
THE IGS

Chapter Chat

Issue 3 | Summer 2021

SPOTLIGHT

India

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ALSO

Iran adopts new structure

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New chapters in Guatemala and Bolivia

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International Geosynthetic Society



Focus on Asia

As the world slowly emerges from the coronavirus pandemic and our industry gets back on its feet following a challenging 18 months, we thought this was an ideal time to publish a new edition of Chapter Chat.

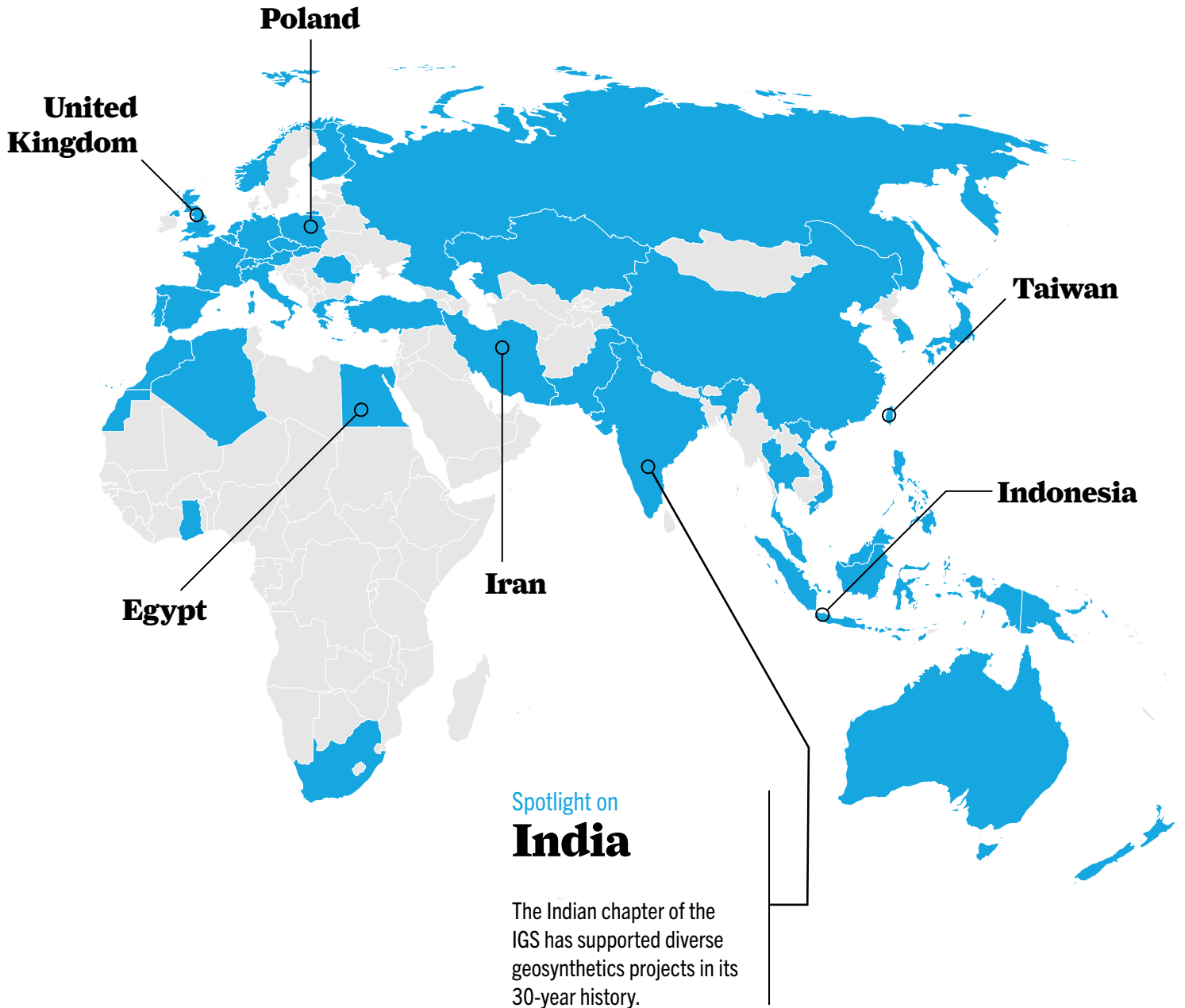
In this issue we put our Asia chapters in the spotlight. The IGS has 14 chapters in the Asia region and this edition highlights the activities and ambitions of India, Iran and Indonesia. We also take you to the Pan-American area where we're delighted to introduce our newest chapters in formation: IGS Bolivia and IGS Guatemala.

We hope you enjoy exploring this edition. If you would like to feature in a future publication or have a story idea, email IGS Secretariat Manager Elise Oatman at igssec@geosyntheticssociety.org with your details.

Happy reading!
IGS President
Chungsik Yoo



Algeria	Chile	Finland
Argentina	China	France
Australasia	China Taipei	Germany
Austria	Colombia	Ghana
Belgium	Czech Republic	Greece
Brazil	Egypt	Honduras



India	Korea	Norway	Portugal	Switzerland
Indonesia	Malaysia	Pakistan	Romania	Thailand
Iran	Mexico	Panama	Russia	Turkey
Italy	Morocco	Peru	Slovakia	United Kingdom
Japan	Netherlands	Philippines	South Africa	Vietnam
Kazakhstan	North America	Poland	Spain	

IGS Chapter Focus:

India

The Indian Chapter of the IGS has been championing geosynthetics for more than 30 years following its formation in October 1988. Here, current Chapter President Vivek Kapadia shares some of its highlights and upcoming initiatives.

Please tell us a bit about your membership.

We have 90 Individual Members, 80 Student Members and 13 Institutional Members. Institutional members consist of manufacturers, research institutes, academic institutions, testing houses and user agencies.

What are your chapter's key activities?

Our Chapter promotes the application of geosynthetics for various developmental activities in the fields of water resources, hydroelectric power, roads, coastal protection, slope stabilization and so on. We do this through workshops, seminars and webinars, across the country.

Do you have a youth section? Tell us a bit about the initiatives available for younger members.

We encourage student members to join the Chapter by inviting their participation in geosynthetic events and circulating technical journals through the relevant universities or institutions. We have less than 100 young members at the moment but we are focused on growing this number.

What are you proud of in the chapter?

The activities of the Indian Chapter are really noteworthy and a matter of pride. From its inception it has been promoting the application of geosynthetics for various developmental activities in the field of water resources, hydroelectric power,

roads, coastal protection, slope stabilization and so on. Many case studies were compiled in 'History of Geosynthetics in India – Case Studies'. This was jointly published by IGS India and the Central Board of Irrigation and Power (the Secretariat of IGS India) for the 6th Asian Regional Conference on Geosynthetics in New Delhi in November 2016.

The Indian Chapter also had the honor of hosting the first Asian Regional Conference on Geosynthetics in 1997 in Bangalore. We also enjoyed celebrating our Silver Jubilee in October 2013 in New Delhi. And in 2016 we hosted the Sixth Asian Regional Conference on Geosynthetics in New Delhi.

Our chapter also recently hosted a Special Session on 'Use of Geosynthetic Material for Dam Repair and Rehabilitation', on February 26 during the Indian National Committee on Large Dams (INCOLD) Symposium on 'Sustainable Development of Dams and River Basins'.

IGS India members have been awarded the IGS Student Paper Award over previous years. They include:

- Dr. J.P. Sampath Kumar, National Institute of Fashion Technology, Hyderabad
- Dr. K. Ramu, JNTU College of Engineering, Kakinada
- S. Jayalekshmi, National Institute of Technology, Tiruchirappalli
- Dr. Mahuya Ghosh, Indian Institute of Technology Delhi
- Dr. S. Rajesh, Department of Civil Engineering, Indian Institute of Technology Kanpur



IGS India Chapter President
Vivek Kapadia



Suresh Kumar S., Department of Textile Technology, and Dr. B.R. Ambedkar National Institute of Technology Jalandhar

Dr. Riya Bhowmik, Post-Doctoral Fellow, Department of Civil Engineering, Indian Institute of Technology Delhi, has been selected by the Indian Chapter for the IGS Student Paper Award 2021 to be presented during 7th Asian Regional Conference on Geosynthetics in Taiwan, In April 2022.

Publications are important to your chapter. Please share some of the most significant ones.

Absolutely. Some of the important publications brought out by our chapter, in addition to proceedings from our workshops, short courses, conferences and seminars, include:

- Use of Geosynthetics – Indian Experiences and Potential – A State of Art Report (1989)
- Use of Geotextile in Water Resources Projects - Case Studies (1992)
- Directory of Geosynthetics in India
- An Introduction to Geotextiles and Related

Products in Civil Engineering Applications (1994)

- Ground Improvement with Geosynthetics (1995)
- Geosynthetics in Dam Engineering (1995)
- Erosion Control with Geosynthetics (1995)
- Bibliography – The Indian Contribution to Geosynthetics (1997)
- Waste Containment with Geosynthetics (1998)
- Geosynthetics – Recent Developments (Commemorative Volume) (2006)
- Geosynthetic Reinforced Soil Structures - Design & Construction (2012)
- Applications of Geosynthetics in Railway Track Structures (2013)
- Three Decades of Geosynthetics in India – A Commemorative Volume (2015)
- History of Geosynthetics in India - Case Studies (2016)
- Coir Geotextiles (Coir Bhoovastra) for Sustainable Infrastructure (2016)
- Geosynthetics Testing - A Laboratory Manual (2019)

“In all, the India Chapter has really contributed a lot to the field of geosynthetics and has enormous potential to do much more.”

Image shows: Young Student Paper Award 2018 (above).



We have also published the Indian Journal of Geosynthetics and Ground Improvement (IJGGI) since January 2012 and it is available twice a year (January – June and July – December) in both print and online. The aim is to provide the latest information about developments taking place in the relevant field of geosynthetics to improve communication and understanding among designers, manufacturers and users and especially between the textile and civil engineering communities.

In all, the India Chapter has really contributed a lot to the field of geosynthetics and has enormous potential to do much more. It really is a matter of pride.

Tell us a bit about the geosynthetics market in India. What is the level of understanding and adoption of geosynthetics?

Understanding and adoption are both improving with time. Complex

applications are underway and many such projects are upcoming such as energy dissipation mechanisms in dams, the repair of concrete dams, and harbor structures.

Where are the areas of most opportunity?

Road engineering and coastal engineering applications provide good opportunities because of the large quantities of geosynthetics used in such projects.

And what are the challenges?

The present challenge of the pandemic has made a big dent on projects and hence the effect is felt on production as well.

Is the industry concentrated in particular regions in India?

Industries are located on a pan-India scale. However, industries manufacturing natural products from jute and coir are located on the southern coast and eastern coast of India.

Can you tell us a bit more about jute and coir products used with geosynthetics?

Jute and coir are natural fibers from which various products are manufactured and used in several applications. As environmentally-friendly materials, they are used in projects where environmental concerns are very important.

Can you share any notable projects in India that have used geosynthetics? And also any projects in the pipeline?

The Shillong bypass road in east India connecting National Highway 40 and National Highway 44 with length of 48.766 km and an embankment height of more than 40m was completed in 2014. It is a reinforced earth embankment.

A road project on National Highway 55, Siliguri-Darjeeling Road in West Bengal was completed in January this year. Its maximum height is 102.8m and is the world’s tallest Reinforced Earth® structure.

Want to find out more? Visit the IGS India website [here](#).



“I see a bright future of geosynthetics in India as several projects are in the pipeline and the manufacturing industry is also improving.”

In hilly areas, the most challenging projects with innovative solutions have been carried out using geosynthetics. Besides these, several hydraulic structures have been constructed or repaired using geosynthetics. The High Speed Railway Project between Ahmedabad and Mumbai on the western side of India is being constructed in which geosynthetics are being used in many stretches.

What does the future hold for geosynthetics in India?

I see a bright future of geosynthetics in India as several projects are in the pipeline and the manufacturing industry is also improving.

What chapter events or activities are planned in 2021 (or beyond) for members?

We are putting together a series of monthly virtual training programs with dates and times to be confirmed. The topics will include:

- Ground improvement
- Hydraulic structures
- Roads
- Railways
- Reinforced soil structures

- Slope stability
- Waste management/landfill

Our first session was held on July 28 and focused on erosion control. It was led by Dr. Mahuva Ghosh of the Ports and Harbour Department, which looks after coastal states like Orissa, Tamil Nadu, Kerala, West Bengal, and Maharashtra.

We are also in the process of organizing a national level event for October/ November 2021.

Is there anything else you would like to add?

I expect very interesting, challenging and innovative applications to come up in the near future in India. Stay tuned!

For more about IGS India, visit its website [here](#).

Images shows: Student Awards presented in 2016 (previous page). Riverbank protection work at Sabarmati River (above).

IMPACT AROUND THE WORLD

Our chapters and their members are informing the debate and innovating across the globe. Here are some updates from our global network.



EGYPT

'Geosynthetics in sustainable projects and mega structures' will be the focus of the 4th GeoAfrica conference on February 20-23, 2023.

More at <https://geoafrica2021.org>.

IRAN

Join a webinar with Professor Kerry Rowe on September 15 when he will discuss *'The role of geosynthetics in liners: minimizing leakage and contaminant impact'*.

Tune in at 4.30pm GMT.

Visit <https://iranigs.com/?lang=en>.

ITALY

Resilience will be the focus of the 12th International Conference on Geosynthetics in Rome from September 17-23, 2023. The event's theme is *'Geosynthetics: leading the way to a resilient planet'*.

More details at www.12icg-roma.org.

POLAND

EuroGeo7 comes to Warsaw on September 4-7, 2022. Lectures are set to include a special session organized by IGS Officers on geosynthetics in the circular economy.

For more, see eurogeo7.org.

TAIWAN

Prepare for a lively conference in Taipei for GeoAsia7 on April 11-15, 2022. Its theme is '*Hazard's Risk Management, Innovation and Sustainability*'.

See geoasia7.com for more.

UK

Webinars this fall include Eric Blond speaking about drainage geocomposites (September 14), Russell Jones on risk assessment (October 12), Stefan Niewerth on active geocomposites (November 9), and Boyd Ramsey on Ethics in Engineering (December 1).

All events are at 6pm GMT except for the December webinar which begins at 5pm. Visit <https://www.igs-uk.org>.

CHILE

Jorge Zornberg, Rosemberg Reyes and Augusto Alza will be among speakers at Chile's Educate the Educators conference in October. Events will run October 4, 6, 8, 13 and 15.

For the full schedule and times, visit www.igschile.org/educando-educadores.

NORTH AMERICA

The Chapter has a packed fall and winter webinar series. This includes Richard Bathurst on the American Association of State Highway and Transportation Officials (AASHTO) stiffness method for geosynthetic reinforced MSE walls (September 23), and Evan Andrews and Mike Henderson on synergies in mining and coal combustion residuals (CCR) industries (October 14).

On December 2, Craig Benson and Kerry Rowe will talk on Per- and polyfluoroalkyl substances (PFAS), Dov Leshchinsky will explore limit state design framework for geosynthetics reinforced structures (December 9) before Boyd Ramsey hosts an ethics session on December 16.

All sessions are at 12pm CST. More here <https://www.igs-na.org>.

INDONESIA

'*Capillary barrier systems and geobarrier systems for slope protection against rainfall*' will be the topic at an INA-IGS webinar on September 22. Register here: <https://us06web.zoom.us/join/91251201801>

Tune in at 6.30pm Jakarta time.

AUSTRALASIA

ACigs's Tech Forum on September 14 will focus on '*Geosynthetics in reinforcement applications*'. Register here: <https://us02web.zoom.us/join/91251201801>



SOUTH AFRICA

'*Waste management facilities: have we reached our destination*' is the theme of the first virtual version of the biennial Landfill & Waste Treatment Interest Group Conference. Join in the virtual seminar and exhibition event, co-hosted by the South African chapter of the IGS, on November 3-5.

More here: <https://mailchi.mp/2d8524ed6b18/landfill-and-waste-treatment-2021-virtual-seminar-and-exhibition-second-announcement-and-call-for-abstracts-6511024?e=0c6cb1e2ab>

Do you have chapter news? Email basic information to igssec@geosyntheticssociety.org to share your stories.

News

IGS Iran Adopts New Structure

The Iranian Chapter of the IGS has reorganized itself to add impact to its operations.

The chapter has split into three divisions: Science (education and research), Compilation & Publication, and Youth. Each has interrelated subsections to ensure greater focus and efficiency on various aspects. Members with specific interests are helping to progress initiatives in the relevant areas.

Chapter President Seyed Naser Moghaddas Tafreshi explained the restructure was accomplished so the chapter could better streamline its initiatives.

He said: “It is a step towards improving the way we organize and communicate our activities for members in three important areas – widening geosynthetic knowledge, maintaining

quality and standards, and developing the involvement of our younger members.”

The sections and related plans include:

Science (education and research)

The chapter says it is heavily engaged in organizing technical webinars. This year it hosted the first on March 10 titled ‘Soft Soil Reinforcement by Rigid Inclusions - Experimental and Numerical Approaches’ when Professor Daniel Dias from the University of Grenoble Alpes, France, was keynote speaker. Then on May 26, Dr. Nathalie Touze spoke on ‘Geosynthetics and Sustainability: a focus on Hydraulic Applications’.

Add a date in your diary for September 15 at 4.30pm GMT when Prof. Kerry Rowe will explore ‘The role of geosynthetics in liners: minimizing leakage and contaminant impact’.





Compilation and publication

IGS Iran’s focus is on various aspects of Geosynthetic Institute requirements, notably:

- Preparing/updating standards and design methods.
- Optimizing products.
- Sharing new ideas in the context of novel manufacturing processes.

The chapter says it is paying special attention to promote quality control and quality assurance of products in Iran.

Youth

The Chapter is continually developing its young member involvement. It has recently involved young researchers in its technical committees of Soil Reinforcement, Barrier Systems and Hydraulics and reports they are highly motivated in their tasks.

The chapter also involves young members in webinar-related tasks such as securing sponsors and organizing participants. They also give lectures in the Persian part of Iranian chapter webinars, which are typically made up of two parts – a one-hour lecture and Q&A delivered in Farsi and then a two-hour section given in English.

Young members also maintain the Chapter’s social media accounts to ensure activities and developments are shared widely.

Find out more on the IGS Iran chapter website [here](#). You can also explore its technical webinars by following the Iran chapter’s official Instagram channel @iranigschapter.

Explore more about the challenges and opportunities in the region with a Chapter Focus article on IGS Iran [here](#).

“It is a step towards improving the way we organize and communicate our activities for members in three important areas”

IGS Iran President
Seyed Naser Moghaddas
Tafreshi

Images show: Board members of IGS Iran (previous page, bottom). Canal Khuzestan in Iran (previous page, top). Geogrid wall (above).

IGS Chapter Focus:

Indonesia

Established nearly three decades ago, the Indonesian Chapter of the IGS, known as INA-IGS, is working hard to improve the understanding and take-up of geosynthetic products in the region.

Here, Chapter President Professor Budijanto Widjaja, Vice President Mike Dobie and team share some of the chapter's activities and focus.

Tell us a bit about your membership.

We were formed in 1992 and our membership is currently made up of 54 individual members and five corporate members. At the moment we don't have a youth section but we do involve students in our activities.

What are you proud of in the chapter?

The majority of the chapter is made up of manufacturers, suppliers and distributors of geosynthetic products (with some help from academics and others, such as our President and Secretary), yet we still operate in a cohesive and interactive way, and have created some very good events over the years.

We also recently created several sub-committees to help run the chapter. These are Public Relations, Offline Events, Online Events, and Publications, all assisted by our administrator Anggi Debrinda Rama.

Tell us a bit about the geosynthetic market in Indonesia. What is the level of understanding and adoption of geosynthetics?

A general knowledge of geosynthetics in the civil engineering industry is quite good, but could always be better. Significant use is made of these products in both public and private projects, but a wider ignorance of the correct application and usage remains an obstacle. INA-IGS certainly has a role to improve this situation. Our main 'competitors' are traditional construction techniques, but on the plus-side, many of the environmental conditions in Indonesia can result in the effective use of geosynthetics here.

How? Can you explain a bit more?

Most of Indonesia is seismically active so that the ductile nature of geosynthetic reinforced or stabilised

structures offers major benefits for construction in these regions. Also, in many locations there is a scarcity of road-building aggregates, so that reduction in thickness of road pavements using geosynthetics can result in significant savings both in material and environmental costs.

Being a huge archipelago of more than 17,000 islands, Indonesia has an enormous length of coastline, so coastal erosion protection techniques using geosynthetics offer major benefits particularly as sea levels continue to rise.

Where are the areas of most opportunity?

This would be in infrastructure development, especially highways and rail, and the plantation, mining and on-shore oil and gas industries.





Is the industry concentrated in particular regions in Indonesia?

Java is the most densely populated island so much use of geosynthetics in infrastructure takes place here. However almost throughout the archipelago of 17,000 islands, there is the use and application of geosynthetics. Mining and oil and gas development are mostly on other islands.

Can you share any notable projects in Indonesia that have used geosynthetics?

We have many completed geosynthetics installations in a number of locations around Indonesia, which use several different applications. These include an MSE retaining wall project at Soekarno Hatta Airport railway in West Java, geomembranes used in the Sulawesi irrigation canal, slope erosion control in various dam projects, and a stabilisation geogrid for a coal mine hauling road in South Kalimantan.

What does the future hold for geosynthetics in Indonesia?

There are plenty of prospects, but plenty of work is required for the industry to take full advantage.

What chapter events or activities are planned for the rest of 2021?

We continue our webinar series with several high profile speakers scheduled, with times and dates to be announced. These include:

- August – Professor Jorge Zornberg to speak on ‘Geosynthetics in pavements over expansive subgrade soils’.
- September - Prof. Herianto Rahardjo to talk on ‘Research and development of capillary barrier systems for slope cover systems and geo-barrier systems for retaining structures’.
- October - Prof. Chungsik Yoo will speak on ‘Implications of geotechnical engineering principles in the design and construction of geosynthetic reinforced walls’.
- November - Prof. Shannon Hsien Heng-Lee on a topic to be announced.
- December - Andrew Lees will explore ‘Modelling geosynthetics in finite element analysis (FEA).’

We alternate between having local/regional and international speakers. Each session also includes a Q&A and fun quiz with three questions set by the speaker with multiple choice answers. The INA-IGS funds a prize for the winners.

We expect similar activities to continue in 2022 and hope to host face-to-face events next year depending on the Covid situation.



IGS Indonesia Chapter President Budijanto Widjaja



IGS Indonesia Vice President Mike Dobie

Images show: Geomembranes used in a waste water treatment pond for a palm oil mill in Southeast Sulawesi (previous page). A geosynthetic slope erosion control system for a dam project in South Sumatra (above).

News

New Chapters In Guatemala And Bolivia

The IGS will soon have two new chapters: IGS Guatemala and IGS Bolivia.

The IGS Guatemala President will be Alberto José Pérez, with board members Carlos Morales (Vice President), Luis Rolando Aguilar (Secretary), José Ramón López (Treasurer), Hector Centes, Eduardo Orellana and Juan Francisco Calderón.

Mr Perez is overseeing the legal process to create a non-profit organization in Guatemala to run the new chapter, which should be completed in a few weeks.

Meanwhile, Professor Osvaldo Rosales, of Universidad Privada Santa Cruz de la Sierra – Bolivia, is to be the President of the Bolivia chapter, with board members Eduardo Nuñez del Prado (Vice President), Jimena Grock Pereira (Treasurer and Secretary) and Mauricio Lima.

Prof. Rosales has also launched a monthly webinar series.

Once established, these two chapters will be the newest in the Pan-American region since IGS Panama launched in 2014.

Professor Timothy D. Stark, Chair of the Pan-American Regional Activities Committee, explained the time was right to create these chapters because of the increased use of geosynthetics locally. In Guatemala geosynthetics are being used in reinforcement projects related to transportation while Bolivia

is using a lot of geosynthetics in mining applications including lithium mining.

Prof. Stark added: “We’re excited to launch these new chapters and add them to the Pan-American IGS family. We look forward to expanding the appropriate use of geosynthetics in Central and South America through education, research, and industry participation.”

The Guatemalan chapter has already attracted manufacturers and consulting engineers as member companies. The Bolivian chapter is attracting university professors and students, manufacturers, and consulting engineers as future members.

Members can expect an active programme of events. Bolivia has already launched its monthly webinar series with Francisco Pizarro having given the first talk in April when he spoke on ‘Use of geodrains in infrastructure works’.

Guatemala’s chapter is also planning webinars and hopes to introduce the subject of geosynthetics into university courses, which is not being covered at the moment.

Both new chapters are expected to have their own websites and LinkedIn pages, which will be announced in due course.

Learn more about the IGS Pan-American Committee [here](#).

Inspired to start an IGS Chapter? Read our guide [here](#).



IGS Guatemala President
Alberto Perez



IGS Bolivia President
Osvaldo Rosales



Images show: MSE wall road Arque to Higuera in Cochabamba, Bolivia (top). Soft subgrade improvement at the double track Montero Yapacani project in Santa Cruz, Bolivia (bottom).

THE IGS WOULD LIKE TO HEAR FROM YOU!

Share your news, activities, initiatives and ideas with us for a chance to feature in a future edition of *Chapter Chat*.

Reach a wider audience by emailing brief details in the first instance to igssec@geosyntheticssociety.org



4th GeoAfrica
Cairo - 2023

The 4th African Regional Conference on Geosynthetics invites you to submit your papers! For more information, visit the conference website geoafrica2021.org.