

## PERSONAL INFORMATION



**Name:** Assoc. Prof. Ir. Ts. Dr. Muzammil Bin Jusoh, (CEng)  
 Research Fellow Advanced Communication Engineering (ACE) Centre,  
 Faculty of Electronic Engineering Technology, Universiti Malaysia Perlis.  
 Graduate BEM, IEM, SMIEEE, SMIET, ACPE  
 E-mail: muzammil@unimap.edu.my; muzammiljusoh11@gmail.com  
**Mobile:** +60134282801, **Webpage:** drmuzammil.com  
**Expertise:** Reconfigurable Antenna using RF switches for frequency,  
 polarization and beam control, Wearable Antenna, RFID, MIMO, UWB &  
 Wireless Communication System.

## 1. ACADEMIC QUALIFICATIONS

- PhD in Communication Engineering, UniMAP (Jan 2011- July 2013)  
 \*Queen Mary University of London, QMUL (Feb 2013- May 2013)
- MEng in Electrical-Electronics & Telecommunications Eng., UTM (July 2009- Dec 2010)
- B.Eng in Electrical-Telecommunications Engineering, UTM (July 2002- Jun 2006)

## 2. PROFESSIONAL MEMBERSHIP

- **ASEAN Chartered Professional Engineer** (ACPE) on 7<sup>th</sup> Oct 2021 (**ACPE-05194/MY**) **Electronic**
- **Professional Engineer** from **Board of Engineers Malaysia** on 28<sup>th</sup> Aug 2020 (**P121203**) **Electronic**
- **Professional Technologist** from **MBOT** since 12<sup>th</sup> Oct 2020 (**PT20100371**) **Electrical & Electronic**
- **Chartered Engineer** from Engineering Council UK (IET) since 1<sup>st</sup> Aug 2018 (**CEng No: 645022**)
- **Member of Institute of Engineer Malaysia (IEM)** since 1<sup>st</sup> July 2014 (**MIEM; 70648**)
- **Graduate Member of BEM** since 06 Mac 2009, (**Reg. No: 58517A**) (Eng. Field: Electronic)
- **Graduate Member of Board of Technologies Malaysia (MBOT)** since June 2020, (**Reg. No: GT20060101**) (Eng. Field: Electrical & Electronics Technology - EE)
- **Senior Member of IEEE**, Account **No: 93017889**
- Member of **IEEE Antennas and Propagation Society. IEEE Communication Society & IEEE RFID Council**

## 3. ADMINISTRATIVE POST/ WORKING EXPERIENCE

- **Deputy Commandan KOR-SUKSIS UniMAP from (9 July 2020 to current)**
- **Executive Committee** IEEE APMTTEMC Malaysia Joint Chapter from **1st Feb 2023 till 31st Jan 2025.**
- **Intra Agency Working Committee (IAWC)** on EMF Radiation lead by Ministry of Healthcare (MoH) and Malaysian Communication and Multimedia Commission (MCMC)\_1<sup>st</sup> Jun2022 to 31<sup>st</sup> May 2024
- **Executive Committee** IEEE Council on RFID Malaysia Chapter from **1st Feb 2021 till 31st Jan 2023**
- **Research Fellow** Advanced Communication Engineering CoE UniMAP **1st July 2020 to current**
- **Director** of Student Development and Services Center, UniMAP (**15<sup>th</sup> Apr 20 – 31<sup>st</sup> Aug 2022**)
- **Dean** of Student Affairs and Alumni, UniMAP (**1<sup>st</sup> Mac 2019 – 14<sup>th</sup> April 2020**)
- **Deputy Dean** of Student Affairs and Alumni, School of Computer and Communication Engineering (SCCE), Universiti Malaysia Perlis (**1<sup>st</sup> Mac 2015 – 28<sup>th</sup> Feb 2019**)
- **Anugerah Perkhidmatan Cemerlang (APC) @ Best Employee Award on 2016** from UniMAP
- **Served Telekom Malaysia Berhad (TM) for three years (Oct 2006- Sept 2009).** Becoming Team Leader of Specialized Network Services which based in TM Senai, Johor and give technical consultation to enrich customers network in TM HQ Bangsar & Kedah/Perlis (Oct 2006 to Dec 2008).

## 4. TECHNICAL CONSULTATIONS

- **MOSTI Reviewer Panel Grant** from 1<sup>st</sup> Jan 2022 to 31<sup>st</sup> Dec 2026.
- **Visiting Professor** Nahda University of Beni-suef (NUB), **Egypt** from **2016, 2017, and 8<sup>th</sup> -31<sup>st</sup> Aug 2023.**
- **Visiting Professor** Daffodil International University, Bangladesh from **1<sup>st</sup> Feb 2022 to 31<sup>st</sup> Jan 2024.**
- **Visiting Professor** Chandpur Science & Technology University, Bangladesh **1<sup>st</sup> Mac2022 to 28<sup>th</sup> Feb 2024.**
- Company: **G2R Sdn Bhd** for project: Speed Internet for All, Consultation period: **1<sup>st</sup>Sept21-31<sup>st</sup> Aug 2022**
- Company: **Spectre Solutions Sdn Bhd (panel company under TM Bhd)** for project name: **Rekabentuk 2X2/ 4X4 MIMO Antenna untuk MIMO LTE projek, start period: 22 March 2021.**
- **Visiting Professor** Nahda University of Benisuef, Egypt from **7<sup>th</sup> to 26<sup>th</sup> Dec 2017.**
- **Visiting Professor** Dhaka University of Engineering Technology Bangladesh, **30<sup>th</sup>May to 2<sup>nd</sup>June 2016.**
- Company: **Spectre Solutions Sdn Bhd (panel company under TM Bhd)** for project name: **Rekabentuk Antenna untuk Wireless Communication** consultation: **1<sup>st</sup>Jan 2020 – 31<sup>st</sup> March 2020.**
- Company: **MIMOS Bhd**, project name: **Antenna System for Port Management System**, consultation period: **30<sup>th</sup> Jan 2015 – 1<sup>st</sup> Feb 2016.**
- **IMDC 2015, IMDC 2016, IMDC 2017 and IMDC 2018** (Innovate Malaysia Design Competition) **steering committee represent UniMAP** in coordination by Dreamcatcher Sdn Bhd.

5. PUBLICATIONS

	No. of papers	H-index	No. of citations
Scopus Indexed	263	22	2024
Google Scholar	271	26	2610

Updated 15<sup>th</sup> Jan 2024

SCOPUS ID: <https://www.scopus.com/authid/detail.uri?authorId=24483755700>

ORCID ID: <https://orcid.org/0000-0003-3870-6773>

RESEARCH GATE: [https://www.researchgate.net/profile/Muzammil\\_Jusoh](https://www.researchgate.net/profile/Muzammil_Jusoh)

PUBLONS: <https://publons.com/researcher/3118118/muzammil-jusoh/>

GOOGLE SCHOLAR: <https://scholar.google.com/citations?hl=en&user=oX5OHTQAAAAJ>

Book Chapter

1. V. Vijayarveswari, M. Jusoh, T. Sabapathy, S. Khatun, **Book Chapter: Performance Analysis on UWB Antennas for Breast Cancer Detection**, **Book Title:** Advanced Aspects of Engineering Research Vol. 2, 18 February 2021, Page 65-74. <https://doi.org/10.9734/bpi/aaer/v2/7401D>.
2. Jing Huey Lim, R. Badlishah Ahmad, M. Jusoh and T. Sabapathy, **Book Chapter: Evaluating the Performance of Hybrid Network in Fractional Frequency Reuse and Femtocell Power Control Schemes**, DOI: 10.9734/bpi/etert/v11, Print ISBN: 978-93-90431-71-7, eBook ISBN: 978-93-90431-76-2. **Book Title:** Emerging Trends in Engineering Research Technology.

	Q1	Q2	Q3	Q4
2023	1	7	1	0
2022	8	5	1	1
2021	3	1	2	0
2020	6	1	0	3

Updated 15<sup>th</sup> Jan 2024

Selected ISI-papers Publications (2020 to current)

1. Noor, S.K., Jusoh, M., Sabapathy, T., (...), Himdi, M., "A Patch Antenna with Enhanced Gain and Bandwidth for Sub-6 GHz and Sub-7 GHz 5G Wireless Applications", **Electronics (Switzerland)**, **12(12),2555, 2023**.
2. Faizol, Z., Zubir, F., Saman, N.M., Majid, H.A., M.Jusoh, Yusoff, Z., "Detection Method of Partial Discharge on Transformer and Gas-Insulated Switchgear: A Review", **Applied Sciences (Switzerland)**, **Vol.13, Issue 17, 2023**.
3. S Angadi, T Sabapathy, NS Raghava, M Jusoh, H Vettikalladi, "A Compact Wideband SRR-based C-Shaped Antenna for 5G New Radio Band n258", **preprint ,2023**.
4. Noor, S.K., Jusoh, M., Sabapathy, T., (...), M. Albishi, A., Himdi, M., "A Patch Antenna with Enhanced Gain and Bandwidth for Sub-6 GHz and Sub-7 GHz 5G Wireless Applications", **Electronics (Switzerland)**, **12(12), 2023**.
5. Z Faizol, F Zubir, Z Yusoff, NM Saman, MH Ahmad, MKA Rahim, O Ayop, M.Jusoh, "Detection Method of Partial Discharge on Transformer and Gas Insulated Switchgear: A Review", **Applied Sciences (Switzerland)****13(17),9605, 2023**.
6. SR Isa, M Jusoh, T Sabapathy, MR Kamrudin, MN Osman, A Alomany, "Multi-Mode Yagi Uda Patch Array Antenna with Non-Linear Inter-Parasitic Element Spacing", **IEEE Access**. 11, pp. 16346-16352, **2023**.
7. MF Zambak, SS Al-Bawri, M Jusoh, AH Rambe, H Vettikalladi, AM Albishi,, "A Compact 2.4 GHz L-Shaped Microstrip Patch Antenna for ISM-Band Internet of Things (IoT) Applications," **Electronics** 12 (9), 2149, 2023.
8. NAF Mohd Zainudin, MN Osman, T Sabapathy, M Jusoh, MN Mohd Yasin,, "Low-Profile and Wider-Angle Beam Tilting Parasitic Array Resonator Antenna with Optimized Deflected Ground Plane on FR-4 Substrate", **Micromachines**, **14 (4), 834, 2023**.
9. Obadi, A.B., El-Din Hussein, A., Al-Bawri, S.S., M.Jusoh, Albreem, M.A., "High-Bandwidth, Low-Power CMOS Transistor Based CAB for Field Programmable Analog Array", **Computers, Materials and Continua**, **74(3), pp. 5885-5900, 2023**.
10. Najib NA Abd Rahman, MN Mohd Yasin, IM Ibrahim, M Jusoh, .. (..), "A Review of Circularly Polarized Dielectric Resonator Antennas: Recent Developments and Applications", **Micromachines** 13 (12), 2178. **MDPI Sensors** **2022. (Q1 IF:3.523)**.
11. Md Rabiul Awal, Nurul Ain Zakaria, Muzammil Jusoh, .. (..), "Warranty Seal Deformation Identification for Product Warranty Violation", **Sensors**, 22, 4688. **MDPI Sensors** **2022. (Q1 IF:3.076)**.
12. Amira Nur Suraya Shamsuri Agus, Thennarasan Sabapathy, Muzammil Jusoh, Mahmoud A. Abdelghany, Kabir Hossain, (..), Ping Jack Soh, "Combined RIS and EBG Surfaces Inspired Meta-Wearable Textile MIMO Antenna using Viscose-Wool Felt", **Polymers**, 2022. **(Polymer ISI IF 4.329)**.
13. ANS Shamsuri Agus, T Sabapathy, M Jusoh, MA Abdelghany, K Hossain, "Combined RIS and EBG surfaces inspired meta-wearable textile MIMO antenna using Viscose-Wool felt", **Polymers** **14 (10), 1989, 2022**.
14. K Hossain, T Sabapathy, M Jusoh, PJ Soh, RB Ahmad, MI Jais, .., "A frequency-reconfigurable microstrip antenna with constant dipole-like radiation patterns using single bias, triple varactor tuning with reduced complexity", **Wireless Personal Communications**, **1-22, 2022**.
15. AAA Halim, AM Andrew, WA Mustafa, MN Mohd Yasin, M Jusoh, "Optimized Intelligent Classifier for Early

- Breast Cancer Detection Using Ultra-Wide Band Transceiver”, **Diagnostics** **12** (11), 2870, 2022.
16. Md Bellal Hossain, M.R.I. Faruque, M.T. Islam, M.Singh, **M.Jusoh**, “Triple band microwave metamaterial absorber based on double E-shaped symmetric split ring resonators for EMI shielding and stealth applications”, *Journal of Materials Research & Technology*, 2022, 18: 1653-1668. (**IJMRT ISI IF 5.039**)
  17. Kabir Hossain, Thennarasan Sabapathy, **Muzammil Jusoh**, Ping Jack Soh, R.Badlishah Ahmad, (...), Nitin Saluja, Qammer H. Abbasi, “A Frequency-Reconfigurable Microstrip Antenna with Constant Dipole-Like Radiation Patterns Using Single Bias, Triple Varactor Tuning with Reduced Complexity”, **Wireless Personal Communications**, 123(2), pp. 1003-1024, 2022. (**Q3 IF: 1.2**)
  18. Kabir Hossain, Thennarasan Sabapathy, **Muzammil Jusoh**, Shen-Han Lee, Khairul Shakir Ab Rahman and Muhammad Ramlee Kamarudin, “Negative Index Metamaterial-Based Frequency-Reconfigurable Textile CPW Antenna for Microwave Imaging of Breast Cancer”, *Sensors* 22 (4), 1626. **MDPI Sensors** **2022**. (**Q1 IF:3.076**)
  19. Kabir Hossain, Thennarasan Sabapathy, **Muzammil Jusoh**, Ping Jack Soh, Samir Salem Al-Bawri, Mohamed Nasrun Osman, Hasliza A. Rahim, Danai (...), “Decagonal C-Shaped CSRR Textile-Based Metamaterial for Microwave Applications”, **Computers, Material and Continua**, 71(1), pp. 1677-1693, 2022. (**Q1 IF: 3.772**).
  20. Sofri, T., Rahim, H.A., Abdulmalek, M., (...), **Jusoh, M.**, Soh, P.J., “Health Effects of 5G Base Station Exposure: A Systematic Review”, **IEEE Access** 2022. 10, pp. 41639–41656 (**Q1 IF: 3.367**).
  21. Rosli, S.J., Rahim, H.A., Rani, K.N.A., (...), **Jusoh M.**, Ariffin, W.S.F.W., Alkhayyat, A., “A hybrid modified sine cosine algorithm using inverse filtering and clipping methods for low autocorrelation binary sequences”, **Computers, Materials and Continua**, 71(2), pp. 3533-3556, 2022. (**Q2 IF: 3.772**).
  22. Elkhoully, A., Andrew, A.M., Rahim, H.A., **Jusoh M.**, Sabapathy, T., Siddique, S., “A novel unsupervised spectral clustering for pure-tone audiograms towards hearing aid filter bank design and initial configurations”, **Applied Sciences (Switzerland)**, 12(1),298, 2022. (**Q2 IF: 2.679**).
  23. Salem Al-Bawri, S., Islam, M.T., Hossain, K., Sabapathy, T., **Jusoh, M.**, “Left-handed characteristics tunable c-shaped varactor loaded textile metamaterial for microwave applications”, **Computers, Materials and Continua**, 71(1), pp. 611-628, 2022. (**Q2 IF: 3.772**).
  24. Siti Rahena Isa, **Muzammil Jusoh**, Thennarasan Sabapathy, Jamel Nebhen, Muhammad Ramlee Kamarudin, Mohamed Nasrun Osman, Qammer Hussein Abbasi, (...), Ping Jack Soh, “Reconfigurable Pattern Patch Antenna for Mid-Band 5G: A Review”, *Computers, Material and Continua*, 70(2), pp. 2699-2725, 2022 (**Q2 IF: 3.772**).
  25. Abdul Halim, A.A., Andrew, A.M., Mohd Yasin, M.N., (...), Abdul Karim, M.K., Scavino, E., “Existing and emerging breast cancer detection technologies and its challenges: A review”, **Applied Sciences (Switzerland)**, 11(22),10753, 2021.
  26. Mashagba, H.A., Rahim, H.A., Adam, I., **M.Jusoh**, Ismail, A.M., Soh, P.J., “A Hybrid Mutual Coupling Reduction Technique in a Dual-Band MIMO Textile Antenna for WBAN and 5G Applications”, **IEEE Access**, 9, pp. 150768-150780, 2021.
  27. Ali, A., Mohd Yasin, M.N., Faiz Wan Ali, **M.Jusoh**, W.F., (...), Nurulazlina Ramli, Ali, N., “A Comprehensive Review of Midrange Wireless Power Transfer Using Dielectric Resonators”, **International Journal of Antennas and Propagation**, 5493013, 2021.
  28. Adam, I., Kamarudin, M.R., Rambe, A.H., (...), Jusoh, M., Yasin, M.N.M., “Investigation on Wearable Antenna under Different Bending Conditions for Wireless Body Area Network (WBAN) Applications”, **International Journal of Antennas and Propagation**, 5563528, 2021.
  29. Albreem, M.A., Salah, W., Kumar, A., (...), Jusoh, M., Uwaechia, A.N., “Low Complexity Linear Detectors for Massive MIMO: A Comparative Study”, **IEEE Access** 9,9378541, pp. 45740-45753, 2021.
  30. Albreem, M.A., Sheikh, A.M., Alsharif, M.H., **Jusoh, M.**, Mohd Yasin, M.N., “Green **Internet of Things (IoT): Applications, Practices, Awareness, and Challenges**”, **IEEE Access** 9,9361680, pp. 38833-38858, 2021.
  31. Sabapathy, T., Soh, P.J., **Jusoh, M.**, “A Three-Year Improvement Assessment of Project-Based Learning for an Antennas and Propagation Course [Education Corner]”, **IEEE Antennas and Propagation Magazine**, 62(6),9282220, pp. 76-84, 2020.
  32. Ali, J., Abdullah, N., Yahya, R., (...), Das, B., **Jusoh, M.**, “Ultra-Wideband Antenna Development to Enhance Gain for Surface Penetrating Radar”, **Wireless Personal Communications**, 115(3), pp. 1821-1838,2020.
  33. Rosli, S.J., Rahim, H.A., Rani, K.N.A., **Jusoh M.**, Sabapathy, T., Andrew, A.M., “A hybrid modified method of the sine cosine algorithm using latin hypercube sampling with the cuckoo search algorithm for optimization problems”, **Electronics (Switzerland)**, 9(11),1786, pp. 1-23, 2020.
  34. Ramanathan, S., **Jusoh, M.**, Sabapathy, T., (...), Osman, M.N., Wahab, Y.A., “Elastomeric polydimethylsiloxane polymer on conductive interdigitated electrode for analyzing skin hydration dynamics”, **Applied Physics A: Materials Science and Processing**, 126(9),756, 2020.
  35. Vijayarveswari, V., Andrew, A.M., **Jusoh, M.**,(...), Khatun, S., Rahim, H.A., “Multi-stage feature selection (MSFS) algorithm for UWB-based early breast cancer size prediction”, **PLoS ONE**, 15(8 August),e0229367, 2020.
  36. Al-bawri, S.S., Goh, H.H., Islam, M.S., **Jusoh M.**, Khan, R., Islam, M.T., “Compact ultra-wideband monopole antenna loaded with metamaterial”, **Sensors (Switzerland)**, 20(3),796, 2020.
  37. Ali, A., Mohd Yasin, M.N., **Jusoh, M.**, Ahmad Hambali, N.A.M., Abdul Rahim, S.R., “Optimization of wireless power transfer using artificial neural network: A review”, **Microwave and Optical Technology Letters**, 62(2), pp. 651-659, 2020.
  38. Al-Bawri, S.S., Islam, M.S., Wong, H.Y., **Jusoh, M.**, Sabapathy, T., Islam, M.T., “Metamaterial cell-based superstrate towards bandwidth and gain enhancement of quad-band CPW-fed antenna for wireless applications”, **Sensors (Switzerland)**, 20(2),457, 2020.
  39. Awal, M.R., **Jusoh, M.**, Sabapathy, T., (...), Rahman, S.A., Dagang, A.N., “A Patternless Piezoelectric Energy

Harvester for Ultra Low Frequency Applications”, *International Journal of Integrated Engineering*, 12(7), pp. 187-194, 2020.

40. Yah, N.F.N., Rahim, H.A., Soh, P.J., **Jusoh M**, Jamaluddin, M.H., Yasin, M.N.M., "Green Nanocomposite-Based Metamaterial Electromagnetic Absorbers: Potential, Current Developments and Future Perspectives”, *IEEE Access*, 8,8966373, pp. 33289-33304, 2020.

**6. SUPERVISION**

Program	Status	As Main Supervisor	As Co-supervisor
PhD	Graduated	5	2
	Ongoing	1	3
Master Research	Graduated	4	2
	Ongoing	0	4

Updated 15<sup>th</sup> Jan 2024

**Doctor of Philosophy – 5 as Main Sv (5 COMPLETED), 5 as Co-Sv (2 COMPLETED)**

1. **Doctor of Philosophy (Communication) by Research**, Nov 2023: (**On-going**): **Main Supervisor**: Pn Nur Hasni Marzuki, "Design of Two-Dimensional Metamaterial Reconfigurable Intelligent Surfaces for 6G Wireless Communication Application", Faculty of Electronic Engineering Technology (FTKEN), UniMAP.
2. **Doctor of Philosophy (Communication) by Research**, Dec 2018: (**COMPLETED-Sept 2022**): **Main Supervisor**: Siti Rahena bt Isa, "A Development of Reconfigurable Antenna with Beam Steering and Beamwidth", Faculty of Electronic Engineering Technology (FTKEN), UniMAP.
3. **Doctor of Philosophy (Communication) by Research**, Jan 2015: (**COMPLETED-Dec 2018**): **Main Supervisor**: Vijayasarveswari A/P Veeraperumal, "Hybridization of K-Fold with Feed Forward Backpropagation Algorithm for Insufficient Data Sample in Early Breast Cancer Detection"FTKEN, UniMAP.
4. **Doctor of Philosophy (Computer) by Research**, July 2014: (**COMPLETED- July 2018**): **Main Supervisor**: Mohd ilman Bin Jais, "Azimuth and Elevation (AE) Localization Embedded System Using Fuzzy Interference System (FIS) Based Architecture" FTKEN, UniMAP.
5. **Doctor of Philosophy (Communication) by Research**, March 2015: (**COMPLETED-Sept 2018**): **Main Supervisor**: Md Rabiul Awal, "Design and Implementation of A New, Low Cost, High Performance Wireless Power Transfer Technique for Rechargeable Pacemaker System", FTKEN, UniMAP.
6. **Doctor of Philosophy (Communication) by Research**, Feb 2014: (**COMPLETED-Aug 2017**): **Main Supervisor**: Liyana Binti Zahid, "Design and Development of Microwave Absorbers using Material Waste" FTKEN, UniMAP.

**Doctor of Philosophy – 1 as Co-Sv for UiTM student**

1. **Doctor of Philosophy (Kejuruteraan Elektrik) by Research**, Dec 2020: (**on-going**): **Co- Supervisor**: Amirudin Bin Ibrahim, "On Body Wearable Antenna Using Flexible Material for Health" FKE, UiTM Permatang Pauh, PPinang.

**Master of Science – 4 as Main Sv (4 COMPLETED), 6 as Co-Sv (2 COMPLETED)**

1. **Master of Science (Communication) by Research**, Nov 2019 (**COMPLETED- OCT 2023**): **Main supervisor**: Santhana Laxmi A/P A. Muthukarpan, "Analysis of Sensor Position for Passive in Vehicle Alcohol Detection and Alert System", FTKEN, UniMAP.
2. **Master of Science (Communication) by Research**, (**COMPLETED-July 2022**): **Main-supervisor**: Mr. Mohd Iskandar Mohd Salleh, "Development of Dual Mode Quarter Wavelength Side-Coupled Ring Resonator using Inverting Vertically Port for Symmetrical Dualband Bandpass Filter", FTKEN UniMAP.
3. **Master of Science (Communication) by Research**, Jan 2016: (**COMPLETED-Aug 2018**): **Main-supervisor**: Mr. Devakumaran A/L Subramaniam, "Beam-Reconfigurable of A Planar Pixel Antenna for X-Band Radar Application", SCCE UniMAP.
4. **Master of Science (Communication) by Research**, May 2014: (**COMPLETED-July 2016**): **Main-supervisor**: Mr Shakhirul Bin Mat Salleh, "Reconfigurable Textile Antenna for GPS and WiFi Applications" SCCE UniMAP.

**7. RESEARCH GRANTS (RM2,649,982 = USD561,610) \*1USD=4.65MYR**

Year Awarded	Title of Project	Type of Grant	Amount (RM)	Role
2023	Building Seamless WiFi Bridging Connectivity at YM Education and Training Centre	Consultation Fee YM EDU and Training Centre	13,000	Main Researcher
2023	INTERES: Development of miniaturized reconfigurable antenna-based metamaterial for communicable disease of Point-of-Care System	INTERESS Grant: (UNIMAP - UMSU) International Matching Grant	20,000	Main Researcher
2023	Medical bandage materials characterization as	FRGS Grant	88,200	Co Researcher

	a new substrate for a UWB wearable antenna towards 5G and beyond telemedicine system			
2023	Reflection Phase Mechanism of A Non-Destructive Reconfigurable Artificial Magnetic Conductor Array with Dielectric Properties of Mango	FRGS Grant	148,752	Co Researcher
2022	Implementation of IoT sensor network with energy harvesting using metamaterial absorber	Geran Translasi UKM	90,000	Co Researcher
2022	A High Accuracy-Hybrid Pedestrian Dead Reckoning (PDR) Technique for Indoor Localization System based Metamaterial 5G mm-Wave MIMO Antennas	Geran Translasi UKM	70,000	Co Researcher
2022	Training Course: Kursus Pemasangan dan Pengujian Kabel Fiber Optik – FTTH	KPT PENJANA PACE	150,000	Main Researcher
2022	Training Course: 5G Installation and Testing	KPT PENJANA PACE	150,000	Main Researcher
2022	Training Course on Telecommunication and Networking System (Basic Installation and Maintenance): Graduate Employability Grant	KPT PENJANA CAP	130,500	Main Researcher
2021	Investigation on the Phase Displacement between the High Scalability and Accuracy of Tunable Metasurface Array Resonator and Terrestrial InSAR for Plastic Debris Detection in River	FRGS Grant	105,360	Co Researcher
2021	Fragmented Array Topology of RFID Antenna Structure for Gain Efficiency and Electromagnetic Wave Propagation Enhancement on Metallic Surface Layer	FRGS Grant	91,000	Co Researcher
2021	RSSI Tracking System for <b>Stopanik Sdn Bhd</b>	Industrial Grant	14,950	Main Researcher
2021	Asset Tracking and Monitoring System for <b>KPJ Specialist Hospital (Perda)</b>	Industrial Grant	21,000	Main Researcher
2021	Smart Attendance and Monitoring System for <b>KPJ Specialist Hospital (Perda)</b>	Industrial Grant	23,000	Co Researcher
2021	Smart Hand Sanitizer System for <b>KPJ Specialist Hospital (Perda)</b>	Industrial Grant	21,850	Co Researcher
2020	Theoretical study on Electromagnetic Orbital Angular Momentum in the presence of dielectric media	FRGS Grant	105,200	Co Researcher
2020	Enhanced Time Difference of Arrival Algorithm (TDOA) with Kalman Filtering (KF) as Object on Ground Localization Acoustic Sensor	FRGS Grant	62,200	Co Researcher
2020	Chaotic Behavior based Secured Encryption Algorithm for Near Field Wireless Power Transfer	FRGS Grant	97,450	Co Researcher
2019	Study on the Effects of Cognitive Performance, Well Being, Physiological Parameters and Electroencephalography (EEG) of the Malaysian Adults to Short Term Exposure from 5G Radio	MCMC Grant	225,000	Co Researcher
2019	Gateless Entry Point for Access Control using RFID System	Internal Grant	16,300	Main Researcher
2019	A new model of Open-ended probe technique to characterize level of protein in raw milk	RACER	38,400	Co Researcher
2019	A fundamental approach to dual communication using electro-acoustic waves in high scale impedance mismatch	FRGS Grant	64,200	Co Researcher
2019	Investigation on the Correlation between Dielectric Properties of Malignant Tumor and Analytically Modeled Reconfigurable Metasurface Resonator Array for Early Breast Cancer Detection	FRGS Grant	91,200	Co Researcher
2019	Characterization of Metamaterial structure with reconfigurable property at millimeter wave frequency range for Internet of Medical Things	FRGS Grant	73,200	Co Researcher

	(IoT) Application			
2018	An Investigation of Human Skin Hydration Detection Using Non-invasive Optical Sensing for Medical Application	FRGS Grant	59,000	Main Researcher
2017	Optimization of Energy Efficient Protocols on New Statistical Game Theory Model for Wireless Sensor Networks	FRGS Grant	50,000	Co Researcher
2016	A new parametric optimization model using UWB imaging through human breast for domestic and low-cost breast health checkup	FRGS Grant	149,726	Main Researcher
2016	A fundamental Study of Insect Disinfestation Using Microwave Energy for Malaysian Post-Harvested Rice Storage	FRGS Grant	119,300	Co Researcher
2015	Improving Wireless Power Transmission Technique for Low-Cost Rechargeable Cardiac Pacemaker Circuit	FRGS Grant	118,100	Main Researcher
2015	Energy-Efficient Mobile Terminal Antennas for Green 5G Wireless Communication Networks	Science Fund-MOSTI	368,094	Co Researcher
2015	Incentive Grant from UniMAP	Publication Grant	15,000	Main Researcher
2015	Multi Directional Reconfigurable Beam Antenna	Short Term Grant	10,000	Main Researcher
		<b>USD 561,610=</b>	<b>2,649,982</b>	

## 8. PATENT FILING/ COPYRIGHT

- Blood Vessel Detection on Retinal Image and Monitoring System (**MYIPO No. File: P12019004328**)
- **UK Copyright 284735465**, Product: Switchable Antenna System Based High Speed Wireless Railway Communication (**Expired Date: 8 Jun 2025**)
- **UK Copyright 284735974**, Product: An IoT based Interactive Smart Sanitizer System (**Expired Date: 4<sup>th</sup> Aug 25**).
- **UK Copyright 284739299**, Product: A Flexible and Compact Metamaterial UHF RFID Tag. (**Exp.Date: 9<sup>th</sup> Feb 26**)
- **Republik Indonesia, Kementerian Hukum dan Hak Asasi Manusia**, Product: New Algorithm Development Technique in Magnetic Induction Tomography for Non-invasive Low Conductivity Material Imaging Application. (**No pencatatan: 000235433**)

## 9. TEACHING

Subjects	Semester	Student	Role
<b>NMJ32903 Communication System</b>	Sem 1 2023/2024	3 <sup>rd</sup> year degree	Coordinator & Lecturer
<b>NSJ17203 Advanced Mobile and Wireless Communication</b>	Sem 2 2022/2023	Master	Coordinator & Lecturer
<b>NMJ10203 Analog Electronic Circuit 1</b>	Sem 2 2022/2023	1 <sup>st</sup> year degree	Lecturer
<b>NMJ20904/4 Analog Electronic Circuit 2</b>	Sem 1 2022/2023	3 <sup>rd</sup> year degree	Lecturer
<b>NMJ10803 Electronic Circuit 2</b>	Sem 2 2021/2022	2 <sup>nd</sup> year degree	Lecturer
<b>NMJ31603 Management for Engineers</b>	Sem 1 2021/2022	4 <sup>th</sup> year degree	Lecturer
<b>EKT104 Basic Electronic Circuit</b>	Sem 2 2020/2021	1 <sup>st</sup> year degree	Lecturer
<b>EKT341 Antenna and Propagation</b>	Sem1 2020/2021, Sem1 2019/20, Sem1 2018/19, Sem1 2017/18,	3 <sup>rd</sup> year degree	Lecturer
<b>EKT450 Research Methodology</b>	Sem1 2018/19	Master	Lecturer
<b>EKT450 Mobile Communication System</b>	Sem2 2019/20, Sem2 2018/19, Sem2 2017/18, Sem2 2016/17	4 <sup>th</sup> year degree	Lecturer
<b>EKT446 Final Year Project 1</b>	Sem1 2013/14, Sem1 2014/15, Sem1 2015/16, Sem1 2016/17,	4 <sup>th</sup> year degree	Lecturer

	Sem1 2017/18, Sem1 2018/19, Sem1 2019/20, Sem1 2020/21, Sem1 2021/22, Sem1 2022/23		
<b>EKT445 Final Year Project 2</b>	Sem2 2013/14, Sem2 2014/15, Sem2 2015/16, Sem2 2016/17, Sem2 2017/18, Sem2 2018/19, Sem2 2019/20, Sem2 2020/21, Sem2 2021/22, Sem1 2022/23	4 <sup>th</sup> year degree	Lecturer
<b>EKT451 Group Design Project</b>	Sem2 2013/14, Sem2 2014/15, Sem2 2015/16, Sem2 2016/17, Sem2 2017/18, Sem2 2018/19, Sem2 2019/20	4 <sup>th</sup> year degree	Lecturer
<b>EKT358 Communication System</b>	Sem1 2016/17	3 <sup>rd</sup> year degree	Coordinator & Lecturer
<b>EKT204 Analog Electronic Circuit</b>	Sem1 2014/15, Sem1 2015/16	2 <sup>nd</sup> year degree	Lecturer
<b>EKT314 Electronic Instrumentation</b>	Sem2 2013/14, <b>Sem1 2020/21</b>	3 <sup>rd</sup> year degree	Lecturer
<b>DKT224 Data Communication &amp; Network</b>	Sem2 2013/14	2 <sup>nd</sup> year Diploma	Coordinator & Lecturer

**10. RESEARCH AWARDS (Selected 2019 – current)**

- **GOLD Medal Award in PECIPTA 2022:** Slope Health Monitoring System
- **GOLD Medal Award in ITEX 2022:** In-situ nutrient Soil Tester with real time monitoring system
- SV to recipient (my FYP student- Nur Syazwanee) for **IEEE MTT-S Undergraduate Scholarships 2021** Cycle 1 Awardees (October 2020 Competition)- **the only Malaysian recipient**
- **Asian Youth Innovation Awards 2021** – The Malaysia-Croatia Technology Exchange 2021: Wearable UHF RFID Tag Antenna Based Metamaterial for Monitoring and Tracking of Covid19 Patient
- **Silver Award of Youth Category in MTE 2021:** Wearable UHF RFID Tag Antenna Based Metamaterial for Monitoring and Tracking of Covid19 Patient
- **Special Award from Turkish Inventors and Innovators Network in MTE 2021:** Dielectric Materials Measurement System
- **GOLD Medal Award in MTE 2021:** Dielectric Materials Measurement System
- **GOLD Medal Award in MTE 2021:** Dual Band Circularly Polarized Textile Antenna for WLAN and 4G Health Wear Application
- **Silver Medal Award in MTE 2021:** A Flexible and Compact Metamaterial UHF RFID Tag for Remote Sensing in Human Health
- **Gold Medal Award in UniMAP Expo (EREKA 2021):** A Flexible and Compact Metamaterial UHF RFID Tag for Remote Sensing in Human Health
- **2020 IEEE Malaysia Best Final Year Project Competition** (my FYP student- Mr Fuad Hassan Adan): Switchable Antenna System Based High Speed Wireless Railway Communication
- **IEEE AP-MTT 2020 Excellence Paper Award:** Reconfigurable four-parasitic-elements patch antenna for high gain beam switching application.
- **UniMAP Young Scientist** with H-Index of 16 in 2020
- **UniMAP Young Scientist** with H-Index of 14 in 2019
- **Best Paper Award from UCET2020-** The 5<sup>th</sup> International Conference UK-China Emerging Technologies – paper title: ENG and NZRI Characteristics of Decagonal Shaped Metamaterial for Wearable App.
- **Best Paper Award from BCWSP2020-** International Conference on Broadband Communication, Wireless Sensors and Powering, paper title: 1x4 Patch Array Textile Antenna for WLAN Applications

**11. SPEAKERS (International and Local Speakers, selected 2018 to current)**

**A. Keynote Speakers**

1. **Keynote Speaker for 4<sup>th</sup> ICASI2022** - International Conference on Advanced and Science Innovation organized by Cendana Polytechnic on **19<sup>th</sup> December 2022**.
2. **Keynote Speaker for ACHOST2021**-Annual Conference on Health and Food Science Technology organized by Kresna Nusantara and Relawan Jurnal Indonesia on **20<sup>th</sup> November 2021**.
3. **Keynote Speaker for ICMER2020**-International Conference on Multidisciplinary Engineering Research Towards Industrial Revolution 4.0 organized by **Universitas Mercu Buana**, 6<sup>th</sup> February 2021.
4. **Keynote Speaker for ICEAS2019**-International Conference Applied Engineering and Science conference at Madiun, Jawa Timur on **21<sup>th</sup> Aug 2019** organized by Universitas PGRI Madiun, Indonesia.
5. **Keynote Speaker for ICCSET2018-** 1<sup>st</sup> International Conference on Computer Science and Engineering

Technology at Kudus, Jawa Tengah on **25<sup>th</sup> Oct 2018** organized Universiti Muria Kudus, Indonesia.

#### **B. Invited/Local Speakers**

1. **Invited Speaker** for Webinar IEEE AP/MTT/EMC workshop organized by **IEEE AP/MTT/EMC Malaysia Joint Chapter** on April 2023.
2. **Invited Speaker** for Pelaksanaan Pengembangan dan Peninjauan Kurikulum berbasis OBE dalam bentuk kegiatan workshop organized by UMSU- Universitas Muhammadiyah Sumatera Utara, **22 May 2023** in UMSU, Indonesia.
3. **Invited Speaker** for Kuliah Umum International organized by UNPRI- Universitas Prima Indonesia, **16 May 2023** in Medan, Indonesia.
4. **Keynote Speaker** for International Conference on Sustainable Innovation through Scientific Framework, organized by Universitas Muhammadiyah Kudus, **15<sup>th</sup> Dec 2022**.
5. **Resource Speaker at Daffodil International University workshop** on "Sharing Strategies to Write High Impact Factor Journal & 5G as IoT catalyst" and seminar on "Climbing the Ladder: Tips and Trick Professionalism Talk for the Young Researcher & Lecturer" from **22 – 23<sup>rd</sup> Aug 2022**.
6. **Jemputan dari Pertubuhan Berita Nasional Malaysia (BERNAMA)** Menjadi Tetamu untuk Program "Apa Kabar Malaysia"- Meremajakan Semangat Cintakan Negara pada **19 Ogos 2022**.
7. **Guest Speaker** of Microwave and Renewable Energy by MercuBuana University Jakarta, **20<sup>th</sup> June 22**.
8. **Guest Speaker** for Kuliah Umum International by UNPRI- Universitas Prima Indonesia, **21<sup>st</sup> June 2022**.
9. **Invited Speaker** for Smart and Green Building by IMAT Institute of Medan, **21<sup>st</sup> June 2022**.
10. **Invited Speaker** for Creative Thinking and Innovative organized by **GIAT MARA Perlis**, **5<sup>th</sup> Apr 2022**
11. **Invited Speaker** for Online Workshop on Scientific Writing and Submission of Articles to International Journals on **1<sup>st</sup> April 2022** organized by **Universitas Harapan Medan, Indonesia**.
12. **Invited Speaker** for Convention IMDS with title: New Innovation, 5G, IoT and Big Data, **23 – 25<sup>th</sup> March 2022** organized by **International Medical Device School, Malaysia**.
13. **Invited Speaker** for International Symposium on Multidisciplinary Research Studies (**ISMRS 2022**), **15<sup>th</sup> March 2022** organized by **Republic of Yemen, Hadhramout University**.
14. **Invited Speaker** for international seminar with Title: Strategies of Becoming a Good Writer and How to Write Paper to be Published in High Impact Factor Journal, **Thursday, 10<sup>th</sup> March 2022** organized by STEBIES AI-Ulum Terpadu Medan.
15. **Invited Speaker** for Bicara Professional anjuran NGO HALUAN with entitled **Dunia Tanpa Wayar: Cabaran dan Peluang, 11<sup>th</sup> Dis 2021**.
16. **Invited Speaker** on The Intellectual Convention- The Rise of Gig Economy organized by UniSHAMS on **14 Sept 2021**.
17. **Invited Speaker** on Publish in ISI Journal: Myth and reality of academic publishing organized by **Al-Rasheed University, Iraq on 17<sup>th</sup> Dec 2020**.
18. **Invited Speaker** on Strategies of Becoming a Good ISI Journal Writer organized by **Nahda University Benisuef, Egypt on 20 November 2020**.
19. **Invited Speaker** for Motivational Talk and Tips to be an Excellence Student for Form Six of SMK Tengku Suleiman, Perlis organized by **KEMAS- Jabatan Kemajuan Negeri Perlis on 28 Sept 2020**.
20. **Invited Speaker** on **How to Find Novelty in Research** organized by **Akademi Farmasi YPPM Mandiri Banda Aceh on 6 Aug 2020**.
21. **Invited Speaker** at **Universitas Mercu Buana Jakarta Indonesia** with title Reconfigurable 5G mm-wave Antenna Design for Future Wireless: MIMO Technology and Cognitive Radio on **27<sup>th</sup> July 2020**.
22. **Invited Speaker** at **Chitkara University, Punjab, India for Webinar Talk Series** with title **Reconfigurable Antenna Design for Future Wireless: 5mm Wave and Cognitive Radio** on **26<sup>th</sup> June 2020**.
23. **Invited Speaker** at **Universitas Serambi Mekkah, Banda Aceh** with title Emerging Embedded System with Wireless Communication System and Strategies on Becoming A Good Writer on **13<sup>th</sup> March 2020**.
24. **Chitkara University Punjab INDIA: Invitation for Teaching Sharing** and Discussion on Potential Research Collaboration in **14<sup>th</sup> Global Week Program** at Faculty of Computer Science Engineering, Chitkara Uni, India from **7<sup>th</sup> to 26<sup>th</sup> Oct 2019**.
25. **Universitas Harapan Medan (UnHAR): Invitation as Invited Speaker** for Transdisciplinary Project: Connecting Embedded System with Wireless Communication System at UnHAR Indonesia on **25<sup>th</sup> Jan 19**.
26. **Invited Speaker** for conference Radio Frequency and Microwave (**RFM2018**) at Park Royal Hotel, Penang on **18<sup>th</sup> Dec 2018**.
27. **Invited Speaker** at **STIES- Sek Tinggi Ilmu Ekonomi Sabang, Aceh** for IoT technology towards Business on **26<sup>th</sup> Sept 2018**.
28. **NTTI Cambodia: Invitation as Keynote Speaker** for 5G and IoT: Future and Challenges at National Technical Training Institute (NTTI), Cambodia on **22<sup>nd</sup> March 2018**.
29. **IETR France: Invitation for Potential Research Collaboration** and Measurement of Prototype at Millimeter Wave Band at IETR Universite de Rennes 1, France between **18<sup>th</sup> Jan to 12<sup>th</sup> Febr 2018**.
30. **NUB Egypt: Invitation for Research and Teaching Sharing**, Discussion on Potential Research Collaboration and as External Examiner of Communication Engineering Program at Faculty of Electrical



Engineering, Nahda University Banisuef, Egypt from 7<sup>th</sup> to 26<sup>th</sup> Dec 2017.

## 12. INTERNATIONAL/NATIONAL/UNIVERSITY COMMITTEES (Selected 2017 – current)

### A. International Committee

1. **Organizing Committee** for International Conference on Electronic Design (**ICED2024**) organized by FKTEK UniMAP.
2. **Organizing Committee** of International Symposium on Antenna and Propagation (**ISAP2023**) from 30 Oct to 2 Nov 2023 at Berjaya Times Square Hotel, KL.
3. **Editorial Board Member** for **Hadhramout University Journal of Natural & Applied Sciences** from Oct 2021 to Sept 2023.
4. **Sponsorship Committee of ISETech-2<sup>nd</sup>** International Symposium on Engineering and Technology held on 5<sup>th</sup> Oct 2021 organized by Advanced Communication Engineering, Center of Excellence, UniMAP.
5. **Treasurer of IMTGT - Indonesia\_Malaysia\_Thailand Growth Triangle** consists of 12 Universities (Indonesia\_USU Medan, ITM, UniMED, Unsyiah Kuala Aceh, Malaysia\_UniMAP, UUM, USM, UiTM, Thailand\_PSU Rajamanggala Uni, Thaksin, Walailak Uni) from **March 2019 to Dis 2021**.
6. **Scientific Committee for ICASI2020** The 3<sup>rd</sup> International Conference on internet and application. Focus on electromagnetics, **20<sup>th</sup> June 2020**.
7. **Scientific Committee for InCESS2020** Conference on Economics, Engineering and Social Science, Bekasi Indonesia, **27<sup>th</sup> July 2020**.
8. **Organizer for Virtual Pi-Envex 2020 UniMAP** that open to all IHL either locally or internationally.
9. **Scientific Committee of ICASI2018**: Invited as **Scientific Committee** for 1<sup>st</sup> International Conference on Advance & Scientific Innovation at Madani Hotel Medan on **23-24 April 2018**.
10. **IMDC Chair for Northern Region Innovate Malaysia Design Competition (IMDC2018)** at Khazanah Nasional Berhad Georgetown from 19 to 20 May 2018.
11. **Conference Chair** of International Conference on Electronic Solutions for IoT Application (ICEESI) on 9&10 Oct 2017 at Bayview Penang.

### B. National Committee

12. **Panel Penilai Luar** bagi Program **Diploma Kejuruteraan Komunikasi** Politeknik Sultan Abdul Halim Muadzam Shah, Kedah pada **24 Oct 2023**.
13. **Panel Penilai Luar** bagi Program **Diploma Kejuruteraan Komunikasi** Politeknik Tuanku Syed Sirajuddin, Perlis pada **19 Sept 2023**.
14. **Lantikan Pemberi Latihan Kursus kepada Komuniti** bersama PKSM dibawah dana **NCER- Northern Corridor Economic Region** bagi **6 program** dari **Dis 2021 sehingga Mei 2022**.
15. **Panel Penilai Luar** bagi Program **Diploma Kejuruteraan Komunikasi** Politeknik Tuanku Syed Sirajuddin, Perlis pada **7 April 2021**.
16. **Panel Pakar Projek Dana Penyelidikan dan Pembangunan (R&D)** Kementerian Sains, Teknologi dan Inovasi (**MOSTI**) dari **1 Jan 2021 sehingga 31 Disember 2026**.
17. **Panel Forum Diskusi Nasional** anjuran PINTAR pada 18 Feb 2021, Tajuk: Sugarbaby: Sejauhmana Seriusnya Gejala Sugarbaby di IPT.
18. **Academic Advisor** for Diploma Program of Electronic Engineering (Telecommunication) for **Politeknik Tuanku Syed Sirajudin (PTSS)**, Pauh Perlis (**14<sup>th</sup> Sept 2018 to current**).
19. **Organizer for Royal Debate 2019** open for all IHL\_Institutional of Higher Learning with MoHE Malaysia
20. **Organizer of FoodBank Siswa@UniMAP** in collaboration with KPDNHEP Malaysia
21. **Organizer of Gig Center UniMAP** in collaboration with MDEC and MAFA-Malaysian Freelancing Association
22. **Organizer of Perkampungan Mahasiswa** involving all IPTA with nearly 400 students in UniMAP
23. **Organizer of UROC 2019**-University of Robot Competition which open for all IHL Malaysia
24. **Chairman of IEM UniMAP Student Section** from **Sept 2017**.
25. **Steering Committee INNOVATE MALAYSIA DESIGN COMPETITION(IMDC17)**(Represent UniMAP\_MTUN)

### C. University Committee

1. **Internal Examiner for FRGS application** by UniMAP staff from 2022 to current.
2. **AJK Pemurnian Kriteria Kenaikan Pangkat** untuk Staf Akademik UniMAP bagi tahun 2023.
3. **Advisor to Majlis Perwakilan Pelajar UniMAP** effective from 1<sup>st</sup> March 2019 to 2022.
4. **Committee of Jk Kebajikan UniMAP** effective from March 2019 to 2022.
5. **Committee of Jk Aduan UniMAP** effective from Oct 2020 to 2022.
6. **Senate member of UniMAP** starting from 1<sup>st</sup> March 2019 to 30<sup>th</sup> Oct 2020.
7. **Committee of Jk Kebajikan, Tabung Amanah dan Zakat** pelajar dan staf UniMAP from 1<sup>st</sup>Oct 2019.
8. **Committee of Jk Smart Campus UniMAP** effective 1<sup>st</sup> November 2019 to 2022.
9. **Committee of Jk Majlis Tindakan Tatatertib Pelajar** effective 1<sup>st</sup> October 2019 to 2022.
10. **Committee of Jk Sasterawan Negara@UniMAP** effective 1<sup>st</sup> August 2019 to 2022.
11. **Committee of Cluster Kesejahteraan Pelajar** for UniMAP 2025 plan to 2022.

12. **Committee** pembangunan **statut Pusat Aktiviti dan Kecemerlangan Bakat** UniMAP.
13. **Committee of Graduate Employability of UniMAP** effective from 1<sup>st</sup> Nov 2019 to 2022.
14. **Jury of Pi-Envex 2020** (Perlis International Engineering Invention & Innovation Exhibition) 18-19 May 20.
15. **Jury of I-Finog 20s19** (International Festival of Innovation on Green Technology) on 21-22 April 2019.
16. **Lead Delegation of PPKKP** to PPKEE, USM Nibong Tebal for Benchmarking Visit on 30 July 2018.
17. **Committee of Young Innovative Challenge Perlis Makers Day 2017** on 24 July 2017.
18. **Judge** for UniMAP EXPO 2017 at Main Campus Pauh on Fen 2017.

### 13. INTERNAL AND EXTERNAL EXAMINERS

#### External Examiner Thesis (ABROAD)

1. **PhD, 18<sup>th</sup> Oct 2022, Mr Kartheek Viswanadha**, "Design of Milimeter Microwave Devices Using Metamaterials and Electromagnetic Bandgap Structures", **Departmental of Electronics and Communication Engineering, Delhi Technological University (DTU), INDIA.**
2. **PhD, 12<sup>th</sup> Apr 2023, Mr Rajiv Kumar Nehra**, "Development of Implantable Antennas for Biomedical Devices", **Departmental of Electronics and Communication Engineering, Delhi Technological University (DTU), INDIA.**

#### External Examiner Thesis (MALAYSIA)

3. **PhD, 7<sup>th</sup> Feb 2024, Nur Hazwani Binti Hussin**, "High Efficient Wireless Power Transfer Security Algorithm for Near Field Range", Fakulti Kejuruteraan Alam Bina, **Universiti Sains Islam Malaysia.**
4. **PhD, 27<sup>th</sup> Dec 2023, Mr Syah Alam**, "Multifunctional Microwave Sensor And Antenna For Material Characterization And Data Transfer Capabilities", Fakulti Kejuruteraan Alam Bina, **Universiti Teknikal Malaysia Melaka (UTeM).**
5. **PhD, 2<sup>nd</sup> Nov 2023, Mr Md Salah Uddin N Afsar**, "Development of Miniturized Metamaterial Absorber for Electromagnetic Radiation Absorption in the Microwave and Near Infrared Regime", Fakulti Kejuruteraan Alam Bina, **Universiti Kebangsaan Malaysia (UKM).**
6. **PhD, 23<sup>rd</sup> Aug 2023, Mr Md Moniruzzaman**, "Analysis of Metamaterial Structures for Wireless Communication System", Fakulti Kejuruteraan Alam Bina, **Universiti Kebangsaan Malaysia (UKM).**
7. **PhD, 17<sup>th</sup> July 2023, Mr Husam Hamid Ibrahim**, "Meander Line And Microstrip Rectennas For Wireless Radio Frequency Energy Harvesting, **Universiti Kebangsaan Malaysia (UKM).**
8. **PhD, 12<sup>th</sup> May 2022, Mr Tayaallen Ramachandran**, "Development of Coding Based Metamaterial for C- and Ku-Band Applications", Climate Change Institute, **Universiti Kebangsaan Malaysia (UKM).**
9. **MsC, 11<sup>th</sup> Jan 2022, Mr Zayed Abdo Abdullah Nasser**, "Design of Integrated Filtenna and SPDT Switch for Wireless Communication", Fak Kej Elektronik & Komputer, **Universiti Teknikal Melaka (UTeM)**
10. **PhD, 19<sup>th</sup> Jan 2021, Mr Ahasanul Hoque**, "Development of Single Negative and Double Negative Metamaterial Based Microwave Sensing using Uniform Transmission Line", Fak Kej Alam Bina, **Universiti Kebangsaan Malaysia (UKM).**
11. **MsC, 24<sup>th</sup> Oct 2019, Mr Eistiak Ahamed**, "Development of A Tunnel Resonator Inspired Left-Handed Metamaterial for Sensing Application", **Climate Change Institute, UKM.**
12. **PhD, 30 Aug 2019, Mr Usman Ilahi**, "The design of Circularly Polarized Wearable DRA for WBAN Applications", Faculty of Electrical and Electronics Engineering, **Universiti Kuala Lumpur (UniKL).**
13. **PhD, 29 Aug 2019, Mr Javed Iqbal**, "A Multiple-Input Multiple Wideband Circularly polarized DRA for Wimax Application", Faculty of Electrical and Electronics Engineering, **Universiti Kuala Lumpur (UniKL).**
14. **PhD, 31 July 2019, Mr Muhannad Kalm Abdulhameed**, "Radiation Pattern Control of Microstrip Antenna Antenna Using Electromagnetic Band Gap", Faculty of Electronic & Computer Engineering, **UTeM.**
15. **MsC, 18<sup>th</sup> Jan 2019, Miss Siti Nor Hidayah Kamarudin**, "Design of Integrated Microstrip Patch Antenna with Light Emitting Diode As Monopole Antenna", FKE, **Universiti Teknologi MARA (UiTM).**
16. **PhD, 17<sup>th</sup> Okt 2018, Md Jubaer Alam** bertajuk "Development of A Metamaterial Based Bandpass Filter for GPS, WLAN and WIMAX Applications", Climate Change Institute, **Universiti Kebangsaan Malaysia (UKM).**
17. **PhD, 14<sup>th</sup> Sept 2018, Pn Yusmarnita bt Yusop** bertajuk "Capacitive Power Transfer for Low Power Contactless Charging Applications" Faculty of Electronic and Computer Engineering, **UTeM.**
18. **PhD, 23<sup>th</sup> May 2018, Md Zulfikar** bertajuk "Design of A UWB Antenna for Breast Cancer Detection", Fakulti Kejuruteraan dan Alam Bina, **Universiti Kebangsaan Malaysia (UKM).**
19. **MsC, 4<sup>th</sup> Mac 2016, Miss Hazwani Bt Azman** bertajuk "Spanar Antenna for Heart Rate Monitoring System", Faculty of Electronic and Computer Engineering, **Universiti Teknikal Melaka (UTeM).**
20. **MsC, 18<sup>th</sup> Okt 2016, Mr Ong Teik Kean**, "Characterization of Split Ring Resonator on New Hybrid Material in Microwave Frequency Region", Faculty of Electronic and Computer Engineering, **UTeM.**

#### Internal Examiner Thesis

1. **PhD, Nov 2021, Mr Bashaar Bahaa Noori Qas Elias**, "Design and Characterization of Flexible Antennas Using Characteristics Mode Analysis", in Communication Engineering, Faculty of Electronic Engineering Technology (FTKEN), UniMAP.

2. **PhD, Jan 2019, Mr Tan Gan Siang**, “Development of Six-port Interferometer using Substrate Integrated Waveguide Technique for Radar-Based Sensor Application” in Communication Engineering, School of Computer and Communication Engineering (SCCE), UniMAP.
3. **PhD, 24<sup>th</sup> Aug 2018, Ridzwan Khan** in Communication Engineering, SCCE UniMAP.
4. **PhD, Aug 2017, Mr Taih Gatte** in Communication Engineering SCCE UniMAP.
5. **Msc, 24<sup>th</sup> Aug 2017, Mr Mohamad Ashraf Halim** in Communication Engineering SCCE UniMAP.
6. **PhD, Dec 2016, Mr Omar Khalidun**, “Enhanced Multi-Cell Coordination in Wireless Communication System Using Beamforming Methods”, SCCE UniMAP.
7. **PhD, 14<sup>th</sup> Jan 2015, Miss Suzanna**, “Development of Asian Size Hand Phantom and Investigation of SAR and HSP in Brain Tissue for Mobile Phone Application”, SCCE, UniMAP.
8. **PhD, 17 May 2015, PRA-VIVA, Mr Rasim Aziz Khadim**, “Development of New Multi-Dimensional Code for OCDMA System”, SCCE UniMAP.
9. **Conversion MsC to PhD, 24 Feb 2014, Pemeriksa Thesis, Lee Yen Seng**, “Development of Wideband Frequency Microwave Absorber Using Carbon Nanotubes/ Rice Husk Composites”, SCCE UniMAP.

#### 14. **UNIMAP4SOCIETY@TRANSLATIONAL PROJECT**

1. NGO Yayasan Ikhlas- Consultation project: High Speed Network with Low-Cost Solution for Community Kg Bahagia, Kuala Krai, Kelantan. Worth Project of Site Survey Work (2 persons): RM2,500. - **2023**
2. NGO Yayasan Maghfirah (YM EDU)- Consultation Title: Building Seamless WiFi Bridging Connectivity at YM Education and Training Centre, Lenggeng, Negeri Sembilan. Worth Project: RM13,000. - **2023**
3. Sek Men Agama IMTIAZ- Consultation Title: Wireless Fidelity System with Bridging Concept for IMTIAZ Melaka. Worth Project: RM42,000. - **2023**
4. Madrasah Pondok Moden Darussalam Changlun (PMDC)- Consultation Title: WiFi Canopy Concept powered by 4G Network at PMDC. Worth Project: RM7,000. - **2022**
5. Madrasah Attarbiyah Islamiyah (MATRI)- Consultation Title: WiFi Bridging with Point-to-Point Technology. Worth Project: RM5,000. - **2022**
6. Madrasah Muhammadiyah Jeneri, Sik Kedah- Consultation Title: 4G Network utilization and migration to WiFi Link for High-Speed Live Broadcasting. Worth Project: RM7,000. - **2022**
7. Appointment as Project Leader@Trainer by UniMAP Holdings under PKSM company funded by Northern Corridor Economic Region (NCER) for SIX Training Program. Worth Project: RM37,500 (RM1500/community participant). - **2021**

#### **Bio-Statement**

MUZAMMIL JUSOH is an Associate Professor which is currently a Research Fellow of Advanced Communication Engineering (ACE) Centre of Excellence (CoE) in UniMAP. Experience as RF and Microwave Engineer with Telekom Malaysia Berhad (TM) company, from 2006 to 2009, performed as Team Leader of the Specialized Network Services (SNS) Department based in TM Senai Johor. Involved in preventive and corrective maintenance of ILS, NDB, DVOR, repeaters, microwave systems, VHF, and UHF. He received the bachelor's degree in electrical-electronic and telecommunication engineering and the M.Sc. degree in electronic telecommunication engineering from Universiti Teknologi Malaysia (UTM), in 2006 and 2010, respectively, and the Ph.D. degree in communication engineering from Universiti Malaysia Perlis (UniMAP), in 2013. Score H-Index of 20 (SCOPUS index) and leading few grants as main/co-researcher under the Ministry of Higher Education Malaysia, Industrial Grants, and Internal Grant from UniMAP worth in total USD500k. Currently supervising/graduate more than 20 postgraduate students (Ph.D. and M.Sc). Has published over 253 articles in journals and proceedings including IEEE Access, MDPI Sensors, Materials, IEEE Antenna and Wireless Propagation Letter (AWPL), Microwave and Optical Technology Letter (MOTL), the International Journal on Antenna and Propagation (IJAP) and, Progress in Electromagnetics Research (PIER) with more than 100 conference papers. His research interests include antenna design, reconfigurable beam steering antennas, RFID, MIMO, UWB, wireless on-body communications and RF and microwave communication systems. Besides, he has been a member of the technical program committees of several IEEE conferences and technical reviewer for several IEEE and other conferences. Moreover, he is a member of the IET (MIET), the Antenna and Propagation Society (AP/MTT/EMC) Malaysia Chapter and executive committee of IEEE RFID Council. He has received the Chartered Engineering Certification in July 2017, Professional Engineer on Sept 2020 and Professional Technologist on Oct 2020.

#### **REFEREES**

1. **PROF IR. TS. DR. R. BADLISHAH AHMAD**  
Advisor at Advanced Computing (ADCOMP),  
Center of Excellence (CoE),  
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