The Institution of Engineers, Malaysia

WEBINAR TALK ON

Sustainable Engineering Design and Energy Technology of Offshore Wind Turbine

Organised by:
Oil, Gas and Mining Technical Division, IEM (OGMTD)

BEM APPROVED CPD: 2 **REF NO: IEM25/HQ/088/T (w)**

SPEAKER:

Ir. Prof. Dr. CHONG WEN TONG

12 APRIL 2025, SATURDAY

9.00AM - 11.00AM

ZOOM WEBINAR

REGISTRATION FEE:

IEM STUDENT: FOC
IEM MEMBER: RM15
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SYNOPSIS

The evolving landscape of sustainable engineering presents unique opportunities to bridge industrial innovation with renewable energy solutions. Drawing from extensive experiences in both industrial design and renewable energy research, the speaker will demonstrate how fundamental engineering principles can be successfully applied across different scales of technological innovation. The talk will provide insights into the design and development of high-efficiency home appliances, i.e. the critical aspects of sustainable product design, including advanced fluid dynamics modeling, energy efficiency optimization, material selection strategies, and ergonomic considerations that would lead to successful commercialization.

The focus then shifts to current research in offshore renewable energy systems, particularly the innovative wind turbine designs that address marine challenges like structural stability and maintenance accessibility. The cross-axis wind turbine technology exemplifies how industrial design experience can influence large-scale renewable energy solutions. This integrated approach demonstrates the versatility of sustainable engineering principles in advancing both consumer products and renewable energy systems, contributing to global sustainability goals. The cross-axis wind turbine won the First Prize of National-Intellectual-Property-Award 2016 and WIPO Medal for its invention.

SPEAKER'S PROFILE

Ir. Prof. Dr. Chong Wen Tong is currently a full professor in the Department of Mechanical Engineering at Universiti Malaya (UM), Malaysia. He is also the Head of UM Centre for Energy Sciences. He joined UM after spending 10 years in various industries, including with Dyson and Sony. He is a Chartered Engineer with the Engineering Council (UK) since 2014. Prof. Chong's research interests are Renewable Energy & Green Technology, Wind Turbine Technology, Industrial Aerodynamics and Innovative Product Design. He has co-authored more than 180 research articles with the H-Index– 50 (WoS).

He is the Editorial Board Member of the International Journal of Green Energy and Advisory Board Member of the International Journal of Energy Research. He was selected for the 2019 Top Research Scientists Malaysia by the Academy of Sciences Malaysia, and 2020-2024 World's Top 2% Scientists by Stanford University. Prof. Chong has been awarded more than MYR 10 million research grants and won more than 25 invention and innovation awards in various international innovations and inventions fairs, including iENA (Germany), SIIF (Korea) & WIAC.

He is the Conference Chair of the International Conference on Sustainable Energy and Green Technology. In 2023, he was elected as Fellow, Academy of Sciences Malaysia (FASc). Prof. Chong was also appointed as the Chief Juror of the International Innovation Awards in Malaysia Technology Expo, MTE 2023 and 2024.