The Institution of Engineers, Malaysia

# WEBINAR TALK

# REVOLUTIONIZING FLOOD FORECASTING AND EARLY WARNING WITH ADVANCED SATELLITE IMAGE PROCESSING SOLUTIONS, AI AND DIGITAL TWIN

**Organised by :**

**Water Resources Technical Division, IEM**

## DETAILS

**31st July 2025, Thursday**
**2.00pm - 4.00pm**

**ZOOM - Virtual Platform**

**Registration Fees**
**IEM Students : Free**
**EM Members : RM 15**
**Non-IEM Members : RM70**

**BEM Approved CPD Hours : 2**
**Ref No. : IEM25/HQ/324/T (w)**

Speaker: Dr. Yap Xen Quan

## Synopsis

Data is the “new oil” in every field, including Flood Forecasting and Early Warning. Flood forecasting often falls short in terms of accuracy and timeliness due to the lack of up-to-date and reliable data. This webinar delves into how advanced satellite image processing and AI technologies are reshaping early warning systems, turning data into actionable insights that can help mitigate flood risks.

A key highlight of the session is the exploration of digital twin adoption—the creation of dynamic, real-time virtual models of flood-prone areas. These intelligent replicas harness live IoT data, near real-time satellite imagery, and predictive analytics to simulate potential flood scenarios, enabling faster and smarter responses. By integrating digital twins with cutting-edge satellite imagery and AI, this approach offers a transformative leap toward proactive, data-driven flood forecasting and management.

## Speaker's Biodata

Dr. Yap is a specialist in Satellite Remote Sensing (SRS) with over a decade of experience across a wide range of remote sensing applications. With a strong foundation spanning both academic research and industry practice, Dr. Yap has developed extensive practical expertise in applying SRS technologies across diverse sectors.

As the current lead at Spacegen Sdn. Bhd., Dr. Yap is driving innovation in remote sensing solutions by supervising the development of business-ready tools that integrate seamlessly with evolving technologies. With the accelerating role of artificial intelligence, Dr. Yap has been instrumental in enhancing traditional machine learning models, making them more agile, accessible, adaptable, and impactful.

Passionate about bridging the gap between science and industry, Dr. Yap offers a forward-thinking perspective on how space-based data can fuel real-world decision-making and create meaningful change.