

# Talk on Embedding Sustainability into Product Design Using Systems Approach



by Ir. Prof. Dr. Dominic Foo Chwan Yee

CHEMICAL ENGINEERING TECHNICAL DIVISION AND  
MECHANICAL ENGINEERING TECHNICAL DIVISION

A talk entitled *“Embedding Sustainability into Product Design Using Systems Approach”* was co-organised by the Chemical Engineering Technical Division (CETD) and the Mechanical Engineering Technical Divisions (METD) and held on 9 March 2012. This talk was delivered by Dr Yap Eng Hwa from University of Nottingham, Malaysia Campus. A total of 32 participants attended the talk, most of whom are industrial practitioners.

The speaker started the talk by introducing the concept of design and sustainability. Emphasis was placed on the fact that design has overarching influence over “sustainability” of a product throughout its entire lifecycle. Examples were raised on how these could be systematically quantified and analysed. The speaker also stressed that a blanket approach could be irrelevant because different products would have different impacts at different stages of its life cycle and impacts could have been locked in at the design phase when key decisions were made.

During the second part of talk, the speaker also went on to discuss the importance of the lifecycle analysis when determining the effect of design over its effect. Next, the concepts of systems thinking and systems theory to embed sustainability into product design were considered, and its



effect of environmental improvements were also discussed. To end the talk, the speaker touched on the importance of looking into product design through a holistic approach and suggested using one method that had been used extensively in social science research, namely causal loop modeling.

The talk ended with a lively Q&A session. On behalf of IEM’s Chemical Engineering Technical Division, Ir. Prof. Dr. Dominic Foo Chwan Yee presented a token of appreciation to Dr Yap Eng Hwa and thanked him for his informative talk. ■