

# Is Engineering Still Cool?

## WOMEN ENGINEERS SECTION

reported by



Ir. Mah Siew Kien

The Women Engineers Section and IEM Business Club organised a half-day forum on “Is Engineering Still Cool?” at Wisma IEM on 18 February, 2017, to discuss the public perception, challenges and opportunities across gender and generation in today’s world of engineering.

Engineering is the forerunner for the development and progress of nations. There is no doubt that technology innovations will radically change every aspect of our lives today and some are disruptive while others are not. The forum brought together seven panel speakers spanning 3 generations with a wide range of experience and expertise. These were Ir. Elias Saidin and Ir. Raffah Mahfar (Baby Boomer generation), Ir. Puvanesan Mariappan and Ir. Tan Loo Yen (Millennials or Generation Y) and Mr. Tan Khai Ping and Miss Tan Chau Ling (Generation Z).

Both Generation Z speakers are currently student members of IEM. The Young Engineers Section (IEM-YES) was represented by Mr. Tay Eng Chong, also a Millennial. The forum moderators were Prof. Ir. Dr Abu Bakar Mahat from IEM Negeri Sembilan branch and Ir. Mah Siew Kien from Women Engineers Section.

The forum started with an experience-sharing session by the speakers. The Baby Boomer and Millennial speakers shared their work experiences, career paths, motivations, strength and challenges in their journey to becoming Professional Engineers.

Ir. Elias, current Vice-President of IEM, stressed on the importance of international mobility of engineers in an increased need for engineers to have their credentials recognised within ASEAN to prepare for globalisation and advances in international trade and business services. All qualified engineers are encouraged to register as an ASEAN Engineer to facilitate mobility within the ASEAN countries towards branding and liberalisation of engineering profession. Ir. Raffah believed that one can overcome all challenges and obstacles through perseverance, determination and hard work; these were the ingredients in her recipe for success as a geotechnical engineer. It is evident that the Baby Boomer speakers have worked very hard throughout their career and are still actively contributing to the engineering profession passionately as they view engineering as cool and interesting.

But do Millennials and Generation Z share similar sentiments?



From L to R: Ir. Mah Siew Kien, Mr. Tan Khai Ping, Ms. Tan Chau Ling, Ir. Dr Leong Wai Yie, Ir. Prof. Dr Abu Bakar, Ir. Elias Saidin, Ir. Raffah Mahfar, Ir. Tan Loo Yen, Mr. Tay Eng Cheong, Ir. Puvanesan Mariappan

Ir. Puvanesan developed an interest in engineering at an early age because of his father’s encouragement and support. Parents play an active role in building their children’s interest in engineering. Another Millennial, Ir. Tan, agreed that engineering is cool and can be realised through the appreciation of engineering innovations and achievements that have transformed our lives for centuries. The two said that like Baby Boomers, Millennials viewed their generation as hardworking and dedicated.

Mr. Tay talked about current challenges in promoting STEM and efforts to cultivate and expose young engineers to the professional engineering world.

Generation Z will soon be entering the workforce and their characteristics and motivators are quite different from that of previous generations. It is therefore, important to find new ways to make engineering more appealing to them. A radically different generation requires a radically new approach.

In the second session of the forum, the 3G (Gender, Generation and Globalisation) challenges in engineering were discussed. The lack of interest in STEM among schoolchildren has persisted for years and has now reached a level of concern. According to the two student speakers, many of their peers shy away from engineering studies because the subjects are perceived as tough and difficult. Since engineering students have to work harder

than other major students, today's fresh graduates believe they should be compensated fairly when they start working, especially with the high cost of living today. Salary is usually the deciding factor and the most important consideration for these fresh graduates when choosing a job. Thus, organisations which offer competitive remunerations are able to attract the cream of the crop.

The shortage of engineering graduates is further compounded by the fact that Generation Z is more entrepreneurial than previous generations. An increasing number are starting their own businesses upon graduation. Engineering graduates are also highly sought after in business and finance. In a way, the engineering field is competing with many other pulls from sectors that are a lot more vocal, so engineering is appearing to be slowly losing its "cool" for Generation Z.

The engineering profession suffers from a lack of visibility and engineering role models, unlike medicine and law which are more popular because of vast media exposure and daily interactions in our daily lives.

Engineering accomplishments are also over shadowed by other professions. For example, when one sees an extraordinary, impressive building, one asks, "Who's the architect?". And while most of us know Michael Schumacher, the legendary Formula One driver, how many show an interest in the engineers behind the cars?

Engineers need to tell the world of their works and it's important to leave "professional fingerprints" for the public to see. Hollywood movies such as *Iron Man* and the Christopher Nolan film, *Interstellar*, have engineering themes and these can inspire students to take up engineering studies. A new media portrayal of engineering will be helpful, such as TV series and movies which feature engineers as the protagonist.

In the Q&A session which followed, there were many comments and opinions from participants, including the belief that fresh graduates should place more importance on the opportunity to learn, grow and contribute before demanding an unrealistically high salary. Forum participant Ir. Kamal Jamaluddin from the Malaysian Board of NLP Professionals (MBNLP), suggested that engineers upgraded themselves to be more effective communicators. This, he said, can be achieved through the use of neuro linguistic programming (NLP), a methodology to understand and help change human behaviour patterns.

The forum concluded with the view that more has to be done to keep engineering "cool" for future generations while current engineers need to deal with ever-increasing globalisation and to find ways to prosper within an integrated international environment. The challenge to ensure that a talent pipeline continues to exist is becoming more critical, irrespective of gender. We need the public to recognise that engineering is creative, interesting, exciting and a rewarding, life-long career option. ■