

# Webinar Talk on “Emergence of Small Satellite Industry and The Impacts on Space Sustainability”

Organised by:

Mechanical Engineering Technical Division, IEM

**Date: 17<sup>th</sup> Dec 2022 | Time: 2pm to 4pm | Via ZOOM Platform**

## REGISTRATION FEES

**IEM Students: Free**

**IEM Members: RM15 (Online) / RM20 (Offline)**

**Non-IEM Members: RM70**

**BEM Approved CPD/PDP Hours: 2**

**Ref No: IEM22/HQ/488/T(w)**

## Synopsis

30 years ago, Malaysia had a huge gap in the space race. The term space race refers to the competition between nations in space exploration, which was very significant in the 20th century. However, today, Malaysia is building our own earth station in Penang, which will be able to assemble our own small satellites (known as smallsats). Smallsats are miniature satellites that have low mass and size yet serve similar purposes as ordinary/conventional large satellites. The emergence of smallsats since the early 2000s positively impacts space exploration, especially in non-spacefaring nations. Non-spacefaring nations are countries that do not have vehicles capable of travelling beyond the earth's atmosphere like Malaysia, Cuba, Costa Rica, Uganda and many more. While the smallsats shine as the breakthrough for many nations to participate in the space exploration exercise, little did we know, these smallsats are potentially deadly hazards to space infrastructure and spacecraft when there is no coordinated space debris management. Ts. Uma Shangery Aruldass had the opportunity to be in both smallsat development team and the space debris management team. Ts. Uma will be sharing the importance of Space Sustainability in order for Malaysia to continue participating in the space race. She will also highlight the possible catastrophic impacts from a poor space debris management. At the end of the session, participants will be able to know; 1. The importance of Space Sustainability in order for Malaysia to continue participating in the space race. 2. The possible opportunities within the industry in Malaysia and worldwide.

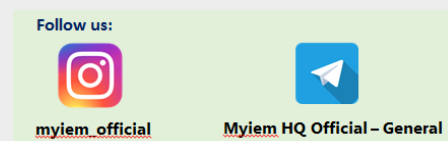


*Presented by:*  
*Ts. Uma Shangery*  
*Aruldass*

## Biodata of Speaker

Ts Uma Shangery Aruldass is an Aerospace fan from Malaysia. She has earned her Professional Technologist (Ts) in Aerospace and Aviation technology from the Malaysian Board of Technologists (MBOT). Uma has completed her bachelor's degree in Aerospace Engineering and Masters in Aviation Management. She is an HRDF-certified Trainer and an active Science Communicator. She has been recognised as one of the D12s around the world, for Space Debris Management and presented her thought-leadership speech at the 2022 Ascend event in Nevada, USA in October 2022. Uma is one of the Space4Women talents who has been invited to the Expert Meeting in South Korea in August 2022. She has been a part of the KiboCube Academy through the initiatives of the United Nations Office for Outer Space Affairs (UNOOSA) with the Japan Aerospace Exploration Agency (JAXA) in 2021 and 2022. Besides, Uma has been awarded AXIATA Young CEO Development Program in 2021. She is also an international award recipient for 'Outstanding Solution for the Case Study' by International Civil Aviation Organization (ICAO) in 2018 in Shenzhen, China. She is the brand ambassador for AdvancingX, a commercial space research and training provider organisation. She has published chapters, papers and articles on both Aerospace and Aviation technology development. Uma is an active Toastmaster who has served as Club President and Area Director in 2021 and 2022 respectively and International Speech Contest winner too. She explored her interest in Space Debris Management via a competition that she has participated in and continued ever.

Ir. Dr. Aidil Chee Tahir  
Chairman, Mechanical Engineering Technical Division, IEM



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