



**PERSONAL DETAILS**

**Name** : NORHUDAH SEMAN  
**Gender** : FEMALE  
**Date of Birth** : 29 MARCH 1981  
**Nationality** : MALAYSIA  
**Permanent Address** : No. 14, Jalan Setia 2, Taman Setia Senai, 81400 Senai, Johor  
**Correspondent Address** : No. 14, Jalan Setia 2, Taman Setia Senai, 81400 Senai, Johor  
**Tel** : (Mobile) : 019-7100146 (Office): 07-5535265 (Fax): 07-553 5252  
**E-mail** : norhudah@utm.my, huda@fke.utm.my  
**Website** : <https://sites.google.com/a/fke.utm.my/norhudah-seman/>  
<https://pure.utm.my/en/persons/norhudah-seman>  
**ID Staff** : 9303  
**Expertise** : Microwave Engineering

**ACADEMIC QUALIFICATIONS**

Year 2010 : Ph.D. in Electrical Engineering  
The University of Queensland, Australia  
Year 2005 : M.Eng. in Radio Frequency and Microwave Communications  
The University of Queensland, Australia  
Year 2003 : B. Eng. in Electrical Engineering -Telecommunications  
Universiti Teknologi Malaysia

**AWARD AND HONORS RECEIVED**

**Awards/Achievement**

- i) Oct 2017 – Silver Medal, International Conference and Exhibitions on Inventions by Institutions of Higher Learning (PECIPTA 2017)  
Invention: L-Shaped Dual-Band MIMO Rectangular Dielectric Resonator Antenna (DRA) for LTE Applications
- ii) May 2016 – Bronze Medal, Innovation Technology Expo 2016, Universiti Malaysia Sarawak  
Invention: Design of low cost 5G coupler for the use in Intelligent Transportation System (ITS)
- iii) Dec 2012 – Bronze Prize, Seoul International Invention Fair 2012 (SIIF 2012)

Invention: Antenna Integrated with Band Pass Filter for Frequency Agile Application

- iv) Anugerah Perkhidmatan Cemerlang, Citra Karisma, 2011.
- v) Dec 2009 - First Prize Best Paper Diamond Award in IEEE International Conference on Antennas, Propagation and Systems:

Title of Paper: Multi-port reflectometers formed by UWB microstrip-slot couplers and dividers

Authors: N. Seman, M. E. Bialkowski and T. Abd Rahman

## **PROFESSIONAL MEMBERSHIP / QUALIFICATIONS / RECOGNITION**

### **Positions/Employer**

1. 18 April 2017 – Present – Associate Professor, Universiti Teknologi Malaysia
2. 22 March 2011 – 17 April 2017 – Senior Lecturer, Universiti Teknologi Malaysia
3. 22 July 2005 – 21 March 2011 – Lecturer, Universiti Teknologi Malaysia
4. July 2003 – 21 July 2005 - Tutor, Universiti Teknologi Malaysia
5. Jan. 2003 – July 2003 - Electrical and Electronic Engineer, Motorola Technology Sdn. Bhd., Penang, Malaysia

### **Professional Membership**

1. Member, Lembaga Jurutera Malaysia, Membership No: 79212A, 25 June 2012-present
2. Member, Institute of Electrical and Electronics Engineers (IEEE), 2001 – present
3. Member, The Applied Computational Electromagnetics Society, 2016 – present
4. Member, Australian Research Council Communications Research Network (ACoRN), 2005 - present

## **ADMINISTRATIVE EXPERIENCE**

### **Faculty Level**

1. 2017 – present – Committee member, FKE Postgraduate CQI Committee
2. 1 May 2016 – present – Member of Task Force for Master Taught Course Program – Electrical (Telecommunication)
3. 28 Mac 2016 – 4 April 2016 – Member of Task Force for Army Institute of Communication and Electronic (Sungai Besi Camp) Silibus Preparation
4. Feb. 2016 – present – Head of WCC Task Force – Section B (Grant)
5. 1 Nov. 2016 – 31 Dec. 2016 – Head of PwC Survey Secretariat
6. 2015 – present – Panel – Undergrad & Master Taught Course Final Paper Evaluation
7. 2014 – present – Head of Specific Absorption Rate (SAR) Laboratory, WCC, UTM.
  - Coordinate:
    - 2015 – Present : Preparation of ISO17025 Application

- 2016 : i. Workshop of ISO17025 Document Preparation
- ii. Trainings:
  - 12 April 2016 - Hands On Training with R&S - CMW for SAR Measurement
  - 26 April 2016 - Awareness Training on Testing Laboratory Accreditation (ISO 17025)
  - 1-2 August 2016 - 2-Day Training on Internal Audit for ISO17025 Laboratory Accreditation
  - 8 Nov. 2016 - Uncertainty Training Phase 1

8. July 2013 – present – Speaker/Fasilitator/Mock Interview Panel - How to Get Yourself Employed (HTGYE) Program, Faculty of Electrical Engineering, UTM
9. 19 February 2014 – 30 April 2015 – Coordinator Wireless Communication Centre for Infocomm Research Alliance (ICRA)
10. 2010 – Jan. 2016 – Head of WCC Task Force – Annual Report
11. 2010 – 2014 – Head of WCC HiCoE Task Force
12. 1 July 2010 – 31 July 2014 – Academic Advisor, SET Students
13. 2013 – 2014 – Member, WCC Task Force – Activity for WCC Open Day
14. 20 May 2014 – Committee, Telecom Exhibition 2014
15. 2012 – Jun. 2013 - Secretary, How to Get Yourself Employed (HTGYE) Program, Faculty of Electrical Engineering, UTM
16. 2011 – 2012 - Committee and Panel Member, Telecommunication Exhibition, Faculty of Electrical Engineering, UTM
17. Jul. 2012 - Task Force Committee, Preparation of UTM-SKMM MoU Signing Ceremony
18. Feb 2011 – 2012 - Committee and Instructor, Harvard Business School – Case Study. Faculty of Electrical Engineering, UTM
19. 2010 – Present – Undergraduate Final Year Project 1 and 2 – Panel
20. Dec. 2010 – 2011 - Task Force Committee of Document Preparation for MQA Executive Diploma 2011. SPACE, Faculty of Electrical Engineering, UTM
21. 1 Oct. 2010 – 31 Mar. 2011 – Committee, Document Preparation for COPPA-MEG 2011. Faculty of Electrical Engineering, UTM.
22. Sep. 2010 - 2011 – Committee, Preparation of Document for Engineering Accreditation Council Malaysia (EAC), Faculty of Electrical Engineering, UTM.
23. 2010 – 2011 – Coordinator, WCC Visiting Professor/Lecturer
24. July 2010 - Task Force Committee, Sultan Johor’s Visit to WCC/UTM
25. 2009 - 2010 - Substantive Editor, Ensiklopedia Sains dan Teknologi (UTM-DBP)
26. 2009 – 2011 – Committee, WCC Stock Book
27. 2009 – 2012 – Committee, WCC Multimedia
28. 2010 - 2011 – Secretary, Seminar and Short Course Committee, Faculty of Electrical Engineering, UTM.
29. 2009 – Jan. 2010 - Internal Auditor of Academic Performance Audit (APA), Faculty of Electrical Engineering, UTM.

## **University Level**

1. 1 April 2016 – 31 March 2018 – District Liaison Officer (Pontian), Institut Inovasi Strategik Johor (IISJ) - UTM
2. 21 Mac 2016 – Assistant District Liaison Officer in conjunction with Synergy Symposium between HEI (higher education institutions), Industry and Johor Government in Strengthening Innovation
3. 2013 – 2014 – Member of Task Force Committee for RA & COE KPI Review
4. 2011 – present – Evaluator, Assessment of Research University Grant (GUP) Proposal

## **Memorandum of Understanding (MoU) / Memorandum of Agreement (MoA)**

1. 29 October 2016 – 29 October 2021 - Memorandum of Understanding (MoU) between Universite De Rennes 1, France and Universiti Teknologi Malaysia
2. 1 August 2016 – 1 August 2019 - Memorandum of Understanding (MoU) between Universiti Telekom Sdn Bhd and Universiti Teknologi Malaysia
3. 14 November 2013 – 14 May 2014 - Memorandum of Agreement (MoA) between MCMC and WCC, UTM: The Upgrade of Long Term Evolution Laboratory
4. 14 November 2013 – 14 May 2014 - Memorandum of Agreement (MoA) between MCMC and WCC, UTM: The establishment of Specific Absorption Rate Measurement Facility
5. 27 December 2012 – 26 June 2013 - Memorandum of Agreement (MoA) between MCMC and WCC, UTM: Agreement for EMF Emission Real-Time Monitoring through Website
6. 27 December 2012 – 26 June 2013 - Memorandum of Agreement (MoA) between MCMC and WCC, UTM: Agreement for Wireless Industry Emission on Remote Monitoring of Base Station Sites
7. 1 August 2011 - Memorandum of Agreement (MoA) between MCMC and WCC, UTM: Agreement for The Long Term Evolution (LTE) Laboratory Establishment
8. 26 July 2011 – 25 July 2014 - Memorandum of Understanding (Mou) between The Malaysian Communications and Multimedia Commission (MCMC) and Universiti Teknologi Malaysia (UTM)

## **OTHERS EXPERIENCE**

### **NATIONAL COMMITTEE**

1. Member of Digital Terrestrial Television Broadcast (DTTB) Working Group – 2014 - present
2. Member of Wireless Industry Emission (WIE) Working Group – 2013 – present
3. Member of Steering Committee of SKMM and UTM MoU – July 2011 - 2014
4. Committee Meeting on Installation of Cellular Communication Infrastructure in Ministry of Health's Institutions / Hospitals (Mesyuarat Jawatankuasa Membincangkan Pemasangan Infrastruktur Komunikasi Selular dalam Kawasan Institusi/Hospital KKM) – 22 September 2010 – 28 February 2011
5. Reviewer of National Space Policy (Dasar Angkasa Negara) – 1-2 November 2010

## **RESEARCH ACTIVITIES**

### **RESEARCH PROJECT UNDERTAKEN**

#### **INTERNATIONAL GRANT (HORIZON 2020)**

- 1 Feb. 2016 - 31 Jan. 2020 :
- i) Project Member, Advancing the state of the art of MIMO: the key to the successful evolution of wireless networks. Budget approved RM 656152 (Vot 4C094)

#### **HiCoE GRANT (HiCoE FUND)**

- 1 June 2016 -31 Dec. 2017 :
- i) Project Leader, Thermal Effect Investigation of Electromagnetic Field in Wireless Mobile Technologies concerning Allowable Power and Radiation Safety. Budget approved RM 119,910 (Vot 4J212)
  - ii) Project Member, Dielectric Resonator Antenna Array for 5G Application. Budget approved RM 119,910 (Vot 4J220)
  - iii) Project Member, Development of Phase Array Antenna for 5G Applications. Budget approved RM 119,910 (Vot 4J211)
  - iv) Project Member, Flexible Smart Antenna Beamforming Network for 5G Mobile Communication System. Budget approved RM 119,910 (Vot 4J213)
  - v) Project Member, Artificial Neural Network Based Antenna Beam Switching Algorithm for 5G Application. Budget approved RM 119,910 (Vot 4J215)
  - vi) Project Member, Beamforming and Power Allocation for Wireless Powered Communication. Budget approved RM 119,910 (Vot 4J210)
  - vii) Project Member, Spectral efficiency with Non Orthogonal Modulation technique in 5G communication. Budget approved RM 119,910 (Vot 4J214)

#### **FLAGSHIP GRANT (UTMSHINE)**

- 15 Jan. 2016 - 14 Jan. 2018 :
- i) Project Leader, The Characterization and Modeling of Human Body Simulating Liquid for Electromagnetic Field Radiation Investigation. Budget approved RM 50,000 (Vot 03G41)

## **FLAGSHIP GRANT (RUG FUND)**

- 1 Jul 2016 - 30 Sep 2017 : i) Project Member, Development of Flexible Antenna For Smart Antenna 5G Mobile Communication System. Budget approved RM 20,400 (Vot 4J229)
- 1 Aug. 2016 - 31 July 2014 : ii) Project Member, Development of PV Solar Harvest System. Budget approved RM 178,400 (Vot 00G34)
- iii) Project Member, Development of Photovoltaic Film Technology. Budget approved RM 178,400 (Vot 00G35)
- iv) Project Member, Film Antenna Design. Budget approved RM 178,400 (Vot 00G36)

## **RESEARCH UNIVERSITY GRANT (RUG FUND)**

- 1 Jul. 2016 - 30 Jun. 2018 : i) Project Member, Development of Dielectric Resonator Antenna Array for 5G Applications. Budget approved RM 50,000 (Vot 13H26)
- 15 Nov. 2015 -14 Nov. 2017 : ii) Project Member, Wearable Millimeter-wave Antenna with Minimum Interference to the Implanted Medical Device for Future 5G System. Budget approved RM 50,000 (Vot 12H08)
- 5 May 2015 -31 Oct. 2016 : iii) Project Member, Application of Artificial Neural Network to Switched Beam Smart Antenna. Budget approved RM 50,000 (Vot 09H61)
- iv) Project Member, Wireless Industry Emission(WIE): Mobile Base Station EMF Monitoring and Exposure Analysis. Budget approved RM 50,000 (Vot 10H24)
- 1 July 2014 -30 June 2015 : v) Project Member, Communication Systems And Wireless Energy Transfer. Budget approved RM 20,000 (Vot 08H81)
- 1 April 2014 -31 March 2016 : vi) Project Leader, Unequal Size of Witricity Device Design Through The Characterization of Its Coupling Coefficient for Wireless Communication Applications. Budget approved RM 95,000 (Vot 05H43)
- vii) Project Member, Design Implementation of Dielectric Resonator Antenna for High Speed Mobile Devices Application. Budget approved RM 94,000 (Vot 05H62)
- viii) Project Member, Frequency Reconfigurable Rectangular Dielectric Resonator Antenna for Multiple Wireless Applications. Budget approved RM 75,000 (Vot 05H34)
- 1 Dec. 2012 -31 March 2014 : ix) Project Leader, Wireless Power Transfer Design for Mobile Phone Application and Its Electromagnetic Exposure Effect to Human Body. Budget approved RM 50,000 (Vot 08J72)
- 1 Dec. 2012 -31 Dec. 2014 : x) Project Member, Inter-Carrier Interference Mitigation In OFDM Systems Using Eigenstructure Classified

- Pulse Shaping Under Novel Uncertainty Principle. Budget approved RM 100,000 (Vot 05H00)
- xi) Project Member, Transparent Co-Planar Waveguide Dual Band Antenna. Budget approved RM 90,000 (Vot 04H42)
- xii) Project Member, Dual-Polarized Symmetrical Printed Yagi Antenna for Wireless On-Body Communication System (WOBAN). Budget Approved RM 150,000 (Vot 04H36)
- 1 Dec. 2012 -31 Dec. 2013 : xiii) Project Member, Novel Adaptive Channel Estimation Algorithm for Mobile Underwater Acoustic Autonomous Robot Communication System with Application to Disaster Response and Rescue Operations. Budget approved RM 50,000 (Vot 08J69)
- 1 Dec. 2012 -31 Dec. 2013 : xiv) Project Member, Design of A Mimo Dielectric Resonator Antenna for Long Term Evolution Application. Budget approved RM 50,000 (Vot 08J81)
- 1 May 2012 -30 April 2014 : xv) Project Member, Reconfigurable Coplanar Waveguide-Fed Two Arm Archimedean Spiral Slot Antenna. Budget approved RM 90,000 (Vot 02H92)
- 1 April 2011 -31 Dec. 2012 : xvi) Project Leader, Compact and Low Cost Planar Microwave Multi-Port Network for UWB Applications. Budget approved RM 40,000 (Vot 00J61)
- 1 April 2011 -31 July 2012: xvii) Project Member, Software Development Tool for Reflectarray Antenna. Budget approved RM 40,000 (Vot 00J27)
- 1 April 2011 -31 March 2013 : xviii) Project Member, Rain Propagation Studies and Mitigation Technique at 26GHz And 5.8 GHz For Point to Point Application. Budget approved RM 163,000 (Vot 01H05)
- xix) Project Member, Switchable Antennas for Cognitive Radio Applications. Budget approved RM 149,000 (Vot 01H00)
- xx) Project Member, Affine-Based Time-Scale Universal Wireless Channel Simulator for Stationary and Nonstationary Propagation Channels. Budget approved RM 149,000 (Vot 02H31)

#### **PROFESSIONAL DEVELOPMENT RESEARCH UNIVERSITY (RUG FUND)**

- 1 Jan 2017 – 31 Dec 2017: i) Project Leader, Development of Reconfigurable Microstrip Reflectarray Antenna for 5G Communication Systems. Budget approved RM 65,000 (Vot 03E43)
- 15 Sep 2014 - 14 Sep 2015 : ii) Project Leader, Wideband Microwave Component Design For The Use in Wireless Communication Application. Budget approved RM 66,000 (Vot 01E88)

### **MATCHING GRANT (RUG FUND)**

- 1 Aug 2015 - 31 Jul 2017 : i) Project Member, 5G Wireless Communication System on Antenna and Propagation. Budget approved RM 144,944 (Vot 00M78)

### **NEW ACADEMIC STAFF GRANT (RUG FUND)**

- 1 Jul 2011 - 30 June 2012: i) Project Member, Time-Varying Ultra-wideband Channel Characterization and Measurement for Infostation Environment. Budget approved RM 30,000 (Vot 4D040)
- 1 Jul 2010 - 30 June 2011 : ii) Project Leader, Full Calibrated Multi-Port Reflectometer In Multi-Layer Microstrip-Slot Technologies. Budget approved RM 20,000 (Vot 77965)
- 1 Dec 2009 - 31 May 2011 : iii) Project Member, Design of a DRA Reflectarray Antenna at Millimeter Waves Frequency. Budget approved RM 20,000 (Vot 72777)

### **FUNDAMENTAL RESEARCH GRANT SCHEME (FRGS FUND)**

- 1 Aug 2016 -31 Jul 2018 : i) Project Member, Study and Characterize Collaborative Beamforming Networks Using Meta-Heuristic Optimization in Cyber Security. Budget approved RM 61,200 (Vot 4F901)
- 2 Nov 2015 -1 Nov 2017 : ii) Project Member, Adaptive Beamforming Dielectric Resonator Antenna Algorithm with Higher Spatial Resolution of the Electromagnetic Energy. Budget approved RM 99,200 (Vot 4F733)
- 1 Dec 2014 -30 Nov 2016 : iii) Project Member, Study and Characterize Energy-Power Improvement Through Near Field Coupling Optimization for Wireless Power Transfer. Budget approved RM 57,000 (Vot 4F617)
- iv) Project Member, Specific Absorption Rate (SAR) for 4G and 5G Communications in Relation to Biological Effects. Budget approved RM 86,200 (Vot 4F589)
- 1 July 2014 -31 Dec 2015 : v) Project Member, Formulation of Brain Phantom Model for Tumor Detection Based on Microwave Imaging and Radar Signal Processing. Budget approved RM 54,000 (Vot 4F558)
- 16 Dec 2013 -15 Dec 2015 : vi) Project Member, Capacity Improvement Analysis through Sidelobe Reduction for Random Antenna Array System. Budget approved RM 90,000 (Vot 4F290)
- vii) Project Member, The Characterization of Dielectric Resonator For Long Term Evolution Through The



- Investigation of Electromagnetic Cavity. Budget approved RM 94,000 (Vot 4F283)
- 1 April 2013 -31 March 2015 : viii) Project Leader, The Characterization of Human Head Phantom Through the Investigation of Electrical Properties for Microwave Imaging System. Budget approved RM 140,000 (Vot 4F206)
- 1 July 2011 -30 Jun 2013 : ix) Project Leader, Error Correction Method Through the Characterization of Standards for Wideband Multi-port Reflectometer. Budget approved RM 102,000 (Vot 4F103)
- 1 Jan 2011 -31 Dec 2012 : x) Project Member, A New Phase Beamforming Algorithm for Future Mobile Ground Station Antennas. Budget approved RM 80,000 (Vot 4F036)

### **PROTOTYPE RESEARCH GRANT SCHEME (PRGS FUND)**

- 15 Aug 2017 – 14 Aug 2019: i) Project Leader, Development of Millimeter-Wave Nolen Matrix-Based Beam-Steering Network for 5G Wireless Communication System. Budget approved RM 94,340 (Vot 4L684)
- 1 Dec 2015 -30 Nov 2017 : ii) Project Member, Development of Flexible Antenna for Smart Antenna 5G Mobile Communication system. Budget approved RM 89,200 (Vot 4L662)

### **EXPLORATORY RESEARCH GRANT SCHEME (ERGS FUND)**

- 15 June 2012 -14 June 2014 : i) Project Member, Characterization of Artificial Magnetic Conductors (AMC) Structure to Bandwidth Broadening and Gain Enhancement of Low Profile Antennas. Budget approved RM 70,000 (Vot 4L056)

### **SCIENCE FUND**

- 1 June 2014 -31 June 2016 : i) Project Member, Design and Development of 4G LTE-WLAN Customer Premise Equipment. Budget approved RM 242,500 (Vot 4S105)
- 1 April 2014 -31 March 2016 : ii) Project Member, Development of Indoor Parameter Sensing using UWB-based System. Budget approved RM 199,660 (Vot 4S099)
- 1 June 2013 -31 July 2015 : iii) Project Member, MIMO-OFDM Radio over Fiber Integration for 4G Backhaul Heterogeneous Network. Budget approved RM 265,700 (Vot 4S066)
- 1 Jan 2013 -31 Dec 2014 : iv) Project Member, Development of Head Monitoring System Using Array Transceiver for Microwave Imaging Application. Budget approved RM 145,800 (Vot 4S056)
- 1 July 2012 -30 June 2014 : v) Project Member, A software-defined ultra-wideband mobile wireless transceiver based on adaptive channel estimation method using nonstationarity

channel information. Budget approved RM 278,394 (Vot 4S066)

#### **CREST FUND with Ericsson**

- May 2017 – May 2020 :
- i) Project Member, A Beamforming Dielectric Resobator Antenna Array System for 5G Applications. Budget approved RM 554,200 (Vot)

#### **CREST FUND with INTEL**

- 1 April 2014 -31 March 2017 :
- i) Project Member, Near Field Communication Based Wireless Charging and Radio Frequency Energy Harvesting for Smart Phone Application. Budget approved RM 362,360 (Vot 4B151)

#### **CONTRACT RESEARCH PROJECT AWARDED BY MALAYSIAN COMMUNICATIONS AND MULTIMEDIA COMMISSION (MCMC)**

- 6 Dec 2013 -30 Sep 2014 :
- i) Project Member, The Research and Training Facilities Related to The RF Propagation. Budget approved RM 198,500 (Vot 4B127)
- 14 Nov 2013 -30 Sep 2014 :
- ii) Project Member, The Upgrade of Long Term Evolution Laboratory. Budget approved RM 499,000 (Vot 4B124)
- 1 Nov 2013 -30 Sep 2014 :
- iii) Project Member, The Establishment of Specific Absorption Rate Measurement Facility. Budget approved RM 499,500 (Vot 4B125)
- 27 Dec 2012 -1 Aug 2015 :
- iv) Project Member, The Establishment Of EMF Emission Real-Time Monitoring Through Website. Budget approved RM 320,000 (Vot 4C037)
- 27 Dec 2012 -30 May 2015 :
- v) Project Member, The Establishment of EMF Remote Monitoring Station Near Base Station Sites. Budget approved RM 490,000 (Vot 4C036)

#### **RESEARCH UNIVERSITY GRANT FOR LABORATORY**

- 2016 :
- i) Project Leader, Maintainance Budget for ISO/IEC 17025 Accreditation for Specific Absorption Rate (SAR). Budget approved RM 30,000
- 2015 :
- ii) Project Leader, Budget for ISO/IEC 17025 Accreditation for Specific Absorption Rate (SAR). Budget approved RM 50,000
- 2012 :
- iii) Project Leader, UTM Specific Absorption Rate Measurement Laboratory – SAR System. Budget approved RM 700,00

## PATENT FILED/DISCLOSURE

- i) Muhammad Ramlee Kamarudin, Roshayati Yahya, Norhudah Seman, A Textile antenna device. (PI2015702868). 2015.
- ii) Muhammad Ramlee Kamarudin, Roshayati Yahya, Norhudah Seman, Textile CPW Koch Antenna For On-Body Communications. (PI2015702878). 2015.
- iii) Muhammad Ramlee Kamarudin, Roshayati Yahya, Norhudah Seman, A Flexible Wearable Device for Imaging and Methods for Fabrication Thereof. (PI2015702880). 2015.

## CONSULTATION

- 2016 :  
2015 :
- i) SAR Measurement – SIRIM. Cost RM 1,060
  - ii) SAR Measurement – UKM. Cost RM 2989.20
  - i) SAR Measurement – Internal (UTM). Cost RM 890.40.

## TEACHING ACTIVITIES

Semester	Sem	Subject Code	Subject	Credit Hour	Total
2017/2018	1	MKET1463	Advanced Communication Electronic	3	42
2016/2017	2	SKEE2523	Teori Medan Elektromagnet	3	42
2016/2017	1	SKEE2073	Isyarat dan Sistem	3	42
2014/2015	2	MET1433	RF/Microwave and Antenna Design (Section 1)	3	42
2014/2015	2	MKET1433	RF/Microwave and Antenna Design (Section 1)	3	42
2014/2015	1	SKEE2073	Isyarat dan Sistem	3	42
2013/2014	2	MET1433	RF/Microwave and Antenna Design	3	42
2013/2014	1	SKEE2073	Isyarat dan Sistem	3	42
2012/2013	2	MET1433	RF/Microwave and Antenna Design	3	42
2012/2013	1	SKEE2073	Isyarat dan Sistem	3	42
2011/2012	2	SEE3533	Prinsip Perhubungan	3	42
2011/2012	1	SEE2043	Isyarat dan Rangkaian	3	42
2011/2012	1	MET1433	RF/Microwave and Antenna Design	3	42

2010/2011	2	SEE1123	Instrumentasi & Pengukuran Elektrik	3	42
2010/2011	1	SEU3043	Isyarat dan Rangkaian	3	42
2009/2010	2	SET 3573	Microwave Engineering (Section 1)	3	42
2009/2010	2	SET 3573	Microwave Engineering (Section 2)	3	42

## SUPERVISION

### *Postdoctorals*

Year	No.	Name	Status	Title	Roles of Supervision
2017	1	Dr Muhammad Inam Abbasi	Completed	Development of Reconfigurable Microstrip Reflectarray Antenna for 5G Communication Systems	Main Supervisor
2014	2	Dr Dyg Norkhairunnisa Binti Abang Zaidel	Completed	Wideband Microwave Component Design For The Use in Wireless Communication Application	Main Supervisor

## PhD Students

Year	No.	Name	Status	Title	Roles of Supervision
2016	1	Nor Azimah Binti Mohd Shukor	Ongoing 2016-	The Development of Beam-Steering Network with 180 Degree Phase and Dual-Beamwidth Capability for 5G Wireless Communication Application	Main Supervisor
2015	2	Mohd Sollehudin Bin Md. Said	Ongoing 2015 -	Characterization and Modeling of Wideband Specific Absorption Rate (SAR) Liquid	Main Supervisor
	3	Nur Ilham Aliyaa Binti Ishak	Ongoing 2015 -	Investigation on The Effect of Multiple Antennas Use in Wireless Communication on Specific Absorption Rate (SAR)	Main Supervisor
2014	4	Noor Ainniesafina Binti Zainal	Completed (Thesis Correction) 2014 - 2018	Design of Unequally Microstrip Linear Array Antenna for 5G Applications	Main Supervisor
2013	5	Noorlindawaty Binti Md Jizat	Ongoing 2013 -	Cascaded Butler Matrix as a Beamforming System for Dual Beamwidth	Co-Supervisor
2012	6	Mohd Hidir Bin Mohd Salleh	Ongoing 2012 -	Design of Unequal Compact Size Planar Wireless Electricity Device for Efficient Middle Range Wireless Power Transfer	Main Supervisor
	7	Yaakub Bin Omar	Incomplete	Designing a Model of Wave Propagation in The Vicinity of Base Station in Urban and Suburb	Main Supervisor

2011	8	Roshayati Binti Yahya @ Atan	Graduated	Design and Characterization of Wideband Antennas for Microwave Imaging Application	Co-Supervisor
	9	Khairul Huda Binti Yusof	Graduated	Design of Multi-Port Network Utilizing Microstrip-Slot Technique For Ultra Wideband System	Main Supervisor
	10	Chew Kim Mey	Graduated	Brain Tumor Detection using Microwave Signal Analysis	Co-Supervisor
2010	11	Dyg Norkhairunnisa Binti Abang Zaidel	Graduated	Ultra Wideband Butler Matrix for Beamforming Network	Co-Supervisor
2009	12	Arshed Abdulhameed Oudah	Graduated	Compatibility and Coexistence Analysis of LTE Networks with Other Cellular Systems	Co-Supervisor
2007	13	Sami Said Tarbosh Salam	Graduated	Intercarrier Interference Mitigation of OFDM with High Mobility and High Data Rate	Co-Supervisor

### ***MSc. Students***

<b>Year</b>	<b>No.</b>	<b>Name</b>	<b>Status</b>	<b>Title</b>	<b>Type</b>	<b>Roles of Supervision</b>
2016	1	Nazleen Syahira Binti Mohd Suhaimi	Completed (Thesis Correction) 2016 - 2018	5G Beam-Steering Network	Research	Main Supervisor
	2	Nurul Inshirah Bt Mohd Razali	Ongoing 2016-	5G Specific Absorption Rate Investigation through the implementation of PIFA Antenna	Research	Main Supervisor

2013	1	Nor Azimah Binti Mohd Shukor	Graduated	Design of Multi-Port Network Formed by Enhanced Branch Line Coupler for Wideband Applications	Research	Main Supervisor
	2	Muhamad Azrul Bin Abdullah	Graduated	Wideband Complex Ratio Measuring Unit Design for Wireless Communication Applications	Research	Main Supervisor
2012	3	Mohd Sollehudin Bin Md. Said	Graduated	Human Head Phantom Material Characterization For Microwave Imaging System	Research	Main Supervisor
2011	4	Amirudin Bin Ibrahim	Graduated	Long Term Evolution Multimedia Broadcast and Multicast Services in Single Frequency Network	Research	Main Supervisor
	5	Rashidah Binti Che Yob	Graduated	Error Correction Method of Wideband Multi-Port Reflectometer using Least Mean Square	Research	Main Supervisor
2010	6	Siti Nor Ain Binti Mohamed Ghazali	Graduated	Six-Port Network as Complex Ratio Measuring Unit for Wireless Communication System	Research	Main Supervisor
	7	Siti Fatimah Bt Ausordin	Graduated	Design of Reduced-Size Multilayer Coupler for Butler	Research	Co-Supervisor

				Matrix Beam Forming Network		
2009	8	Mohamad Fadli Bin Yusop	Incomplete	Six-Port Reflectometer	Research	Co-Supervisor

## **POSTGRADUATE EXAMINATION /VIVA**

### **UTM STUDENTS/VIVA**

1. Assistant Chairman of the PhD. Viva Panels for Akaa Agbaeze Eteng, Enhancement of Wireless Energy Transfer in near-Field Coupled Communication Links, 24 March 2016.
2. Assistant Chairman of the PhD. Viva Panels for Ali Farzamiza, 30 April 2014.
3. Panel/Examiner of 1st Stage Evaluation for Master and PhD, 2010 - present.
4. Internal Examiner of the MEG Viva for Bader Saadi Fadhel, 15 November 2011.
5. Internal Examiner of the MEG Viva for Hayder Hilal Ta'an, 2 August 2010.
6. Internal Examiner of the MEG Viva for Ashraf Abdurahman Adam Salih, UWB Four-Port Butler Matrix using Two Layer Directional Coupler, 4 June 2010.
7. Internal Examiner of the MEG Viva for Masoud Mohebbi Nia, Spectrum Sharing of 80 MHz channels for HAPS with FSS uplink in the range of 5850-7075 MHz, 1 March 2010.

### **MSc EXTERNAL EXAMINER**

1. Noor Suhaira Alia Binti Arshad, Optimization of Six-Port Device for QPSK Demodulation in Front-End Communication Receiver, MSc. in Communication Engineering, UNIMAP, 19 February 2016.
2. Babarinde Oluwatosin John, Feasibility Study on Detecting Lung Tumour in Multilayer Thorax Models using Ultra-Wideband Microwave Imaging Technique, MSc. in Communication Engineering, UNIMAP, 13 October 2015.

## **PUBLICATIONS**

### **JOURNAL**

#### **ISI Journal :**

1. M. H. Mohd Salleh, N. Seman, D. N. Abang Zaidel, A. A. Eteng, "Investigation of Unequal Planar Wireless Electricity Device for Efficient Wireless Power Transfer", Radioengineering, vol. 26, no. 1, pp. 251-257, Apr. 2017. (IF: 0.590, Q4)
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### **PROCEEDINGS/CONFERENCE (NON-INDEXED)**

1. N. Seman, M. E. Bialkowski and T. Abd Rahman, "Multi-port reflectometers formed by uwb microstrip-slot couplers and dividers", in proc. IEEE International Conference on Antennas, Propagation and Systems, Dec. 2009.
  - Award: First Prize Best Paper Diamond Award
2. N. Seman and M. E. Bialkowski, "Design of a compact ultra-wideband reflectometer", in Eleventh Australian Symposium on Antennas, Sydney, Feb. 2009, pp. 19.
3. N. Seman and M. E. Bialkowski, "UWB reflectometer for microwave breast cancer detection", in Tenth Australian Symposium on Antennas, Feb. 2007.

### **SEMINARS/WORKSHOPS**

1. 20-22 Dec 2016 – Advancement Research in Circuits and Systems International Conference (ARECAS 2016) – Session Chair
2. 18-19 Dec 2016 – International Conference on Electrical, Electronic, Communication and Control Engineering 2016– Session Chair
3. 30-31 May 2016 – Advancing the State of Art of MIMO (ATOM) Worskhop – Invited Speaker
4. 9-12 Nov. 2015 – The 2015 International Symposium on Antennas and Propagation (ISAP)– Session Chair
5. 5 April 2016 – Sharing Session with UTMShine – Invited Speaker
6. 27 June 2014 – Speaker/Instructor - Short Course on Introduction to Broadcast Technology, CyberSecurity Malaysia, Seri Kembangan, Selangor
7. 2011 – 2014 : Industrial Development Program (IDP) in collaboration with SKMM Academy
  - i) 12 September 2013 – 12 September 2013 - Speaker/Instructor, Short Course on Introduction to Broadcasting Services Short Course on Spectrum Management Module 1
  - ii) 8 October 2012 – 10 Oktober 2012 - Speaker/Instructor, Short Course on Introduction to Broadcasting Services
  - iii) 27 Feb 2012 – 2 March 2012 – Speaker/Instructor, Basic Spectrum Management (BSM)
  - iv) 23 May 2011 - 10 June 2011 – Speaker /Instructor, Advanced Spectrum Management (ASM)
8. June 2012 – Session Chair - Faculty of Electrical Engineering Research Colloquium on Electronics, Power, Instrumentation & Control and Communications (EPIC<sup>2</sup>) Communication Field
9. 2010 - 2011 : Seminars and Workshop coordinated by Seminar and Short Course Committee
  - i) 3 June 2010 - Coordinator (Secretary), Introduction to LaTeX in Writing Program
  - ii) January 2010 - Coordinator (Secretary), Innovation in Microwave Test and Measurements, FKE UTM Seminar Series 2010/1 collaboration with IEEE Malaysia AP/MTT/EMC Chapter



10. March 2010 - Coordinator and Presenter/Instructor of WCC Short Course of Wireless Communication Systems

### **THESIS**

1. Norhudah Seman, Multi-Port Reflectometer in Multilayer Microstrip-Slot Technology for Ultra Wideband Applications, Ph.D. Thesis, The University of Queensland, Australia (2010).

### **BOOK CHAPTER**

1. N. Seman and Mohd Haizal Jamaluddin, "Multi-port network for ultra wideband applications", in *Antenna and Applied Electromagnetic Application - Volume II*, UTM Press, 2015.
2. M. H. Jamaluddin, Raphael Gillard, Ronan Sauleau and N. Seman, "Unit-cell of dielectric resonator antenna (DRA) reflectarray", in *Antenna and Applied Electromagnetic Application - Volume II*, UTM Press, 2015.
3. N. Seman and Muhammad Ikhram Abdul Razak, "Ultra wideband Six-Port Receiver Using an Integrated Correlator in Multilayer Microstrip-Slot Technology", in *Antenna and Applied Electromagnetic Application - Volume II*, UTM Press, 2015.
4. A. Ibrahim, N. Seman and C. Y. Leow, "Long term evolution multimedia broadcast and multicast service", in *Recent Advancements in Wireless Communications*, UTM Press, 2014.
5. M. H. Jamaluddin, Raphael Gillard, Ronan Sauleau and N. Seman, "Design of dielectric resonator antenna (DRA) reflectarray in Ka-Band", in *Antenna and Applied Electromagnetic Application - Volume 1*, UTM press, 2011.
6. N. Seman, Marek E. Bialkowski and Mohd Haizal Jamaluddin, "Ultra wideband multi-port transceiver", in *Antenna and Applied Electromagnetic Application - Volume 1*, UTM press, 2011.
7. M. E. Bialkowski and N. Seman, "Ultra Wideband Microwave Multi-Port Reflectometer in Microstrip-Slot Technology: Operation, Design and Applications", in *Advanced Microwave and Millimeter Wave Technologies Semiconductor Devices Circuits and Systems*, Vienna: In-Tech, March 2010. ISBN 978-953-307-031-5. DOI: 10.5772/8760
8. N. Seman and M. E. Bialkowski, "Microstrip-slot transitions and its applications in multilayer microwave circuits", in *Passive Microwave Components and Antennas*, Vienna: In-Tech, April 2010. ISBN 978-953-307-083-4. DOI: 10.5772/9415
9. M. E. Bialkowski and N. Seman, "Ultra Wideband Microwave Multi-Port Reflectometer in Microstrip-Slot Technology: Operation, Design and Applications", in *Advanced Microwave Circuits and Systems*, Vienna: In-Tech, April 2010. ISBN 978-953-307-087-2. DOI: 10.5772/8428