THE FUTURE IS HERE

Teamwork is the key to success. I have been a strong believer in this in sport since my youth, and I am even more convinced following the outstanding success of the geosynthetics week, EtE, workshop and GCYP. No one person could have done it on their own, and I was grateful to be part of this amazing team who spent an incredible number of hours in the most impossible time during our daily routines of work and family. I have only 2 words, THANK YOU!

I don’t want to spoil the feedback, but I was amazed to see our South African professors taking part in one of the most iconic event IGS has ever developed. I had the good fortune afterwards to receive the congratulations from many professors who have been exposed to the memorable history of geosynthetics, realizing that there is more than just a product but rather a whole new horizon of solutions. Thank you to Prof. Tim Stark and Prof. Martin Ziegler for your time and sharing your knowledge and experience with us.

GIGSA, as remote chapter compared to others, is recognised within IGS for always raising the bar. Well we did it again! The GCYP was the first conference of its kind organized by an IGS Chapter (as far as I know) and was another huge success, following the EtE and the workshops. I took part in a few of the sessions and I was amazed to see the passion of the young professionals, taking pride in their work, presentations, engaging with fellow colleagues, sharing ideas, and enjoying the great atmosphere. What young professionals need is guidance. Here in South Africa I hear much about lack of guidance from peers, and generally getting lost in the system. I must however contradict those who say this regarding the geosynthetics field. We have peers who are passionate about the South African youth who interrupted their work schedules, deadlines and travels to attend the GCYP and be a point of reference to our young professionals, sharing their experience and giving guidance and just spontaneously giving to the geosynthetics community. Thank you Peter Legg and Kelvin Legge.

GCYP and EtE are the events which have laid the foundation for a new venture, the venture of the youth in South Africa. I might be making an overstatement, but I want to believe that what we have achieved is going to have the same impact as GeoAfrica 2009, which we still feel today almost 10 years down the line. I spend time with students, trying to assist them to find their way, from a simple question to the most complicated and articulated master thesis. Each time I engage with them I am overwhelmed by their passion for their future, and we at GIGSA must embrace this passion and develop it into something tangible for the future generations of geosynthetics professionals.

It is just the beginning ... watch this space over the next few years.

Yours Sincerely

Edoardo
GIGSA NEWSLETTER AUGUST 2018

Past Events: GIGSA Education Week

The Geosynthetic Interest Group of South Africa (GIGSA), the South African Chapter of the IGS, hosted a successful Education Week from the 2nd to the 6th July 2018.

The week commenced with a very successful “Educate the Educator” (EtE) two day event at Irene Country Lodge in Gauteng. 18 academics from 12 institutions attended. Day 1 was enthusiastically presented by Professor Timothy D. Stark of the University of Illinois at Urbana-Champaign. He not only introduced geosynthetics and covered geosynthetic barriers and other topics, but also shared numerous practical ideas on including geosynthetics in existing tertiary engineering courses.

Professor Martin Ziegler of RWTH Aachen University covered reinforcement. A welding demonstration and local case studies rounded off the event.

The EtE was well received and lead to lively discussions about testing, funding, collaboration and more. We look forward to reaping the benefits of many more civil engineering students to the use of geosynthetics as a result of this valuable event. GIGSA would like to thank the IGS for their sponsorship of the international speakers’ travel.

The middle of the week was a highlight for many. Two parallel one day workshops were presented. Professor Stark presented on the stability of geosynthetic-lined sites. This was an excellent master-class for the 60 attendees, many of whom were keen to hear more. Professor Ziegler presented on Fundamentals of Soil Reinforcement to 28 attendees, and GIGSA President Edoardo Zannoni rounded off that workshop with a presentation on a South African perspective: SANS 8006 - design, SANS 54475 - construction and National Annex SANS 207.

The inaugural Geosynthetic Conference for Young Professionals (GCYP) followed on the 5th and 6th of July 2018. This was attended by 32 delegates, with 21 presentations, 7 exhibitions, and included a welding demonstration and practicals as well as social activities. As a first event, the GCYP went well, with many great suggestions made for further GCYP events.

Thank you to Professors Stark and Ziegler for donating of their time and sharing their expertise so willingly. Thank you to all those who attended and made the event worthwhile.

Thank you very much to the GIGSA team who made the Education Week possible, including Johann le Roux, Edoardo Zannoni, Florian Hoertkorn, Riva Norfje and Yolande van den Berg.
Educating the Educator

Day 1 and 2:
The official kick-off of the GIGSA Education week began with the Educate the Educator workshops. The courses were presented by Professor Timothy D. Stark and Professor Martin Ziegler. The presenters shared practical examples from industry as this is the best way to show the need for geosynthetics in everyday engineering. Feedback from these courses are very helpful for us at GIGSA so here are some numbers for you to crunch!

- 18 academics that had attended
- 12 institutions that they hailed from
- 100% said that the ETE had met their expectations

Some Chirps!
“Very valuable updater and upgrader on the knowledge base“

“Excellent presentations. Thanks to GIGSA for organizing the event. “

Thanks You For Attending
On the 4th of July, GIGSA proudly hosted a day of workshops at the Bytes Conference Centre in Midrand, Johannesburg. A total of 75 delegates attended two workshops with the presence of 8 exhibitors. The bubbles (on page 13) show some of the comments from delegates.

The workshops were run parallel, by internationally recognized experts in the field:

Stability of Geosynthetic Lined Sites presented by Professor Timothy Stark, attended by 60 delegates, and Fundamentals of Soil Reinforcements presented by Professor Martin Ziegler, attended by 28 delegates.

Details regarding the workshop, the presenters and contents are discussed below:

### Stability of Geosynthetic Lined Sites

With increased requirements in South Africa for the lining of sites using geosynthetics in composite containment systems, environmental protection is increased while stability requires careful consideration. A number of stability failures have occurred in South Africa at geosynthetic land sites as noted in the keynote address at Landfill 2017.

Professor Timothy Stark from the University of Illinois at Urbana-Champaign, a world-renowned expert in the field, presented this workshop which was primarily aimed at designers of sites with geosynthetic lining components, including landfills, tailings dams, ash management faculties and coal stockyards. Chaired by GIGSA Past President, Riva Nortje, the outline of this workshop included:

- Introduction to Slope Stability Concepts and Failures;
- Geosynthetic Interface and Internal Shear Testing;
- Design Interface Strengths;
- Specifying Geosynthetic Interface Shear Strengths;
- Slope Stability Analyses: Static and Seismic, Factor of Safety, and Probability of Failure;
- Slope Monitoring;
- Effect of Elevated Temperatures on Slopes.
Professor Dr.-Ing. Martin Ziegler, current Head of Geotechnical Department at University of Aachen (RWTH) Germany, presented fundamentals with regards to design and analysis of earth structures using geosynthetic reinforcements. The topics covered included embankments on soft soil or geosynthetic encased columns, as described in the “Recommendations for Design and Analysis of Earth Structures using Geosynthetic Reinforcements – EBGEO”, published by the German Geotechnical Society. The EBGEO is compatible with and based on the limit state design as described in the Eurocode.

The workshop showed different applications with geogrids and how geosynthetic reinforcements work in soil. Following and introduction to the EBGEO rules and regulations, various examples for typical applications were presented.

Rounding off the presentation was current GIGSA President, Edoardo Zannoni, chair of the SABS TC98 SC06 WG2 in charge of revising the South African soil reinforcement code SANS 207, giving a South African perspective on the design and construction of soil reinforcement structures (SANS 8006 – Code of practice for strengthened/reinforced soils and other fills and SANS 54475 – Execution of special geotechnical works – reinforced fill) and highlighted the upcoming SANS 207 as a national standard to address local issues which are not covered in international standards.

The topic of the programme included:

- Functioning of geogrids;
- Presentation of EBGEO;
- Design aspects and examples of
  - Retaining Walls and Slopes;
  - Reinforced Base Course;
  - Embankment on soft soils;
  - MSE Wall structures;
  - Over linear bearing elements.
- SANS 8006 – Design;
- SANS 54475 – Construction and National Annex SANS 207.

The EBGEO as discussed during the workshop provided useful inside in the limit state design philosophy and could not have come at a better time as South Africa recently has selected to adopt the limit state design concept.
GIGSA would like to acknowledge and thank you for the following contributions:

- Timothy Stark and Martin Ziegler for making themselves available to prepare and present the lectures.
- the GIGSA members who helped organize this event
- the Benefactors and Exhibitors who added value.
- and Yolande van den Berg from Selah production, who managed the whole event. Nevertheless, the event would have been meaningless without all the participants.

Finally, GIGSA would like to thank all of the participants who attended.

Have a look at the speech notes for some of the feedback from attendees.

Lecture was incredible. Very insightful course.

Thank you GIGSA for a great course.

Excellent organization.

Great presenter with enormous amount of insight on the topic, would highly recommend.