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Celebrating 50 Years of
Engineering Excellence



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THE SINGAPORE ENGINEER

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Record number of Singapore engineering projects feted at regional conference

All five were conferred the ASEAN Outstanding Engineering Achievement Award, a testament to the quality of local engineering

For the Gala Dinner's performance segment, the Singaporean delegates contributed an a capella rendition of Mandopop singer Wakin Chau's "Friends" (Peng You)



Representatives of the five project winners receiving the commemorative certificate and trophy from Datuk Ir. Lim Chow Hock, AFEO Chairman and President of the Institution of Engineers, Malaysia. Clockwise from top left: A*STAR, HDB, JTC Corporation, NUS and Samwoh Corporation.

In a remarkable first for Singapore, a total of five engineering projects across multiple domains clinched the prestigious ASEAN Outstanding Engineering Achievement Awards 2015, presented at the 33rd Conference of the ASEAN Federation of Engineering Organisations (CAFEO) in November last year. Conferred by AFEO, the annual awards pay tribute to engineering achievements that have demonstrated outstanding skills and made significant contributions to engineering progress and quality of life in ASEAN.

All the winning projects had been nominated by IES from recipients of the IES Prestigious Engineering Achievement Awards 2015. "IES is proud of our local engineering teams for bringing honour not only to themselves, but to the Singapore engineering fraternity. The winning of five awards adds jubilation to Singapore's 50th birthday and recognises the outstanding engineering work being conducted here," said Er. Chong Kee Sen, President of IES, who led a 33-member contingent representing Singapore.

The five winning projects were:

- Speak to Me in My Language by Institute for Infocomm Research, A*STAR
- Towards Better Living and Greater Sustainability through "Smart Planning"- Urban Environmental Modelling (UEM) by Building Research Institute, HDB
- Jurong Rock Caverns by JTC Corporation
- Innovative Hybrid Membrane Dehumidifier (MD)-Indirect Evaporative Cooling (IEC) System For All-

Weather Air-conditioning Without Compressors by NUS & King Abdullah University of Science & Technology, Saudi Arabia

- Samwoh Eco-Green Building – First Building in the Region Constructed Using Up to 100% of Recycled Concrete Aggregate by Samwoh Corporation Pte Ltd

The event also saw five eminent Singaporeans being made AFEO Honorary Fellows, in recognition of their outstanding services, greatness of spirit, integrity and devotion to the engineering profession, IES and Singapore. They are:

- Prof Cheong Hee Kiat, President, SIM University
- Mr. Brian Chang, Chairman, Blue Capital Pte Ltd

- Er. Ong See Ho, Deputy CEO (Building Control), BCA
 - Er. Ng Say Cheong, Director (Upgrading Construction Management), Building Quality Group, HDB
 - Er. Tang Kin Fei, Group President & CEO, Sembcorp Industries Ltd
- The conference was held in

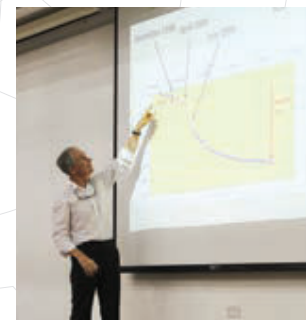
Penang from 23 to 26 November 2015. Since 1982, the annual CAFEO has been hosted with rotation by 10 ASEAN member countries including Brunei, Indonesia, Malaysia, Singapore, Philippines, Thailand, Cambodia, Vietnam, Laos and Myanmar. IES



Presidents of the various ASEAN engineering bodies pose for a group photo with Penang Governor Dr Abdul Rahman Abbas (centre, in songkok) and Chief Minister Lim Guan Eng (centre, in suit).

Seminar on Deep Sewer Tunnels in Hong Kong

by Er. David Ng



Speaker Prof John Endicott delivering his lecture during the seminar.

On 30 Nov 2015, the IES Civil and Structural Technical Committee (Geotechnical Division) organised an evening seminar titled "Mining Deep Sewer Tunnels in Hong Kong – What went wrong in Stage 1 and how it was addressed in Stage 2A". Held at the IES Auditorium, it was attended by close to 100 participants.

The key speaker for evening was

Professor John Endicott, a recognised global expert on geotechnics and tunnelling. He is an Adjunct Professor at the University of Hong Kong and the Hong Kong University of Science and Technology. Also an AECOM Fellow, he has visited Singapore regularly since 1975 to offer his advice on local underground projects. Armed with photos, charts and diagrams, Prof Endicott elaborated to the audience on the construction of deep sewer tunnels in Hong Kong, 100 metres below sea level. Work for the first stage encountered delays due to factors like excessive inflow of water, soil subsidence and a lengthy arbitration case. The project was delayed by six years.

Drawing on the lessons learnt, changes were made to the Stage 2A contract. Other measures were also put in place, such as widening the scope of ground investigation and improving the construction methods used. Prof Endicott also highlighted some important data points related to the

hydro-geological aspects of the project. For example, ground monitoring conducted during the tunnel excavations indicated that there was an extreme spatial variation in drawdown effects along the length of the tunnel. This was attributed to localised differences in the surrounding geological structure. The talk ended with an interactive discussion on various issues of design and construction of deep excavation and bored tunnelling. A plaque was then presented to Prof John Endicott as a token of appreciation for taking the time to share his valuable experience with IES members. IES



Full attention given during the session by the speakers.



Prof Endicott (fourth from right) in a group photo with members of the organising team.