HKIE THE HONG KONG INSTITUTION OF ENGINEERS 香港工程師學會

Veneree Club 睿賢學社

睿賢學社

2025 Engineering Exposition -

Engineering Life Challenges

Saturday 15 March 2025
8:45 am - 12:30 pm

at HKIE Headquarters,
9/F, Island Beverley, Causeway Bay
Hong Kong

Contents

Acknowledgements

The HKIE Veneree Club would like to express their gratitude to the following companies for their sponsorship to the Engineering Exposition.

ATAL Engineering Group
CLP Power Hong Kong Limited
FSE Engineering Group Limited
Gammon Construction Limited
MTR Corporation Limited
REC Engineering Company Limited
The Hongkong Electric Company Limited

(Listed in alphabetic order)

Chairman's Message – Veneree Club

Veneree Club "睿賢學社" continues its good tradition and commitment of organising annual Engineering Exposition for young engineers. To enable more interactive communications, after the main talks delivered by the invited distinguished speakers, we organise break-out sessions, in which smaller groups of young engineers can interact more closely with the speakers.

We continue to choose "Engineering Life Challenges" as the theme to emphasise engineers needed to face and overcome challenges in their career. While it is important to equip ourselves with necessary technical knowledge to solve complex engineering problems, equally we need positive energy for further advancement.

The Engineering Exposition aims to provide a platform for distinguished engineers to share their valuable experience in how they overcome obstacles and navigate through their career path. Their sharing would certainly help broaden the horizon and exposure of the young generation. Hope all participants could benefit from the sharing.

Apart from this Engineering Exposition, Veneree Club as a society of retired engineers continues to organize monthly talks on various interesting topics and regular outing visits to place of interest to enable our members to come together to expand their knowledge as well as meet new and old friends.

On behalf of the Club, I would like to express my heartfelt gratitude to the sponsors who have provided us with much needed financial resources and enabled this meaningful activity to be carried out. I am also extremely grateful to all invited speakers for sharing their valuable career life experiences with young engineers. Of course, without the contribution of the organising committee members, it would not be possible to hold this event. Finally, I would like to thank all the participants for joining this event. I wish you all have a successful career.

Ir Simon CHUNG Fuk Wai
Chairman, Veneree Club
The Hong Kong Institution of Engineers
Session 2024/2025

Engineering Exposition 2025 Organizing Chairman's Message

Riding on the success and encouraging feedback from participants in Engineering Exposition 2024, HKIE Veneree Club has the great pleasure to continue organizing its annual signature event, the Engineering Exposition 2025, for young engineers. Through sharing of personal experiences and insights by our knowledgeable and seasoned speakers, we believe that our young engineers would gain a lot from participating in the event for their personal and professional development.

This year, again we have the great honor to have five distinguished engineers and one HKIE Outstanding Young Engineer awardee with a total of more than 200 years of experience in different engineering fields to share with the participants their stories and experiences in their engineering career lives. Through the sharing, particularly in the breakout session, participants could deepen their understanding on the essence of being of a successful professional engineer from a higher and wider perspective.

Under the Greater Bay Area (GBA) concept and development plan, deeper and tighter economic connections between Hong Kong and cities in Mainland China particularly in GBA are seen in every sector of our society. Engineering sector is of no exception. This means more opportunities for Kong Hong engineers in both Hong Kong and Mainland China in the near future. We trust the stories and insights to be shared in the event can help our participants to well prepare for the coming opportunities.

On behalf of the Organizing Committee, I would like to express my heartfelt gratitude to the sponsors, the participants and the members of the Organizing Committee for their contributions to make Engineering Exposition 2025 another success.

Ir LO Pak Cheong
Organizing Committee Chairman
Engineering Exposition 2025

Engineering Exposition 2025 Organizing Committee

Organizing Committee Chairman:	**Ir LO Pak Cheong**	
Members:	**Ir David CHENG**	**Ir Simon CHIANG King Wah**
	Ir Heinz CHIU	**Ir Simon CHUNG Fuk Wai**
	Ir Anthony KWAN Lok Fong	**Ir Philip KWONG Sze Fai**
	Ir Allan POON	**Ir Stephen LEE Ming Ching**
	Ir William LI Wai Lim	**Ir Peter TSANG Kang Ho**
	Ir Wilson TSANG Sau Kit	**Ir YEE Tak Chow**
Advisor:	**Ir Dr CHAN Fuk Cheung**	

Past Engineering Exposition Events

The past Engineering Exposition Events are listed below:

2013 held on 11 May 2013 at Novotel Century HK Hotel*
Speakers were: Ir CHEUNG Shu Wing, Ir Dr CHOI Yu Leuk, Ir Dr LAU Ching Kwong, Ir Gregory LO Chun Hung, Ir John SZE Tak Wei, Mr WONG Tak Ko, Ir Dr CHAN Fuk Cheung, Ir CHOW Che King, Ir LAM Hing Cheung, Ir Dr Wanbil LEE, Ir Ian ROBERTSON, Ir Jolly WONG CHun Kau

2014 held on 10 May 2014 at Regal Hong Kong Hotel*
Speakers were: Ir Dr James LAU Chi-wang, Ir Dr Otto POON Lok-to, Ir Benny WONG Yiu-Kam, Ir Prof CHAN Ching-Chuen, Ir Dr CHENG Hon-Kwan, Ir Dr George SZE Lai-wah
*(jointly organised with HKIE Young Members Committee)

2015 held on 30 May 2015 at HKPolyU Chiang Chen Studio Theatre
Speakers were: Ir Dr John LUK, Ir Victor NG, Ir Louis SZETO Ir CHOW Tang Fai, Ir HO Chi Shing, Ir MA Lee Tak

2016 held on 30 Apr 2016 at HKPolyU Chiang Chen Studio Theatre
Speakers were: Ir Prof Daniel LAI, Ir Edmund LEUNG, Ir Greg WONG Ir HO Wing Ip, Ir YING Tsie Cheong, Ir YUEN Sui See

2017 held on 8 Apr 2017 at HKPolyU Chiang Chen Studio Theatre
Speakers were: Ir Allan CHAN Sau Kit, Ir IP Pak Nin, Ir WONG Chi Kwong Ir CHAN Chi CHiu, Ir Patrick NG Ying Piu, Ir Prof Joshua SL WONG

2018 held on 21 Apr 2018 at HKPolyU Chiang Chen Studio Theatre
Speakers were: Ir John SV CHAI, Ir Raymond LIN Kam Siu, Ir WONG Wai Ho Ir LEE Wan Lik, Ir Dr Michael YH Li, Ir Stanley SIU Hiu Fai

2019 held on 13 Apr 2019 at HKPolyU Chiang Chen Studio Theatre
Speakers were: Ir Dr CHAN Chun Leung, Ir Regis CHEE Lap Gee, Ir HON Chi Keung Ir Howard LOK Tat Hong, Ir TAI Tak Him, Ir Peter WONG Kwok Keung

(Due to COVID-19, no Engineering Exposition Events for 2020 and 2021 were held.)

2022 held on 19 Mar 2022 via Zoom
Speakers were: Ir Harry LAI Hon Chung, Ir Ivy LEUNG Yick Laam, Ir Timothy SUEN Ir Dr HO Pui Tak, Ir Duncan WONG, Ir Arthur YUNG

2023 held on 18 Mar 2023 held at HKIE HQs
Speakers were: Ir Dr Alex CHAN Siu Kun, Ir Stephen CHIK Wai Keung, Ir CHOI Chun Ming, Ir Alfred SIT Wing Hang, Ir TANG Whai Tak, Ir Dr Herman TSUI Yik Wai

2024 held on 23 Mar 2024 held at HKIE HQs
Speakers were: Ir Frank CHAN Fan, Ir Dr Clarence Edward CHOI, Ir Gary KO Chi Wai, Ir Enoch LAM Tin Sing, Ir Joseph LEUNG Chi Ming, Ir WAI Chi Sing

Ir Prof Elvis AU Wai Kwong

FHKIE, FHKIP, FHKIEIA, FHKIQEP, FHKIOA, MRTPI, MCIWEM, RPE, Registered Urban Planner, Chartered Environmentalist

Discipline: Civil, Environmental

Ir Professor Elvis Au, BBS, is an Adjunct Professor of the University of Hong Kong, covering sustainability, EIA, strategic environmental planning, sustainable waste management, energy, climate change, circular economy, nature based solutions and smart technologies. He has over 40 years of experiences(including 32 years working in government) in environmental protection, sustainability, conservation, energy and climate change matters. He masterminded many environmental policies, programmes and projects in Hong Kong. Prof Au served as a trainer for SFC, HKMA and ADB. He is the former Deputy Director of Environmental Protection Department and former Chairman of Smart Technology Committee of Environment Bureau, of the HKSAR Government. He is a former President (as the first Chinese being elected) of International Association for Impact Assessment, former Chairman of HKIE Environmental Division and former Chairman of the HKIE Green Finance Task Force. He is a co-founder of the IESG Technologies Ltd., assisting organisations in utilising generative artificial intelligence and advanced digital technologies to achieve ESG and UNSDGs. Key achievements include:

- Pioneer, founder and author of Hong Kong EIA Ordinance
- Pivotal in resolving major environmental problems and minimising environmental impacts of the Airport Core Programme
- Pioneered ESG, green procurement, green building and green finance policies and practices
- Developed the first building energy efficiency legislative scheme
- Developed the Harbour Area Treatment Scheme 2A, resulting in the reopening of cross-harbour swimming in the main Victoria Harbour in 2017
- Pioneered and developed the first organic waste treatment facility and first mega incinerator for Hong Kong
- One of the founders of the Hong Kong Institute of EIA and Hong Kong Institute of Qualified Environmental Professionals
- Instrumental in inventing world-first 3D EIA, 3D noise mapping, 4D Immersive CAVE system and world-first GIS smart enforcement system which won a Global Achievement Award
- One of the key authors of the environmental chapters of Hong Kong Chronicle covering 1842-2017

Motto
Nothing venture, nothing gain!

Case 1
Pioneered, built and established a world class Hong Kong's Environmental Impact Assessment System and the EIA Ordinance by harnessing the challenges and opportunities arising from the world class (the then world largest) Airport Core Programme worth HK $160 billions and comprising 10 mega projects – once-in-a-life-time opportunity for win-win sustainable development benefitting millions of residents, the economy and the environment

- Very serious problems encountered (environmental, political, technical etc)
- Faced grave uncertainties and stop-and-go problems arising from Sino-British political negotiation
- Very limited manpower to oversee and manage such mammoth programme, hence prompting and resulting in very major engineering and environmental innovations, creative solutions and pioneering works never experienced in Hong Kong – making the engineering and environmental works gaining world class status
- The Hong Kong EIA system became a role model for many EIA systems in the world, won international and local accolades and chosen as one of the key civil service achievements and excellence in 2007
- The EIA system has enabled over thousand billions mega projects to be brought into fruition meeting sustainable development goals

Case 2
In 2010-2017, embraced the grave challenge and took full charge of and championed the planning and development of Hong Kong's mega incinerator (3000 tonnes per day) for municipal solid waste, which was the single biggest environmental project in the history of Hong Kong worth HK$19.3 billions and the first Organic Waste Treatment Facility (O-Park 1) for Hong Kong

- Very strong opposition in early 2010s to the building of the mega incinerator
- Very difficult hurdles to overcome to obtain approval under the Town Planning Ordinance, the EIA Ordinance and Foreshore and Seabed Ordinance
- In early 2010s, the lack of political support in the Legislative Council resulted in the withdrawal of the mega incinerator project from the Finance Committee of LegCo
- Faced serious filibustering in 2014-15 before obtaining the final funding approval in 2015
- Faced and survived two rounds of legal challenges relating to the mega incinerator project in mid 2010s

O-park 1 was commissioned in 2018.

The mega incinerator project (I Park 1), the planning of which started in early 2002, gained very significant progress, with the Design-build-operate Contract awarded in 2017; is scheduled to be commissioned in 2025.

Because of these waste to energy infrastructure projects, a major landfill crisis and the associated public health crisis were alleviated, ensuring the sustainability of Hong Kong.

Engineering Life Challenges

- My first engineering life challenge: searching the career passion that fit me. Do what you love to do and do what you have passion, but still maintaining a living: striking a right balance is difficult, but achievable.

  My advice to young engineers is that you should grab opportunities available to you to test and try out what engineering tasks or fields really motivate you, choose the ones that best fit your passion, work hard to develop your capabilities and give yourself a chance to explore and excel in those areas you have passion.
- My second engineering life challenge: building up and sustaining self-confidence, courage, faith, hope and drive while facing career setbacks and difficulties.

  My advice to young engineers is that you should not lose confidence and courage when things are not as smooth as you expect. You should delete the word "failure" from your life dictionary and replace it with "life-long learning" as the guiding philosophy in building up your capability to turn adversities into opportunities.
- My third engineering life challenge: engineer as pioneer, bringing dreams into realities through painstaking efforts and perseverance, even though some may not fully agree with your dream at that time.

  My advice to young engineers is that you should think, act and practise as a pioneer, not just a follower. At all times and under all circumstances, you should and must experiment and try out new things or new ways of doing the same things. Be a dreamer; and also be down-to-earth with a concrete action plan and strategy to bring the dream into fruition with perseverance.
- My fourth engineering life challenge: stepping out of local comfort zone and going global in the engineering endeavour: from a local engineer to a global engineer – gained international recognition and elected and served as the President of an international professional association (ie International Association for Impact assessment); being the first Chinese to serve as the President of this international body.

  My advice to young engineers is that you should think local and act local; at the same time, you should also broaden your horizon, think global and act global: be a global engineer, with roots and groundings locally.

Ir Dr Lilian HUI Ming Fong

Ph.D, B.Sc, FHKIE, MIStructE, R.P.E., 1RSE-PRC

Disciplines: Building, Fire, Structure

Ir Dr Hui has over 30 years' experience in the building industry, covering areas of design, project management, sustainability, building control and law enforcement for both new and existing buildings. She started her early career in consulting firms and gained experience in building and bridge engineering in the UK and Hong Kong. She then worked in the Buildings Department for about 25 years on building safety of private buildings. For her service in the government, she has been awarded 'The Secretary for the Civil Service's Commendation' and the 'Bronze Bauhinia Star'. After retiring from the Buildings Department, Dr Hui joined the Chinese National Engineering Research Centre for Steel Construction (Hong Kong Branch) as a Principal Research Fellow and mainly focuses on application research.

Motto

"When one door closes, another opens!"

It's your attitude, not aptitude that determines your altitude.

Case 1 Tragic fire at the Amoycan Industrial Centre in 2016

This case involved a fourth alarm fire that lasted for a total of 108 hours, during which two firemen died. Although I do not consider leading the operation for this case to be an accomplishment or failure, it is a case that I still vividly remember due to its possible dire consequences. Leading this round-the-clock operation required stamina, staying calm and making swift decision under pressure.
The Buildings Department worked very closely with the Fire Services Department to ensure safety of the subject building and the surrounding buildings with the thousands of residents amidst uncertainty of the fire load in mini-storages in the building.

Due to the severity of the fire, only very limited access inside the building was possible. Our judgement on actions to be taken, including whether to evacuate residents from surrounding buildings, diversion of traffic on the main road etc., relied on inspection from outside and the information from the firemen on the conditions inside the building. Thus, close collaboration with colleagues and other parties were required.

Case 2 Territory-wide drainage inspection of private buildings

Amid the COVID epidemic, many building owners were concerned about the condition of the drainage systems of their buildings. The Government therefore launched a 24-month special inspection scheme in June 2020. Under this scheme, the Buildings Department engaged consultancy firms to inspect the drains at the external walls of some 20 000 private residential or composite buildings. For drainage pipes that were found to be defective, such as leaking, broken or misconnected, the owners were required to carry out repair works via statutory orders.

For leading operation of this scale with tight schedule and involving many parties and the public, it was important to set clear goal and schedule with corresponding technical framework for consistent approach by all involved. Besides, good communication with all parties was vital to ensure smooth and efficient operation.

Engineering Life Challenges

Like many others, I face various challenges during the course of my career. For me, staying positive and looking ahead are the key to overcoming obstacles. At the beginning of my engineering career, as a young female engineer, one of the challenges was to get used to working in a male dominant environment. In those days, the number and ratio of female engineering were less. One of the myths is that female engineers are not as capable as their male counterparts. Although I did not face real discrimination for being a female, I did feel that being a minority in the field, I got noticed more easily. If and when I made a mistake, words would spread around quickly. On the other hand, when I did well, I would be noticed a bit more easily. Therefore, I always take my work seriously and with heart to ensure that the job is done properly. I believe when one works hard and do the job well, one would be recognised for the efforts and work done. Instead of worrying about one's shortcoming/ disadvantages (for my case being a woman), one should focus on developing and thriving of one's ability.

With career advancement, one's responsibilities and corresponding workload increase in general, balancing between work and life/family is not easy. Therefore, good time management is necessary. To this end, setting priorities and goals, as well as planning and scheduling workload become part and partial of my everyday life, whether it is related to work, family or leisure. Moreover, staying technically competent and efficient at work are also vital.

Ir Dr David KWOK Tai Wai

Doctor of International Real Estate and Construction, Master of Arts in Mathematics of Finance, Master of Engineering in Civil and Environmental Engineering, ACGI, R.P.E., C.Eng, CCM, MICE, MCIOB, MHKIE, WELL AP, BEAM Professional

Discipline: Civil

As a key member of the civil engineering design team for large-scale infrastructure projects, David leveraged his technical expertise and independent judgment to effectively manage a diverse array of engineering initiatives, consistently delivering results ahead of schedule and within budget. Notable projects he has contributed to include the MTR Express Rail Link, Shatin to Central Link, and Doha Metro Gold Line, all of which underscore the significance of teamwork in achieving successful outcomes. In his capacity as COO at Wah Tung, a leading façade contractor in Hong Kong, he successfully oversaw the completion of several façade projects, including The Fullerton Ocean Park Hotel and The Hong Kong Palace Museum, with a combined value exceeding HKD 1.5 billion over three years. Throughout all his projects, he consistently maintains a proactive approach to promoting construction safety and sustainable development.

Motto

- Business before pleasure 先苦後甜
- Give and take 施與受

Case 1 Time management

Successfully publishing multiple peer-reviewed research papers in international journals and completing my doctoral studies while maintaining a full-time job exemplifies the importance of effective time management. Balancing these demanding responsibilities required meticulous planning, prioritization, and discipline. By allocating specific time blocks for research, writing, and professional obligations, I was able to maximise productivity and maintain focus on my academic goals.

Time management not only facilitated the successful completion of my

doctoral studies but also ensured that I met deadlines for journal submissions without compromising the quality of my work. This experience underscored the necessity of setting realistic objectives and adhering to a structured schedule, allowing me to navigate the challenges of academia alongside my professional commitments. Ultimately, mastering time management has been pivotal in achieving my aspirations, demonstrating that with the right strategies in place, it is possible to excel in multiple areas of life simultaneously. This always applies to the engineering world.

Case 2 Learning from failure

In the field of engineering, particularly in Hong Kong, professional qualifications are highly valued and often seen as essential for career advancement. However, obtaining these credentials is not always straightforward. Many candidates face challenges and may need to retake examinations or complete additional requirements before achieving success and I was one of them. This process can be daunting and may lead to feelings of frustration or self-doubt.

It is crucial to embrace the reality that failure is often a part of the journey toward professional qualifications. Each setback can serve as a valuable learning opportunity, providing insights that can inform future attempts. Recognizing that failure does not define one's capabilities is essential; instead, it can be a stepping stone to greater resilience and determination. The key is to maintain a mindset of perseverance. If you believe in your path and commit to working HARD and SMART toward your goals, you will eventually overcome obstacles.

By viewing setbacks as integral to the learning process, you can develop the skills and insights needed to succeed. Each effort, whether successful or not, contributes to personal growth and deepens your understanding of the field. In this way, embracing failure not only builds character but also enhances your ability to navigate the complexities of engineering and achieve your professional aspirations. Ultimately, the journey toward obtaining engineering qualifications is not just about the end result; it is also about the lessons learned and the growth experienced along the way.

Engineering Life Challenges

Innovation and Charity 創新與慈善

Innovation in the automation of construction material fabrication and assembly is transforming the engineering landscape. As an engineer working in a façade contractor with its own manufacturing plant, I have witnessed firsthand how automation enhances efficiency, precision, and sustainability.

Automating the fabrication of construction materials streamlines production processes, reducing lead times and minimizing human error. Advanced technologies, such as Computer Numerical Control (CNC) machines and robotic systems, allow for precise cutting, shaping, and assembling of façade components. This level of automation not only accelerates production but also ensures consistent quality, meeting stringent industry standards.

Moreover, programming languages like Python play a critical role in this automation. Python's versatility and user-friendly nature make it an ideal choice for developing software solutions that control manufacturing processes. For instance, Python can be employed to create scripts that manage CNC machines, optimise production schedules, and analyse data from sensors used in the manufacturing plant. By utilizing Python, engineers can automate repetitive tasks, allowing for greater focus on design and innovation.

Programming is crucial to all industries in the context of digitalization. However, the shortage of programmers in Hong Kong has become a significant barrier to the region's digitalization efforts. Our education system has not kept pace with the demand for tech skills. While universities in Hong Kong offer computer science and IT programs, the number of graduates entering the workforce is insufficient to meet industry needs. With the increasing reliance on technology across various sectors, businesses are seeking skilled programmers to develop software, manage IT infrastructure, and drive digital transformation. The rapid growth of fintech, e-commerce, and smart city initiatives has intensified the demand.

As the founder of Insquare Foundation, a registered charity in Hong Kong that offers free Python classes to children from underprivileged families, I am committed to fostering technological education within the youth community. I believe that teaching Python to teenagers will significantly contribute to the development of innovation in Hong Kong. In the engineering sector, leveraging technologies like Python for programming and automation can enhance efficiency, improve quality, and promote sustainable practices, thereby positioning ourselves at the forefront of innovation in the construction industry.

In summary, always remember to contribute to society as an engineer when you have the ability to do so.

Ir LAU Chun Kay

BSc(Eng.) Electrical Engineering, MBA,
MA(History), MA(Philosophy), MHKIE, R.P.E.

Discipline: Electrical, Building Services

Ir Kay Lau started his career in 1970 with the Trane Company of USA, a manufacturer of air-conditioning equipment, as Regional Engineer, then as Regional Manager, for the Far East, covering Greater China, South Korea, Philippines, and Vietnam. In 1981 he joined the British Delta Group to set up a regional office for the Far East. Delta was a British engineering conglomerate, manufacturing electric cables and switchgear, and copper tubes and fittings that were widely used in the energy distribution and building services industries. In 2001 he joined the board of the ATAL Group and helped the group expand into the technology field through setting up ATAL Technologies Ltd. Kay is a Life President of the Hong Kong Electrical Contractors Association. He is currently the Executive Director of the Hong Kong Federation of Electrical and Mechanical Contractors.

Motto

Treat all work handed to me as my own, and give it my best shot, because I am the most direct beneficiary of the fruits of my success.

Case 1

In my early years as an air-conditioning engineer one of the jobs I did not expect to do was to roll up my sleeves to start-up and commission centrifugal water chillers. That task was not part of the training program, but somehow fell on to me as the manufacturer's representative under the circumstances at the time.. With some very fast and intensive catching up, I finally got the hang of the job. Before long I was even an 'old hand'. One day I was at a textile factory in Kwun Tong to start up the water chiller for its environment control system. As I matter-of-factly pushed the start button, the lights went out and total darkness prevailed. It turned out the power supply for a sizable part of Kwun Tong was also cut off. For a moment I thought I was in big trouble. Anyway, after some enquiries, the explanation was tight power supply to a concentrated industrial district. The high starting current of the chiller motor, though normal, was sufficient to trip the supply system.
Epilogue: After the incident, the owner of the textile factory and me became good friends.

Case 2

The most challenging project I completed would be the "e-Channel", the Immigration Department's control system for people and goods vehicles entering and leaving Hong Kong. Its geographic span covered all air, sea and land entry points into the HKSAR. It was highly complex, calling for the state-of-the-art technologies in many parts of the system. Those technologies included information technology, data security, biometrics including finger print identification and facial recognition, vehicle license plate recognition, robotics, and seamless system integration. There were over 400 software systems, interacting with one another in the system. The project implementation called for elaborate logistics, not the least due to the time restrictions of working on the border crossing points. As Project Director, I had lost much sleep just to keep up with everything that was happening around me. Fortunately, the system went on line on time, without a hitch.

Engineering Life Challenges

Engineering is not just a neatly defined array of knowledges, practices, experiences, disciplines, and professions. It is all that, but not lying flat in a static state. It is in a state of flux, constantly interacting with what is happening around us, all over the world. As our world is never standing still, Engineering is ever adapting, and evolving, and changing our lives.

Every now and then, something out of the ordinary happens, and disrupts the existing order at the time, turning things upside down. Like the discovery of gravity and Newton's laws of motion. Like the discovery of electricity. Like the advance of electronic computing into the supercomputers of today. The speed at which the world was changed by these and myriads of other discoveries was phenomenal. Many of the things of today that we take for granted, like the smart phones, the airplanes and high speed trains, the access to information and entertainment on screen at the click of a button, only took shape within the narrow timeframe of a few decades. With the

advent of Artificial Intelligence, who knows what will be in store for us in the present or next decade?

Our world is full of uncertainties, but it is also full of opportunities. The question is: how do we grasp the right opportunities and be successful? I do not profess to know the answer to the question. On the other hand, having spent a good part of 40 years in search of successes, I would venture to give a few pieces of advice.

First, **keep an open mind**. When encountering a new job, or a new task, or a new problem, get your mind working to make the best of it.

Second, **embrace change**. Do not resist change that comes your way. Try to understand what the change entails, and if you can, embrace it.

Finally, do not be afraid to **get out of your comfort zone**, whether it is for work or play, and whether it is for business or social activities.

The world is always moving on, and life is too short. Do not be left behind.

HKIE Veneree Club 2024 Visit Activities

The following is a list of visit activities that Veneree Club organised during Jan 2024 to Jan 2025.

Visits

13 Mar 2024	Visit to 鹽田梓
10 Apr 2024	Visit to the Po Shan Road Drainage Tunnel
14 Aug 2024	Visit to Industrial Centre of PolyU
28 Nov 2024	Visit to Ping Chau
7 Dec 2024	Visit to 參觀香港紅卍字會

Ir LEUNG Chi Lap

MSc, FHKIE, FIET

Disciplines: Electrical, Electronic, CAI

Ir Leung has more than 30 years of experience in the design, engineering and project delivery for Railway Systems. He joined MTR in 1989 and had been involved in all MTR extension projects since then till his retirement by end 2022. In his early career in MTR, he was responsible for the design and engineering of Railway Systems, and was promoted to Chief E&M Engineer after MTR merger with KCRC. In this capacity, he led the design and engineering of all Railway / E&M Systems for all MTR new extension projects including Trains, Signalling, Power Supply, Tunnel Ventilation, Control & Communications, Fare Collection, Platform Screen Door, Depot Equipment and Building Services.

He moved across to project delivery side in year 2015, first in charge of the Capital Projects in MTR, then took up the post of General Manager – XRL E&M and take charge of the project management of all the Railway Systems in the High Speed Rail link Project. After the successful opening of the High Speed Rail Link, he moved to Shatin Central link as Head of E&M Construction (later retitle as GM E&M), and successfully opened Tuen Ma Line in 202x and Shatin Central Link in 2022.

Ir Leung was the Past Chairman of the HKIE Electrical Division, and Past Chairman of the Railway Section of IET HK Branch.

Motto

Be passion, be creative, be helpful and be prepared.

Case 1 Hong Kong Section of the Guangzhou to HK High-speed Line

One of the major challenges faced by the design and construction of the HK High-speed line was the different in standards, practices and regulations between Hong Kong and the Mainland, and all these issues had to be resolved under the tight project programme and budget.

The project team had worked closely with all the stakeholders in both HK and ML

to align the standards to be used, the ways of working that can be accepted by both parties that can fulfilled both side's needs. In order to reach such agreements, extensive research, investigation, discussion and negotiation works had been carried out. Such process was lengthy, and had to overcome hurdles such as "no precedent case of doing so", "current regulations do not allow this", "don't know whether we can make such an arrangement", and "nobody said who should be responsible for that". With great patience and persistence, we tactfully resolved problems one by one.

Creative ideas were also adopted to overcome hurdles and to speed up the project progress, included train delivery through railroad (which required the setting up of a temporary Customs at the border), and conducted part of train reliability tests in ML section to allow other works in HK section to continue.

Case 2 Lift assisted evacuation in West Island Line

I have served the HKIE – Due to the landscape of Hong Kong Island, a number of stations in West Island Land have to serve both the sea-shore flat land and mid-level areas. This created a problem during station fire that passengers near the hill side of the station might have to evacuate via stars to go uphill for 60 to 80m. This was considered to be impractical and may be s slow stopper to build a station design to serve both the up-hill (like University of HK) and down-hill passengers (like Sai Ying Poon).

I proposed a creative idea of using Lift Assisted Evacuation to try to resolve the problem. Discussions and workshops with various Government departments were held and finally agreement was reached on a scheme that can meet all the safety, technical and operational needs, and the West Island Line was successfully opened to public.

Engineering Life Challenges

I would congratulate you if you chose engineering professional because it's your dream career. Most successful people have passion in his or her own profession, no matter if it is engineering, science, music, medicine, commerce, and arts, you name it. Passion can drive you to appreciate, to ask, to explore, to learn and to advance in your career, and you enjoy the process. If you are not so lucky, please start to explore and appreciate the work that you are doing. Think of the interesting tasks and good things that you are working on, like how your work can contribute to the success of the company and the well-being of the users. Gradually, you may be able to develop interest and start to enjoy your work.

Problem solving is one of the major tasks in the day-to-day work of a junior to middle level engineer. Occasionally you may be facing problems that may be difficult or costly to resolve by conventional solutions. In such a situation, try to think out of the box and try some new ideas, new ways of working or innovative solutions. One example as I mentioned about the problem with fire evacuation in deep stations, that when think out of the box, special designed lifts can be used for fire evacuation.

The success of an organization depends very much on whether its teams can work effectively and harmony together. Heroism has no market in modern organizations. Senior management loved staff that are good team workers and eager to cooperate with other teams to achieve the goals of the Corporation. So be helpful and corporative in dealing with "common issue" or "other's problem".

To make yourself "promotable", you have to be prepared and ready for the next job. Acquire knowledge of areas outside your normal day-to-day work. For example, if you are a designer in electrical systems in a consultant firm, try to understand more on other areas like ventilation systems, fire systems, lift and escalators, and it would be even better if you can get chance to involve in project management and tendering work.

Some useful tips:

Grab chances to work on cross departments committees or multi-disciplinary issues. This can help you to develop friendship amongst colleagues, and furthermore, you can understand the company, its business, the people managing various functional areas, and the dynamics in the organization. Cross departments committee works are usually more visible to the senior management, and if you perform well in those committees, you will be tracked in their radar screen.

When you come to a meeting or discussion with colleagues of another section or department, come early to the meeting. The chat before the meeting can be very useful in the development of good working relationship and understanding of the company.

Ir Simon NGO Siu Hing

BSc(Eng), FHKIE, FIGEM

Disciplines: Gas

Ir Simon Ngo was the Head of Engineering – H. K. Utility of the Hong Kong and China Gas Company Limited overseeing the company's gas production and underground network infrastructures in Hong Kong, prior to his retirement in 2024. He has over 40-year experience in production, transmission and distribution of town gas. His past responsibility covered all engineering aspects from design, planning, construction to operation and maintenance. He is a Fellow of both the Hong Kong Institution of Engineers (HKIE) and the Institution of Gas Engineers and Managers (IGEM), a past Chairman of the IGEM Far East District Section and also a past Chairman of the Gas Discipline Panel of the HKIE. He had also served as a member in the Advisory Committees of HKUST School of Engineering and Energy Institute, as well as City University's School of Energy and Environment.

Motto
一團火，一條心，一條船
One flame, One heart, One boat
(Enthusiasm, Common goal, Solidarity)

Case 1 Reducing gas leakages in Hong Kong by over 70% in two decades

This is an achievement that all Towngas engineers should be proud of, especially in a densely populated city like Hong Kong. Through their devoted contributions, the number of leakage cases has been reduced by over 70% in the past twenty years. This would not have been achieved without professionalism, enthusiasm, can-do spirit, team work and innovative mind.

The foundation of this dramatic improvement is Towngas's safety culture, which is emphasised at all levels consistently. We have implemented various improvements including the adoption of new technologies, the replacement of aged pipes (including all grey cast iron pipes) according to a sophisticated risk assessment system, and closer coordination with other excavating parties to prevent third-party damage. It has been a long and winding road, but the strenuous effort has borne fruit, bringing significant improvement to gas safety in Hong Kong.

Case 2 Complete survey of crossing points to ensure no gas pipes run inside concealed underground nullahs

Gas leakage inside a confined space is a risk, and gas leakage inside a huge confined space is an enormous risk. There have been several tragic explosions in other cities resulting from gas pipe leakages inside concealed nullahs. The consequences would be devastating if similar incidents occurred in densely populated Hong Kong.

Towngas, well aware of this risk, launched a comprehensive survey in recent years to eliminate it. With some 3,700 km of underground gas pipes and over 1,600 crossing points with underground concealed nullahs, surveying each crossing point visually rather than just relying on records was once considered impossible.

Through the dedicated effort of every gas engineer involved, the mission was successfully completed, with identified concealed gas pipes cut and replaced. As a result, this risk in Hong Kong has been completely eliminated.

Engineering Life Challenges

As a gas engineer in Hong Kong, I have faced various challenges similar to others in the industry.

Hong Kong is a densely populated city where safety is of paramount importance. Ensuring the integrity of our gas supply system is always at the top of our agenda. This safeguard starts from planning, design, construction, operation to future years of maintenance.

We must also prevent external disturbances to our gas infrastructure. Every day, thousands of excavation activities by other parties take place in Hong Kong. Preventing third-party damage to our underground gas pipes is crucially important.

Extension, reinforcement, or replacement of gas pipes in Hong Kong is a challenging task. Hong Kong is congested not only above ground but also underground. When the ground is excavated, you typically find old utilities crowded together – a scenario described as "spaghetti" in the industry.

The misconception that "gas equals danger" further complicates the situation. Some people harbor fears about gas leaks, associating them with catastrophic events. This misconception can hinder necessary upgrades and replacements, as residents may resist gas pipe laying projects aimed at improving safety and reliability.

As a veteran in the gas industry, I advise that we should develop five key assets to face these challenges: continuously updated and upgraded professionalism, enthusiasm, can-do spirit, team work and innovative mind. As technology evolves daily, continuously "sharpening our saw" – the seventh habit in Stephen Covey's Seven Habits of Highly Effective People – is a prerequisite.

Gas engineers in Hong Kong should take pride in their achievements, which are reflected in the public's admiration when discussing gas safety in Hong Kong, as incidents involving town gas have become increasingly rare in recent years.

HKIE Veneree Club 2024 Talk Activities

The following is a list of activities that Veneree Club organised during Jan 2024 to Jan 2025. In the third Wednesday morning of each month, Monthly Talk by guest speakers giving interesting topics is normally held.

Monthly Talks

17 Jan 2024	Images of Ancient Chinese Women
21 Feb 2024	The Application of Technology in Rehabilitation: Global & Local Context
20 Mar 2024	Lower back pain
17 Apr 2024	Practical Guide to Generative Artificial Intelligence
22 May 2024	Advance Care Planning, Advance Directives, and End-of-life Care in HK
19 Jun 2024	以史為鑑 – 從漢武帝終其一生未能完全停止匈奴犯境，淺談以色列和巴勒斯坦的戰爭
17 Jul 2024	攝影的藝術
21 Aug 2024	Polar Research And Climate Change - Key Areas and Recent Developments
25 Sep 2024	How AI assists in delivering regulatory governance and E&M services for the Government?
16 Oct 2024	A review on the Civil Aviation Development of New China amidst the rapid evolution of COMAC C919
20 Nov 2024	The Bauhaus Movement in Hong Kong Architecture
18 Dec 2024	Common Dental problems for senior in Hong Kong & their management
17 Jan 2025	大律師講故仔

HKIE THE HONG KONG INSTITUTION OF ENGINEERS 香港工程師學會
Veneree Club 睿賢學社

睿賢學社

This is to certify that

_____

attended the

Engineering Exposition 2025

on

15 March 2025

from 08:45 - 12:30

at

The Hong Kong Institution of Engineers
9/F Island Beverley, No 1 Great George Street
Causeway Bay, Hong Kong

* 1. Name of participant to be written by the attendee.
2. Attendee should seek certification of his/her attendance by having the stamp of the organizer immediately after the event.
3. This certificate serves the purpose to record participation of an attendee only. The duration of the activity indicated above does not automatically grant the equivalent CPD days, but is entirely up to the discretion of the 'Engineering Supervisor' for pre-Corporate Membership.
4. Please contact your 'Engineering Supervisor' for further advice for recognition of CPD activities.

Engineering Exposition 2024 Programme

08:45 – 09:00	Registration
09:00 – 09:05	Opening by Oganising Committee Chairman: Ir PC LO
09:05 – 10:20	First Session (Speaker presentation and Panel Discussion)
10:20 – 10:30	Session Break for 10 minutes
10:30 – 11:45	Second Session (Speaker presentation and Panel Discussion)
11:45 – 11:50	Remark by Veneree Club Chairman: Ir Simon CHUNG
11:50 – 11:55	Moving to Breakout Room
11:55 – 12:30	Breakout Session (with one Speaker in a Breakout Room)

First Session Speakers:
Ir Prof Elvis AU
Ir Dr Lilian HUI
Ir Dr David KWOK

Second Session Speakers:
Ir LAU Chun Kay
Ir LEUNG Chi Lap
Ir Simon NGO

Arrangement at Breakout Session:

Speaker	Breakout Room
Ir Prof Elvis AU	9/F, James Chiu + Dragages Room
Ir Dr David KWOK	9/F, Sophie Chan Room
Ir LAU Chun Kay	9/F, ATAL Room
Ir Simon NGO	10/F, Chun Wo Room
Ir LEUNG Chi Lap	10/F, Paul Y Room
Ir Dr Lilian HUI	10/F, Hsin Chong Room