



**THE 2022  
MALAYSIA-JAPAN WORKSHOP  
ON RADIO TECHNOLOGY  
(MJWRT2022)**

**TECHNICAL PROGRAM**

**MJWRT2022**

“Enabling Future Communication”

<http://mjwrt2022.apmttemc.org/>

**11 - 12 JANUARY 2022**

**VIRTUAL WORKSHOP, KUALA LUMPUR**

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IEEE Malaysia AP/MTT/EMC Joint Chapter



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## Tuesday 11<sup>th</sup> January 2022

08:30 - 09:00	Registration
09:00 – 09:10	Opening Speech: <ul style="list-style-type: none"> <li>• <b>Assoc. Prof. Dr. Azremi Abdullah Al-Hadi</b>, Chair IEEE Malaysia AP/MTT/EMC Joint Chapter</li> </ul>
09:10 – 09:20	<ul style="list-style-type: none"> <li>• <b>Prof. Dr. Hiroyoshi Yamada</b>, Chair IEICE Technical Committee on Antennas &amp; Propagation, Japan</li> </ul>
09:20 – 09:30	<ul style="list-style-type: none"> <li>• <b>Prof. Ts. Dr. Ali Selamat</b>, Dean of Malaysia-Japan International Institute of Technology, UTM</li> </ul> <p><b>Emcee: Ir. Dr. Nurul Huda Abd. Rahman</b></p>
09:30 - 09:35	Photo Session
09:35 – 10:15	<b>Keynote Speaker 1: Prof. Ts. Dr. Mohamad Kamal A Rahim</b> (Universiti Teknologi Malaysia) <b>Antenna with Electromagnetic Band Gap Structure (EBG) for Wireless Application</b> <b>Moderator: Prof. Dr. Yoshihide Yamada</b>
10:15 – 10:55	<b>Keynote Speaker 2: Dr. Mahan Rudd</b> (Altair Engineering Sdn. Bhd.) <b>A Guide to 5G Product Design, Wave Propagation Modelling and Radio Network Planning</b> <b>Moderator: Prof. Dr. Yoshihide Yamada</b>
10:55 - 11:05	Break
11:05 – 11:35	<b>Invited Speaker 1: Dr. Satoru Kurokawa</b> (National Institute of Advanced Industrial Science and Technology, Japan) <b>Antenna Near Field Measurement System Using An Optical Fiber Link System and Industrial Robot</b> <b>Moderator: Ir. Dr. Kamalia Kamardin</b>
11:35 – 12:05	<b>Invited Speaker 2: Assoc. Prof. Dr Idnin Pasya Ibrahim</b> (Universiti Teknologi MARA) <b>Underwater Radio Using Wideband Signals: Prospect, Challenges and Recent Researches</b> <b>Moderator: Ir. Dr. Kamalia Kamardin</b>
12:05 – 12:25	Sponsor Session <b>COMREL Technologies Sdn. Bhd.</b> <b>7G AA Co. Ltd.</b> <b>Technical host: Assoc. Prof. Ir. Dr. Nur Emileen Abd Rashid</b>
12:25 – 14:00	Lunch
14:00 – 15:30	<b>General Session A1</b> <b>Session Chair: Prof. Dr. Kentaro Saito</b>
14:00	Paper ID: 116490 ( <i>Rasyidah Hanan Mohd Baharin</i> ) Comparison of MOM and FE-BI for Inverse Reconstruction of Electric Field in Phantom
14:15	Paper ID: 117211 ( <i>Abdul Aziz Ali</i> ) Biocompatible Sago Aerogel Material as A Substrate for Antenna Application
14:30	Paper ID: 116911 ( <i>Farizah Ansarudin</i> ) Cylindrical Dielectric Lens Antenna for 5G Mobile Base Station
14:45	Paper ID: 116930 ( <i>Kei Asahi</i> ) Space-Time Adaptive Concept for the Calculation Speed Improvement in MR/FDTD
15:00	Paper ID: 117167 ( <i>Norsiha Zainudin</i> ) Near Field Radio Link Design in Fat Phantom for Wireless Capsule Endoscopy Application
15:15	Paper ID: 117169 ( <i>Madiwalesh Pattar</i> ) Novel Module Architecture for Wideband Multichannel Multi Band Down Conversion with Built in Local Oscillators

	<p><b>General Session B1</b>  <b>Session Chair: Prof. Dr. Takashi Hikage</b></p>
	<p>14:00 Paper ID: 116950 (<i>Sayaka Matsukawa</i>)  Non-destructive Inspection for FRPM Pipeline Utilizing Temporal and Spatial Synthesis of Microwaves Propagating along Pipe-wall</p>
	<p>14:15 Paper ID: 117212 (<i>Mohammad Luthful Hakim</i>)  Frequency Integration of Dual-band Hexagonal Metamaterial Resonator antenna for Wi-Fi and 5G Wireless Communication</p>
	<p>14:30 Paper ID: 117191 (<i>Nur Qamarina Azmi</i>)  Near Field on Inductor Loops for Inductive Couple Fed Antenna</p>
	<p>14:45 Paper ID: 117194 (<i>Muhammad Hafeez Rosmin</i>)  Slot Implementation on Second Iteration of Fractal Log Periodic Dipole Antenna for UHF Band Application</p>
	<p>15:00 Paper ID: 117184 (<i>Satoshi Nishida</i>)  Influence of Facilities in a Railway Tunnel on Radio Wave Propagation</p>
	<p>15:15 Paper ID: 117200 (<i>M. Muhsin</i>)  Focal Region Ray Tracing on Abbe's Sine Condition Lens Antenna</p>
15:30 – 17:00	<p><b>General Session A2</b>  <b>Session Chair: Assoc. Prof. Ir. Dr. Nur Emileen Abd Rashid</b></p>
	<p>15:30 Paper ID: 117202 (<i>Nurul Syafeeqa Ishak</i>)  Fabrication and Characterisation of Frequency Selective Surface (FSS) for Terahertz Sensing Application</p>
	<p>15:45 Paper ID: 117189 (<i>Yuanfeng She</i>)  Uncertainty Analysis of Far-Field Gain Measurement of DRGH Using Single-Antenna Extrapolation Method from 1 GHz to 18 GHz</p>
	<p>16:00 Paper ID: 117203 (<i>Norun Fariah Abdul Malek</i>)  Design of Enhanced Gain Patch Antenna at 2.4 GHz and 3.5 GHz for Wireless Application</p>
	<p>16:15 Paper ID: 117193 (<i>Hideaki Sugiyama</i>)  Gain Enhancement of Square Bottom Lens for Lens Array Antennas</p>
	<p>16:30 Paper ID: 117207 (<i>Ayuni Afiqah Arjunaidi</i>)  Focal Region Ray Tracing for Slanted Incident Rays on Spherical Reflector Antenna</p>
	<p>16:45 Paper ID: 117210 (<i>Siti Harliza Mohd Razali</i>)  Design of Normal Mode Helical Antenna (NMHA) for Seawater Application</p>
	<p><b>General Session B2</b>  <b>Session Chair: Assoc. Prof. Dr. Azura Hamzah</b></p>
	<p>15:30 Paper ID: 117213 (<i>Muhammad Adib Haron</i>)  LTE-Based Passive Forward Scattering Radar for Drone Detection and Classification</p>
	<p>15:45 Paper ID: MJWRT01 (<i>Puteri Nadiah Syamimi Said Ja'afar</i>)  Metallic Cylinder Reflected Power Measurement For 93.1GHz Frequency Modulated Continuous Wave Radar Calibration</p>
	<p>16:00 Paper ID: 117195 (<i>Yukiko Wada</i>)  Miniaturization of the Antenna Composed of Metal Box with a Slot and Inner Folded Dipole Element</p>
	<p>16:15 Paper ID: MJWRT02 (<i>Nurfarahin Miswadi</i>)  Design of a Flexible T-Matched Feed UHF RFID Tag Antenna</p>
	<p>16:30 Paper ID: 117199 (<i>Bazilah Baharom</i>)  Simulated Performances of Low Profile 2×2 Lens Antenna Array in 300GHz Band</p>

	16:45	Paper ID: MJWRT05 ( <i>Muhammad Al-Hadi Zable</i> ) Investigation on Dielectric Properties of Sludge Waste from Water Treatment Using Microwave Non-Destructive Testing (MNDT)
17:00 – 18:00	<b>General Session A3</b> <b>Session Chair: Dr. Sumiaty Ambran</b>	
	17:00	Paper ID: 117204 ( <i>Kazuki Yoshida</i> ) Numerical Estimation of Indoor Propagation Characteristics Considering Shadowing due to Human Bodies in Local-5G Frequency Band
	17:15	Paper ID: MJWRT03 ( <i>Mahroof Mohamed Mafroos</i> ) Characterizing Passively Q-switched fiber laser in LiDAR Application
	17:30	Paper ID: MJWRT06 ( <i>Wahidah Mansor</i> ) Recognition of Radar Based Deaf Sign Language Using Convolution Neural Network
	17:45	Paper ID: 116829 ( <i>Rasyidah Hanan Mohd Baharin</i> ) Report on UAV-Propagation Experiment in Coastal Areas near Sado Airport, Niigata, Japan
	<b>General Session B3</b> <b>Session Chair: Prof. Dr. Kentaro Saito</b>	
	17:00	Paper ID: MJWRT11 ( <i>Noorlindawaty Md Jizat</i> ) Compact Size Butler Matrix with Via-Hole Coupling for Millimetre-Wave Application
	17:15	Paper ID: 117205 ( <i>Kazuho Suzuki</i> ) Multiple Targets Identification for Traffic Monitoring by Using Beamforming with Khatri-Rao Product Extended Array Processing
	17:30	Paper ID: MJWRT07 ( <i>Hazilah Mad Kaidi</i> ) Rehabilitation Monitoring Using Arduino Nano 33 BLE IoT-Based
	17:45	Paper ID: 117075 ( <i>Mahadev Sarkar</i> ) Design Strategies to Overcome EMI/EMC Issues of Airborne Receivers

## Wednesday 12<sup>th</sup> January 2022

08:45 – 10:00	<b>General Session A4</b> <b>Session Chair: Prof. Dr. Takashi Hikage</b>
08:45	Paper ID: 117031 ( <i>Kohei Yamamoto</i> ) Numerical Estimation of Human Body Blockage Characteristics of 5G Sub-6 GHz for Epidemiologic Research on Children's Health
09:00	Paper ID: MJWRT10 ( <i>Anis Fariza binti Md. Pazi</i> ) Textile Characterisation for Wearable Antenna Application using Transmission Lines Method
09:15	Paper ID: MJWRT12 ( <i>Noor Hafizah Abdul Aziz</i> ) Detection and Classification of Target's Speed and Size Using LTE-Based Passive Forward Scattering Radar
09:30	Paper ID: 117206 ( <i>Masaya Kato</i> ) Effect of Increasing the Number of vertical Antenna Elements on 3D Imaging for Automotive Millimeter-wave SAR
09:45	Paper ID: MJWRT08 ( <i>Ajibade Samuel</i> ) Utilizing Logistic Map to Enhance the Population Diversity of PSO
10:00 – 10:40	<b>Keynote Speaker 3: Prof. Dr. Hisashi Morishita</b> (National Defense Academy, Japan) <b>Antenna Design Using Folded Structure</b> <b>Moderator: Prof. Dr. Hiroyoshi Yamada</b>
10:40 – 11:20	<b>Keynote Speaker 4: Prof. Dr. Qiang Chen</b> (Tohoku University, Japan) <b>Gradient Index Lens Using Perforated Dielectric</b> <b>Moderator: Prof. Dr. Hiroyoshi Yamada</b>
11:20 – 11:30	Break
11:30 – 12:00	<b>Invited Speaker 3: Prof. Dr. Widad Ismail</b> (Universiti Sains Malaysia) <b>Prof. Dr. Alyani Ismail</b> (Universiti Putra Malaysia) <b>Virtue of Identification Utilizing Radio Technology</b> <b>Moderator: Dr. Hazilah Mad Kaidi</b>
12:00 – 12:30	<b>Invited Speaker 4: Prof. Dr. Mitoshi Fujimoto</b> (Fukui University, Japan) <b>Communication Area Expansion Effect by Relay in Polarized MIMO Transmission</b> <b>Moderator: Dr. Hazilah Mad Kaidi</b>
12.30 - 13.00	Award Ceremony Closing Remarks by Prof. Dr. Yoshihide Yamada <b>Emcee: Ir. Dr. Nurul Huda Abd. Rahman</b>