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MyIGS One Day Seminar

The Future of Geosynthetics: Empowering
Engineers to Build Climate-Resilient Infrastructure

 **14 May 2025, Wednesday**

 9am to 6pm

 Puteri Grand Ballroom - Four Points by Sheraton Puchong

BEM Approved CPD Hour: 7
Reference Number: IEM25/PP/038/S

Speakers



Dr. Vivi
Anggraini



Ir. Zainal Abidin
bin Hasan



Barry Kok



Ir. Albert Lim



Richard Ong

Registration fee

MyIGS/ MGS/ IEM Member: RM 50

Non-member: RM 100

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EVENT SUMMARY

As the demand for sustainable engineering solutions grows, geosynthetics remain vital to civil infrastructure development. This seminar, themed "The Future of Geosynthetics: Empowering Engineers to Build Climate-Resilient Infrastructure", will explore recent developments in geosynthetics for subgrade stabilization, the critical role of moisture management in climate-resilient roadways, and optimal solutions for ground improvement. Real-world case studies, including insights from the Montana Project, wicking technology in geotextiles, and advancements in lateral drainage for subgrade stabilization, will offer practical solutions to current challenges. By bringing together industry experts and engineering professionals, this seminar aims to share knowledge, inspire innovation, and equip engineers with proven geosynthetic solutions to address the complexities of modern infrastructure development in an ever-changing climate.

AGENDA

0900 – 0915	Welcoming session
0915 – 0945	MyIGS Talk (Dr. Vivi)
0945 – 1015	Geosynthetics in Action: Reinforcing, Protecting, and Infrastructure (Ir. Zainal)
1015 – 1030	Tea break
1030 – 1230	Unveiling the Role of Enhanced Lateral Drainage in Moisture-Sensitive Subgrade Stabilization: Insights, a Decade on from the Montana Project (Barry Kok)
1230 – 1330	Lunch
1330 – 1530	Climate-Resilient Roadways: Pioneering Advanced Wicking Geotextile for Superior Moisture Management (Ir. Albert)
1530 – 1545	Tea break
1545 – 1745	Enhancing Soil Stability: Ground Improvement and Reinforcement with Geosynthetics (Richard Ong)
1745 – 1800	Closing session

SPEAKERS AND SYNOPSIS

Speaker : Dr. Vivi Anggraini



Dr. Vivi is a Senior Lecturer in Geomechanics at Monash University Malaysia with over 20 years of teaching experience. Her research focuses on geomaterials, geosynthetics, sustainable soil liners, and ground improvement. She has published over 36 peer-reviewed papers and authored several technical publications, including a book and a construction guideline. Currently serving as President of the International Geosynthetics Society – Malaysian Chapter (2024–2026), she is a registered Professional Engineer and active member of professional bodies in Indonesia, Malaysia, and Australia. She has worked on geotechnical projects across Southeast Asia and Australia.

Topic : Championing Research-Driven innovation in Geosynthetics

The International Geosynthetics Society – Malaysian Chapter (MyIGS) aims to bridge research and engineering practice by fostering collaboration between academia and industry. Focused on advancing geosynthetics, MyIGS promotes interdisciplinary research in materials, soil interaction, climate-resilient solutions, and long-term performance. Through workshops, research competitions, and global engagement, MyIGS supports practical, scalable innovations that address sustainability and ground improvement challenges. The society envisions research that not only informs theory but also drives real-world performance and sets new benchmarks in geosynthetics design, application and policy.

Speaker : Ir. Zainal Abidin bin Hasan



Ir. Zainal Abidin bin Hasan is a seasoned geotechnical engineer with nearly 20 years of experience in consultancy, construction, and technical marketing. A graduate of University Malaya, he currently serves as Technical Marketing Manager at Solmax, where he supports government projects with specialized geotechnical solutions. Known for his problem-solving approach, Ir. Zainal plays a key role in guiding teams, promoting practical solutions, and contributing to numerous large-scale infrastructure projects across Malaysia. His priority remains delivering cost-effective, reliable engineering advice with the public interest in mind.

Topic : Geosynthetics in Action - Reinforcing, Protecting, and Sustaining Infrastructure

There are more than a handful types of geosynthetics available in the markets for various applications. This has made a lot of the designers find difficulties in choosing the right material for their project. A simple sharing on the background of the geosynthetics, the behaviour, the application and etc. will further equip the designers to make their judgement on the project.

Speaker : Barry Kok

Barry is a Chartered Professional Geotechnical Engineer with 24+ years of experience in optimizing geotechnical designs for major infrastructure projects worldwide, including the Pacific Highway Upgrade and Taiwan High-Speed Rail. Since 2021, Barry has served as an Industry Fellow at Griffith University, leading research on artificial intelligence applications in soft soils engineering. He mentors R&D teams and drives the development of industry solutions, particularly in reliability-based geotechnical design. Barry is also a key advocate for risk-based design methods and shares his expertise through publications and mentoring young engineers.

Topic : Unveiling the Role of Enhanced Lateral Drainage in Moisture-Sensitive Subgrade Stabilisation: Insights, a Decade on from the Montana Project

Wicking geotextiles are a key innovation in pavement design, addressing moisture management issues that affect road durability. Unlike traditional drainage systems, they manage capillary water, preventing subgrade instability. This paper discusses their benefits, including improved moisture control and subgrade stabilization, and outlines design considerations based on Austroads and AASHTO frameworks. A review of Montana DOT studies (2008-2012) highlights the material's potential and underscore the need for further research. Key gaps, such as localized climate data, laboratory testing, and long-term durability, are identified, along with future research recommendations. Integrating wicking geotextiles can lead to more cost-effective, sustainable road infrastructure.

Speaker : Ir. Albert Lim

Ir. Albert Lim is the Senior Geosynthetics Manager at Solmax, overseeing technical and marketing operations across the Asia Pacific region. Previously, he led the Water and Environment Division, managing strategic plans, sales, product development, and marketing for geosynthetics. With a Master's degree from the University of Mississippi, Albert collaborates with top universities like NUS, NTU, and Monash University. He has over 25 years of experience and has authored over 30 technical papers for international conferences.

Topic : Climate-Resilient Roadways - Pioneering Advanced Wicking Geotextile for Superior Moisture Management

Roadways can be built on the ground, embankment, or viaduct, depending on factors like final road levels and flood risks. For ground-based roadways, subgrade soils often remain partially saturated, allowing moisture to migrate into the structure, weakening shear strength and resilient modulus. Wicking geotextiles, a new innovation in geosynthetics, help mitigate these issues. Their hydrophilic properties enable them to wick capillary water from soils, reducing moisture content and improving soil strength, ultimately extending roadway lifespan. Applications in moisture management, freeze-thaw cycles, and expansive subgrade issues will be discussed, with examples from completed projects in the Asia Pacific region.

Speaker : Richard Ong



Richard Ong holds a Bachelor's degree in Civil Engineering from Universiti Teknologi Malaysia (2000) and a Master's in Geotechnical Engineering from Nanyang Technological University (2002). With extensive experience in slope stability, reinforced soil structures, ground improvement, and geosynthetics, he is currently the Director of Engineering Business Management at Solmax. Richard also serves as a committee member for the Geotechnical Engineering Technical Division of the Institution of Engineers, Malaysia.

Topic : Enhancing Soil Stability - Ground Improvement and Reinforcement with Geosynthetics

Ground improvement and reinforcement are key techniques in geotechnical engineering to enhance soil stability and load-bearing capacity. This presentation focuses on the use of vertical drains as cost-effective solutions for embankment construction. It also highlights the role of geosynthetics, such as geogrids and geotextiles, in reinforcing soil by providing tensile strength, improving load distribution, and reducing deformation. These methods are essential for constructing embankments, retaining walls, and roadways, offering sustainable, cost-efficient solutions for challenging ground conditions.

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