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

Veneree Club 睿賢學社

2018 Engineering Exposition -

Engineering Life Challenges

Saturday 21 April 2018 9:00 am - 2:00 pm

Chiang Chen Studio Theatre

G/F, Chung Sze Yuen Building

The Hong Kong Polytechnic University

Hunghom, Kowloon

Contents

Acknowledgements

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A-Grade Castings Limited
CLP Power Hong Kong Limited
REC Engineering Company Limited
Sunland AL (International) Company Limited
Tsuen Lee Metal & Plastic Toys Company Limited

(Listed in alphabetic order)

Chairman's Message – Veneree Club

The HKIE Veneree Club "睿賢學社" was inaugurated on 18 Jan 2012. Since its establishment of Veneree Club, we aimed to enjoy the club activities in a retired & relaxed environment and at the same time, to contribute our experiences in serving the society. Each month, regular meetings were organized with interesting talks where retired engineers could expand their knowledge as well as meet both new and old friends. Some of these retired engineers also served as school engineers and school ambassadors, giving lectures in their own field. I am sure our Veneree Club organizes various meaningful activities for our retired members to enjoy and contribute.

With the remarkable successes in 2013 to 2017 'Engineering Exposition' events, the Engineering Exposition 2018 is hence a repeated continuation. In Engineering Exposition 2018, we have five distinguished speakers and one HKIE Outstanding Young Engineer of the Year with more time devoted for questions and answers to enable more elicitation from our speakers. In order to enhance knowledge gains for our young participants of the Engineering Exposition 2018, a lunch gathering after the speakers' presentation and discussion is so arranged to enable young engineers to sit adjacent to experienced engineers for a deeper understanding and discussion with experienced engineers.

I would like to express our appreciation to our sponsors who provided the required financial support to enable this meaningful knowledge sharing be continued. I am most grateful to our 6 speakers for sharing their valuable career insights from motto, case experiences to engineering challenges. My thanks are also extended to our organising committee members for their hard work and contribution over the past few months of preparation. Finally, I would like to thank all our participants and wish them every success in their fullfilling career.

Ir SW Cheung
Chairman, Veneree Club
The Hong Kong Institution of Engineers
Session 2017/2018

HKIE Veneree Club Activities

The following is a list of activities that Veneree Club organised during Apr 2017 to Mar 2018. In the third Wednesday morning of each month, Tea Gathering with guest speakers giving interest talk is normally held.

Tea Gathering Talks

19 Apr 2017	氣功抗衰老及家居安老體驗館
17 May 2017	TRIZ and Design Thinking
21 Jun 2017	無懼死亡，善度晚年
19 Jul 2017	Heart Health – All you need to know
16 Aug 2017	Chinese medicine for Eczema
20 Sep 2017	Food health and radiation
18 Oct 2017	Internet of Things: from intelligent to smart building
15 Nov 2017	Smart Transformation in Urban Planning
20 Dec 2017	成功退休，垂手可得
17 Jan 2018	Latest Advances in Heart Surgery
21 Feb 2018	攝影與美學
21 Mar 2018	The construction and historical development of HK Int'l Airport

Outings

16 Jun 2017	Smart Living at Science Park
6 Sep 2017	Tanner Hill of HK Housing Society
29 Nov 2017	Hong Kong Anti-Cancer Society

Engineering Exposition 2018 Organizing Chairman's Message

This is the 6th year that Veneree Club organizes the Engineering Exposition for young engineers. We have the mission to serve and to share, to pass on our experience to the younger generation who are the hope of our future.

Every year we invite six distinguished engineers to share their valuable experience and pathways in building up their engineering career. Their paths may differ and their specialties may vary, but they all possess a very positive spirit in life that drives them forward. Trust their views would broaden your mind and stimulate your thoughts. This year, we also invite an outstanding young engineer to speak on how he equips himself in his engineering career.

Success is not only measured by one's position. More importantly, it is finding meaning in one's career and improving our living environment. A better Hong Kong certainly relies on our engineering professionals' contribution. The world keeps on changing; it is the mission of young engineers to build on the good work of their predecessors.

I would like to take this opportunity to express my heartfelt gratitude to our generous sponsors, Organizing Committee members, guest speakers and those who have contributed to the success of this EngExpo 2018.

Ir Philip KWONG Sze Fai
Organizing Committee Chairman
Engineering Exposition 2018

Engineering Exposition 2018 Organizing Committee

Organizing Committee Chairman:	Ir KWONG Sze Fai Philip
Members:	Mr CHEUNG Sai Ping David
	Ir CHEUNG Shu Wing
	Ir Heinz CHIU
	Ir CHUNG Fuk Wai Simon
	Ir KWAN Lok Fong Anthony
	Ir LEE Ming Ching Stephen
	Ir LI Wai Lim William
	Mr SIU Wai Kwong Martin
	Ir TSANG Kang Ho Peter
	Ir WOO Hon Yue
Advisor:	Ir Dr CHAN Fuk Cheung

Ir John SV CHAI

B.Sc., FHKIE

Disciplines: Civil, Structural

Worked as Apprentice/Assistant Engineer in a consultants firm mainly on Tuen Mun Road (bridges) and Tuen Mun New Town development projects upon graduation, and obtained professional status (CEng, MICE) in 1976. Joined Government in 1978 with then Highways Office (now Highways Department) and later worked in various Government works/engineering departments, including three years secondment to then Government Secretariat working on transport policies. Worked on Lantau Link project of Airport Core Programme(ACP) which includes the Tsing Ma Bridge and Kap Shui Mun Bridge as chief engineer. Became Director of Civil Engineering and Development Department in 2007 until retirement from Civil Service in early 2011. Recruited and joined Hong Kong Airport Authority (AAHK) in November 2012 as Executive Director with main responsibilities on the Third Runway project, which aims to expand the current airport from a two runway system to a three runway system. Retired from AAHK in early 2017. Now working part time as Senior Advisor in Kum Shing Group of companies.

Motto

Be devoted to what one has committed. If one cannot live up to the challenges, try change the challenges. There is no obstacle that cannot be overcome.

Case 1

Because of the difficult terrain, the bridge decks along the Tuen Mun Road alignment were designed to be in the form of precast beams with in situ slab. To achieve economy of scale, these precast beams were standardised to facilitate casting and transportation. The beams were supported by column walls through half joints at column heads to enhance aesthetics when viewed from the sides. This half joint design for the beam/column connection however resulted in serious congestion of steel reinforcements at the half joint which made inspections and checking of steel reinforcements and casting of concrete extremely difficult. The resident site staff reflected the problem to the design team and asked if the design can be altered or improved. After some discussion the problem was resolved: the designer

agreed to modify the concrete specifications to facilitate compaction and penetration, and the site team managed to overcome inspection difficulties through the use of torch lights and reflective mirrors. This case emphasised the importance of effective communication between the "designer" and the "constructor".

Case 2

The superstructure of the Tsing Ma Bridge was mainly composed of steel. To meet the challenging construction programme these steel materials had to be manufactured simultaneously in various parts of the the World(including UK, Japan etc), transported and then prefabricated and assembled in some other places outside Hong Kong(including Mainland, the Philippines etc) before the assembled bridge modules were delivered to the actual bridge site for final erection. The steel bridge comprises hundreds of thousands of steel components and the successful assembly and erection of these components required careful planning and handling, as any failure in the process could result in delay to completion of the whole bridge and thus the whole transport link to the new airport. In view of the criticality to the overall programme for the new airport some of theses vital components had to be covered by the Government owned insurance policy. This case illustrates the importance of careful comprehensive planning in undertaking major infrastructure projects, and the need for proficient risk management skills to cover potential unforeseen situations.

Engineering Life Challenges

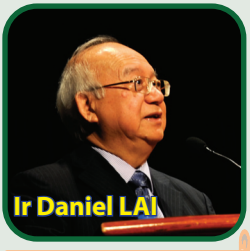
The world is full of uncertainties. However, not all uncertainties lead to the same consequences. Engineers are trained to detect situations that may lead to undesirable outcomes, to assess the consequences of such undesirable happenings and to come up with proposals/solutions to cope with such situations. The possession of such training may not remove all the adverse effects brought about by the uncertainties but in many situations the impact were reduced as a result of precautionary measures devised by engineering professionals.

My advice to students or fresh graduates who aim to pursue engineering as their career is that they should learn from their practising seniors. Engineering knowledge is gained not only from text books. There are

Engineering Life Challenges

numerous journals and publications that give accounts of latest engineering related undertakings and/or incidents. On-the-job training is also essential so that one can obtain first hand knowledge and experience of an engineering project. The accumulation of such knowledge and experience will work a long way in tackling future situations and handling new engineering projects, particularly when faced with challenging circumstances that demand engineering judgements and prompt solutions to alleviate or resolve problems and crises. For that matter it is important to maintain an apt attitude for continuous learning and be fully committed to the profession. Learn by heart, work by heart, and with the right academic and training background one should not be far from becoming a fully competent engineer one day.

HKIE Engineering Exposition 2016 Speakers' Motto



Treat hard work as learning, and learning is a life-long experience. To achieve perfection or full score, you have to double your effort.

People are born equally smart. Those who plan ahead, work hard and focus sharply will be more successful.
計劃，辛勤和專注是成功之道.

Contribute one's best effort and try to do a perfect job every time.
Be innovative to stay competitive.
Be honest, honourable, generous, fair and considerate.

Challenges make life difficult, but meaningful!

Adversities in Life can be overcome; Work responsibly to minimize regrets

勤有功 Labor Omnia Vincit
非以役人 乃役於人 To Serve But Not To be Served
居安思危 Be Prepared

Ir Raymond LIN Kam Sui

- Higher Diploma in Mechanical Engineering,
- Certificate of Refrigeration (Distinction),
- Full Technology Certificate in Electrical Engineering Practice,
- Diploma in Management for Executive Development,
- Graduate Certificate in Management,

RPE, CEng, FHKIE, FCIBSE, MASHRAE

Discipline: Building Services

After graduated in 1970 from Hong Kong Technical College, Ir Lin joined The Jardine Engineering Corporation Limited and worked in various positions: building services installation, environmental engineering projects, sales & marketing for construction equipment, transport systems, building products, electrical & mechanical equipment. He retired as Business Development Director in 2015. His job was mainly in Hong Kong, but have to look after business in Macau, China, Taiwan and Singapore, when required.

Now he is the Business Development Director of Midea Electric (HK) Ltd. He is an Honorary Life President of The Hong Kong Air Conditioning and Refrigeration Association Limited.

Ir Lin had served the following committees:

-Electrical & Mechanical Services Industry Training Advisory Committee
-Contractors Registration Committee
-Appeal Board Panel (under Construction Workers Registration Ordinance)
-Registered Contractors' Disciplinary Board Panel

Motto

Be prepared, continuous learning, accept challenges and mobility.

Case 1

I was born in a poor family and parents had no time to look after their 9 children. I have to study in the morning and work in the afternoon to earn my living expenses. In Form 3, I found myself was interested in engineering. I targeted to join the Technical College after Secondary School. However, most of the students enrolled to Technical College were Technical School graduates, and I was studying in Grammar School. Also, the admission test included technical drawing. Hence, I asked my part time employer to endorse me to study the evening course in Technical College, and was success in getting a seat in the full time course for Higher Diploma in Mechanical Engineering.

Lesson: once you have a target, you must map out the route to achieve it, well preparation is necessary.

Case 2

In the 80's, for public housing, surface wiring was the standard for lighting power supply. At that time there were only around 100 skill workers for this trade, and most of them were over 55 in age. There were few new entrants, if not none. The Electrical Contractors Association (ECA) had organized training courses and incentives to attract youngsters to join, but the effort went to vain. The trade practice was to reward the workers per flat. Hence, more output means more income. However, for those projects which were behind schedule, the contractors had to increase the rate to attract workers to work for their projects. That means other projects were affected due to insufficiency of workers. But they were also required to complete the projects as scheduled. So they further increased the rate to attract workers to work for their projects. This had a chain effect, and the rate continuous to escalate. Even worse was that now the workers had better income, they took leave on Wednesday and Saturday to visit the horse racing. This created an aggregate effect and further delayed the project completion due to not enough workers. The industry had no effective way to increase the labour force.

After months of struggling, the ECA and Housing Department compromised and for new projects, the design was changed to concealed conduit wiring.

Lesson: if you cannot solve a problem by conventional method, look for alternatives. Don't just think within the box.

Engineering Life Challenges

Nowadays technology changes very fast, we need continuous learning to equip ourselves with up to date knowhow. Technologies featuring artificial intelligence, big data and Internet of Things will disrupt our daily life. Also, globalization is the trend, and we are facing global competition. We need to adjust our mentality, or we will be outpaced by others.

I am lucky, upon graduation from Technical College, joined Jardine Engineering, a leading provider of engineering services, products & sourcing and contracting expertise. During the 45 years of career in this company, I had worked in different departments: started in air conditioning field, then extended to other mechanical services like fire protection and plumbing and drainage services, as well as electrical installation, and was in charge of the building services installation.

In 1989, I was transferred to the sales & marketing team, initially in charge of the mechanical equipment, then also electrical equipment and building products.

Every time I took up new or additional responsibilities, I have to learn and understand the business, manage different stakeholders – clients, principals, designers, suppliers, subcontractors, colleagues, etc.

As the leader of the team, I have to develop my subordinates, to their full potential; build trust with stakeholders to foster seamless cooperation.

The most challenging job is to manage your bosses. Job rotation is common for big conglomerates. For my 45 years of service in Jardine Engineering, I had reported to more than a dozen CEOs. Each of them have unique character, some are sales orientated and can deal effectively with new customers quickly, some are very systematic and follow procedures closely, some are very careful and you need time to build up trust with them. This is the most important point – build up trust with your supervisor and gain the support from management.

In the recent years, everyone is talking about globalization, and China is pushing Belt & Road Initiative, so as to improve the connectivity and bring economic benefits to countries along the silk Road Economic Belt and 21st century Maritime Silk Road which stretch from China, through Europe to Africa. This creates many infrastructure projects.

Dear young engineers, you should be open-minded and accept mobilities, otherwise you will miss opportunities to grow globally.

HKIE Engineering Exposition 2017

The 'Engineering Exposition – Engineering Life Challenges', held on 8 Apr 2017 Chiang Chen Studio Theatre, The Hong Kong Polytechnic University, was organized by HKIE Veneree Club. There were 6 distinguished speakers to share their experiences gained, lessons learned and challenges encountered during their engineering careers. These 6 speakers were Ir Allan CHAN, Ir IP Pak Nin, Ir WONG Chi Kwong, Ir CHAN Chi Chiu, Ir Patrick NG and Ir Prof Joshua WONG. There were some 200 participants, mostly young engineers.

Ir WONG Wai Ho

B. Sc. (Eng), FIET, FCIBSE

Disciplines: Electrical, Building Services

Ir Wong started his career in the electrical contracting business for 3 years and since then worked in the consulting engineering profession. He joined Meinhardt in 1984 as director and together with the other director, had built the company from a 20-staff M&E consulting firm to the current 800-staff multi-disciplinary practice in Hong Kong; with capabilities in civil, structural, geotechnical, infrastructural, environmental, building servies engineering; and project management and building facades. He had spearheaded Meinhardt operations in Mainland China since 2001; with offices in Beijing, Shanghai and Shenzhen and employing over 400 permanent staff. He retired from the post of CEO in 2016 and remains as an Exeutive Director. Ir Wong had been the Chairman of HKSAR Electrical Safety Advisory Committee (2000/2006); HKIE Council Member; Chairman of HKIE Electrical Division and Electrical Discipline Advisory Panel and a member of the HKSAR Energy Advisory Committee.

Motto

Successful engineers need to have good salesmanship

Case 1

Sherlock Holmes; Don't Miss any Unimportant and Minor Clues

In 1998, I was demanded by the owner of a Bangkok hotel designed by Meinhard HK to resolve a serious electrical problem. Every day since opening, hundreds of tungsten lamp bulbs burnt out. Those days, tungsten lamps were still popular in hotels.

I was given many reports already done by various parties including even the hotel owner's own electrical company. Tests and measurements had been carried out; voltage fluctuations, harmonics, etc. No causes were identified and the problem remained.

Although I got no clues after reading all the reports, I was obliged to visit the hotel to try resolve the problem. On arrival, I immediately interviewed the hotel technicians and engineers. I went through the log book with details of quantity and location of burnt lamps. I suddenly noticed that there was a substantial

drop in numbers of burnt lamps in a small function room. Then I was informed renovation/rewiring had been carried out for the function room by themselves. I further found out that most, if not all, neutral wires at MCB Boards were loosely connected to the neutral bar; probably due to poor workmanship at a rush to meet the completion date.
I asked the hotel team to re-tighten all neutral wires floor by floor on that day. Then, after another day of trial, the cause of the problem was identified and confirmed and the problem was resolved.
I left for Hong Kong in 3 days.
The moral of this is, the cause of a technical problem needs not be complicated and highly technical. Don't miss out minor details in investigation.

Case 2
David vs Goliath; Never Give Up In Adversity

In late 1984, Meinhardt was invited to bid for the M&E consultancy of the then biggest commercial project in Jakarta. After two rounds of interview, Meinhardt and another 400- staff firm were shortlisted. The client could not make a decision and asked the architect to try out both firms' performance for one month. My fellow director and I believed it was a show to make it like a competition as it was like "David against Goliath".
We however refused to just accept this fate. We decided to at least demonstrate our capability by arranging the whole office to work on the project every day after 4 pm; assuming we already got the job.
We strived to help achieve the architect's design flair. One case was to free up the podium roof for green garden and this precluded the use of air-cooled chillers, which were common as water supply in Jakarta was scarce. We did an in-depth study to use treated effluent from the sewage treatment plant as cooling towers make-up and enabled the use of water-cooled chillers in basement.
The architect was impressed by our efforts and attitude. Meinhardt won the project after one month.
Surely, our competitor must be able to look for alternatives as we could. They missed out probably due to the same assumption of having got the project and were not as devoted.
The moral of this is, never give up when you have a chance, no matter how low and inferior.

Engineering Life Challenges

Engineering is a highly technical and demanding profession. It is a common consensus that successful engineers need to be technically competent, hard-working, innovative, honest and morally sound etc.

My personal experience is, what makes an engineer better than others is, salesmanship.

A good salesman needs to have the right and quality products, exceed the customers' expectation, delver products timely and sell products at a competitive price. Salesmanship changes with different stages of the engineer career.

At the burgeon stage, the customer is the immediate superior, the product is the day-to-day works done as directed by the senior and the price is the salary. Engineers at this stage should probe into the root cause of the system selection, the design parameters, installation and fabrication method; although often engineers are asked to follow what had been done before.

They should endeavor to meet and discuss more with their superiors who are always very busy. They should exchange experience with peers of other team/department and learn other products (projects/disciplines/departments); in order to diversify their engineering skill. The price is relatively fixed as engineers at this stage have little bargaining power.

At the blooming stage, engineers should be leading a team or a small section. Their customers can be the department head/company leader/client's team. The products should be mostly if not completely under the responsibility of the engineers. The quality and delivery time of the product are achieved by the team, rather the engineers individually. This is the stage successful engineers need good people management skill. Fairness to team members, willingness to take on responsibility and to resolve others' mistakes and problems and cultivation of competent subordinates are key elements. The cost of products may include the remuneration of the whole team and the overhead cost; and the price can be the fees of the project or the funding allocated to the team. Engineers at this stage need to understand the total cost and pricing structure, and can likely have more say on their own salary. This is considered an important and demanding stage. Only successful salesmen can proceed to the next stage.

Congratulation if salesmen can come to the fruit bearing stage. Engineers now should be a department head or one of the company leaders. Their customers can be external clients, shareholders of the company or even general public. The success of products relies on good overall working culture, cost effective

operations, insight of the market situation, appropriate pricing strategy and awareness of the future trends. Successful salesmen at this stage should look for growth opportunities, initiate diversification of business, promote social responsibilities and cultivate future succession.

Recognizing the return of sovereignty of Hong Kong to China, Meinhardt switched to focus more on local developers in 80's. With construction projects getting more and more complex and complicated, Meinhardt expanded capabilities to other engineering disciplines; structural in late 80's and infrastructural in early 2000, to offer one-stop services to clients. To catch the booming market in China, Meinhardt established permanent offices in China in 2001.

Successful salesmen should source and analyze market information, identify opportunities and grow with the market trend. One-Belt-One-Road and Guangdong-Hong Kong-Macao Greater Bay Area developments are the next great opportunities for us----engineers.

HKIE Engineering Exposition 2017 Speakers' Motto

Motto
Be humble.

Motto
Continuous learning. Build on your strengths and differentiate yourself from your peers

Motto
Without challenges, your life journey will be less memorable. Shaping your life with devotion and right altitude, your memories will never be bitter though they may not be as sweet as you wish.

Motto
Don't just let other people say how successful you are. It is for you to decide for yourself.

Motto
Whatever we do, fall in love with it and despite the adversities we face, don't quit. Always get prepared for an opportunity to come but not complain about not having it. Exercise more power with people than power over people.

Motto
Use it or Lose it.

Ir LEE Wan Lik

Master of Science (Computer Science),
BSc (Mathematics), BSc (Electrical Engineering & Computer Science)
FHKIE, FBCS, FIET, Member of the Society of Information Technology Management (Socitm) in the UK

Discipline: Information Technology

Ir WL Lee is the founder and Managing Director of Azeus Systems Holdings Ltd. listed on SGX. Established in 1991, the company currently employs over 300 staff. The company has delivered more than 300 e-government solutions for 60 public authorities.

Dedicated to advancing service excellence and technical expertise of Azeus on an ongoing basis, Mr. Lee led the company to become the first company in Greater China and in South East Asia to be awarded Level 5 (the highest level) assessments under the Capability Maturity Model (CMM) in 2002. Azeus is currently assessed at Level 5 (the highest level) for the latest version of CMMI, version 1.3.

Prior to founding Azeus in 1991, Mr Lee researched and developed object-oriented database at the Microelectronics and Computer Technology Corporation, then worked at a Silicon Valley startup; followed by a brief stint at Oracle.

Motto
Care and Respect for people and never give up.

Case 1
This case is about adaptability; to new environment and new challenges. In 1991, I came to Hong Kong which was a totally different dialect environment to me. I am illiterate in Chinese, and barely know how to speak Cantonese. However, I understood that I wanted to start my life here. If you are looking to grow, not to be too calculative/greedy on the first hurdle. Today, the world has become global; and we should explore the outside world, not just for leisure, but to work there, survive there and experience there. In the long run, you will gain more. There is nothing to lose as you are still young. However do be psychologically prepared to widen your horizon and be proactive in asking for opportunities. Today, so much new information and materials are easily accessible from the Internet.

Case 2

The unexpected difficulties encountered to accomplish the first government project.

It was the first project we handled by our own without partnering with other big IT giants like HP and IBM. The company did not underestimate the technical complexity but underestimated the complexity of handling people including internal and external parties, and even worse, the company was running out of cash.

Life was tough, and I had a single moment/thought of giving up when I heard from the senior official from the Government side saying "Lee Wan Lik, you would be broke and your company performance bond would be confiscated". I would get nothing left. I was not provoked by his wordings or warning. I just felt sorry for my staff. I could not let them down. To make the story short. We finally survived. My lesson learnt from this is we need to open up the communication channel, no matter horizontal or vertical, particularly we are in the team work project. In addition, quality standard and methodology is a must. Due to the unexpected, changeable characteristics of people, it is good to have a good quality standard of projects' acceptance. In Engineering field, it has been carried out for a long time. However, in the IT field, there is still a long way to go.

Engineering Life Challenges

I was born in a small village in Malaysia with a single road junction, and I always joked, if you drive too fast, you will miss the village. I walked and later on cycled to school. We had a library period when we went to this room with one single cabinet with 4 shelves of book; we lined up; the teacher unlocks the cabinet; and we were each allowed to take one book, go back to our seat and read it for an hour before it was returned and locked up again. There was a book - the Time Life book on Engineering which talks about engineering and engineering achievement. I wanted to be an engineer. The book says MIT was the best engineering school in the world. That's when I formed in my mind an ambition to go to MIT. When I got accepted to MIT, my father asked me where the school was. I told him it was in the US and he asked, "Is it far?". I told him I would need to fly over there. It was my first flight, and interestingly enough, the cheapest flight ticket I could buy means I had to stop and stay one night in Hong Kong. So maybe it is fated that I will be in Hong Kong, and I have now been in Hong Kong longer than anywhere else on earth.

When I went to MIT, I started with Physics and my academic advisor was Alan Guth. I did not make use of my academic advisor much, partly because I was Asian and reluctant to push, and as I now realise, Alan was in deep thought on the inflationary theory of the origin of the universe, while I was a physics student who took more philosophy classes than physics in my first year. I did contribute by not bothering him! I truly believe he will be remembered thousands of years from now for his work. One thing we had in common, was we both skipped the final year of high school to study at MIT.

Engineering Life Challenges

I thought, very naively, that I wanted to win a Nobel Prize, but I had great difficulty with quantum physics (which I still have today). Artificial Intelligence was very popular and the hottest field then so I switched to Computer Science and did my thesis on neural networks. It was a struggle then, and I drifted. I was frustrated with the inability to run any meaningfully large neural networks with the computational power I had then. I did it for a year before I decided that I was going no where. I stopped studying AI and went into research of object oriented database, and partly because it pays better too. I took a leave of absence to work at a research lab on object oriented database as a paid employee which paid better than as a graduate student. The money came in useful for my brother's college fees, but it was good for me too, because it stopped me from the PhD path.

The research team that I work in disbanded after a few years - because everyone went to join a startup, or started one up. I joined a Taiwanese colleague in Silicon Valley. My Korean boss and the Mexican colleague started a company in Texas. My company was not very successful because Oracle claimed they were object oriented, and most people cannot understand the technical differences, so it could not sell well.

I left Silicon Valley and came to Hong Kong in 1990 with one suitcase. My ex-colleague's father let me stay with them. I still remember their kindness because even though it was a wooden bed with no mattress, they gave the only bed to me. I looked for a job, and in fact I used the printers at HKU to print my resume, and I was prepared to take any job and applied for all the IT jobs I could find in SCMP. I did not even get a single response, and was jobless. Perhaps, you might be thinking, why would someone like me not even get an interview. That you can ask during the seminar.

I finally found a job, but quit after six months. I then started Azeus Systems Limited, which had I know ahead, I would not have done it. Let me stop here now. I will present at the seminar further experience.

Already you can see linkings of advice I would give: The need for Problem solving skills and to Work smart. Even though my resume was very good, I could not even get an interview! I always think about the qualities listed below.

The working attitude

1. Make sure you understand the instructions clearly,
2. Do not give up so easily and not to get angry.
3. Be patient
4. Don't break the rules in order to attain the goals
5. Don't overestimate one's abilities
6. Don't make up excuses if we cannot reach our goals.
7. Win and lose, do not treat it too seriously.
8. Be humble
9. Mind our words and take up enthusiastic attitude

Even trying your very best doesn't mean that you will be successful. You must be ready to work extremely hard and to spend extra effort in it. However, there are some people who work double your efforts and spend triple your time. How we could excel?

Ir Michael YH Li

B.Sc.(Eng), M.Sc.(Eng), M.B.A., EngD, FHKIE, R.P.E.

Disciplines: Manufacturing and Industrial, Mechanical, Logistics and Transportation

My career was almost entirely associated with manufacturing engineering. I started my first job as Assistant Engineer in Sonca Industries Ltd and eventually I was promoted to be Director of Development when I left the company. I then joined Practical Group of Companies as Managing Director taking care factories in China, Thailand and Indonesia.

After working in manufacturing for 30 years, I started an institute called Institute of Systematic Innovation to promote innovative culture in Hong Kong.

I served HKIE in different aspects including Founding Chairman of Logistics and Transportation Discipline Advisory Panel, Chairman of Manufacturing and Industrial Discipline Advisory Panel, Division Chairman, Training Committee, etc. I also served as a member of Engineers Registration Board for years.

I am now focusing on promoting innovation in Hong Kong, doing volunteering services and sharing knowledge with university students. I am now Adjunct Professor of Systems Engineering and Engineering Management, and Mechanical and Biomedical Engineering Departments of the City University of Hong Kong.

Motto

Do not mean in giving more不怕蝕底
Never give up 永不放棄
Think about the needs of other people to achieve win-win solution 照顧他人需要達致雙贏
Shaping your life with brilliant ideas讓生命添上彩虹

Case 1 Do not mean in giving more; Never give up

I joined Sonca Industries Ltd. as Assistant Engineer. Sonca Industries Ltd, is a company producing lighting products made by steel, brass, aluminum, and plastics. My first project was to improve the ventilation system of the Polishing Shop in the Industrial plant. Polishing Shop was a disgusting area that nobody would like to go in because the whole shop was covered with suspended black tiny polished particles. Workers working inside the shop had to cover up their entire body except their eyes by work-gown. In those days, there was no air conditioning in the shop. During summer time, the temperature inside the shop could be up to 40 degree Centigrade

with tiny particles all around. You can imagine the uncomfortable feeling inside such environment. Therefore, no other Engineers would like to take up this project except me. Despite the hardship, I stayed inside this shop to collect data, sought opinion from the workers and supervisors, conducted various experimentsso as to improve the ventilation system of the shop. After mouths of hard work, eventually I could establish some solid improvement which welcome by the workers. Apart from the sense of achievement that earned I also gained recognition from my boss. This spirit of "Do not mean in giving more and never give up" helps my progressive career development in the Sonca Industries Ltd.

Case 2 Think about the needs of other people to achieve win-win solution

When I worked as Managing Director in Practical Group of Companies, I needed to work with subordinates from Thailand, China, Indonesia; as well as customers from all parts of the world mainly USA and Europe. I learned that I had to listen to other people; understand their culture; and sit in their chairs to feel their needs. I learned that I had to be very flexible andempathetic when working with my subordinates, in order to maintain the team-spirit, yet I still need to be firm with my demanded standard so that they would achieve the company goal. When facing the customers, I had to be very diplomatic so as to fulfil their requests (usually price reduction) yet meeting profit goal of my Company.

Engineering Life Challenges

Learning continuously is always the survival tips of professional engineers in this 21stcentury. Keep abreast of the possessed knowledge but we still need to be very open-minded to accept new things. The ever-changing wave in social and technical development, renders us to think critically in solving problems with innovative solutions. Knowing that people (including your supervisors or your subordinates) may like to stay at a comfort zone, suggesting creative ideas to the Company sounds annoying to some people but it is a proactive step to be outstanding in this competitive world. Engineering is one of the means to improve the quality of life of people in society, you need to recognize this mission and actualize. In order to actualize this mission, you have to prepare yourself with sufficient technical knowledge and skill of your related field but that is essential but not sufficient. Since we are working with people and working for people, we cannot survive without sufficient people skill to relate with colleague, customers and employers.People skill is not something that can be just learned from books and in the classroom. It has to be reflected and generated through the process of relating with people from different walks of life. To look back, my involvement in doing volunteer work when I was a University student;my continuous involvement in volunteering in the last decade has indirectly strengthen my people skill. Engineering life challenge is basically part of human life challenge which guided by the golden principle of "Do not reject new ideas nor opportunities, try them first."Let your life shaping with brilliant ideas.

Ir Stanley SIU Hiu Fai

BEng (Medical Engineering),MPhil (Biomedical Engineering),
MHKIE, MIEEE, Individual Member, American College of Clinical Engineering

Disciplines: Biomedical

As a Biomedical Engineer of Electrical and Mechanical Services Department (EMSD), the Government of the HKSAR, Ir SIU strives for enhancing the quality of public healthcare services with innovative engineering solutions. One of his contributions was introducing digital dental radiography to public dental service. He is also one of the key members in EMSD for developing the certification course for in-house biomedical technicians, which will be rolled out to public for benefiting the biomedical engineering industry. His outstanding performance was recognised by receiving the EMSD Director's Commendation twice between 2015 and 2017.

Motto
Holistic wellbeing with Technology, Intelligence and Caring

Case 1
I was responsible for a number of biomedical engineering projects which were the first of their kind in Hong Kong public health sector. One of the examples was the digital dental x-ray systems, which changed the clinical practice from manual handling to computerized and paperless process. The technology itself was not rocket science, however the major challenge was to integrate the new system for a more intuitive workflow which required innovative application of technology. The project successfully set up a reference model for the digital dental x-ray system in other public dental clinics.

Case 2
Once I participated in a leadership competition and the award was a round trip for an overseas conference. I had to lead a team of strangers for completing a series of tasks, which I strived for my best to overcome the challenges and settled some ad hoc issues. It turned out my team won the overall champion

while I was a place from the individual award. However, I ended up making a group of good friends and had broader exposure to youth leadership which shaped my later commitment to volunteer service.
You never know what will come across you. Although the road may not lead to the way you expected, do your best and the outcome can be even more fruitful.

Engineering Life Challenges

I wanted to be a medical doctor from my childhood. The turning point came in around 2000 when I watched about a TV programme about the contribution and development of biomedical engineering. Biomedical engineering integrates different disciplines and I like the multi-disciplinary collaboration. If something can facilitate the work of medical staff, it can have a big impact on public well-being. That is the reason I have chosen biomedical engineering as my career. My main roles and responsibilities are: 1) supporting engineering service of public health sector; 2) building capacity of biomedical engineering industry; and 3) enhancing local and international profile of the profession.

People start to be aware of the importance of biomedical engineering in public health service, yet the professional standing still has a lot room for enhancement. Different countries have their own qualification and training systems for biomedical engineering, which harmonized baselines should be establish in order to benchmark the profession and enable a common language for the engineers around the world. In addition, Hong Kong is still on the way to set up its own regulatory framework for safeguarding the use of medical devices and fostering the growth of the medical devices market in Hong Kong.

Hong Kong, once and still the point where East meets West, enjoys high standard of engineering practice and medical technology application. For instance, the on-job professional training for engineers in Hong Kong (Scheme "A" training) is one of its kind in the world. I strive to promote the professionalism and enhance the education of biomedical engineering with my official and professional capacity. Our daily work may be insignificant, but we are able to connect the dots which could leverage impact that can influence other parts of the world.

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This is to certify that

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attended the
Engineering Exposition 2018

on

21 April 2018
from 09:00 - 14:00

at

Chiang Chen Studio Theatre,
The Hong Kong Polytechnic University
Hunghom, Kowloon

* 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 2018 Programme

09:05 – 09:15	Opening: HKIE President: Ir Thomas KC CHAN
09:15 – 10:40	First Session (Speaker presentation and Panel Discussion)
10:40 – 10:55	Coffee Break
10:55 – 12:20	Second Session (Speaker presentation and Panel Discussion)
12:20 – 12:30	Closing: Veneree Club Chairman: Ir CHEUNG Shu Wing
12:30 – 14:00	Lunch

First Session Speakers:
Ir John SV CHAI
Ir Raymond LIN Kam Siu
Ir WONG Wai Ho

Second Session Speakers:
Ir LEE Wan Lik
Ir Dr Michael YH LI
Ir Stanley SIU Hiu Fai

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