



# **5G/6G requirement: Data Centre Optimization Algorithm of Spectrum Utilization in IoT LoRAWAN**

Training Programme  
by  
Faculty of Engineering  
Multimedia University

## Overview

Why Internet of Things? IoT LoRAWAN are upcoming standard for wireless communications that coexists with the current network to provide better performance. It is well known that the data is utilized in every aspects of human activities through data network in modern days, today 2021. Data exchange and communication is carried through wide ranges of devices. The network of data communication is known as the Internet of Things and Vast nature of data communication requires Data Center to process, store, and manage data effectively. The participants will learn practically about the important of spectrum utilization in a Data Center to avoid unnecessary communication with illegitimate request. At the end of the program, participants will familiarize more on the Data center which is prone to security threat from cyber attackers that wish to overload the data center and overwhelm in Internet of Things (IoT) in today life. This workshop is useful in Telco and Computer Networking people in Malaysia for service satisfaction.

## Objective

This workshop is expected to provide a good solid fundamental of Internet of Thing, LoRAWAN and Data Centre which is demanded by Telco and computer network industries.

## Target Audience

UG student, PG student, researcher, technician, engineer.

## Prerequisite

None.

## Training Methodology

Virtual Training.

## Course Duration

2 days only (4 hours per day).

## Content/Outline

1. Introduction to Internet of Things and LoRAWAN
2. Concept of IoT network.
3. Algorithm for spectrum mobility on data centers in IoT network.
4. Matlab and coding
5. Analysis and performance
6. Discussion and use cases
7. Tentative: Day 1 (Theory and Concept), Day 2 (Hands-on and Practical)

## Course Instructors

### **Assoc. Prof. Ts. Dr. Mardeni Bin Roslee**

Assoc. Prof. Ts. Dr. Mardeni Roslee serve as deputy director or research management centre and an academician under Faculty of Engineering, Multimedia University, Cyberjaya, Malaysia and he is a Chairman for Centre of Wireless Technology, Multimedia University. From 2019-2020, he is a Chairman of IEEE Malaysia Comsoc/VTS and Vice Chair of Malaysian Radar & Navigations, Malaysian Society for Engineering & Technology. He is the CEO and main founder of Armada Smart Tech MR Sdn Bhd. He is a registered Chartered Engineer with Engineering Council United Kingdom, and Member with The Institution of Engineering and Technology (IET), UK. His experiences include consultation, professional institution and academic sectors. His current research interests are 5G/6G wireless communication, satellite, Internet of Things. He has published 140 papers for indexed journals, conference proceedings, professional magazine and book chapters. He is the consultant for international, private and government sectors and as the principal investigator of research grants of industry, local and international level. His contributions to academic and the engineering profession over the years have earned him recognition nationally and internationally, he is the recipient of University Excellent Researcher Award for 2016 and 2018, Excellence in European Creativity Special Award 2018, World Invention Special Award 2019, and awarded Top Research Scientist in Malaysia 2020.

## Administrative Details

### **Programme Logistics**

Duration: 2 days (4 hours per day).

Dates, registration deadline and registration form:

Please refer to: <https://www.mmu.edu.my/foe/short-courses/>



**Your Investment**

	<b>Condition</b>	<b>Price per Pax</b>
Regular Fee	Students / MMU Alumni/ IEEE Students	RM500
	Public	RM800
	Public (Group >5 pax)	RM600
	IEM/IEEE Members	RM700
Early Bird Fee	Students / MMU Alumni/ IEEE Students	RM300
	Public	RM600
	Public (Group >5 pax)	N/A
	IEM/IEEE Members	RM500

**Method of Payment**

Please refer to the next page.

Type of Payment	Method	Details
Local Transaction / Payment within Malaysia	Online Payment with JomPay	<ul style="list-style-type: none"> <li>To get started, login to any preferred internet banking.</li> <li>Look for JomPay to begin the payment process.</li> <li>Enter Ref 1 &amp; Ref 2.</li> </ul> <div data-bbox="884 501 1359 577" style="border: 1px solid black; padding: 5px;">  <p><b>Billor Code :</b> 22202  <b>Ref-1 :</b> &lt;Participant IC/Passport&gt;  <b>Ref-2 :</b> Event Name*</p> </div> <p><b>JomPAY</b> online at Internet and Mobile Banking with your Current, Savings or Credit Card account</p> <p>*Ref 2: FOE5G/6G</p>
		<ul style="list-style-type: none"> <li>To get started, go to <b>MMU website</b> (<a href="https://www.mmu.edu.my/">https://www.mmu.edu.my/</a>) &gt; <b>Admission &gt; Financial Info &gt; Payment Channel &gt; Non Student</b> ;</li> </ul> <div data-bbox="874 869 1378 1016" style="border: 1px solid gray; padding: 5px;"> <p><b>E-Payment</b>  To begin the payment process, please click Student or Non Students</p> <p>  </p> <p><b>Student   Non-Student</b></p> </div> <p>or scan the QR code below to begin the process:</p> <div data-bbox="976 1106 1235 1424" style="text-align: center;">   <div style="background-color: black; color: white; padding: 5px; display: inline-block;"><b>SCAN ME</b></div> </div> <ul style="list-style-type: none"> <li>Choose Category: <b>Public Training</b></li> <li>Workshop Name</li> <li>Choose Your Participant Type: <ul style="list-style-type: none"> <li>✓ <b>STUDEN</b> (MMU, IEEE, IEM, Other Higher Learning Institution )</li> <li>✓ <b>PUBLIC</b></li> <li>✓ <b>GROUP</b> ( Group &gt; 5 Pax )</li> <li>✓ <b>IEEE/M</b> (IEEE/IEM Members)</li> </ul> </li> </ul>

Type of Payment	Method	Details
International Payment / Payment outside Malaysia	Online payment with Flywire 	<ul style="list-style-type: none"> <li>To get started, go to <a href="https://mmulanding.flywire.com">mmulanding.flywire.com</a>; or scan the QR code to begin the payment process: </li> <li>Choose Conference for Non-students related</li> </ul>

**Note:**

Please submit the proof of payment to organizer for clearance updating purposes within 2 working days.

**Refund and Cancellation**

Any refunds will be processed in 60 days. Should there be any cancellation, it may be due to the organizer not getting the minimum participants or the participant failing to attend the workshop due to unavoidable reason.

**Disclaimer**

Faculty of Engineering, Multimedia University reserves the right to change the instructors, date and to vary/cancel the programme should unavoidable circumstances arise. All effort will be taken to inform participants of the changes. Upon submission of the registration form, you are deemed to have read and accepted the terms.

**Enquiries**

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