly delays.

The 300m long section at Kaapmuiden station, which covers an area of about 2,500 m², lies at the junction of one line from Hoedspruit, with two lines from Komatipoort which are rated for 20 ton axle loadings. They connect with two lines to Nelspruit, and a turnout to the freight yard. Site space for work was tightly constrained by platforms, buildings and vehicle crossings, putting further stress on project time.

Contractors Transnet Capital Projects RME, and consulting engineers RCE, also had to contend with the rainy season which has caused significant damage to rail routes in South Africa during 2011, and threatened additional delays to contracting work.

"Because of these many constraints, the engineers and Transnet decided to take advantage of the proven load bearing capacity of aggregate mechanically stabilized with TriAx," comments Garth James, Director of Tensar geogrid specialist Kaytech Engineered Fabrics. "This solution required only 200mm of quality imported sub-ballast aggregate, instead of the standard 400mm of unstabilised material, saving days of site time as well as the cost of aggregate."

"Additionally, using a TriAx solution meant that the sub-grade only needed excavation and replacement to 350mm, which



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Unique Geogrid ensures Express Rail Track Maintenance

reduced the risk of contractors damaging cables and services buried at 600mm.”

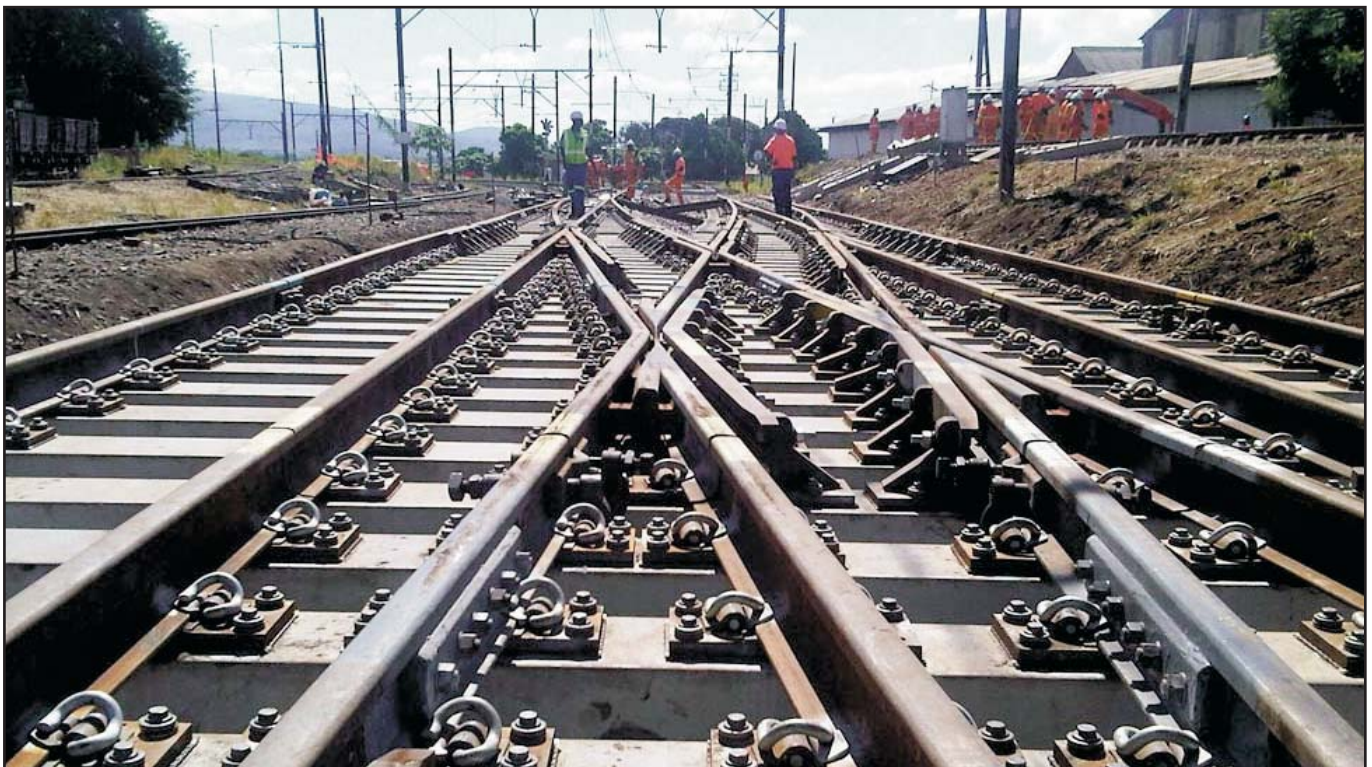
The contractors ripped the sub-grade to 350mm before replacing and compacting it. Then a layer of TriAx geogrid was laid out over the sub-grade and covered with 200mm of imported G1 grade aggregate, compacted to 88%. Although G4 was originally specified, the high grade G1 was more readily available at the time needed. Over this sub-ballast layer were laid 200mm of ballast, then 220mm thick concrete sleepers, and the track completed with 150mm rail I beams.

The formation repair project at Kaapmuiden is part of a five year Transnet programme of rail route refurbishment. The section is on a strategic line which carries heavy goods such as ferrous and chrome ores to Mozambique’s ports for export; as a major contributor to South Africa’s export trade, any track downtime is very costly.

Client: Transnet Freight Rail
Main contractor: Transnet Capital Projects – RME
Consulting engineers: RCE Consulting Engineers



Close-up of the Tri-Ax® structure



The completed Scissors Junction



The GIGSA Awards

Since the GIGSA's establishment in 1994, it has made a number of awards to eminent members, in line with the objectives given in GIGSA's constitution. Five award categories have evolved: the President's awards are granted at the sole discretion of the incumbent president, while the other four categories are decided by majority vote of the GIGSA awards sub-committee. These are honorary awards for service to the geosynthetics industry, awards for development in technology, construction awards, and student awards.

Members are invited to submit their nominations for the biennial GIGSA awards in the following categories:

- Development and Technology
- Construction
- Outstanding service to GIGSA

Nominations must identify the nominee, indicate clearly which category a candidate is being nominated for, and must include a motivation of not more than 300 words. **For submission guidelines, please contact Riva Nortjé (nortje@jaws.co.za).** The awardees will be chosen from the nominations by a panel of three GIGSA committee members, and the decision will be ratified by the President.

All nominations are to reach the Awards Committee care of Riva Nortjé (nortje@jaws.co.za) before the **end of June 2011**. We await your response!

Recent recipients of the GIGSA President's Awards (The Kelly Nicole Legge Floating Trophy)

Year	To	For
2004	Clifford Gundle	outstanding service to the geosynthetics industry
2005	Peter Davies	his dedication to the geosynthetics industry over many years
2009	Peter Legg	his excellence and dedication to GIGSA in his capacity as Immediate Past President of GIGSA, Conference Chairman for GeoAfrica 2009 and IGS Council Member

Recent recipients of the GIGSA Honorary Awards

Year	To	For
2003	Alan Lever	his pioneering work in the geosynthetics industry
2004	Gavin McFarlane	outstanding service to the geosynthetics industry (awarded posthumously)
2005	Leon Bredenhann	his leadership of the Minimum Requirements Waste Management series of documents
2009	Glenn Lawson; Du Toit Viljoen; Ronnie Schurenberg; Falk Hedrich; Peter Davies and Clifford Gundle	more than 25 years of service in the geosynthetics industry

Recent recipients of the GIGSA Development in Technology Awards

Year	To	For
2003	Engineered Linings	the development of the technology, plant and equipment for the manufacturing of Engineered Lining's Anchor Knob Sheet (AKS)
2005	Kelvin Legge	advancing the understanding of geotextiles as filters in critical applications in embankment dams
2006	Kelvin Legge and Aquatan	the development of a system that mitigates the negative effects of heat on geosynthetic materials in barrier systems
2009	Moore Spence and Jones (Malcolm Jaros), Bombela Civils JV (Pty) Ltd and Kaytech Engineered Fabrics	the Multiple Layered Geosynthetic Reinforced Embankment over Sinkhole Area, Snake Valley, Gauteng Rapid Rail Link



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The GIGSA Awards

Recent recipients of the GIGSA Construction Awards

Year	To	For
2002	Jones & Wagener, Engineered Linings and Group 5	Natref Pond 1C
2005	Jarrold Ball & Associates and Aquatan	the design and construction of a 14 800m ³ floating cover molasses storage reservoir
2006	Aquatan	the Geomembrane Lining System to the Effluent Treatment Plant, Mondi, Richards Bay
2009	Aquatan	the Buzwagi Gold Mine Water Harvesting and Floating Cover Reservoir, Tanzania
2009	Commendation to Dept. of Water Affairs (Engineering Services), Iliso Consulting Engineers and Kaytech Engineered Fabrics	the Usutu River Emergency Works, RSA-Mozambique Border

GIGSA Student Awards

Past winners of the GIGSA student award are Liza du Preez (2000), John Pavlakis (2002), Anton Bain (2004) and David Johns (2008), who attended EuroGeo1, 2 3 and 4 respectively. GIGSA has already received two nominations for the 2012 student awards, with student nominations to the Awards Committee care of Riva Nortjé (nortje@jaws.co.za) due **by the end of 2011**. The lucky recipient will receive sponsorship from GIGSA towards attending EuroGeo5, which will take place from the 16-19 September in Valencia Spain, **or an alternative regional IGS conference taking place in 2012**. For details of nomination and motivation requirements, please contact Riva Nortjé (nortje@jaws.co.za)

Govt. Gazette 6784A/45297/BZ/a

1.2.64 Definitions for Pipes [as amended 01 05 09]

- All pipes are to be made of a long hole, surrounded by metal copper or plastic, centred around the hole.
- All pipes are to be hollow throughout the entire length - do not use holes of different length than the pipe.
- The ID (Inside Diameter) of all pipes must not exceed their OD (Outside Diameter) - otherwise the hole will be on the outside.
- The pipe is supplied with nothing in the hole, so that water, steam or other stuff can be put inside at a later date.
- All pipes are to be supplied without rust; this can be more readily applied at the job site.
NOTE: Some vendors are now able to supply pre-rusted pipes. If available in your area, this product is recommended, as it will save a great deal of time at the job site.
- All pipe over 28m in length should have the words "LONG PIPE" clearly painted on each side and end, so the contractor will know it's a long pipe.
- Pipe over 300m in length must also have the words "LONG PIPE" painted in the middle so the contractor will not have to walk the entire length of the pipe to determine whether it is a long or short pipe.
- All pipes over 1.8m in diameter must have the words "LARGE PIPE" painted on it, so the contractor won't mistake it for a small pipe.
- Flanges can be used on pipes. Flanges must have holes for bolts, quite separate from the big hole in the middle.
- When ordering 90 or 45 degree elbows, be sure to specify left-hand or right-hand, otherwise you will end up going the wrong way.
- Be sure to specify to your vendor whether you want level, uphill or downhill pipe. If you use downhill pipe for going uphill, the water will flow the wrong way.
- All couplings should have either right-hand or left-hand threads, but do not mix the threads, otherwise, as the coupling is being screwed on to one pipe, it is being unscrewed from the other.
- All pipes shorter than 3mm are very uneconomical in use, requiring many joints. They are generally known as washers.
- Joints in pipes for water must be watertight. Those pipes for compressed air, however, need only be airtight.
- Lengths of pipes may be welded or soldered together. This method is not recommended for concrete or earthenware pipes.
- Other commodities are often confused with pipes. These include; Conduit, Tube, Tunnel, and Drain. Use only genuine pipes.





INTERNATIONAL SOCIETY
FOR SOIL MECHANICS AND
GEOTECHNICAL ENGINEERING



SOCIEDADE MOÇAMBICANA
DE GEOTECNIA

15th African Regional Conference ON SOIL MECHANICS AND GEOTECHNICAL ENGINEERING

MAPUTO, 18-21 JULY 2011

2nd BULLETIN

Resources
and Infrastructure
Geotechnics in Africa:
Putting theory into practice



1 Invitation

On behalf of the International Society for Soil Mechanics and Geotechnical Engineering, the Mozambican Geotechnical Society (SMG) will host the 15th African Regional Conference on Soil Mechanics and Geotechnical Engineering (15ARC). This event will take place in Maputo, Mozambique, in July 2011.

This 15th ARC will offer experts and other professionals involved in geotechnical engineering a very special opportunity to exchange experiences on recent developments, as well as on the state of knowledge in the field of geotechnical engineering in Africa.

It is therefore with great pleasure that the SMG invites you to participate in this conference. Come and discover Mozambique and Southern Africa. This is a beautiful territory with nice people, diverse flora and fauna. The conference will take place in July, which falls within the dry season, a period of the year with low probability of rain. The temperature is very pleasant, averaging around 22-24°C during the day and in the night it can go as low as 12 °C.

Mozambique has a total area of 801,590 square kilometres and is located in Southeast Africa. The coastline of the country spans 2,470 km along the entire eastern frontier, and borders the Mozambique Channel and the Indian Ocean. To the north of Mozambique lies Tanzania, to the northwest Malawi and Zambia, to the west Zimbabwe, and to the southwest South Africa and Swaziland. Maputo, the capital of Mozambique, is situated at the southern tip of the country, not far from the South African and Swaziland borders.



The Mozambican Geotechnical Society (SMG) is pleased to organize this event, whose main theme is "Resources and Infrastructure Geotechnics in Africa: Putting theory into practice".

The conference sessions will be held between Monday 18th July and Wednesday 20th July, 2011. The 21st of July will be dedicated to technical visits.

Welcome to the 15th ARC in Maputo



2 Objectives

As presented in the 1st Bulletin, the main objective of the conference is to provide an opportunity for African engineers and researchers to exchange their experiences on soil engineering and discuss ways to improve geotechnical engineering practice in Africa.

In addition, it is also the aim of the Conference to provide an updated overview of existing African knowledge on the local resources (construction materials, skills and technology) and their utilization in engineering practice, with emphasis on the characterization, properties and behaviour of soils, as well as the design processes, construction methods and problems associated with these soils.

The characterization and classification of these materials will be considered as part of resource evaluation.

On the issue of “Putting theory to practice in Africa“, special attention will be given to the performance of soils of Africa in geotechnical engineering projects. Their engineering behaviour will be taken into account, while the development and application of new concepts for their usage will be explored.

3 Venue

The Conference will be held at “Joaquim Chissano International Conference Centre” (<http://www.cicjc.gov.mz/page45.html>), a modern infrastructure with excellent conditions for international conferences.

4 Conference themes

The themes for the conference are as follows:

- Roads
- Site characterization
- Materials Testing
- Environmental Engineering
- Foundations
- Slopes
- Dams
- Retaining structures, etc.

These themes will be organized in parallel conference sessions, to be formalised after receipt of all papers by the Scientific Committee.

5 Important dates to be noted

- Deadline for Registration with normal payment: 20 May 2011
- Deadline for Hotel bookings at Special rates: 15 June 2011
- Distribution of 3rd (final) Bulletin: At the Conference
- Duration of 15th ARC: 18 – 21 July 2011

6 Presentation of papers

About one hundred papers were submitted for the conference by authors from all over Africa and other continents too. Due to the limited time available for the conference sessions, only authors of selected papers will be invited to do an oral presentation. Each presentation will be scheduled for 15 minutes, including time for discussion. Authors from Nigeria, Kenya, South Africa, Mozambique, Ghana, Tunisia, and other countries will be among the presenters. Due to the excellent quality of the papers submitted for review and approval, a record turn-out of participants is expected. The list of approved papers will soon be available at the Conference Website.

7 Conference programme

The preliminary conference programme is presented in the table below. The final version will be published before the Conference and uploaded in the Conference website.

Time		18-07 - Monday			19-07- Tuesday			20-07- Wednesday			21-07 - Thursday
		Room			Room			Room			
		Great hall	Discussion Room 1	Discussion Room 2	Great hall	Discussion Room 1	Discussion Room 2	Great hall	Discussion Room 1	Discussion Room 2	
8:00 AM	8:30 AM	Opening Cerimony			Mercer Lecture Junichi Koseki			Keynote Lecture - A. Gomes Correia			Technical visits
8:30 AM	9:00 AM	Keynote Lecture Alan Parrock									
9:00 AM	9:30 AM										
9:30 AM	10:00 AM	Exhibition opening			ISSMGE 75 years			Keynote Lecture - G. Gidigasu			
10:00 AM	10:30 AM	Tea break			Tea break			Tea break			
10:30 AM	11:00 AM										
11:00 AM	11:30 AM	Technical Presentations	Technical Presentations		Technical Presentations	Technical Presentations		Technical Presentations	Technical Presentations		
11:30 AM	12:00 PM										
12:00 PM	12:30 PM										
12:30 PM	01:00 PM	Lunch			Lunch			Lunch			
01:00 PM	01:30 PM										
01:30 PM	02:00 PM										
02:00 PM	02:30 PM	Technical Presentations	Technical Presentations	Geosynthetics 1	Technical Presentations	Technical Presentations	Foundations 1	Technical Presentations	Technical Presentations		
02:30 PM	03:00 PM										
03:00 PM	03:30 PM			Geosynthetics 2			Foundations 2				
03:30 PM	04:00 PM										
04:00 PM	04:30 PM	Tea break			Tea break			Tea break			
04:30 PM	05:00 PM	Technical Presentations	Technical Presentations	Geosynthetics 3	Technical Presentations	Technical Presentations	Foundations 3	Closing Cerimony			
05:00 PM	05:30 PM										
05:30 PM	06:00 PM			Geosynthetics 4			Foundations 4				
06:00 PM	06:30 PM	Conference Cocktail									
06:30 PM	07:00 PM										
07:00 PM	07:30 PM										
07:30 PM	08:00 PM										
08:00 PM	08:30 PM										
08:30 PM	09:00 PM	Conference dinner									
09:00 PM	09:30 PM										

GIGSA Barriers Workshops with Professor Kerry Rowe

GIGSA is bringing Professor Rowe out to present CPD-accredited workshops on geosynthetics in some southern African countries (South Africa, Namibia, and Zambia) over 6-14 September this year. The purpose of this is to facilitate the transformation of GIGSA from the South African Chapter of the International Geosynthetics Society (IGS) into the Southern African Chapter.

Prof Rowe will be concentrating on lining (barrier) systems used in waste containment and pollution prevention, including mining applications. The workshop will run over two days in South Africa, where it will only be presented in Gauteng. In Namibia and Zambia the content will be compressed into one day each.

COURSE PRESENTER

R. Kerry Rowe, PhD, D.Eng, FEng, FRSC, FCAE, FEIC, FACE, FIEA, FCSE, P.Eng.

Professor and Canada Research Chair - Tier I

PROFILE

Educated at The University of Sydney, Australia, Dr. Rowe worked as a geotechnical engineer with the Australian Government Department of Construction prior to emigrating to Canada in December 1978. He spent almost 22 years (1979-2000) as an assistant professor (1979-1982), associate professor (1982-1986), and professor (1986-2000) at The University of Western Ontario, London, Canada, including 8 years as Chair of the Department of Civil and Environmental Engineering. He joined Queen's University in Kingston, Canada in September 2000 and served as Vice-Principal (Research) for ten years from 2000-2010. He is presently a Professor in of Department of Civil Engineering at Queen's University and the Canada Research Chair in Geotechnical and Geoenvironmental Engineering. He is also a Research Director in the GeoEngineering Centre at Queen's-RMC. His research and consulting has been in the fields of Geotechnical, Geosynthetic, Hydrogeologic, Landfill and Geoenvironmental Engineering. He is the lead author of the book "Barrier Systems for Waste Disposal Facilities", the editor of the Geotechnical and Geoenvironmental Engineering Handbook for Kluwer Academic Publishers, and has more than 500 publications in refereed journals, conferences and

books dealing with:

- contaminant migration through soil and rock
- landfill design
- containment of contaminated sites
- geosynthetics (including geotextiles, geomembranes, geogrids, geonets etc.)
- reinforced embankments and walls
- tunnels in soft ground
- failure of slopes and excavations

Dr. Rowe has supervised more than 80 graduate students and more than 20 post-doctoral fellows, many of whom have won awards for their research. His research and teaching has been recognized by a number of awards including the **Killam Prize** and **Legget Medal**.

He has been very active in professional activities including having been President of the International Geosynthetics Society, the Canadian Geotechnical Society, and the Engineering Institute of Canada.

He is currently Editor of the Journal Geotextiles and Geomembranes, and either an Associate Editor or member of the Editorial Board for ten other journals. He was selected to present the **Giroud Lecture** (2002) by the International Geosynthetics Society, the 45th **Rankine Lecture** (2005) by the British Geotechnical Society, the 23rd **Manuel Rocha Lecture** (2006) by the Portuguese Geotechnical Society, and the **Authur Casagrande Lecture** (2011) by the International Society for Soil Mechanics and Geotechnical Engineering. He has been elected an **International Fellow** of the **Royal Academy of Engineering** (U.K.), and elected a **Fellow** of **The Royal Society of Canada, The Canadian Academy of Engineering, Engineering Institute of Canada, Australian Institution of Engineers, Canadian Society for Civil Engineering,** and the **American Society of Civil Engineers.**

GIGSA is currently preparing the announcements for this event, which will carry more detail on the workshop programme and be distributed to members soon. For more information, please contact the following:

1). South African Workshop (6 & 7 Sept- Centurion Council Chambers)
Riva Nortje: nortje@jaws.co.za

2). Namibian Workshop (12 September-Venue being finalised)
Peter Davies: peter@kaytech.co.za

3). Zambian Workshop (14 September-Venue being finalised)
Hein Janse van Vuren: hein@aquatan.co.za

"An election is coming. Universal peace is declared, and the foxes have a sincere interest in prolonging the lives of the poultry." ~George Eliot, *Felix Holt*, Chapter 5.



GIGSA Sponsors Landfill Stability Workshop at IWMSA KZ-N LIG Landfill 2011 Symposium

The Landfill Interest Group (LIG) of the KwaZulu-Natal Branch of the Institute of Waste Management will present the **Landfill 2011** Symposium in Durban over 18 – 20 October 2011. This symposium was last held in this region in 2005 as it is held on a Cape Town-Durban-Johannesburg cycle once every two years.

This year, as part of an interesting technical programme which includes a Keynote Address on the new waste management facility design requirements by Kelvin Legge (Chief Engineer: Integrated Environmental Engineering) of the Department of Water Affairs, GIGSA is sponsoring a well-known international expert to come to Durban to present a half-day seminar on Landfill Stability.

California-based, Thiel Engineering's founder, Richard Thiel, is a geotechnical and solid waste engineer specializing in geosynthetic design applications for solid and liquid waste containment. Some information about Rick:

- *Instructor for ASCE course on Design of Waste Containment Liner and Cover Systems*
- *Author of industry's leading design manual for GCLs*
- *Provider of design and construction services for a vast range of bottom liner and cover systems on municipal, industrial, and hazardous waste sites in Oregon, Washington, California, Wyoming, Texas, Michigan, and Pennsylvania.*
- *Provider of construction monitoring and certifications services on more than two dozen liner system projects totalling over \$25 million in construction*

- *Author of over 30 industry publications.*
- *Winner of Grand Award for best technical paper in the North American Geosynthetic Society (NAGS) Geosynthetic '99 conference*
- *Author of Best Environmental technical paper for the NAGS Geosynthetic '93 conference.*

For more information about Landfill 2011, visit <http://www.iwmsa.co.za/site-content/landfill-2011.html>

Registration is now open and the draft programme may be seen on this website.

This is an event that any designer of landfills and other waste management facilities cannot afford to miss.

Enquiries to
Peter Davies

**KZ-N LIG Committee:
Landfill 2011 Publicity Portfolio**



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" Under democracy one party always devotes its chief energies to trying to prove that the other party is unfit to rule - and both commonly succeed, and are right." ~H.L. Mencken, 1956.

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GIGSA Newsletter Editor

Send your contributions, comments and suggestions for the GIGSA newsletter to the Editor at: peter@kaytech.co.za



The GIGSA Newsletter is published on a sort-of-quarterly basis. Contributions and compliments eagerly received. Criticism may take some time to respond to...



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