

Newsletter

THE INSTITUTION OF ENGINEERS SRI LANKA

Western Australia Chapter

September 2025



Career Guidance Day 2025 – A Resounding Success in Supporting Professional Journeys

The Institution of Engineers Sri Lanka Western Australia Chapter (IESLWA) proudly hosted its annual Career Guidance Day 2025 on Saturday, 19th July, at the Hossack Pavilion in Parkwood, WA with the collaboration of the University of Moratuwa Alumni Association WA. The event brought together a diverse group of professionals, students, recent migrants, and community leaders for a day filled with knowledge sharing, professional development, and networking opportunities. With a carefully curated agenda and an exceptional line-up of speakers, the event was a great success and received overwhelmingly positive feedback from attendees.

The day commenced with opening remarks by MC Eng. Tharindu Weerasinghe, followed by a thought-provoking panel discussion on “Settling in Australia,” featuring insights from Dr. Senaka Welideniya, Eng. Sampath Godawitharana, and Eng. Nuwan Hettiarchchi. Their real-world experiences and advice resonated strongly with many newcomers looking to build successful careers in a new country. This was followed by an engaging talk from Dr. Welideniya on managing interpersonal challenges in the workplace, setting the tone for a day focused on personal and professional growth.

One of the highlights of the morning was the session by Mr. Pasan Ganegama, who shared valuable tips on crafting impactful resumes and preparing for interviews in the Australian job market. His session was practical, relatable, and empowering for young professionals. This was followed by an inspiring presentation on mentorship and lifelong learning by Eng. Chirantha Weerawardane, who drew from over 30 years of experience in the mining industry to emphasise the importance of continuous development and professional networking.

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Another key feature of the event was its strong focus on community support and services. Mr. Murali Kumar from the Red Cross and Mrs. Radha De Mel from the WA Sri Lankan Family Support Network highlighted the resources available to assist migrants in employment and settlement. Their insights reminded attendees that professional growth goes hand-in-hand with community connection and well-being.

The event also addressed highly relevant topics such as recent changes in migration policies, delivered by experienced migration agent Mr. Alpesh Patel, and opportunities for overseas-qualified engineers, presented by Eng. Bitu Charehjo from Engineers Australia. These sessions offered attendees timely, practical guidance on navigating Australia's professional and regulatory systems.

The mid-day networking session brought together professionals from across disciplines including engineering, IT, architecture, project management, and quantity surveying. It provided a valuable opportunity for attendees to build relationships, find mentors, and explore career pathways through direct interaction with industry leaders and representatives from community organisations such as MORA WA, the University of Peradeniya Alumni, and WASLFSN.

The day concluded with a formal vote of thanks, acknowledging the contributions of the speakers, organisers, sponsors, and volunteers who made the event possible. Overall, Career Guidance Day 2025 was not only informative but also inspiring, helping individuals feel more connected, confident, and equipped to advance in their careers. The IESLWA extends its heartfelt thanks to all participants and looks forward to continuing its mission of supporting professionals within our community through future events and initiatives.



Career Guidance Day 2025 – A Resounding Success in Supporting Professional Journeys



Celebrating the 12th Engineers' Night

The Institution of Engineers Sri Lanka – Western Australia Chapter proudly hosted its much-anticipated **12th Engineers' Night** on **9 August 2025** at the vibrant **Vasto Club**, bringing together a diverse crowd of over **300 engineers, academics, students, and industry professionals**. The evening was a resounding success — a celebration of professional excellence, community spirit, and camaraderie.

Guests enjoyed a night filled with **networking, entertainment, and delicious cuisine**, all set in an atmosphere that reflected the strength and unity of our engineering fraternity. This flagship event continues to serve as an important platform to foster collaboration, share knowledge, and celebrate the contributions of engineers in Western Australia and beyond.

We extend our **sincere gratitude** to our valued sponsors whose support made this event possible. Our **Principal Sponsor, Steel Dale Industries Pty Ltd**, and **Platinum Sponsor, Edith Cowan University**, played a key role in bringing our vision to life. We were honoured to welcome a lineup of distinguished guests, including our **Chief Guest, Professor Paulo de Souza (ECU)**, **A/Prof Sanjay Kumar Shukla (ECU)**, **Keynote Speaker, Professor Tim Sercombe (UWA)**, **Guest of Honour, Eng. Kosala Kamburadeniya (IESL)**, and **Eng. Shalini Saldanha (née Cooray) from Engineers Australia WA Division**. Their insights and presence elevated the evening and reinforced the importance of collaboration between academia, industry, and professional bodies.

A special acknowledgment goes to the **IESL WA Chapter Committee for 2024/25**, whose tireless planning, teamwork, and commitment ensured the smooth execution of this memorable event. From curating an engaging program to creating a welcoming and festive environment, their efforts truly paid off.

As we look back on this successful evening, we are reminded of our enduring mission: **to empower engineers — both emerging and experienced — to uphold the highest standards of practice and deliver impactful, innovative solutions that contribute to the growth of Western Australia**. Engineers' Night is more than a celebration — it's a reaffirmation of our shared purpose and professional pride.

We thank everyone who joined us and look forward to many more events that inspire, connect, and elevate the engineering community.





IESLWA ENGINEERS' NIGHT 2025



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Industry 4.0: a new era of opportunities for future Sri Lanka

Dr. Nimalika Fernando, PhD
School of Electrical Engineering, Computing and
Mathematical Sciences- Curtin University, WA

We are in the middle of another industrial revolution-Industry 4.0, the transformation first adopted in the manufacturing sector a few years ago, and now expanding to other domains rapidly. Industry 4.0, or the Fourth Industrial Revolution, is mainly characterized by the adaptation of smart technologies to enhance the automation and data exchange between cyber-physical systems so that efficiency, decision making, and productivity can be rapidly improved (see Figure 1). Key technologies integral to Industry 4.0 include the Internet of Things (IoT), cloud computing, digital twins, and large-scale data analytics powered by artificial intelligence (AI) and machine learning (ML). These technologies allow machine-to-machine connections without human interventions in real time while supporting to obtains insights for complex problems using a vast volume of data from multiple sources. They facilitate the fusion of cyber, physical, and human worlds through intelligent interactions that were unimaginable just a few decades ago.

These approaches pave the path for smart and intelligent manufacturing and autonomous vehicles. They also provide the knowledge base for extending to other sectors such as agriculture, health, energy, logistics, and construction. When combined with geo-spatial technologies and spatial data, these innovative technologies and approaches provide geo-spatial intelligence for location sensitive applications. For example, autonomous vehicles in industrial settings depend heavily on precise location intelligence, derived by processing sensor data obtained via multiple sources, to deliver efficient services while not compromising safety. Digital twins, a virtual replication of manufacturing processes, real-world phenomena, or physical constructs, commonly use large volumes of spatially enabled data from IoT devices to monitor and improve processes. However, with large volumes of data influx from different forms of devices, interoperability of data streams, and maintaining the security and privacy of data become critical challenges still to be addressed.



Figure 1: Key Technologies of Industry 4.0

(Image credit: <https://www.pngegg.com/>)

While the major developed countries are at the forefront of reaping the benefits of Industry 4.0 and experiencing the transformation it brings for societal changes, developing countries such as Sri Lanka are yet to embrace its full potential. Though large-scale manufacturing is not prevalent in most of the developing countries, the technological advancements of industry 4.0 bring new opportunities for the progress of developing societies, especially if adopted in domains critical for local communities. One of the key areas where these technological advancements can benefit Sri Lanka is agriculture and food security. Technologies such as IoT can be utilised to obtain agricultural data including soil, weather, and crop yields. This data, processed via modern AI and machine learning methods can enable precise farming so that optimised practices for higher yields and reduction of waste can be implemented at both small and large-scale farms. For example, cost-effective solutions can be built to provide automated nutrition dosing that provides optimized level of fertilizers based on factors such as temperature, light level, humidity, and soil quality. The adoption of such initiatives in the Asian region, especially in Vietnam (see Figure 2) and Thailand, serves as good examples for Sri Lanka to explore.



Figure 2: Use of IoT for irrigation decision making in coffee farms in Vietnam

(image source: <https://ictinternational.com/casestudy/measuring-plant-water-use-and-plant-water-potential-of-coffee/>)

Healthcare is another sector Sri Lanka can massively benefit. It is a well-known reality that patients from remote areas travel to major cities, spending fortunes and days, seeking consultative medical services. Tele-health facilities with patient monitoring sensor devices at remote health centres, connected to medical professionals in urban hospitals, can enable patients to receive timely medical attention at reduced cost. The basic Tele-health models involve video conferencing together with the sharing of X-ray images, scan reports, or medical history. More advanced models support remote transferring of real-time health vitals such as blood pressure, heart rate etc., via IoT devices and real-time data processing. Digitalization of health records will further support the sharing of patients' data among institutions and the obtaining of health insights via AI-driven data processing.

The key challenges to adopting Industry 4.0 in Sri Lanka can be identified as the knowledge and skills gap in emerging technologies, significant cost of devices, services, and data processing infrastructures, and the lack of high-level policy frameworks for technology adaptation, data governance, and data security. While Sri Lanka as a nation did not capitalize full benefits of the Third Industrial Revolution, the foundation laid during the last few decades regarding digital transformation and skill developments in ICT can now serve as the basis to overcome barriers to Industry 4.0 in future Sri Lanka. If Sri Lanka fails to act decisively, it risks missing this opportunity as well to align with global advancements and secure a technology-driven, sustainable future.

Webinars Conducted

IESL WA has conducted many webinars for member professional development as well as for sharing knowledge. This has been very successful due to good participation of many practicing engineers joining these webinars from Australia, Sri Lanka and many other countries. The zoom platform has provided a greater opportunity to join seminars immaterial of their physical location.

Geosynthetics in Landfills and containment structures and effective Construction Quality Management

Presenter:

Nilantha Herath

BSc - science Peradeniya 2001, post grad dip in environmental sciences 2003
Project Manager Geosynthetics and Liner integrity services



DATE: Thursday 27th of February 2025

TIME: 6.00pm AWST; 3.30pm SL Time

MODE: Webinar

Zoom Meeting Link:

<https://us02web.zoom.us/j/82945984228?pwd=pAQfO3H3vaB7PckDdOGoszyOfrTVVz.1>



Presentation Highlights:

- Application of Geosynthetics in construction industry
- Types of Geosynthetics liners in use
- Use of Geosynthetics in containment structures
- Quality assurance - material selection to final construction
- Quality control (manufacturer's and independent)
- Laboratory QA testing of geosynthetics

About the speaker

Nilantha Herath is a distinguished geotechnical and geosynthetics professional with a focus on the supervision of geosynthetic liner installation and construction quality testing, particularly for critical infrastructure projects such as dams, landfills, and highways. His expertise is pivotal in ensuring that these projects adhere to stringent quality and safety standards, which are essential for their long-term performance and environmental compliance. In the context of dam construction, Nilantha oversees the installation of geosynthetic liners, which play a crucial role in preventing seepage and maintaining the structural integrity of these massive structures. His meticulous supervision ensures that the liners are installed correctly, safeguarding the dam's functionality and longevity.

In landfill projects, Nilantha's role is equally critical as he ensures that geosynthetic liners are installed to the highest standards to prevent contamination of surrounding soil and groundwater, thereby protecting the environment and public health. His expertise extends to highway construction, where geosynthetic materials are used for soil stabilization, drainage, and erosion control. By ensuring these materials are properly installed, Nilantha contributes significantly to the durability and safety of roadway infrastructure. His work involves comprehensive quality testing of materials, strict compliance with design specifications, and effective coordination with construction teams to address any issues that arise during installation. Nilantha's dedication and attention to detail make him an integral part of the successful implementation of geosynthetic technologies in these vital infrastructure projects.

Institution of Engineers Sri Lanka-Western Australia Chapter

Dynamic Impacts – The importance of testing to verify

Presenter:

Chris Gardiner

Geobruigg Australia - WA Manager



DATE: Thursday 22nd of May 2025

TIME: 6.00pm AWST; 3.30pm SL Time

MODE: Webinar Zoom

Meeting Link:

<https://us02web.zoom.us/j/86298415712?pwd=Pb3YsmjCSE99CbFWzDYBrDEV9lpxba.1>



Presentation Highlights:

- Geobruigg range of products
- Approach to testing and optimisation of systems
- Problem solving for non-core business industries
- Cool test videos

About the speaker

Chris Gardiner is the WA Manager for Geobruigg Australia, responsible for overseeing the design and supply of rockfall and slope protection systems primarily in the mining industry. Chris holds a Bachelor of Science in Geology and Post Graduate Diploma in Engineering Geology from the University of Canterbury, New Zealand. He has a background in geotechnical consulting and civil and geotechnical construction before joining Geobruigg in 2021.

Geobruigg is the market leader in systems to protect against natural hazards such as rockfall, landslides, debris flow and coastal erosion. Geobruigg systems utilise very high-tensile wire nets to ensure the safety of personnel in mining and tunnelling, as well as the safety of road users and race goers, with their roadside protection and motorsport barriers.

Institution of Engineers Sri Lanka-Western Australia Chapter

Webinars Conducted

The Role of Electrical Engineers for the Sustainable Development of Sri Lanka: The Way Forward

Presenter:

Eng. (Prof.) Udayanga Hemapala

B.Sc. Eng. (Hons), PhD, C.Eng.



DATE: Thursday 27th of March 2025

TIME: 6.00pm AWST; 3.30pm SL Time

MODE: Webinar Zoom

Meeting Link:

<https://us02web.zoom.us/j/82645833780?pwd=GmzDVMF87aGh5njsHgasjbCu6kaeKE.1>

Presentation Highlights:



- Electrical engineers must lead Sri Lanka's sustainable development, tackling economic, technical, and social challenges.
- They need to shift their mindset and adopt a new mission to build a sustainable, stable, and equitable society.
- Engineers should focus on developing an affordable, low-impact electrical grid.
- IT, communication knowledge, and active involvement in R&D are essential for proactive solutions.
- The "Energy Internet," a smart, decentralized energy and information network, aims to eliminate energy poverty.
- This network relies on renewable energy, digital technologies, and big data.
- Are we on the right track? What should be the way forward?

About the speaker

Eng (Prof.) Udayanga Hemapala was graduated in 2004 with a B.Sc Engineering (First Class Honours) degree in specialising Electrical Engineering. He obtained his PhD from the University of Genova, Italy in 2009.

He was promoted to the position of Professor in the Department of Electrical Engineering in 2017. He later served as the Head of the Department of Electrical Engineering. In October 2022, he was appointed as the Dean of the Faculty of Engineering, a position he held until September 2024. Now he serves as the Secretary to the Minister of Energy, Sri Lanka. He is currently a council member of the IESL and was a council member during the session 2018/19 & 2019/20. He was the Honorary Secretary to the IESL Council during 2020/21 session.

Institution of Engineers Sri Lanka-Western Australia Chapter

Human Engineer – Co-opeting to create the Next point of Inflection

Presenter:

DR RAMESH SHANMUGANATHAN

PhD (Tech Mgmt), MSc (IT/CS), MBA, BSc (Hons), DBA (Cand.), CEng, CITP, FBCS, FIET



DATE: Tuesday 22nd of July 2025

TIME: 6.00pm AWST; 3.30pm SL Time

MODE: Webinar Zoom

Meeting Link:

<https://us02web.zoom.us/j/89687271770?pwd=hL3t791Q5lwtvgRNC07FiiwJ9lZVf5.1>



Presentation Highlights:

- Reimagining the role of the engineer
- The New Engineering Paradigm: Rise of Intelligent Systems
- Man + Machine: Augmentation & ethics
- The Future Skillset: T-shaped engineers
- Australia's Engineering Opportunity
- Redefining the Human Engineer
- Closing & Call to Action

About the speaker

Dr. Ramesh Shanmuganathan is the Executive Vice President and Group CIO of the John Keells Group, and also leads several of its key subsidiaries, including John Keells IT, John Keells X, Infomate, and John Keells Lanka BPO Services. He also serves on the board of Nations Trust Bank, where he chairs the Digital & Technology Advisory Committee.

With over 30 years of global experience in the ICT industry and more than 25 years in executive roles, Dr. Shanmuganathan is a leader in driving business-led digital transformation. He holds multiple advanced degrees, including a PhD in Technology Management, MSc in IT and Computer Science, MBA, and a BSc in Electronics and Telecommunications Engineering. He is also pursuing a DBA. A Hayes-Fulbright Scholar, Chartered Engineer, and Fellow of the British Computer Society, he is a frequent speaker and visiting faculty member. His key interests include digital leadership, innovation, cyber resilience, and emerging technologies.

Institution of Engineers Sri Lanka-Western Australia Chapter

Pearson Test of English (PTE) Exam Preparation Program

IESL WA conducted a series of webinars to support engineers in preparing for the academic PTE exam. The program was delivered in three sessions on June 26, July 3, and July 10. The sessions attracted a good number of participants and proved to be very helpful for the attendees.



Bridges of Support Welcoming Sri Lankan Newcomers to Australia



We warmly invite you to join a special training session designed to help you prepare for the PTE Academic Exam with confidence.

 **Date: Thursday, 26th June**

 **Time: 7:00 PM (AWST)**

 **Platform: Zoom**

 **Trainer: Eng. Nelupa Dissanayake**

Meeting ID: 831 7915 8805

Passcode: IESLWA

WHAT YOU GAIN:

- Proven tips and exam strategies
- Real-world practice insights
- Techniques to boost your speaking, writing, reading & listening scores



 ZOOM LINK: SCAN THE QR CODE TO JOIN THE SESSION



For more details,

ieslwacommunityprogram@gmail.com

Announcements, Events, and Updates


Executive committee movements

- Eng. Raveendra Salgadu resigned from the Presidency due to work commitments and the Vice President Eng. Tilak Marakkalage was appointed as the President.
- Eng. Mathanga Perera was appointed as the Vice President.
- Eng. Muditha De Silva resigned from the Treasurer due to work commitments and Eng. Nadeesha Dilrukshi was appointed as the Treasurer.

Upcoming events

- **IESL WA Annual General Meeting**

 Saturday 18th of October 2025

 3:00 PM

 Centenary Reserve Pavilion
40 Centenary Avenue, Wilson WA 6107

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THE END