



## **International Symposium on Management of Design Technology 22 October 2004**

**Jointly organized by:**

**Design Technology Institute  
and  
Department of Industrial and Systems Engineering**

### **Prelude**

Increasingly, companies in Singapore are relying on product R&D and high-value add manufacturing to compete effectively in the market. Such shift requires different mindset and approaches to many issues faced by companies and research institutes. In this symposium, international speakers will share their research findings and observation on theories and practices on how organisations such as Unilever, Philips and Samsung have dealt with the challenges brought about by high-value add product development and manufacturing.

### **Venue**

Engineering Auditorium, Ground Floor, Block EA, Faculty of Engineering, NUS

### **Schedule**

08.30 – 09.00 am Registration  
09.00 – 09.05 am Welcome by DTI CEO, Prof. TN Goh  
09.05 – 09.45 am Invited talk 1  
09.45 – 10.30 am Invited talk 2  
10.30 – 10.45 am Tea break  
10.45 – 11.30 am Invited talk 3  
11.30 – 12.15 pm Invited talk 4  
12.15 – 12.20 pm Closing Remarks

### **Chairs**

Professor Aarnout Brombacher, Dr. Chai Kah Hin

### **Registration**

Complimentary attendance. Please email your details to [dtickm@nus.edu.sg](mailto:dtickm@nus.edu.sg)

For latest information, please visit [www.dti.nus.edu.sg](http://www.dti.nus.edu.sg)

## **Invited Speakers and Title of Presentation**

**Professor Tony Bendell**  
**University of Leicester, UK**

**Title: A Critical Examination of Six Sigma**

In this talk, Professor Bendell will discuss the challenges and experiences related to "Design for Six Sigma". He will first present an overview of the history and development of Six sigma, follow by a discussion on the relationship between Six sigma and established quality frameworks such as the EFQM Excellence Model. The steps and challenges related to Design for Six Sigma will be presented. In addition, several key implications for practice will be highlighted.

**Bio:**

Professor Bendell was founding chairman of the UK Taguchi Club (now the Quality Methods Association) and of the East Midlands Quality Club, of which he is now President. He acts in a long term consultancy role in Quality for Rolls Royce Plc and is also a Director of Services Limited, one of the three largest British Quality Foundation licensed training and consultancy organisations for the EFQM Excellence Model.

He has served on IEC Technical Committee Working Groups and on BSI Committees covering both Quality and Reliability work. He is currently a member of BSI Committee QS1.

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**Professor Stephen Cook**  
**University of South Australia**

**Title: Applying Systems Engineering design to defense: the experience of Australia/SEEC**

(To appear).

**Bio:**

Professor Stephen Cook is the DSTO Professor of Systems Engineering and until recently was the Foundation Director of the Systems Engineering and Evaluation Centre at the University of South Australia, Adelaide, Australia. Professor Cook is now the designated director of a new systems research institute that is forming in South Australia with players from the three universities, government, and industry. His research interests include systems engineering for defence strategic planning, capability engineering, and systems acquisition, civil aviation safety modeling, tailoring systems engineering to new application areas, requirements engineering and high-quality audio engineering. He teaches Principles of Systems Engineering and System Engineering for Complex Problem Solving.

**Professor Johannes (Joop) I.M. Halman**  
**University of Twente, The Netherlands**

**Title: Risk Management in New Product Development**

Increasingly, companies are relying on suppliers, partners and at times even competitors to develop new products efficiently. Such phenomenon means companies are facing new types of risks, in addition to traditional risks brought about by market and technology uncertainties. This seminar will provide an overview of recent development in risk management theories, tools and techniques for new product development. Examples from Philips and Unilevers will be shared to reveal how leading companies are managing the new challenges.

**Bio:**

Johannes (Joop) I.M. Halman is Professor in Innovation Processes in Infrastructure and Building processes at University of Twente and Associate Professor in Innovation Management at Eindhoven University of Technology. He earned an MS in Construction Engineering from Delft University of Technology, an MBA (cum laude) from Rotterdam School of Management at Erasmus University, and a PhD in Technology Management from Eindhoven University of Technology. His research interests are in the field of Innovation Management with primary focus on program and project management of innovation processes, new product platform development and the initiation of High Tech Start Ups. He has advised international firms like Philips Electronics and Unilever on the implementation of risk management strategies within their innovation processes. Prior to joining the Eindhoven University of Technology, Joop Halman has worked for several years in industry. As a project manager and senior management consultant he has initiated and conducted several construction, (re) organization and innovation projects. His work has appeared in Journal of Product Innovation Management, International Journal of Project Management, Technovation, The International Journal of Project & Business Risk Management and Technological Forecasting and Social Change.

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**Professor Myung Hwan Yun**  
**Seoul National University**

**Title: Emotion-based product design and innovations in Korea**

Perceived quality is a concept that everybody intuitively understands, but it is difficult to define. Everybody is familiar with going to a showroom and judging the quality of the car by the finish of the material, the degree of craftsmanship, cost and the general ambience. The two aspects that cross all these factors are results and customer satisfaction. In other words, does the product meet or exceed customer satisfaction? The Japanese term, "Kansei Engineering", which could be summarized as the analysis of human expression of feelings on product, is becoming a widely recognized element of product design. This talk will be focused on the definition, concept and process of "emotion-based product design". Starting from the Japanese approach, Kansei Engineering, the concept of translating customer needs into the product design variable within a framework of product development process will be presented and discussed.

Approaches and models of emotion-based product design such as multi-variate modeling, regression modeling and other quantitative modelling will also be presented. Application studies such as mobile phones, automotive interiors and other new products projects undertaken by the speaker will be presented with a detailed process knowledge. The talk, then, briefly talk about various ways to successfully implement emotion-based approach on services industry and other industrial systems.

**Bio**

Myung Hwan Yun is a Professor in the Department of Industrial Engineering and the Vice-director of the interdisciplinary program of Technology Management at Seoul National University, Seoul, Korea. He received his B.S. and M.S. in industrial engineering from Seoul National University, Seoul Korea and a PhD in industrial and manufacturing engineering from Penn State University, USA. His research interests include Human Factors in Product Design, Emotion-Based Product Design, User Interface, New Product Development Processes and Technology Valuation. Professor Yun spent most of his career advising, consulting and co-operating with new product development teams from various companies in Korea. He worked with Samsung Electronics (Mobile Products, Home Appliances), Samsung Advanced Institute of Technology (Ubiquitous Interfaces), and LG Telecom (Mobile phones). He is currently advising Hyundai/KIA Motors in their presidential advisory group and Samsung Advanced Institute of Technology for ubiquitous health product development. He has published in Ergonomics, International Journal of Industrial Ergonomics, IEEE transactions on systems, man and cybernetics, Japanese Journal of Ergonomics, Human Factors in Manufacturing and International Journal of Occupational ergonomics and Safety. He is a board member of Ergonomic Society of Korea (UI/HCI) and Korean Institute of Industrial Engineers. He is also the managing editor of industrial engineering magazine of KIIE.