

# ICEEA 2024, MYANMAR



World Federation of Engineering Organizations  
Fédération Mondiale des Organisations d'Ingénieurs



WFEO-CEIE

23<sup>rd</sup> & 24<sup>th</sup>

JULY

2024

## International Conference on Engineering Education Accreditation, ICEEA 2024

Theme:

“Engineering Education for Better Engineering  
Solutions towards a Sustainable World”

Myanmar Engineering Council  
No. (5A), Kha Yae Pin Road, Lanmadaw Township, Yangon, Myanmar  
Website: <http://www.myanmarengc.org>  
<https://iceea2024.com>

## **Invitation : International Conference on Engineering Education Accreditation, ICEEA 2024, Myanmar**

The Myanmar Engineering Council is pleased to announce that the Annual International Conference, ICEEA 2024, will be held virtually in collaboration with the Standing Committee on Education in Engineering (CEIE) of the World Federation of Engineering Organizations (WFEO). The conference is scheduled to take place on July 23<sup>rd</sup> & 24<sup>th</sup>, 2024.

As our objective is to harness the full potential of engineering through collaboration and knowledge sharing, the Myanmar Engineering Council and the WFEO-Standing Committee on Education in Engineering (CEIE) would like to extend a warmest invitation for your contributions and participations as our honorable guests and speakers in ICEEA 2024.

## Message from Prof. Dr. Charlie Than, Patron, Myanmar Engineering Council



*“Distinguished Guests, Esteemed Colleagues, and Esteemed Academics,*

*It is my great honor and delight that I, as the patron of the Myanmar Engineering Council, welcome you all to the 2024 International Conference on Engineering Education Accreditation (ICEEA). As we gather here, it is a pivotal moment to promote active involvement in the global engineering education and contribute to the achievement of the Sustainable Development Goals (SDGs) by 2030.*

*The theme of this conference, "Engineering Education for Better Engineering Solutions Towards a Sustainable World," underscores the critical role of engineering education in fostering sustainable development.*

*In this era of rapid transformation, realizing sustainable development has become an urgent priority. It involves not only economic growth but also social equity and environmental stewardship to ensure a better future for both current and future generations. As engineers, we have a significant responsibility to contribute towards these goals through our expertise innovation. This conference could offer us a valuable opportunity to unite, exchange ideas and experiences, and collaborate towards finding impactful solutions.*

*Over the course of this conference, academics from technological universities, practitioners, and international experts in the field of engineering education will gather to present and discuss the issues focused on the analysis, description, and teaching of engineering. Furthermore, it offers a valuable opportunity to share ongoing and proposed projects that promote sustainable development. Through these exchanges, we can not only learn from one another but also foster greater partnership in advancing quality education.*

*The utmost responsibility of Myanmar Engineering Council is to nurture qualified engineers, technologists, and technicians by elevating the standards of engineering and technological education systems. In line with this mission, organizing an international conference like ICEEA is a significant step which will provides a platform for knowledge exchange and sharing best practices among participants around the globe.*

*In closing, I extend my deepest gratitude to all the organizers, participants, and supporters of this conference. Your dedication to advancing engineering education for sustainable development is truly commendable, and I am confident that our discussions here will lead to meaningful progress towards our shared objectives. This conference will be a starting point to shape a brighter and more sustainable future through engineering education.*

*Thank you.”*

*Prof. Dr. Charlie Than  
Patron, Myanmar Engineering Council*

## Message from Prof. Dr. Nyi Hla Nge, Patron, Myanmar Engineering Council



*Prof. Dr. U Nyi Hla Nge  
Patron of  
Myanmar Engineering Council*

*“Dear Eminent Speakers, Fellow Engineers and Participants,*

*It is a well-known fact that at least 7 of the 17 “2030 Sustainable Development Goals” set by the United Nations together with 35 of the 169 targets therein are directly engineering-related and hence it is absolutely imperative that the engineers educated, trained and nurtured at our universities are well-qualified and competent enough to achieve the aforementioned targets and goals fully.*

*To this end, engineering education offered at universities must be reasonably high in quality, relevant, impactful and outcome-based. The graduates must possess the attributes expected from them. They must be able to solve complex engineering problems too. In this connection, some of the most important basic requirements of a modern university must be provided such as updated curricula and syllabuses, effective teaching and learning methods, qualified teachers, reasonably modern and adequate facilities and conducive learning environment. Furthermore, proper accreditation process will be really instrumental in ensuring good quality of education.*

*The engineers of today should also fully understand and embrace the concept of globalization and collaboration among nations. Furthermore, today’s engineers must be fully aware of the concept that sustainable engineering is the cornerstone of every engineering project nowadays.*

*Finally, MEngC sincerely hopes that many fresh and interesting ideas, views and thoughts will be heard from the learned presenters and informed discussions of this conference and, in the end, the participants will return home with new and inspiring knowledge and insights gained from this memorable event.*

*MEngC will be more than happy to welcome all interested participants to our grand ICEEA 2024, Myanmar!”*

## Message from Prof. Dr. Aung Kyaw Myat, President, Myanmar Engineering Council & Federation of Engineering Institutions of Asia and the Pacific



*“Excellencies, Comrade Engineers, Ladies and Gentlemen,*

*On behalf of the International Conference Organizing Committee, I am honored and privileged to extend my warmest greetings and heartfelt welcome to the esteemed guests and participants of the International Conference on Engineering Education Accreditation (ICEEA 2024 Myanmar). Our conference, with the central theme "Engineering Education for Better Engineering Solutions towards a Sustainable World," sets out to bring together leading experts from various fields of engineering education to collectively address the challenges and opportunities in advancing the United Nations' 2030 Agenda for Sustainable Development Goals.*

*The primary goal of ICEEA 2024 Myanmar is to present the significant role of engineering education in realizing the Sustainable Development Goals (SDGs) set by the United Nations. The conference aims to create a platform for sharing ideas and knowledge, promoting interdisciplinary collaborations, and identifying innovative solutions towards achieving sustainable development. Through keynote presentations, panel discussions, and paper presentations, we seek to establish a common ground for exchange and exploration of cutting-edge research on engineering education and its applications in addressing global sustainability issues.*

*The 2030 Agenda for Sustainable Development Goals encompasses 17 global goals aimed at protecting our planet's resources, and creating sustainable economic growth. Achieving these goals requires collective efforts from all sectors of society, including academia, governments, industries, and individuals. As engineers play a crucial role in shaping technology and innovation that impact people's lives globally, it is imperative that we equip ourselves with holistic knowledge and skills to contribute meaningfully towards achieving these goals.*

*As a President of the Myanmar Engineering Council, I am proud to host this prestigious conference in our country and strongly believe that your presence and participation will bring great value to our discussions. We are fortunate to have a diverse group of attendees comprising industry leaders, government officials, students, and young researchers. Your insights and perspectives will undoubtedly enrich our understanding of engineering education's role in enabling sustainable development and inspire us to work towards creating a better world for future generations. Let us join hands and embark on a journey of knowledge sharing, collaboration, and innovation towards a more sustainable future.”*

*Yours Sincerely,*

*Prof. Dr. Aung Kyaw Myat  
President, Myanmar Engineering Council (MEngC)  
President, Federation of Engineering Institutions of Asia and the Pacific (FEIAP)*

## Message from Prof. Dr. Zaw Min Aung, Chair, Standing Committee on Education in Engineering (CEIE), World Federation of Engineering Organizations (WFEO)



*“I am very pleased to convey my message to you on behalf of the Annual International Conference on Engineering Education Accreditation (ICEEA) 2024 organizing committee that I would like to welcome you all to this very important annual conference organized by Myanmar Engineering Council (MEngC) jointly with our World Federation of Engineering Organizations-Committee on Education in Engineering (WFEO-CEIE) annually since 2021. It is really an exciting time for both MEngC and WFEO-CEIE. I hope that you feel as excited as I am to be part of this great event. I’d like to draw your attention to share with you how important this event is for all of us.*”

*ICEEA 2024 devoted to current research and theory as well as future perspectives on better engineering solutions related to learning environments in engineering education. It will give participants a platform to exchange ideas, discover novel opportunities, reacquaint with colleagues, meet new friends and broaden their knowledge.*

*The significance of the annual conference is very well recognized by international audience as many internationally well-known honorable speakers will share the innovative ideas. All participants will be flowing together in the current of the theme "Engineering Education for Better Engineering Solutions towards a Sustainable World"; and along this journey we will learn from a wide range of topics related to engineering education, highlight the interaction between the person and the context in explaining engineering solutions, and stimulate scientific interactions and collaborations.*

*The Conference Organizing Committee of MEngC and Secretariat of WFEO-CEIE in collaboration with the ICEEA Sub Committee of WFEO-CEIE built up a stimulating conference program. I would like to give you an idea of what you can expect and what we hope to achieve in two conference days. The program offers around 25 presentations, including keynote speakers. The presentations to this conference cover many aspects of current research in engineering education. The conference resounds some of the most theoretical research and practical questions in the domain of engineering education. Through this conference, we would like to engage with all of you in an open and constructive dialogue about the theme.*

*With papers of speakers presented at ICEEA2024, we have published the issues of IDEAS journal annually with the intention to bring the ideas of Better Engineering Solutions to wider audiences globally. We would do the same for this year’s IDEAS journal as well. Last but not least, annual ICEEA presentations in the form of lectures YouTube videos appear on the WFEO Academy Website of WFEO-CEIE. All these arrangements have been great opportunities to work closely together with many international experts leading new achievements in the engineering education field. I would like to express my heartfelt thanks to all the authors/speakers for presenting at our annual ICEEA conferences, sending articles for the IDEAS Journals and finally making WFEO Academy Website alive.”*

**Prof. Dr. Zaw Min Aung**  
**Chair, Standing Committee on Education in Engineering (CEIE)**  
**World Federation of Engineering Organizations (WFEO)**

## About the International Conference

*Myanmar Engineering Council & Standing Committee on Education in Engineering (CEIE) of World Federation of Engineering Organizations (WFEO)* are holding an International Conference on Engineering Education Accreditation (ICEEA 2024) virtually on July 23<sup>rd</sup> and 24<sup>th</sup> 2024, from 12:30 hr. to 17:00 hr (MMT: UTC+6:30). The Conference deliberations would be on the theme **“Engineering Education for Better Engineering Solutions towards a Sustainable World”**.

**ICEEA 2024** is dedicated to exploring the latest trends, innovations, and challenges in engineering education.

**ICEEA 2024 Plenary Speakers:** International and Myanmar Engineering Education and Practice Leaders, Engineering Professionals from the World Federation of Engineering Organizations (WFEO), International Engineering Alliance (IEA), IEET, EA, Federation of Engineering Institutions of Asia and the Pacific (FEIAP), CAST, Pakistan Engineering Council (PEC), Board of Engineers Malaysia (BEM), Institute of Engineers Malaysia (IEM), AFEO, National Board of Accreditation India, Institution of Engineers Mauritius and among other higher education institutions in the country.

Location : Myanmar Engineering Council  
No (5A), Kha Yay Pin Street, Lanmadaw Township, Yangon,  
Myanmar

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[accreditation@myanmarengc.org](mailto:accreditation@myanmarengc.org)

For More Information : <https://iceea2024.com>

## Speakers and Topics

<i>Day 1 Speakers and Topics</i>	
<i>Prof. Dr. Charlie Than</i>	<i>Opening Address</i>
<i>Prof. Dr. Aung Kyaw Myat</i>	<i>Opening Message</i>
<i>Mr. Mustafa B. Shehu</i>	<i>Opening Message</i>
<i>Em. Prof. Elizabeth Taylor</i>	<i>The Role of the International Engineering Alliance (IEA) in Facilitating Better Engineering Solutions towards a Sustainable World</i>
<i>Prof. Liang-Jenq LEU</i>	<i>Capstone Projects and the Implementation of UNSDGs</i>
<i>Dr. Mandy Liu</i>	<i>Global Recognition and Value of the International Accords</i>
<i>Prof. Jürgen Kretschmann</i>	<i>Work-Integrated Engineering Education – an Introduction</i>
<i>Ir. Dr. TAN Yean Chin</i>	<i>Development of Professionalism, Code of conduct &amp; Engineering Judgement</i>
<i>Dr. Lincoln A Wood</i>	<i>The Engineering Toolbox - More than a Method</i>
<i>Prof. Yashin Brijmohan</i>	<i>What does preparedness mean in the context of engineering education in a sustainable and inclusive world?</i>
<i>Assoc. Prof. Ir. Dr. Hasril Hasini</i>	<i>Adopting SDG &amp; Industry Oriented Curriculum in Higher Education Engineering Program</i>
<i>Prof. K.K. Aggarwal</i>	<i>Emphasis on Sustainability &amp; Engineering Education in SAARC Nations</i>
<i>Engr. Prof. Dr. Fazal Ahmad Khalid</i>	<i>Emerging Trends and Engineering Solutions for Sustainability</i>
<i>Prof. Dr. Hla Myo Tun</i>	<i>Enhancement of Course-based Undergraduate Engineering Research Experiences (CUERE) towards the Implementation of Outcome-based Education at Yangon Technological University</i>
<i>Prof. Dr. Zaw Min Aung</i>	<i>Appreciation</i>
<i>Day 2 Speakers and Topics</i>	
<i>Engr. U Han Sein</i>	<i>Keynote Speech</i>
<i>Ir. Professor Dr. Jeffrey Chiang</i>	<i>Tagging on ESG as a way forward for Engineering Education Accreditation</i>
<i>Dr. Rodrigo Pérez Fernández</i>	<i>Engineering Education: Preparing Innovators for a Sustainable Future</i>
<i>Eng. Raj H Prayag</i>	<i>AIEM's Journey to Provisional Membership of Washington Accord 2017 to 2024, Institution of Engineers Mauritius</i>
<i>Prof. Dr. Carsten Ahrens</i>	<i>Accreditation of Anti-corruption Course Modules as Part of the University Education Programs of Civil Engineers</i>
<i>Engr. Federico A MONSADA</i>	<i>Achieving Global Comparability and Recognition of Professional Qualifications thru Accreditation – A Journey to Excellence</i>
<i>Prof. Dawn Bonfield</i>	<i>Engineers 2030: Embedding Inclusion, Ethics, Entrepreneurship, SDGs and Global Responsibility into the Engineering Curriculum</i>
<i>Dr. Marlene Kanga</i>	<i>Innovative Approaches to Graduate Outcomes through Tertiary Projects</i>
<i>Professor WANG Qinglin</i>	<i>Emerging technologies and professional development</i>
<i>IR Dr. Siti Hawa Hamzah</i>	<i>Quality Assurance in Engineering Education : TLA-SDG Mapping</i>
<i>Engr. Prof. Dr. Muhammad Tariq Khan</i>	<i>Assessing the integration of the United Nations Sustainable Development Goals in Engineering Accreditation</i>
<i>Engr. Dr. Rao Arsalan Khushnood</i>	<i>Integrating Sustainability into Engineering Curricula: Strategies and Outcomes</i>
<i>Engr Dr. Nasir M. Khan</i>	<i>Words of Thanks</i>
<i>Engr. U Aye Myint</i>	<i>Closing &amp; Appreciation</i>



**Programmes on 23<sup>rd</sup> July, 2024 (Tuesday)**

Time (MMT)	Activity	Speaker
12:00 ~ 12:20 (20 mins)	<b>Opening Announcement</b>	
	Opening Address	<b>Prof. Dr. Charlie Than</b> , Patron, Myanmar Engineering Council
12:20 ~ 12:30 (10 mins)	Opening Message	<b>Prof. Dr. Aung Kyaw Myat</b> , President, Myanmar Engineering Council (MEngC) & Federation of Engineering Institutions of Asia and the Pacific (FEIAP)
12:30 ~ 12:40 (10 mins)	Opening Message	<b>Mr. Mustafa B. Shehu</b> , President, World Federation of Engineering Organizations (WFEO)
12:40 ~ 13:10 (30 mins)	Keynote/ Plenary Presentation	<b>Em. Prof. Elizabeth Taylor</b> , Chair, Governing Group, International Engineering Alliance (IEA)
13:10 ~ 13:40 (30 mins)	Keynote/ Plenary Presentation	<b>Prof. Liang-Jenq LEU</b> , CEO, Institute of Engineering Education Taiwan (IET) & Secretary General & Executive Director of Accreditation Council, IET
13:40 ~ 14:10 (30 mins)	Keynote/ Plenary Presentation	<b>Dr. Mandy Liu</b> , Chair, Sydney Accord, International Engineering Alliance (IEA) & Office Director and Deputy Executive Director of the Accreditation Council, IET
14:10 ~ 14:40 (30 mins)	Keynote/ Plenary Presentation	<b>Prof. Jürgen Kretschmann</b> , WFEO First Distinguished Fellow & President of the TH Georg Agricola University and Chairman of the Board of DMT-Lehre und Bildung GmbH, Bochum, Germany
14:40 ~ 15:10 (30 mins)	Keynote/ Plenary Presentation	<b>Ir. Dr. TAN Yean Chin</b> , Secretary General (2008-2023), Federation of Engineering Institutions of Asia and the Pacific (FEIAP), an International Independent Umbrella Organisation for the engineering institutions in the Asia and the Pacific Region
15:10 ~ 15:40 (30 mins)	Keynote/ Plenary Presentation	<b>Dr. Lincoln A Wood</b> Engineers Australia (EA)
15:40 ~ 15:50 (10 mins)	<b>Health Break</b>	
15:50 ~ 16:10 (20 mins)	Keynote/ Plenary Presentation	<b>Prof. Yashin Brijmohan</b> , Vice President of the World Federation of Engineering Organisations (WFEO)
16:10 ~ 16:30 (20 mins)	Keynote/ Plenary Presentation	<b>Assoc. Prof. Ir. Dr. Hasril Hasini</b> , Associate Director (Mechanical) for the Engineering Accreditation Council, Board of Engineers Malaysia (BEM)
16:30 ~ 16:50 (20 mins)	Keynote/ Plenary Presentation	<b>Prof. K.K. Aggarwal</b> , President, South Asian University (A University established by SAARC Nations)
16:50 ~ 17:10 (20 mins)	Keynote/ Plenary Presentation	<b>Engr. Prof. Dr. Fazal Ahmad Khalid</b> , Rector, GIK Institute of Engineering Sciences and Technology, Pakistan
17:10 ~ 17:30 (20 mins)	Paper Presentation	<b>Prof. Dr. Hla Myo Tun</b> , Pro-rector, Yangon Technological University
17:30 ~ 17:40 (10 mins)	Appreciation	<b>Prof. Dr. Zaw Min Aung</b> , Chair, Committee on Education in Engineering, World Federation of Engineering Organizations (WFEO)
<b>Q &amp; A Session</b> <b>Moderators :</b> (1) Prof. Dr. Zaw Min Aung (2) Prof. Dr. Mya Mya Oo (3) Engr. Tin Latt (4) Dr. May Myat Khine		

**Programmes on 24<sup>th</sup> July, 2024 (Wednesday)**

<b>Time (MMT)</b>	<b>Activity</b>	<b>Speaker</b>
12:00 ~ 12:20 (20 mins)	<b>Opening Announcement</b>	
	Keynote Speech	<b>Engr. U Han Sein</b> , Patron, Myanmar Engineering Council
12:20 ~ 12:40 (20 mins)	Keynote/ Plenary Presentation	<b>Ir. Professor Dr. Jeffrey Chiang</b> , Chairman, ASEAN Federation of Engineering Organisations (AFEO), and President of The Institution of Engineers Malaysia (IEM), and Professor of Civil Engineering, SEGi University, MALAYSIA
12:40 ~ 13:00 (20 mins)	Keynote/ Plenary Presentation	<b>Dr. Rodrigo Pérez Fernández</b> , Profesor, Departamento de Arquitectura, Construcción y Sistemas Oceánicos y Navales
13:00 ~ 13:20 (20 mins)	Keynote/ Plenary Presentation	<b>Eng. Raj H Prayag</b> , Vice-President of the Institution of Engineers Mauritius & President Elect Southern Africa Federation of Engineering Organisations (2021-2023)
13:20 ~ 13:40 (20 mins)	Keynote/ Plenary Presentation	<b>Prof. Dr. Carsten Ahrens</b> , Professor emer. University of Applied Sciences Jadehochschule in Oldenburg
13:40 ~ 14:00 (20 mins)	Keynote/ Plenary Presentation	<b>Engr. Federico A MONSADA</b> , President, Philippine Technological Council
14:00 ~ 14:20 (20 mins)	Keynote/ Plenary Presentation	<b>Prof. Dawn Bonfield</b> , Professor of Practice, Engineering for Sustainable Development, King's College London & President, Commonwealth Engineers' Council (2023-2025)
14:20 ~ 14:30 (10 mins)	<b>Health Break</b>	
14:30 ~ 15:00 (30 mins)	Keynote/ Plenary Presentation	<b>Dr. Marlene Kanga</b> , President (2017-2019), World Federation of Engineering Organizations (WFEO)
15:00 ~ 15:30 (30 mins)	Keynote/ Plenary Presentation	<b>Professor WANG Qinglin</b> , Chair, China Committee for FEIAP, CAST, Chair, & Standing Committee on Emerging Technology for Professional Development, Federation of Engineering Institutions of Asia and the Pacific (FEIAP)
15:30 ~ 15:50 (20 mins)	Keynote/ Plenary Presentation	<b>Engr. Prof. Dr. Muhammad Tariq Khan</b> , Professor and Head of the School of Engineering at the National University of Computer and Emerging Sciences (NUCES), Islamabad, Pakistan
15:50 ~ 16:10 (20 mins)	Keynote/ Plenary Presentation	<b>Engr. Dr. Rao Arsalan Khushnood</b> , Distinguished Professor of Sustainable Construction Materials and the Deputy Director at the Tunneling Institute of Pakistan
16:10 ~ 16:30 (20 mins)	Keynote/ Plenary Presentation	<b>Ir Dr. Siti Hawa Hamzah</b> , Vice President, Institute of Engineers Malaysia (IEM)
16:30 ~ 16:50 (20 mins)	Words of Thanks	<b>Engr Dr. Nasir M. Khan (Pride of Performance)</b> , Chair, ICEEA 2024, Committee on Education in Engineering, World Federation of Engineering Organizations (WFEO)
16:50 ~ 17:10 (20 mins)	Closing & Appreciation	<b>Engr. U Aye Myint</b> , Patron, Myanmar Engineering Council
<b>Q &amp; A Session</b> <b>Moderators :</b> (1) Prof. Dr. Zaw Min Aung (2) Prof. Dr. Mya Mya Oo (3) Engr. Tin Latt (4) Dr. May Myat Khine		

## Invited Speakers



### Title: “Innovative Approaches to Graduate Outcomes through Tertiary Projects”

**Dr Marlene Kanga AO FTSE FEng (UK) Hon.FIE (Aust)  
Hon. FIChemE (UK)**

*President 2017-2019,  
World Federation of Engineering Organisations,  
Maison de l’UNESCO 1, rue Miollis 75015 Paris, France*

#### *About the Speaker*

Dr. Marlene Kanga was President of the World Federation of Engineering Organisations (WFEO) in 2017-2019, the peak body for engineering institutions internationally representing some 100 engineering institutions and 30+ million engineers. A chemical engineer, she was the 2013 National President of Engineers Australia. She is a Fellow of the Academy of Technology Science and Engineering, Australia, a Foreign Fellow of the ASEAN Academy of Engineering and Technology and an international Fellow of the Royal Academy of Engineering.

She is an Officer of the Order of Australia, a national honor, “for distinguished service to engineering, as a global leader and role model to women”

During her term as WFEO President, Dr Kanga led the initiative for the member states at UNESCO to declare 4<sup>th</sup> March, the founding Day of WFEO, as World Engineering Day for Sustainable Development. She also led WFEO for the review of the international benchmark for engineering education and professional competencies in collaboration with the International Engineering Alliance, another significant legacy of her term.

She is currently leading the WFEO contribution to the UN Africa Coalition and established the WFEO Academy to provide access for training and capacity building for engineers and educators in Africa, Asia and Latin America, ensuring more engineers with the right skills for sustainable development, in regions of greatest need.

Marlene is a board member and non-executive director of some of the largest organizations in Australia in the utilities, transport and innovation sectors. She is an Honorary Fellow of the Institution of Engineers Australia, an Honorary Fellow of the Institution of Chemical Engineers (UK), an honorary fellow of the engineering institutions of New Zealand and India.

She has been listed among the 100 engineers making a contribution to Australia in the last 100 years as part of Engineers Australia Centenary celebrations in 2019, among the Top 100 Women of Influence and one of the

#### *Abstract*

*The World Engineering Day Hackathon is a tertiary level project that encourages engineering students to demonstrate their skills relative to the GAPC Framework which is used as the judging criteria for the competition, Dr Marlene Kanga will speak about the innovative approach of the Hackathon and the benefits gained by students. She has been involved with the Hackathon since it commenced in 2021. The competition has grown significantly attracting more than 2500 registrations from 28 nations in 2024. The presentation will include insights into the student experience and learning and a case study of Batangas State University Philippines. The case study will show how the Hackathon enables sponsoring universities to demonstrate the success of implementation of the GAPC Framework in their engineering programs.*

## Invited Speakers



**Title: “The Role of the International Engineering Alliance (IEA) in Facilitating Better Engineering Solutions towards a Sustainable World”**

**Em Prof. Elizabeth Taylor**

*Chair, Governing Group, International Engineering Alliance  
Deputy Chair, Sydney Accord, International Engineering Alliance*

### *About the Speaker*

Elizabeth Taylor specialises in governance effectiveness and analysis of complex projects and ecosystems. Her career has spanned industry, design and construction, and academe. She has built extensive Board-level leadership in professional organisations and innovative technology entities.

Currently she is Chair of SmartCrete Collaborative Research Centre (focused on concrete) and Chair, Governing Group, and Deputy Chair, Sydney Accord, of the International Engineering Alliance.

Elizabeth has always engaged in diverse pro-bono work. Currently she is Chair of the Cambodian Childrens’ Trust Australia. Previously she was Chair of RedR Australia, an humanitarian response agency, and Chair of RedR International.

Elizabeth is an Officer of the Order of Australia (AO), Honorary Fellow of Engineers Australia, Fellow of the Australian Institute of Company Directors, Fellow, Academy of Technological Sciences and Engineering and has been recognised as one of Australia’s 100 most influential engineers. She is Emeritus Professor at Central Queensland University and Member, Engineering External Advisory Committee, Charles Sturt University and has an Honorary Doctorate from UNSW. In 2021 she was awarded Engineers Australia’s Peter Nicol Russell Career Achievement Memorial Medal.

## Invited Speakers



### Title: “Capstone Projects and the Implementation of UNSDGs”

*Prof. Liang-Jenq LEU*

*CEO, Institute of Engineering Education Taiwan (IEET) &  
Secretary General & Executive Director of Accreditation Council, Institute of  
Engineering Education Taiwan (IEET)*

#### *About the Speaker*

Prof. Leu is an expert in nonlinear analysis and design of structures, computational mechanics, and structural optimization. Trained in Theoretical and Applied Mechanics from the Cornell University, Prof. Leu has always had a strong passion for teaching in structural engineering. He serves on the faculty of the Civil Engineering at the National Taiwan University for 29 straight years now and has advised more than 100 master’s degree and PhD students in addition to offering yearly courses for undergraduate students. On top of his teaching and research, Prof. Leu was most proud of leading his colleagues for a major curriculum redesign during his tenure as the department chairman (2010/2-2016/7). The impetus for the curriculum redesign was concerns among faculty members over students’ engagement in learning as well as their ability to solve complex civil engineering problems. Following this endeavor, a series of hand’s-on courses, later dubbed “Trilogy of Civil Engineering Design Projects Courses” was developed. Students from freshmen to senior years must take three engineering design courses, namely the Cornerstone, Keystone, and Capstone courses in order to graduate, which is now a highlight of the training at the Civil Engineering Department. Student teams from Prof. Leu’s department have won numerous awards in recent years as a result of introducing the Trilogy courses.

While he was the department chairman, Prof. Leu was elected as President of the Chinese Institute of Civil and Hydraulic Engineering (CICHE) in 2014. In that top leadership role, Prof. Leu revamped the Institute by upgrading services for members, engaging closely with public policies, and securing financial stability for the Institute. Projects that born out of his initiative was drafting the Civil Engineering Basic Act and the White Paper of the Civil Engineering Profession. It is also worth noting that finance of CICHE was in its most healthy state during the four years of Prof. Leu’s tenure as the President. He considered the advancement of civil engineering’s visibility and welfare as the milestones of his presidency.

Prof. Leu has been on the executive team of an accreditation agency for engineering and technology education in Taiwan, IEET, since 2011. He is now the Secretary General and CEO of the Institute. Recognizing values of accreditation to the educational programs and their students, Prof. Leu has invested substantial amount of time and effort in his role at IEET. He leads staff in continuous tuning of the accreditation system with the student outcomes-based orientation so that work of IEET could possibly have the potential to enhancing quality of the educational programs and to benefitting graduates of the accredited programs. One of the projects that highlights his engagement at IEET is introducing the online Accreditation Management System (AMS). The AMS is now a user-friendly system that effectively reduces paper consumptions and adds to the quality of the review process at the same time. Meanwhile, Prof. Leu continues to work with staff members on capacity building of the organization’s sustainability and vitality. Prof. Leu also volunteers for Chinese Taipei APEC Engineer Monitoring Committee to elevate mobility of professional engineers. This line of work is of critical impact for the international recognition of engineering students and engineers, which would eventually advance the development of the engineering profession. Prof. Leu lead the major revisions of the accreditation criteria for IEET in 2014 and 2024 respectively.

The 2014 revision resulted in adding capstone courses as a requirement for all programs to be accredited while the 2024 revision introduced sustainability and information ethics, key competencies for the graduates of the 21st century, into the accreditation criteria. Both revisions champion the changes of training of future engineers.

Starting in August 2018, Prof. Leu has a 3-year contract transfer from his professoriate position at the NTU to be President of the Taiwan Construction Research Institute (TCRI). Prof. Leu has been leading TCRI toward a better and advanced future by demonstrating his leadership, professional knowledge, skills, and networking capacities. He works closely with staff members there not only to secure projects that are the lifeline of the Institute, but also to deliver cutting-edge models for the betterment of the construction industry. With the deep passion and commitment for the civil engineering profession, Prof. Leu thrives in his role at TCRI and has made extraordinary contribution in a rather short period of time during his term. One of his signature achievements was the establishment of the Taiwan Society for Circular Economy (TWSCE), Taiwan’s first and across-the-board society for circular economy. With pressing concerns over issues of sustainability and global development and with the world’s leading corporations embracing social responsibility and ESG, circular economy has gained momentum in Taiwan. However, there was few platforms for best practice promotion, research, policy engagement, and standards setting. Prof. Leu took the initiative to unite government, industry and academic resources and launched the TWSCE. The Institute has been well received by all sects of professionals and deemed as a leading organization on the topic of circular economy. Over the past few years, Prof. Leu has taken every opportunity presented to him to promote the circular economy notion across different industries and to raise the awareness of government and academe. His vision is to use circular economy as a contemporary and forceful engine to advance the national economy and the welfare of the citizens. This simply speaks to his nature as a professor and an engineer, which are callings dear to his heart.

Prof. Leu’s career is marked with myriad of important positions and awards. In addition to above and on the boards of many societies/institutes, he also served as President of the Chinese Society of Structural Engineering and as the editor-in-chief for Journal of Structural Engineering (Chinese). Meanwhile, he received the following awards that highlight his relentless services: Outstanding Engineering Professor Award from the Chinese Institute of Engineers (CIE) (2019); Outstanding Engineering Award for Academics from the Chinese Institute of Civil and Hydraulic Engineering (CICHE) (2019); Honorary Fellow from Myanmar Engineering Society (2018); Honorary Member and Fellow from the Chinese Society of Structural Engineering (2018); Honorary Member and Fellow from the Chinese Institute of Civil and Hydraulic Engineering (CICHE) (2018).

## Invited Speakers



**Title: “Global Recognition and Value of the International Accords”**

***Dr. Mandy Liu***

*Chair, Sydney Accord, International Engineering Alliance (IEA) & Office Director and Deputy Executive Director of the Accreditation Council, Institute of Engineering Education Taiwan (IEET)*

### *About the Speaker*

**2004 ~present**      **Deputy Executive Director of the Accreditation Council and Office Director, IEET**

**Previous Position**  
**2001 ~ 2004**      **Research Associate, American Association of Medical Colleges (AAMC) Washington DC, USA**

**Education**  
**2001**      **Ph.D. in Higher Education Policy and Management, Claremont Graduate University, USA**

### **International Accords Related Experience**

**2023~present**      **Chair, Sydney Accord**

**2021~2023**      **Deputy Chair, Sydney Accord**

**2018**      **Panel Member, WA Verification Review Team to CACEI (Mexico)**

**2004 ~present**      **IEET’s main contact window to the International Engineering Alliance**

## Invited Speakers



**Title: “Work-Integrated Engineering Education – an Introduction”**

**Prof. Jürgen Kretschmann**  
*WFEO First Distinguished Fellow &  
President of the TH Georg Agricola University and Chairman  
Of the Board of DMT-Lehre und Bildung GmbH, Bochum, Germany*

### About the Speaker

#### Professional Experience and Career Development

- 2006 – 2022** President of the TH Georg Agricola University and Chairman of the Board of DMT-Lehre und Bildung GmbH, Bochum, Germany,
- 2001 – 2006** Member of the Management Board of RAG Bildung GmbH
- 1990 – 2001** Various management and leadership positions in the RAG Coal Mining Company, Essen, Germany

#### University Activities

- Since 2005** Adjunct professor at RWTH Aachen University, Germany, Faculty of Mining, Metallurgy and Geosciences
- 1994-1999** Habilitation (postdoctoral studies) at RWTH Aachen, Faculty of Mining, Metallurgy and Geosciences, Degree: Privatdozent (equivalent to associate professor) for the subject Economics for Engineers
- 1986 – 1989** Dissertation at the Georg-August University Göttingen at the Chair of Corporate Management, Department of Economics, Degree: Dr. rer. pol. (equivalent to PhD)
- 1980 – 1986** Business and Management Studies at the Universities in Aachen, Bochum, Dortmund, Degree: Diplom-Kaufmann (equivalent to MBA)

### Other Offices and Memberships

- Board Member of the Deutscher Verband Technisch-Wissenschaftlicher Vereine (DVT). DVT is the governing body of more than 25 engineering associations in Germany.
- Member of the Education in Engineering Committee and the President’s Advisory Board of the World Federation of Engineering Organizations (WFEO)
- Honorary member of the Engineers Association of Uruguay, Montevideo, Uruguay
- Member of the international Advisory Board of the World Engineering Council 2022 in Prague, Czech Republic
- President of the global Society of Mining Professors 2018/2019, Delft, The Netherlands
- First Distinguished Fellow of the World Federation of Engineering Organizations (WFEO)

## Invited Speakers



**Title: “Development of Professionalism, Code of Conduct & Engineering Judgement”**

***Ir. Dr. TAN Yean Chin***

*Secretary General (2008-2023),*

*Federation of Engineering Institutions of Asia and the Pacific (FEIAP), an International Independent Umbrella Organisation for the engineering institutions in the Asia and the Pacific Region*

### *About the Speaker*

Ir. Dr. Tan Yean Chin is a Professional Engineer with Practicing Certificate and an Accredited Checker (Geotechnical) registered with the Board of Engineers Malaysia (BEM). He is a registered ASEAN Chartered Professional Engineer (ACPE) as well as an APEC Engineer and International Professional Engineer (IPEA) in Malaysia and Australia. He is also a registered Foreign Professional Engineer in Myanmar and Cambodia.

Ir. Dr. Tan holds the position of Secretary General (2008-2023) of the Federation of Engineering Institutions of Asia and the Pacific (FEIAP). He was the President of The Institution of Engineers, Malaysia (IEM) in year 2016-2018. He has also served 10 years as Board member of the Board of Engineers, Malaysia (BEM), a government regulatory body registering and governing all engineering personnel in Malaysia. Ir. Dr. Tan is an Honorary Fellow of the ASEAN Federation of Engineering Organisations (AFEO) and the Institutions of Engineers, Malaysia (IEM). He is also Fellow of Institution of Civil Engineers (ICE, UK), ASEAN Academy of Engineering & Technology (AAET) and Academy of Engineering and Technology of the Developing World (AETDEW). He is appointed Expert Member of International Consultative Committee (ICC) of Chinese Society of Engineers (CSE), China (2023-2026). He was appointed as Director of Prasarana Malaysia Berhad (Prasarana) (2020-2024) and Chair the Board Sustainability, Health, Safety

In 2024, he won the prestigious international award of “FEIAP Engineer of the Year 2024” in Taipei, Taiwan.

He is Co-Founder and Senior Director of G&P Professionals group of multi disciplines engineering consulting firms with more than 350 staff. He has led his team in the design of mega projects such as Electrified Double Track Railway project from around Taiping to Alor Setar, Klang Valley MRT Kajang Line and Putrajaya Line. Ir. Dr Tan has published more than 100 technical papers in local and overseas conferences and seminars.



## Invited Speakers



**Title: “The Engineering Toolbox - More than a Method”**

***Dr. Lincoln A Wood***  
*Engineers Australia (EA)*

### *About the Speaker*

Dr Wood retired in 2019 from Engineers Australia where he was National Manager, Accreditation. He led a major redevelopment of Engineers Australia’s Accreditation Management System in line with current quality assurance and risk management practices. Prior to joining Engineers Australia, he had alternating career episodes in industry and academe, with the weight of experience being with industry.

His industry experience has been in the defence, aerospace and automotive sectors, culminating in an appointment as Engineering Director for a large defence company in Australia. He has also held professorial appointments at two Australian universities.

## Invited Speakers



**Title: “What does preparedness mean in the context of engineering education in a sustainable and inclusive world?”**

**Prof. Yashin Brijmohan**  
*Vice President of the World Federation of Engineering Organisations (WFEO)*

### *About the Speaker*

Yashin Brijmohan is an educationist and licensed engineer from South Africa. He completed his doctoral studies specializing in engineering education research, his master’s degree in engineering management, and his bachelor's degree in electrical engineering. Yashin Brijmohan is known for his thought leadership in STEM education and capacity building. His area of expertise is in policy and regulation, experiential and workplace learning, global competencies, and educational system design. His contributions have spanned primary and secondary schools, universities, and industry educational systems. He spearheaded the development of engineering and business programs as founding Executive Dean of Business, Engineering, and Technology at Monash South Africa and Head of the School at EAL, the largest corporate university in the Southern Hemisphere.

Yashin Brijmohan has also played vital roles in national, continental, and international engineering organizations. He is currently Chair of the Africa Asia Pacific Accord, Board Member of the UNESCO International Centre for Engineering Education, Chairperson of the Engineering Education Committee of the Federation of African Engineering Organisations, Chair of the Africa Engineering Education Forum executive committee, and Strategic Advisory Board member of the Da Vinci Business School. He also served as Vice President of the World Federation of Engineering Organisations (WFEO), Chair of Chairs of the ten Technical Standing Committees (WFEO), Founding Chair of the UNESCO Africa Engineering Week, Chairperson of Engineering Capacity Building Committees (Africa and global), and Chair of the American Society of Engineering Education Student Division. He is passionate about the development of people with a focus on access, diversity and inclusion.

## Invited Speakers



**Title: “Adopting SDG & Industry Oriented Curriculum in Higher Education Engineering Program”**

**Dr. Hasril Hasini**

*Deputy Dean (Academic & International), College of Engineering,  
Universiti Tenaga Nasional, MALAYSIA*

### *About the Speaker*

Dr. Hasini is currently an Associate Professor and Deputy Dean (Academic & Research) in the College of Engineering Universiti Tenaga Nasional. He also serves as an Associate Director (Mechanical) for the Engineering Accreditation Council, Board of Engineers Malaysia, a professional body responsible for accrediting all engineering programs in Malaysia. He is an active review panel for the International Engineering Alliance, which governs the Washington Accord, an international agreement between bodies responsible for accreditation of engineering degree programmes.

Hasril is a registered Professional Engineer with the Board of Engineers Malaysia, Certified Energy Manager and Certified Professional in Measurement and Verification by the Malaysia Green Technology Corporation. He is an active member of the Institute of Engineers Malaysia (IEM), serving the Mechanical Engineering Technical Division.

He is currently the President for the ASEAN QA Association for the term 2024-2025. He has more than 20 years’ experience in engineering education, research, publications, consultancy services and technical training. His research interest includes engineering education, energy efficiency, disaster risk management and assessment, computational fluid dynamics (CFD) code development and its application to power plant equipment such as boilers, turbines (steam, gas, and hydro).

## Invited Speakers



### Title: “*Emphasis on Sustainability & Engineering Education in SAARC Nations*”

#### **Prof. K.K. Aggarwal**

*President, South Asian University  
(A University established by SAARC Nations)*

#### *About the Speaker*

Prof. K.K. Aggarwal, **President, South Asian University (A University established by SAARC Nations)** is Former Chairman, National Board of Accreditation, India, Former Founder Vice Chancellor, GGS Indraprastha University, Delhi and Former Chairman, Board of Governors, MNIT, Jaipur.

Prof. Aggarwal obtained his Engineering Degree from Punjab University and Masters degree from Kurukshetra University securing **First position in both**. Later, he did his Ph.D. in Reliability Evaluation and Optimization also from Kurukshetra University. In 1975, he rose to the level of **Professor at an age of 27½ years**, probably the youngest person in the world to have achieved this level. After a distinguished service of 27 years at NIT, Kurukshetra, Prof. Aggarwal was appointed **Pro Vice-Chancellor**, Guru Jambheshwar University (Technical University of Haryana), Hisar for a **period of three years**, and then in 1998 **appointed as Founder Vice Chancellor of GGS Indraprastha University, Delhi**. He continued on this position up to November, 2008.

He has been **President of the Institution of Electronics and Telecommunication Engineers (IETE)** for the period 2002-2004. During this period, this Institution witnessed an unprecedented growth and made a remarkable impact on the society in general & IT professionals in particular. He also served as **Sectional President (IT & CS Section) in the Indian Science Congress Association**, President, **Computer Society of India** for the period 2007-2009 and **President of South East Asia Regional Computer Confederation (SEARCC)** for the years 2008-10. He is also the **Academy Professor** of AcSIR of CSIR.

Prof. Aggarwal has extensively worked in various fields of Electronics and Computer Engineering. Has published about **400 papers** in the reputed journals - about 50% of these in international journals. He has been invited to deliver lectures in several Universities in India and abroad, such as University of Berkley, USA; University of Cincinnati, USA; Florida State University, USA; University of Birmingham, UK; Technical University of Germany, etc.

Prof. Aggarwal did not confine his contribution to the academic field alone and instead made a very strong impact in the industrial world. He delivered lectures in several industrial organisations and conducted programmes for many important industrial houses such as Tata Consultancy Services, BHEL, TVS Electronics, DCM Data Systems, Central Mechanical Engineering Research Institute, Electronics Corporation of India, BEL, ISRO, Defence Research Labs., etc.

He has been widely consulted by the industry, **most notable being his contribution towards the Reliability Analysis for PSLV (Polar Satellite Launch Vehicle)**. He delivered a talk on Reliable Automotive Electronics in **Ford Motors, Detroit, USA** and also conducted a **full day program for Information Management Resources, Florida, USA**.

Prof. Aggarwal has written few books and many of his articles have appeared in several books published by IEEE of USA. A couple of years ago, he authored a book on Reliability Engineering which is published by Kluwer Academic, Netherland/USA/ UK. His latest book on Software Engineering published in 2001 has already seen several reprints.

Prof. Aggarwal **was honoured by the Reliability Society of IEEE, USA** for his services as Guest Editor for the special issue on “**State of Reliability Effort of the Indian Sub-Continent**”. He was declared as the **Man of Decade, Man of the Century and finally Man of the Millennium by American Bibliographical Institute, USA**. He was also awarded **Delhi Ratan by the All-India Conference of Intellectuals**. International Biographical Centre, England has published his biography in “**The First Five Hundred – at the new millennium**” in July 2000. The Broadcast Engineering Society of India honoured him by conferring Honorary Fellowship on him in February, 2001 and the Computer Society of India Conferred the Fellowship on him in 2003. Prof. Aggarwal was conferred Distinguished Fellowship in 2010 and the very **First Life Time Achievement Award** in 2011 by the Institute of Electronics and Tele-Communication Engineers, India. Computer Society of India also conferred the **Life Time Achievement Award** on Prof. Aggarwal during 2016.

## Invited Speakers



**Title: “Emerging Trends and Engineering Solutions for Sustainability”**

**Engr. Prof. Dr. Fazal Ahmad Khalid**  
*Rector,*  
*GIK Institute of Engineering Sciences and Technology,*  
*Pakistan*

### *About the Speaker*

Prof. Dr. Fazal Ahmad Khalid is serving as Rector GIK Institute of Engineering Sciences and Technology Topi Pakistan and has extensive experience in Research, Academic Management, Administration and leading Reforms in Higher Education and Engineering and Technology in the implementation of Outcome Based Education (OBE), Quality Assurance, Accreditation working with PEC for representation in Washington Accord and International Engineering Alliance IEA.

He earned his D.Phil. from the University of Oxford in the field of Materials Science and Engineering. He has vast experience of industry, teaching, research and accreditation and quality assurance. He served Punjab Higher Education Commission (PHEC) as Chairman (2019-2021) and University of Engineering and Technology (UET), Lahore as Vice Chancellor (2014 – 2018). Previously he served in GIK Institute as Pro-Rector and Dean.

## Invited Speakers



**Title: “Enhancement of Course-based Undergraduate Engineering Research Experiences (CUERE) towards the Implementation of Outcome-based Education at Yangon Technological University”**

**Prof. Dr. Hla Myo Tun**

*Pro-Rector (Research), Yangon Technological University, Gyogone, Insein PO, 11011, Yangon, Republic of the Union of Myanmar*

### *About the Speaker*

Prof. Dr. Hla Myo Tun received his Bachelor of Engineering Degree in Electronics from Mandalay Technological University (MTU) in 2002. He received his Master of Engineering Degree in Electronics from Yangon Technological University (YTU) in 2003. In 2008, he received his Doctor of Philosophy in Electronic Engineering from MTU.

Dr. Tun is a Leading Pro-Rector for Research and Engineering Higher Education of YTU and a Professional Engineering in Electronics Discipline. He specializes in professional training for Engineering Higher Education leaders, heads of departments and faculty members. He also directs Research and Development programmes and workshops and works as a certified Quality Assurance Evaluator of Myanmar Engineering Council (MEngC) since 2019.

Since 2012 he has formulated the department development plans especially in Semiconductor Electronics Technology Research Group Establishment at MTU and YTU under the scheme of JICA Project for Enhancement of Engineering Higher Education (EEHE) in Myanmar.

He did his research work on Time Reversal Focusing in Underwater Communication under Signal Processing Research Group of IIT Delhi in India in 2013. He got an award of Outstanding Research Report from IIT Delhi. He published over 350 Peer-Review Research Journals and attended the International Conferences in Electronics Related Areas. The best paper awards were awarded to Dr. Tun in the International Conference on Science and Engineering 2017 and ROVISP 2021 of Springer Conference.

## Invited Speakers



**Title: “Tagging on ESG as a way forward for Engineering Education Accreditation”**

**Ir. Professor Dr. Jeffrey Chiang**

*Chairman, ASEAN Federation of Engineering Organisations (AFEO),  
and President of The Institution of Engineers Malaysia (IEM), and  
Professor of Civil Engineering, SEGi University, MALAYSIA*

### *About the Speaker*

**Presently: Professor of Civil Engineering at  
SEGi University, KD 2018 – Present**

**AFEO Chairman, April – November 2024**

**Previous Position:**

- **Dean of Engineering, SEGi University,  
KD 2014 – 2017**

**Professional Voluntary Position:**

- **President, The Institution of Engineers  
Malaysia (IEM) sessions 2024 – 2026**

**Areas of Research Interests and Expertise:**

- **Analysis and design of concrete structures and infrastructures (currently chairing Standards Malaysia Technical Committee on MS Eurocode 2)**
- **Dynamic analysis in wind loads and seismic actions in design of building structures (previous Chair in TC on MS Eurocode 8, 2010 – 2017)**

## Invited Speakers



**Title: “Engineering Education: Preparing Innovators for a Sustainable Future”**

**Dr Rodrigo Perez Fernandez**

*PhD, MSc, MBA, CEng, CMarEng, FRINA, FIMarEST, FSNAME*

### *About the Speaker*

**Dr Perez holds both PhD and MSc in *Naval Architecture & Marine Engineering*. He has also completed an MBA and several postgraduate programs in Shipbuilding, Maritime Transport and Executive Management.**

**Combining his activity in the industry, he is a professor in the *Marine Engineering School* of the *Universidad Politécnica de Madrid (UPM)*.**

**He has published several books and written more than one hundred technical papers about marine engineering.**

**He is member of the *Committee on Education in Engineering (CEIE)* of the *World Federation of Engineering Organizations (WFEO)* and *President of the Spanish Association of Marine Engineers (Madrid Branch)*.**



## Invited Speakers



**Title: “AIEM’s Journey to Provisional Membership of Washington Accord 2017 to 2024, Institution of Engineers Mauritius”**

**Eng. Raj Hemansing Prayag**  
*GOSK. PDSM CEng PEng. BSc. Msc. FIEM*  
*Institution of Engineers Mauritius*

### *About the Speaker*

R.H.Prayag is a chartered Civil Engineer, a graduate of the Loughborough University, UK with a long and rich career, having worked in both private and public sectors as well as for International Agencies such the World Bank, UNEP and the Indian Ocean Commission.

At National level he has been Chief Engineer for Water Works & Sanitation for 14 years, been the Director of Environment for over 14 years, worked as a regional project director for the Indian Ocean Commission on two World Bank funded projects for the creation of the Electronic Marine Highway project along the Mozambique channel and the preparation of the Oil Spill Contingency Plans for seven Eastern African countries as well as five islands in the Southwest Region of the Indian Ocean for 12 years.

He is engaged in the enhancement of the Professional Engineer image/status for the last 47 years and has been the driver of the IEM’s initiative to join the Washington Accord since 2017. He has spearheaded a dedicated team to Provisional Membership of WA, achieved last June 24.

## Invited Speakers



**Title: “Accreditation of Anti-corruption Course Modules as Part of the University Education Programs of Civil Engineers”**

**Prof. Dr. Carsten Ahrens**

*Professor emer. University of Applied Sciences  
Jadehochschule in Oldenburg*

### *About the Speaker*

**Professor emer. University of Applied Sciences  
Jadehochschule in Oldenburg**

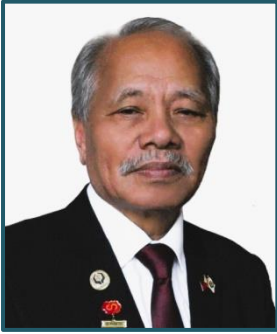
**Faculty of Civil Engineering, Geoinformation  
and Health Technology**

**Environmental Physics,  
Sustainability in the Built Environment**

**ECCE former Vice-president  
WCCE former Vice-president  
Representative of The Institute of German  
Engineers (ZDI)  
Former Member of the Governmental MINT  
initiative (to foster engineering education)**

**Initiator and co-ordinator of many international university co-operations, European Education Programmes (TEMPUS, ERASMUS, COMETT etc.) and two international study programmes (European Civil Engineering Management (ECEM), Hearing Technology and Audiology (H+A)).**

**(Keynote) Speaker for many international conferences on Renewable Energy and Green Hydrogen. Author of the "Study on Solar Energy" as representative of WFEO, SC Energy, Solar Group.**



## Title: “Achieving Global Comparability and Recognition of Professional Qualifications thru Accreditation – A Journey to Excellence”

Engr. Federico A. MONSADA

*MEng. ACPMetE, ASEAN Eng. Former President – PFPA  
President, Philippine Technological Council*

### About the Speaker

Engr. Monsada is a professional metallurgical engineer with more than 40 years of engineering and technology management experiences in various operational and corporate capacities in the minerals and heavy metals industries. During the last fifteen years, he has been involved in the development of outcomes-based external quality assurance system for engineering education and practice in the country towards global comparability and international recognition. As President of the Philippine Technological Council (PTC), he spearheaded the establishment of the Certification and Accreditation System for engineering education in the country and led PTC’s full signatory membership to the Washington Accord of the International Engineering Alliance (IEA), the guardian of “gold standard” in engineering education. He was a former Professional Board Examiner at the Professional Regulation Commission (PRC), former Chair of the ASEAN Federation of Engineering Organizations, Chair/Member of the APEC Engineer Register Philippine Monitoring Committee, and, Member, ASEAN Monitoring Committee for Engineering Services in the Philippines under the MRA 2005 among ASEAN Member States.

He was Outstanding Professional of the Year Awardee in Metallurgical Engineering by the Professional Regulation Commission in 2016 and a National Education Awardee by his Alma Mater, the University of the Philippines, also in 2016.

Engr. Monsada is currently the PTC President and was recently elected as the Vice President of the Federation of Engineering Institutions of Asia and the Pacific (FEIAP), which developed and maintains the FEIAP Engineering Education Guidelines in 2010 for its 25 member institutions from various Asia-Pacific economies. He was the former President of the Philippine Federation of Professional Associations (PFPA), the umbrella organization of 45 professional associations representing the various profession disciplines in the country. He is also the Chair and CEO of Minercon International, an engineering and management consulting firm.

He is married to the Former Secretary (Minister) of the Department of Energy, Mrs. Zenaida Y. Monsada, and they have three children, all professionals in their own rights, 2 grandsons, and 2 granddaughters.

### Abstract

With the context of professional engineering practice increasingly becoming global and complex, the need for a second look on how would-be engineering professionals are educationally prepared cannot be overemphasized. Some 15 years ago, PTC initiated work with stakeholders on the continuous improvement of the country’s engineering education towards well-educated, quality, global practice-ready engineering professionals. The work resulted to the development, adoption and implementation of an outcome-based accreditation system, a third-party quality assurance that focuses on the attainment of intended student outcomes (SOs) by the students by the time of their graduation from a degree program. These SO’s were, at the onset, benchmarked against the best in the world – the Washington Accord’s Graduate Attributes & Professional Competence Profiles - a set of generic exemplars of knowledge profiles, skills, competences, values and attitudes, which graduates are expected to acquire through the program, attain and be able to demonstrate by the time of graduation. Attainment of the outcomes will ensure that the graduates will be ready to enter professional practice when they exit the program.

With active participation of various stakeholders and a good number of higher educational institutions (HEIs), PTC was finally able to bring its accreditation system and its accreditation decisions to be at par with the world’s bests. This was proven during the second 10-day verification and review visit by a 3-man Panel from Washington Accord in late January 2023 which found that, a) the PTC accreditation system and its practices, b) the PTC accredited engineering programs (BS Degree level programs), and, c) the qualifications of graduates from the said accredited engineering programs are substantially equivalent to those of the other WA full signatories.

In consideration of the findings and recommendations of the Verification Panel, the Washington Accord full signatories finally admitted PTC as the Accord’s 25<sup>th</sup> Full signatory and the Philippines as the 25<sup>th</sup> country/economy to be represented in this elite body of national professional engineering accreditation bodies.



**Title: “Engineers 2030: Embedding Inclusion, Ethics, Entrepreneurship, SDGs and Global Responsibility into the Engineering Curriculum”**

**Prof. Dawn Bonfield**

*Professor of Practice, Engineering for Sustainable Development, King’s College London & President, Commonwealth Engineers’ Council (2023-2025)*

***About the Speaker***

Dawn Bonfield MBE FREng is a materials engineer by background, and now has a number of diverse roles across the engineering sector. Dawn is President of the Commonwealth Engineers’ Council, and UK representative of the World Federation of Engineering Organisations, where she is Deputy Chair of the Women in Engineering Committee, and a member of the Engineering Education Committee. She is Professor of Practice of Engineering for Sustainable Development at King's College London working with students and the University more broadly on addressing the Sustainable Development Goals. She has been Royal Academy of Engineering Visiting Professor of Inclusive Engineering at Aston University since 2017, which includes teaching on a Degree Apprenticeship and Masters level Professional Engineering qualification. She is the Founder & Director of Towards Vision, a not-for-profit which focuses on Inclusive Engineering - the process of ensuring that engineering products and services are accessible and inclusive of all people, and are as free as possible from discrimination and bias, throughout their lifecycle. She is Past President and former Chief Executive of the Women's Engineering Society (WES). She is founder of the social enterprise ‘Magnificent Women’ which celebrates the history of women in engineering, and she was the founder of International Women in Engineering Day (INWED) which takes place on 23 June annually.

***Abstract***

The UK engineering community, led by the National Engineering Policy Centre and the Royal Academy of Engineering, are undergoing a review of the engineering skills needed for the future, to ensure that we are equipping our engineers with the technical competencies, values, and leadership attributes to address the multiple and serious challenges that the planet faces. A steering group has been established to guide the *Engineers 2030* Project to understand what changes are needed in our mindset, education systems and culture to ensure that engineers and technicians have a deeper understanding of their role in achieving a sustainable society and an inclusive and prosperous economy.



**Title: “Emerging Technologies and Professional Development”**

**Wang Qinglin, Ph.D Professor**

*Chair of the Standing Committee on emerging Technologies for Professional Development, the Federation of Engineering institutions of Asia and the Pacific (FEIAP)*

*Chair of China Committee for FEIAP, Chinese Association of Science and Technology*

*Member of the Open Publishing steering Group of the International Council for Science (ISC)*

**About the Speaker**

Chair of the Standing Committee on emerging Technologies for Professional Development, the Federation of Engineering institutions of Asia and the Pacific (FEIAP). Chair of China Committee for FEIAP, the Chinese Association of Science and Technology. Member of the Open Publishing steering Group of the International Council for Science (ISC).

Vice President of China Engineering Education Certification Association (CEEAA). Deputy Director of the Education Committee of the Chinese Society of Engineers. He once served as the Deputy Director General of the International Cooperation Department of the China Association for Science and Technology.

Professor and Director of International Office and Director of Postgraduate training of Beijing Institute of Technology. Vice president of China Association for International Science and Technology Exchange and Cooperation. Advisor to the President of the World Federation of Engineering Organizations, member of the Engineering Education Committee and member of the Engineering capacity Building Committee.

He was a visiting professor at the University of Alberta in Canada in 2005 and a senior visiting researcher at the Chinese Academy of Sciences in 1999.

**Abstract**

The report will discuss the relationship between emerging technologies and professional development. Given the concept and definition of emerging technologies, it is recommended that universities set up specialized disciplines around emerging technologies and cultivate professional talents. It is also recommended that corresponding to emerging technology majors and industries, set up special professional engineer titles and organize special societies to promote emerging technologies and corresponding sustainable development of emerging industries.



**Title: “Assessing the Integration of the United Nations Sustainable Development Goals in Engineering Accreditation”**

**Prof. Dr. Muhammad Tariq**

*Professor of Computer Engineering, Professional Engineer with PEC No. Comp/4024*

*Fulbright Scholar (USA), MEXT Scholar (Japan), HEC Scholar (Pakistan), Listed in the Stanford’s world top 2% scientists*

*Email: tariq.khan@nu.edu.pk, mtariq@princeton.edu Cell: +92 (334) 8727562*

**About the Speaker**

Muhammad Tariq holds the position of Professor and Head of the School of Engineering at the National University of Computer and Emerging Sciences (NUCES), Islamabad, Pakistan. Notably, he also served and successfully completed his tenure as the FAST NUCES Peshawar campus director in the past. Currently, he is also a visiting research collaborator at Princeton University, NJ, USA. Dr. Tariq’s distinguished academic and research contributions are exemplified by his authorship or co-authorship of over 80 research articles, mostly in IEEE journals/transactions and the HEC Platinum category journals, boasting a cumulative impact factor exceeding 450, having more than 2350+ citations. He has achieved recognition as one of the world’s top 2% of scientists for 2023, acknowledged by Stanford University, USA, and Elsevier, in light of his significant global research impact. Eight of his students have completed their Ph.D. under his supervision and are now serving in some of the best universities of Pakistan and abroad. His outstanding accomplishments have been acknowledged through numerous awards. As a testament to his global impact, he collaborated with esteemed researchers (including a Nobel prize winner) from Europe, China, Japan, and the U.S. to co-author a seminal book on smart grids. This significant work was published by John Wiley and Sons in 2015. Recognition from the Chinese government arrived in the form of being designated as a National High-End Foreign Expert in 2017, 2019, and 2023.

These appointments were bestowed in recognition of his pivotal role in diverse research projects funded by the State Administration of Foreign Experts Affairs China. Dr. Tariq’s academic journey includes a Fulbright Postdoctoral fellowship at Princeton University in 2016, under the supervision of renowned American scientist Prof. H. Vincent Poor. His scholarly pursuits led him to attain a Ph.D. through a Japanese government (MEXT) scholarship at Waseda University, Tokyo, Japan, in 2012. Before this, he acquired his Master of Science degree from Hanyang University, Seoul, South Korea, supported by an HEC scholarship. The reach of Dr. Tariq’s work extends across international borders, as evidenced by his role as a guest, invited, and keynote speaker. He has delivered research talks at prestigious forums and universities situated in Pakistan, China, Saudi Arabia, and the United States. He has completed different research projects as a Principal Investigator and Team Lead worth 30.00 Million. He remained on the panel of judges for various local and international organizations of science and technology, where he evaluated various funding proposals and ideas pitching. He was chair of IEEE Peshawar subsection from 2019 to 2023. He is currently serving as Conferences Chair IEEE Islamabad Section and also the founding chairperson of Pukhtunkhwa Open Source Foundation (POSF).



**Title: “Integrating Sustainability into Engineering Curricula: Strategies and Outcomes”**

**Dr. Rao Arsalan Khushnood**

*Distinguished Professor of Sustainable Construction Materials and the Deputy Director at the Tunneling Institute of Pakistan*

***About the Speaker***

Dr. Rao Arsalan Khushnood is a distinguished Professor of Sustainable Construction Materials and the Deputy Director at the Tunneling Institute of Pakistan. With an extensive academic background, he holds a Ph.D. in Structural Engineering from Politecnico di Torino, Italy, and both a Master's and Bachelor's degree in Civil Engineering from the National University of Sciences & Technology (NUST), Pakistan.

Dr. Khushnood's professional career is marked by significant roles, including his services as a Technical Expert to the Engineering Accreditation Department of Pakistan Engineering Council (PEC) and his current position as the Founder and CEO of Structax Consultants Pvt Ltd. His previous academic positions include serving as the Department Chair of Structural Engineering at NUST. In addition to his professional roles, Dr. Khushnood is the Member National Curriculum Review Committee of Higher Education Commission and an Academic Expert in Engineering Curriculum & Review Committee of PEC.

Dr Khushnood is a prolific researcher with interests in green construction materials, construction waste management, and smart construction technologies. Throughout his career, Dr. Khushnood has secured substantial research grants and collaborated with industry partners on various projects, underscoring his commitment to advancing sustainable construction practices. He holds several patents in his field, reflecting his innovative contributions to sustainable engineering solutions. His work is widely recognized, with over 3200 citations, an h-index of 32, and numerous publications in top-tier journals. His dedication to integrating sustainability into engineering education and practice continues to inspire and drive innovation in the field. He has received numerous accolades for his contributions to the field, such as the Bronze Medal in the World Scientists Ranking in Civil Engineering by AD Scientific Index in 2024, and the Best University Innovator award by NUST in 2021



## Title: “Integrating Sustainability into Engineering Curricula: Strategies and Outcomes”

**Ir Dr. Siti Hawa Hamzah**

*(1961 – Present)*

*PhD, P.Eng PC, FIEM*

*Hon Distinguished Fellow SEEM, Hon MAFEO ASEAN Engr, APM, MRM, PSWM*

*BSCE, Cert. of Education, and MSCE from USA; PhD from UKM*

[sitihawabthamzah@gmail.com](mailto:sitihawabthamzah@gmail.com)

### *About the Speaker*

IEM Vice President (2023/2025), IEM Council Member (2021/2023), IEM TA Director (2024/2025), Adjunct Professor Universiti Malaysia Sarawak (2024-2025), Consultant at Centre of Biomedical Engineering, University of Cyberjaya (2024)

ETAC Associate Director (2024-2026) & Former Director (EAD BEM) (2020 – 2022)

International Engineering Alliance (IEA) Washington Accord Reviewer to Engineering Council United Kingdom (ECUK) 2023-2024, Hong Kong Institution of Engineers (HKIE) 2021, Mentor to Bangladesh into Washington Accord Full Signatory Membership (2016 – 2021), BEM-WG to Review the Concurrent Accreditation Process under The Sydney Accord (SA) and The Dublin Accord (DA) (2024)

Retired Professor (Civil & Structural Engineering), Faculty of Civil Engineering, UiTM Shah Alam (1983-2017)

Past Associate Director ((Civil) EAC, Past Associate Director (Structural) EAC (2014-2020),

Past Council Member IEM (2011-2014), Past Excomm IEM (2012-2014)

OBE Trainer, Ministry of Higher Education Afghanistan (World Bank Project), Kabul (2016 – 2019)

Academic Programme Reviewer, Master of Science in Civil Engineering, Qatar University (2019)

33 years teaching & academic experience (1983-2017)

20 years experience managing engineering programmes

Accreditation experience in more than 185 programmes

Professional Engineer Assessment to more than 70 engineers

Completed 21 research projects

Authored 15 books in structural engineering, more than 175 technical papers, accreditation videos on You Tube.

External examiner to B. Eng Civil programmes at Monash University Malaysia, University of Technology Sarawak, MAHSA University,

Universiti Malaysia Sarawak, INTI International University, International Islamic University Malaysia, Universiti Tun Hussein Onn Malaysia;

and Diploma in Civil Engineering at MAHSA University;

EAC Advisor to Universiti Malaya, Advisory Panel Member Bachelor of Civil Engineering (Al Madinah International University)

OBE Advisor to Universiti Industri Selangor

BEM-EAC & ETAC Accreditation Trainer, BEM Lead Accreditation Evaluator,

PAE & PI Principle Panel Interviewer, BEM T&E Comm. Member,

WRIC Committee on Education in Engineering (CEE) Publications, Editorial Advisory Board to journals and proceedings.

Who's Who in Engineering Malaysia (2022),

Hon. Distinguished Fellow SEEM (2021), Honorary Member to ASEAN Federation of Engineering Organisation (2008), IEM Women Engineer Award (2007),

Three times recipient of UiTM excellence service award (1992, 1996, 2013), More than 20 research accolades

Ir. Dr. Siti Hawa Hamzah is a retired Professor in Civil and Structural Engineering from UiTM Shah Alam (1983-2017), former Director of the Engineering Accreditation Department (EAD) at Board of Engineers Malaysia (BEM) (2020-2022), was the Engineering Accreditation Council (EAC) Associate Director (AD)(2014 – 2020) at BEM and currently the Vice President of The Institution of Engineers Malaysia (IEM) (2023-2025) and the AD to Engineering Technology Accreditation Council (ETAC), BEM (2024-2026). Siti is an IEM Fellow since 2006, had served as an ordinary council member from 2021-2023 and 2001-2004, and the executive council from 2002 until 2004. She specializes in load bearing wall panel structures and engineering education. She has been imparting knowledge and professional engineering practices as well as in engineering education and its quality assurance, making impactful contributions in Malaysia, Afghanistan, Bangladesh and Qatar. Siti is affiliated with the International Engineering Alliance (IEA), as a mentor to BAETE-IEB and a reviewer to ECUK and HKIE. Her awards include the Hon. Distinguished Fellow SEEM, Hon. MAFEO, IEM Woman Engineer and more than 20 research accolades. Her recent recognition is through the Who's Who in Engineering Malaysia, 2022. Siti published 15 books in structural engineering and more than 175 technical papers. To date, she had examined more than 70 Professional Engineer (Ir) candidates and accreditation experience in more than 185 programmes. She holds bachelor and master degrees in civil engineering; and certificate of education from the USA. She completed her PhD in Civil and Structural Engineering from UKM. She's a PEPC, FIEM, APM, MRM and PSWM.



## Contact Detail & Links

<b>Date</b>	:	<b>23<sup>rd</sup> July and 24<sup>th</sup> July, 2024</b>
<b>Time</b>	:	<b>12:30 hr. to 17:00 hr. daily (MMT: UTC + 6:30)</b>
<b>Location</b>	:	<b>MEngC, Server Myanmar Engineering Council Headquarter No (5A), Kha Yay Pin Street, Lanmadaw Township, Yangon, Myanmar</b>
<b>Email Address</b>	:	<b><u><a href="mailto:secretariat.ceie@myanmarengc.org">secretariat.ceie@myanmarengc.org</a></u> <u><a href="mailto:accreditation@myanmarengc.org">accreditation@myanmarengc.org</a></u></b>
<b>For More Information</b>	:	<b><u><a href="https://iceea2024.com">https://iceea2024.com</a></u></b>



