

TENTATIVE

Virtual Workshop Series: ANTENNA 101 | MICROWAVE 101 | EMC 101

WORKSHOP NAME	Antenna 101
DURATION	4 hours
DATE	13 NOVEMBER 2021 (Saturday)
MODERATOR	Prof. Madya Dr. Fauziahanim Binti Che Seman

MORNING SESSION				
TIME	CHAPTER	SYLLABUS/ TOPIC	DETAILS	SPEAKERS
8.30 am	Registration & Video Presentation			
8.45 am - 9.00 am	Opening Remarks by Chair of IEEE Malaysia AP/MTT/EMC Joint Chapter			
9.00 am - 9.50 am	1	Introduction to Antenna	-Review of electromagnetic theory (brief overview only) -Antenna and radiation mechanism	Assoc. Prof. Ts. Dr. Azremi Abdullah Al Hadi (UNIMAP)
	2	Types of Antennas	-Wire antennas, aperture antennas, microstrip antennas, array antennas, lens antennas, reflector antennas etc. - Design procedures etc.	Assoc. Prof. Ts. Dr. Azremi Abdullah Al Hadi (UNIMAP)
	3	Fundamental Antenna Parameters	-S-parameters, Impedance -Radiation pattern, gain, efficiency, bandwidth, polarization -Power density & intensity -Friis transmission equation	Assoc. Prof. Ts. Dr. Azremi Abdullah Al Hadi (UNIMAP)
9.50 am - 10.00 am	Verbal Q&A			
10.00 am - 10.50 am	4	Propagation	-Radio communication theory and concept -Path loss, propagation model etc.	Prof. Dr. Mohamad Kamal A. Rahim (UTM)
	5	Antenna Measurement	Demonstration of antenna measurement using Vector Network Analyzer and anechoic chamber setup (related to specific topic of interests e.g. 5G, MIMO etc)	Prof. Dr. Mohamad Kamal A. Rahim (UTM)

10.50 am - 11.00 am		Verbal Q&A	
11.00 am – 11.05 am		Closing	Moderator
BREAK			
AFTERNOON SESSION			
TIME	SYLLABUS/ TOPIC	DETAILS	SPEAKERS
2.15 pm	Registration & Video Presentation		
2.30 pm - 4.20 pm	Optimizing Antenna Installed Performance	<p>In this presentation we will talk about Altair's solution for antenna design and performance optimization. We start with a brief introduction to Feko and the steps that are involved in a typical antenna design and placement project. Altair HyperStudy will be introduced which is capable of running complex optimization algorithms with a large number of parameters. Other topics that will covered in this talk includes:</p> <ul style="list-style-type: none"> - Component library for including predefined antennae and platforms - Complex model clean up and CAD fixing - Model decomposition - Co-site interference - Characteristic Mode Analysis (CMA) - Wave propagation modelling and connectivity analysis <p>Multiphysics solution (Thermal/Vibration)</p>	Dr. Mahan Rudd, Altair Engineering Sdn Bhd
4.20 pm - 4.30 pm		Verbal Q&A	
4.30 pm – 4.35 pm		Closing	Moderator

WORKSHOP NAME	Microwave 101
DURATION	4 hours
DATE	20 NOVEMBER 2021 (Saturday)
MODERATOR	Ir. Ts. Dr. Saidatul Norlyana Azemi

MORNING SESSION				
TIME	CHAPTER	SYLLABUS/ TOPIC	DETAILS	SPEAKERS
8.30 am - 9.00 am	Registration & Video Presentation			
9.00 am - 9.50 am	1	Microwave fundamentals	-Microwave frequency spectrum, bandwidth, transmission lines, impedance matching	Assoc. Prof. Dr. Muhammad Farid Abd Khalid (UiTM)
	2	Transmission line analysis	-Parallel wire transmission line -Standing waves and VSWR, S-parameter -Input impedance of transmission lines.	Assoc. Prof. Dr. Muhammad Farid Abd Khalid (UiTM)
9.50am - 10.00am		Verbal Q&A		
10.00am - 10.50am	3	Smith Chart	-Smith chart, Impedance & Admittance -Transmission Line Stub, Single-Stub Matching	Assoc. Prof. Ir. Dr. Zuhani Ismail Khan (UiTM)
	4	Introduction to Waveguide	- Types of waveguides -TEM, TE and TM modes of propagation. -Rectangular waveguide analysis- field component expressions, cut-off conditions, group and phase velocity, dominant mode of propagation, characteristic impedance.	Assoc. Prof. Ir. Dr. Zuhani Ismail Khan (UiTM)
10.50am - 11.00am		Verbal Q&A		
11.00 am – 11.05 am		Closing		Moderator
BREAK				
AFTERNOON SESSION				
TIME	SYLLABUS/ TOPIC	DETAILS		SPEAKERS
2.15 pm	Registration & Video Presentation			
2.30 pm - 4.20 pm	Microwave Measurement Technique			Mr. Anwar Faizd Osman (R&S)

4.20 pm - 4.30 pm		Verbal Q&A	
4.30 pm – 4.35 pm		Closing	Moderator

WORKSHOP NAME	EMC 101
DURATION	4 hours
DATE	27 NOVEMBER 2021 (Saturday)
MODERATOR	Ir. Ts. Dr. Saidatul Norlyana Azemi

MORNING SESSION				
TIME	CHAPTER	SYLLABUS/ TOPIC	DETAILS	SPEAKER
8.30 am - 9.00 am	Registration & Video Presentation			
9.00 am - 9.50 am	1	Introduction to EMC	<ul style="list-style-type: none"> - Review of Electromagnetic Environment - Aspects of EMC - History of EMC 	DR. SYARFA ZAHIRAH SAPUAN (UTHM)
	2	EMC Standard	<ul style="list-style-type: none"> - EMC Standard & Regulation 	DR. SYARFA ZAHIRAH SAPUAN (UTHM)
	3	Radiated Emissions and Susceptibility/ Immunity	<ul style="list-style-type: none"> - Differential-mode Current and Common-mode Current - Radiated Emission Measurements - Antenna for EMC - Radiated Immunity Measurement 	DR. SYARFA ZAHIRAH SAPUAN (UTHM)
9.50 am - 10.00 am		Verbal Q&A		
10.00 am - 10.50 am	4	Conducted Emission & Conducted Immunity	<ul style="list-style-type: none"> - Conducted Emission Measurement - Conducted Immunity Measurement 	DR. SYARFA ZAHIRAH SAPUAN (UTHM)
	5	System Design for EMC	<ul style="list-style-type: none"> - Shielding - Groundings - Printed Circuit Board (PCB) Design - System Configuration and Design 	DR. SYARFA ZAHIRAH SAPUAN (UTHM)
10.50 am - 11.00 am		Verbal Q&A		
11.00 am – 11.05 am		Closing		Moderator
BREAK				
AFTERNOON SESSION				
TIME	SYLLABUS/ TOPIC	DETAILS		SPEAKERS
2.15 pm	Registration & Video Presentation			
2.30 pm - 4.30 pm	EMC Case Studies and Best Practices	<ul style="list-style-type: none"> - EMC Virtual Testing - Case study on Conducted Emission - Case study on Radiated Immunity - Best Practice in EMC Simulation Other related works 		DR. DING LIK SUONG RF Station Sdn. Bhd.

4.20 pm - 4.30 pm		Verbal Q&A	
4.30 pm – 4.35 pm		Closing	Moderator