

LRET Chair Professor Y. S. Choo shares insights on installation engineering



Professor Choo delivers his LRET Lecture to a packed Engineering Auditorium and receiving memento from Dr Richard Saddler, Chief Executive Officer of Lloyd's Register

PROFESSOR CHOO Yoo Sang, Director (Research), Centre for Offshore Research and Engineering (CORE) delivered his inaugural lecture as Lloyd's Register Educational Trust (LRET) Professor on 4 August 2009 to a packed hall. The first Asian to be named LRET Chair Professor in NUS, Prof Choo kept the audience enthralled throughout his one-hour lecture entitled "Installation Engineering of Offshore Structural Systems".

Prof Choo spoke about the importance of installation engineering in view of increasing offshore oil and gas exploration and production to meet global demand. Proper planning, engineering and execution are paramount, he said. He demonstrated with the help of video clips, how slips in planning could lead to disasters.

Besides land-based installation, Prof Choo also gave various successful examples and case studies of offshore engineering, including the Tombua Landana compliant tower installed by Heerema Marine Contractors in Africa and the Su Tu Vag platform installed in Vietnam through floatover operations by J Ray McDermott. He listed the constraints and how an integrated methodology in engineering for production and installation, could enhance competitiveness by enabling faster and safe construction.

Elaborating on emerging developments in recent times, Prof Choo highlighted among other examples, the employment of the "push-up" system as opposed to "pull-up". Push-up system developed by "heavyweight lifter" Mammoet raised a 16,800-tonne deck to a height of 13 metres for an oil and gas production platform in the Caspian Sea in 2007.

Prof Choo also shared some R&D results on lift system, lift components and knowledge-based engineering design system which the research team in CORE has developed.

"Working with industry on R&D, valuable lessons were learnt both at system and component level. We derived good solutions and we can install structural systems successfully with expert knowledge," said Prof Choo.

He spoke from a wealth of experience, having worked as a technical consultant in major offshore rig construction projects such as Schlumberger's Cajun Express and Global SantaFe's Development Driller, and with Keppel Offshore and Marine, SMOE (a subsidiary of Sembcorp Marine), J Ray McDermott and Heerema Marine Contractors on collaborative R&D projects.

A lively Q&A session followed his lecture with questions that included the economics of building big rigs and the heavy cost of waiting for the right conditions for the marine installation operations.

VIPs at the lecture included Dr Richard Sadler, Chief Executive of Lloyd's Register, Dr Choo Chiau Beng, Chairman of Keppel Offshore as well as Emeritus Professor Lee Seng Lip.

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