Thursday | YOUTH DEVELOPMENT WORKSHOP

08:50 **Opening**

By **Michael Davis**
International Space University

09:00 **Satellite Communications: Fundamentals, Systems and Applications**

By **Ali R. Ebadi**
Advisor to Board of Directors, MEASAT

Satellite communications systems have become an essential part of the telecommunications infrastructure. This session will give an introduction to the fundamentals of satellite communications systems, including how information is carried by an electromagnetic wave, how transmission errors can be corrected, which parameters influence the performance of the system and how multiple users can share the capacity of a satellite. This session will also provide an overview of satellite system architecture, types of orbits, and will explain space, control and ground segments and the various international launch services available to satellite operators.

10:00 **Satellite Communications: Regulations**

By **Tare Brisibe**
Senior Legal & Regulatory Counsel, SES

This session will examine the international rules regulating satellite telecommunications networks and services from the point of view of the use of frequencies and orbital positions. It will also make reference to national regulatory systems in the Asia Pacific. The session will explain the role of the ITU in coordinating the global use of the radiofrequency spectrum and explain the concept of harmful interference and the different methods of sharing spectrum and orbital resources. It will also explain the role of national administrations as representatives of member States in requesting the use of frequencies for satellite communications, in establishing national regulatory frameworks and in controlling the delivery of services through national licensing arrangements.

11:00 **Satellite Communications: Industry Overview**

By **Jose Del Rosario**
Research Director, NSR

This session will discuss the evolution of the satellite telecommunications markets and technologies. It will examine how the industry has, over time, split into various key submarkets including Fixed (FSS), Broadcast (BSS) and Mobile (MSS) satellite services. The session will also present key elements of satellite technology and evolving service offerings together with future growth trends. In particular, it will talk about new satellite technologies, orbital configurations, and changes in user terminals, making them smaller, more mobile and lower in cost.

12:00 **Networking Luncheon**

13:30 **Satellite Communications: Case Studies**

This hands-on workshop for Thai engineering students involves the planning of future telecommunications infrastructure for Thailand.

The hypothetical scenario presented to the group is that the Government of Thailand embarks on an ambitious plan to upgrade its national telecommunications system to provide a range of improved communications and earth observations services.

The proposed Thai Network of the Future (TNF) will consist of a fibre-optic terrestrial network in urban areas as well as satellite delivered services involving either existing infrastructure, new infrastructure or a combination of both.

The participants will be divided into three teams for purpose of the hands-on workshop activity.

Team 1 will prepare and present a proposal for a government strategy to take advantage of both 'Old Space' and 'New Space' for solving current issues and supporting telecommunications industry development in Thailand including an outline of the proposed satellite system, ground infrastructure, launch services, insurance etc.

Team 2 will prepare and present a proposal for a constellation of small-satellites that will meet the satellite component of the TNF requirements including an outline of the satellite constellation, ground infrastructure, launch services, insurance etc.

Team 3 will prepare and present a proposal for the use of existing satellite services for non-terrestrial communications supplemented by a new small satellite constellation that will provide maritime, environmental and disaster monitoring in Thailand using remote sensing technologies, including an description of the satellite constellation, ground infrastructure, launch services, insurance etc.

16:00 **New Space Pitch Competition (TBC)**

17:30 **Young Talent Awards & Closing Reception**

***This workshop program is subject to change without any prior notice.*

Friday | CAT Telecom Center Tour

07:00	**Meet**	**Intercontinental Bangkok**
07:30	**Departure**	
09:00	**Arrival**	**CAT Nonthaburi Telecommunication Center** 299 Tiwanon Rd. Muang; Bangkok, Thailand 11000
09:10	**Welcome**	
09:30	**Tour**	
11:30	**Refreshments**	
12:20	**Departure**	
14:00	**Arrival**	**Intercontinental Bangkok**

*** This Facility Tour is available ONLY to pre-registered students.*
*** The bus will depart on time, so please make sure to be at the LOBBY on time.*
*** The arrival time at Intercontinental Bangkok is subject to change depending on traffic condition.*