

# ONLINE SHORT COURSE ON SATELLITE COMMUNICATION

Online Platform \_\_\_\_\_\_BLACKBOARD COLLABORATE ULTRA

**24-26** November 2020

REGISTER HERE: https://bit.ly/3c50Qp5

# LEARNING OUTCOME

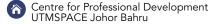
- 1. Acquire the fundamental knowledge in satellite communication.
- 2. Provide an overview of satellite communication and its basic components.
- 3. Awareness of present day application and future development.

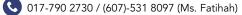
## E COURSE CONTENT

- Overview of satellite communications
- Satellite orbits
- Satellite subsystems
- ► Telemetry, tracking, command and monitoring (TTC&M)
- ► Communication subsystems
- ▶ Satellite communication RF link analysis
- ▶ Propagation effects and their impact on satellite-earth links
- ▶ Low earth orbit and non-geostationary satellite systems
- ▶ Earth-space propagation: Recommendation ITU-R P. 618

# **UTMSPÄCE**

IN-HOUSE Courses can be designed in accordance with organizational requirements







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A communications satellite is an artificial satellite that relays and amplifies radio telecommunications signals via a transponder; it creates a communication channel between a source transmitter and a receiver at different locations on Earth. Communications satellites are used for television, telephone, radio, internet, navigation and military applications. Many satellites are placed in geostationary orbit 22,236 miles (35,785 km) above the equator, so that they appear stationary at the same point in the sky. Therefore, the satellite dish antennas of ground stations can be aimed permanently at that spot and do not have to move to track it. Due to the curvature of the Earth, the high frequency radio waves used for telecommunications links travel by line of sight are obstructed. Thus, a communication satellites serves to relay the signal around the curve of the Earth allowing communication between widely separated geographical points. The course will explain the various components that make up satellite communication system covering the propagation of signals, antennas, transmitters, receivers and signal processing. Besides in-class lectures at UTMSPACE facilities, participants will also be exposed to lab work, case study with presentation and site visits. Lecturers who conducted this program have the necessary experience to deliver the material relating theory with practice.

#### FACILITATOR



Prof. Dr. Jafri Bin Din obtained his Bachelor of Science in Electrical Engineering at Tri-State University, U.S.A in 1988 and PhD in Electrical Engineering: Radio Wave Propagation at UTM in 1997. At present, he is the Director of the Wireless Communication Center (WCC) UTM. His research interest includes Issues on Reliable Communications at Frequencies Bands above 10 GHz in the Tropics, Radio wave Propagation studies for Satellite Communications and Point-to-point Microwave Link, High Altitude Platform Station (HAPS): Implementation Issues in

Malaysia and Comparative Study of Rain Attenuation and Fade Duration at Frequencies above 10 GHz in Malaysia and Hungary. Currently, he is hosting a cooperative measurement campaign on Ka-Band Satellite Communication in Tropics with Joanneum Research, Austria under the European Space Agency contract research. He has published 140 papers in his research areas in the national and international conferences and journals. Platform Station (HAPS): Implementation Issues in Malaysia and Comparative Study of Rain Attenuation and Fade Duration at Frequencies above 10 GHz in Malaysia and Hungary. He has published 140 papers in his research areas in the national and international conferences and journals.de Duration at Frequencies above 10 GHz in Malaysia and Hungary. He has published 140 papers in his research areas in the national and international conferences and journals.

## **REGISTRATION FORM**

To confirm your registration, please complete this form including payment.

YES! Please register the following participant(s) for this course
I am interested but unable to attend
Please put me on your mailing list

Sila tanda (/) yang berkenaan

Course Name : SHORT COURSE IN SATELLITE COMMUNICATION

Date : 24 - 26 November 2020

Fee : **RM400.00** per pax

Includes refreshment, course material & Certificate of Attendance



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