



PERSONAL DETAILS

Name : Assoc. Prof. Dr Razali Bin Ngah
Gender : Male
Date of Birth : 25 July 1966
Nationality : Malaysian
Marital Status : Married
Permanent Address : 41 Jalan Meranti 4, Taman Sri Pulai, 81110 Kangkar Pulai, Johor
Correspondent Address : Wireless Communication Centre, Fakulti Kejuruteraan Elektrik, Universiti Teknologi Malaysia, 81310, UTM Skudai,

Tel : (Mobile) : 019-7566248 (Office): 07-5536089 (Fax): 07 5535252
E-mail : razalin@fke.utm.my, razalingah@utm.my
Website : razalingah.fke.utm.my
ID Staff : 5568

Expertise : Mobile Radio Propagation, Antenna and RF design, Photonics Network, Wireless Communication Systems and Radio over Fibre (RoF).

ACADEMIC QUALIFICATIONS

2005 : Ph.D. (Photonics)
University of Northumbria, UK

1996 : M.Sc. (RF. Communication Engineering)
University of Bradford, UK

1989 : B. Sc. (Electrical Engineering)
Universiti Teknologi Malaysia, Malaysia

AWARD AND HONORS RECEIVED

2002 - 2017 : **Awards/Achievement**

1. May 2017 -Best Paper Award, Asia Multidisciplinary Conference, UTM Johor, "Cooperative GPS and Neighbors Awareness Based Device Discovery for D2D Communication in In-Band Cellular networks".
2. Jan 2013 – Silver Medal, Ekspo Rekacipta & Pameran Penyelidikan UniMAP 2012, UniMAP., "A Novel 60 GHz

RoF system with multiband signal generator using two parallel MZ modulator”.

3. Nov 2013 - Best Paper Award, 2013 11th IEEE Malaysia International Conference on Communications.
4. 2011- Anugerah Perkhidmatan Cemerlang Tahun 2011
5. 2011 - Best Paper Award, “Radiation Pattern Behaviour of Reconfigurable Asymmetry Slotted Ultra Wideband Antenna”, ICWMC 2011
6. 2010 - Khidmat Bakti 2010
7. Aug 2010 - Bronze Medal, “Photonics Access Point”, 12TH INDUSTRIAL ART AND TECHNOLOGY EXHIBITION (INATEX) 2010, UTM.
8. Feb 2010 - Silver Medal, “A Wideband Photonic Antenna For Wireless Communication Access Network”, Malaysia Technology Expo 2010 (MTE 2010), UTM.
9. Oct 2009- Bronze Medal, “Photonics Antenna For Wireless Communication At 2.4 GHz”, 11TH INDUSTRIAL ART AND TECHNOLOGY EXHIBITION (INATEX) 2009, UTM.
10. July 2007 - Anugerah Perkhidmatan Cemerlang Tahun 2006.
11. Mac 2006- Consolation Prize, ‘Philips Young Inventors Challenge’.
12. 2006 - UTM’s Research Group Award, 2006.
13. 2002- UTM’s Research Group Award, 2002.

PROFESSIONAL MEMBERSHIP / QUALIFICATIONS / RECOGNITION

2014 - 2018

1. Editorial Board of JEA Journal of Electrical Engineering
2. Member, The Institute of Electronics, Informations and Communications Engineers (IEICE) Membership No : 1483196
3. Associate Editor Board of Engineering Technology Open Access Journal (ETOAJ)

2009 - 2018

- :
1. Member, IEEE, Membership No : 90638697.
 2. Member, IEEE Communication Society, Membership No : 90638697.
 3. Member, IEEE Photonic Society, Membership No : 90638697.
 4. Member, Board of Engineer Malaysia .

ADMINISTRATIVE EXPERIENCE

Faculty Level

2005- 2017

- i) May 2015 - April 2017 – Committee of Jawatankuasa Kerja Pengajian Pasca Siswazah (JKKPS), Faculty of Electrical Engineering
- ii) Jan 2005 – Present - Deputy Director of Wireless Communication Centre, Faculty of Electrical Engineering.
- iii) Feb 2007- Present – Academic Coordinator of Program Pengajian Siswazah Pesisir Sarjana Kejuruteraan Elektrik
- iv) Feb 2007 – Present – Communication Field Representative

2015-2018

- i) Feb 2015- Feb 2018 – Fellow Researcher, Wireless Communication Centre

OTHERS EXPERIENCE

NATIONAL COMMITTEE

1. Committee Member (2017), Industry Standards Committee on Electrical and Electronics Equipment and Accessories.
2. Committee Member (1996-2001), Project Management Team, Working Party 1/1, ITU-Malaysia.
3. Committee Member (4-5 March 1997), Seminar on Future Public Land Mobile Telecommunication Systems/ International Mobile Telecommunications-2000. Nikko Hotel, Kuala Lumpur.
4. Committee Member (11-13 April 1995), IEEE International Conference on Electromagnetic Compatibility (ICEMC'95), Shangri-La Hotel, Kuala Lumpur.

RESEARCH ACTIVITIES

RESEARCH PROJECT UNDERTAKEN

RESEARCH PROJECT UNDERTAKEN BY MINISTRY OF HIGHER EDUCATION

1. Razali Ngah et al, Project Leader for Intelligent Routing Algorithm For Device To Device Communication In 5G. The budget approved is RM 40,000. 1 July 2017 – 30 June 2019.
2. Razali Ngah et al, Project Leader for Artificial Neural Network Based Antenna Beam Switching Algorithm For 5G Application. The budget approved is RM 90,622. 1 June 2016- 31 May 2018.
3. Razali Ngah et al, Project Leader for Application of Artificial Neural Network to Switched Beam Smart Antenna. The budget approved is RM 50,000. 1 May 2015 – 31 October 2016.
2. Razali Ngah et al, Project Leader for Inter-Carrier Interference Mitigation in Ofdm

- Systems Using Eigenstructure Classified Pulse Shaping under Novel Uncertainty Principle. The budget approved is RM100,000, 1 January 2012- 31 December 2014
3. Razali Ngah et al ,Project Leader Affine-Based Time-Scale Universal Wireless Channel Simulator For Stationary And Nonstationary Propagation Channel, GUP Grant, RM 149,000.00, 1 April 2011- 31 Mac 2013.

RESEARCH PROJECT UNDERTAKEN BY MINISTRY OF SCIENCE AND TECHNOLOGY (MOSTI)

1. Razali Ngah et al, Project Leader for MIMO-OFDM Radio over Fiber Integration for 4G Backhaul Heterogeneous Network.The budget approved is RM265,700, June 2013- July 2015.
2. Razali Ngah et al, Project Leader for Photonic Antenna for WLAN Backhaul Network, The budget approved is RM280,600.00.1 December 2008 – 31 May 2010.
3. Researcher, Antennas for On-Body Communication Systems, RM170,160.00, 1 November 2008 - April 2010,

FUNDAMENTAL RESEARCH GRANT SCHEME (FRGS FUND)

1. Project Leader, Joint Device Discovery Modeling for 5G Device to Device Multi Cell Communication , Budget Approved RM 76,532.00, 15 August 2017- 14 August 2019.
2. Researcher , The Adaptive Channel Assignment for Indoor Wireless Mesh Networks, Vot 78369, Budget Approved RM 92,000.00. , Nov. 2008 – Oct.2010
3. Wireless channel characterization and multicarrier technique in wavelet domain for broadband communication system, FRGS, Vot 78368, RM 89,000.00, Nov. 2008 – Oct.2010, Project Leader

CONTRACT RESEARCH PROJECT

1. Emerging Wireless Technology (Spectrum Needs for IMT-Advances Malaysia), Contract Research, Vote. 68713, RM 645,808.00, 2 Sept 2007 – 2 Sept 2009, Researcher.

POST DOCTORAL RESEARCH UNIVERSITY GRANT

1. Razali Ngah, Hamza Mohammed Ridha Yahya Al-Khafaji , Prof Tharek Abd Rahman A Novel, Spectrally Efficient, Highly Secure and Cost Effective Transceiver Design for 10Gbps Incoherent OCDMA Systems. The budget approved is RM 71,000.00(1 April 2014- 31 March 2015). Project Leader.

PATENT FILED/DISCLOSURE

1. A Photonic Antenna, Feb. 2010 (PI2009-5143)
2. A Wideband Radio Frequency Front-End System For Downlink Radio Over

COPYRIGHT

1. Experimental Measurement and Statistical Analysis of the RMS delay Spread in Time-Varying Ultra-Wideband Communication Channel, UTM Copyright, 2016 (Approved)
2. Stationarity Regions for Ultra-Wideband Channels, 2016 (submitted)
3. Experimental Measurement and Analysis of Electromagnetic Communication in Underwater Wireless Sensor Networks, UTM Copyright 2016 (submitted)
4. Measurement and Analysis of an Outdoor MIMO-UWB Communication Channel , UTM Copyright 2016 (submitted)
5. Artifact Paths Removal Algorithm for Ultra-Wideband Channels, 2016 (Approved)
6. Experimental Measurement and Modeling of Path loss for Sparse Outdoor Ultrawideband Channels, UTM Copyright, 2016 (Approved).
7. The Relationship between Path Loss and RMS Delay Spread in Time-Varying Ultrawideband Channels, UTM Copyright , 2016 (Approved)
8. Characterization and Modeling of Sparse Outdoor Ultrawideband Channel (submitted)
9. Hamza Mohammed Ridha Al-Khafaji, Razali Ngah A Novel Two Code Keying Scheme for Enabling Bipolar Encoding in High Rate- SAC-OCDMA Systems, Uk Copyright Service, 4 May 2014- 4 May 2019.

NATIONAL EVALUATION PANEL

1. IPT Evaluation Panel , Internal Panel, Innovative Engineering, Universiti Teknologi Malaysia,2016.
2. IPT Evaluation Panel, External Panel, Universiti Teknikal Malaysia Melaka, 2016.

TEACHING ACTIVITIES

Semester	Sem	Subject Code	Subject	Credit Hour
2017/2018	1	SKEE 3533	Prinsip Perhubungan	3
2016/2017	1	MKET 1423	Sistem Perhubungan Wayerles	3
2015/2016	2	SKEU 1003	Asas Kejuruteraan Elektrik	3
2015/2016	1	SKEE 3533	Prinsip Perhubungan	3
2015/2016	1	SEE 4513 (UTMSPACE)	Cellular Radio Communications	3
2015/2016	1	SEE 4513	Sistem Perhubungan	3
2014/2015	2	SKET 4533	Sistem Perhubungan Wayerles	3
2014/2015	1	SKEU 3533	Prinsip Perhubungan	3
2013/2014	2	MET 1383	Komunikasi Satelit	3

2013/2014	1	SEE 4513	Sistem Perhubungan	3
2012/2013	2	MET 1383	Komunikasi Satelit	3
2012/2013	2	SET 4533	Sistem Perhubungan Wayerles	3
2012/2013	1	SEE 4513	Sistem Perhubungan	3
2012/2013	1	SET4812	Final Year Project	2
2011/ 2012	2	SET 4824	Final Year Project	4
2011/2012	2	SEE 4533	Sistem Perhubungan Wayerles	3
2011/2012	1	SET4812	Projek Bahagian I	2
2010/2011	1	SET4824	Projek Bahagian II	2

SUPERVISION

Post Doctoral

Year	No.	Name	Status	Title	Roles of Supervision
2017	1	Yasser K.Reza Zahedi	Completed	Characterization of Massive MIMO UWB Channels	Main Supervisor
2015	2	Hamza Mohammed Ridha Yahya Al-Khafaji	Completed	A Novel, Spectrally Efficient, Highly Secure and Cost Effective Transceiver Design for 10Gbps Incoherent OCDMA Systems	Main Supervisor

PhD Student

Year	No.	Name	Status	Title	Roles of Supervision
2017	1.	Ooi Sock Theng	Ongoing	Satellite Multiple Access Schemes For 5G Wireless Communications	Main Supervisor
	2.	Wan Asilah Wan Muhammad	Graduated	MIMO Magnetite Polymeric Composite Antenna Array for LTE A UpLink Application	Main Supervisor
2016	1.	Omar Hayat	Ongoing	Device Discovery for D2D to Communication in Inband Cellular Networks.	Main Supervisor

	2.	Yasser K.Reza Zahedi	Graduated	A Single Template Deconvolution Algorithm For Ultra-Wideband Communication Channel	Main Supervisor
	3.	Bushra Naeem	Graduated	Generic Framework for Seamless Vertical Handovers in Future Heterogeneous Networks	Main Supervisor
	4.	Stella Orakwue lfeoma	Graduated	Implementation of Artificial Neural network in Switched Smart Antenna	Main Supervisor
2015	1.	Solomon Nunoo	Graduated	Robust Adaptive Channel Estimation for Mobile Ultra Wideband Systems	Main Supervisor
2014	1.	Teguh Prakoso	Graduated	Broadband Access Point For Radio Over Fiber	Main Supervisor
	2.	Nael Ahmed Mohammed	Graduated	Enabling technologies for Optical millimeter-wave signal generation and distribution in radio-over-fiber system to overcome fiber chromatic dispersion	Co-Supervisor
2013	1.	Nashwan Mohammed Al Saman	Ongoing	Modified Mode Group Diversity Multiplexing Technique Using Photonic Crystal Fiber For Future Wireless Communication Systems	Main Supervisor
	2.	Muhamad Hafiz Shafie	Ongoing	MIMO-OFDM Radio Over Fiber Integrationfor 4G Backhaul Heretogeneous Network	Main Supervisor
	3	Zulkifli Ambak (PhD Industri)	Ongoing	Design and develop an optical receiver based	Main Supervisor

				on multilayer Low Temperature co-fired Ceramic (LTCC) System on Package (SoP) for millimetre wave Radio over Fiber (RoF) Applications	
2011	1.	Reza Firsandaya Malik	Graduated	The wireless mesh routing protocol using optimization algorithm in mobile IP network	Co-Supervisor
2010	1.	Uche Okonkwo Anicetus Kennedy	Graduated	Wavelet-based multicarrier transmission and channel characterization for broadband wireless communication system	Main Supervisor
2009		Yusnita Rahayu	Graduated	Re-configurable UWB antenna design and development for wireless communication system	Co-Supervisor

MSc. Student

Year	No.	Name	Status	Title	Type	Roles of Supervision
2015	1.	Nor Adibah Ibrahim	Graduated	Inter- Carrier Interference (ICI) Mitigation in OFDM Systems using Pulse Shaping	Research	Main Supervisor
	2.	Nor Aswani Mamat	Graduated	Affine based time-scale wireless channel simulator for stationary & non stationary propagation model	Research	Main Supervisor

2014	1.	Siti Najwa Mohammad	Graduated	Milimetre Wave Bandpass Filter for Radio Over Fiber Application	Taught Course	Main Supervisor
2013	1.	Mohd Jimmy Ismail	Graduated	Multichannel Orthogonal Frequency Division Multiplexing – Rof For Wireless Access Network	Taught Course	Main Supervisor
	2.	Vino Subramaniam	Graduated	Mimo- Ofdm Radio Over Fiber For 4g Heterogeneous Network Backhaul	Taught Course	Main Supervisor
	3.	Liya Mohammad	Ongoing	Photonic Antenna for Long Term Evolution Application	Reseach	Main Supervisor
2012	1.	Nur Rashidah Binti Abas Azmi	Graduated	Wireless Access Network Using Radio Over Fiber Technology	Taught Course	Main Supervisor
	2.	Norliziani Zamuri	Graduated	MIMO-OFDM based Photonic Access Point for FTTH deployment in Malaysia	Taught Course	Main Supervisor
2011		Peter Ken Arhebamen	Ongoing	Downhole Wireless Cased Hole Logging Tools Systems In Oil & Gas Wells	Research	Main Supervisor
2009	1.	Maliki Ibrahim	Graduated	Wavelet based receiver for digital modulation system.	Taught Course	Main Supervisor
	2.	Muhamad Hatta Hussain	Graduated	Digital Modulation technique using wavelet.	Taught Course	Main Supervisor
	3.	Nur Adyani Mohd Affrendi	Graduated	Performance analysis for WiMax in Ourdoor	Taught Course	

				Environment.		
2001		Lim Tin Sze	Graduated	Software development for RLSA antenna	Reseach	Co-Supervisor

POSTGRADUATE EXAMINATION /VIVA UTM STUDENTS/VIVA

2016

1. Chairman of the Msc.VIVA Panels for Muhamad Azrul, Wideband Complex Ratio Measuring unit For Wireless Communications Applications, August 2016.
2. Chairman of the Msc.VIVA Panels for Muhammad Ridwanto Bin Syaful Anwar, March 2016.
3. Chairman of the Msc.VIVA Panels for Wizatul Izyan, Circularly Polarized Transparent Antenna Design for 5.8 Ghz Applications, Jan 2016

2015

1. Chairman of the MSc.VIVA Panels for Ismadi Ibrahim, Load Distribution Mesh Routing (LDMR) for Wireless Mesh Network, May 2015.
2. Internal Examiner for Jong Siat Ling , Feb 2015.
3. Chairman of the MSc. VIVA Panels for Mohd Husaini Mohd Fauzi , Development of Ad Hoc Multi-Hop WI-FI Based Wireless Sensor Network, Jan 2015.

2014

1. Chairman of MSc. Viva Panels for Mas Eliza binti Mohd Azol, Nov 2014
2. Internal Examiner for Ali Farzamina, May 2014
3. Internal Examiner for Mohd Khairul Hisham Bin Ismail, May 2014
4. Internal Examiner for Nassrin Ibrahim Mohamed Elamin, May 2014

PhD EXTERNAL EXAMINER

2018

1. Mohamad Ariffin Mutalib “Integrated Chebyshev Bandpass Filter and Notch Filter with reconfigurable capabilities for next generation wireless communication” UTEM, Feb. 2018.

2017

1. Suha Qasim Hadi “ Development a New Model for Framelet-Based OFDM System

Using Random Mapping Over Wireless Communication with FPGA Implementation” , UniMAP, May 2017.

2016

1. Siti Zubaidah Bte Aziz, “ Reactive- Loaded Antenna Designs for Ultra-Wideband (UWB) Applications”. UniMAP,2016
2. Omar Khaldoon, Enhance Multi-Cell Coordination in Wireless Communication System using Beamforming Method. UniMAP,2016
3. Zeyid Tariq Ibraheem, Enhance Partial Transmit Sequence Technique with Improved Phase Factors for Orthogonal Frequency Multiplexing Communications, UniMAP ,2016

2015

1. Nur Salihah Binti Alias, Investigation on the Effect of Plasma and Electrical Parameters on Plasma Antenna,UMT,2015

2014

1. Thennarasan Sabapathy, Design and Analysis of Broadly Steerable Parasitic Patch Array Antennas Using PIN Diodes Switches for 5.8GHz Applications, UniMAP, 2014
2. Jaafar Adhab Angood, Novel Approach to Enhance Capacity and Coverage for Multi-Hop Relay in LTE-A Networ, UniMAP, 2014.
3. Mohd Khalid Salman Fadhil, New Radio Resources Allocation Technique to Enhance The Performance for Fractional Frequency Reuse Base Station in Mobile WiMax Cellular Network, UniMAP, 2014.

MSc EXTERNAL EXAMINER

1. Shouket Abdulrahman Ahmed, Electrical Intelligent Switching Based on Microcontroller for Power Station, UniMAP,2016
2. Abdullah Mohammed Saghir Zobilah,Design of Multiband Isolation RF Switch with Transmission Line Stub Resonator for WiMax and LTE Applications at 2.3 and 3.5GHz , 2016.
4. Siti Sabariah Sabri, Design and Development of SIW Filter and Couplers, UTEM,2015

MSc INTERNAL EXAMINER

1. Nuramirah Mohd Nor, Design of Rectangular Dielectric Resonator Antenna Array at 28GHz Applications ,2016.
1. Waiel Elsayed Osman, Mobile Wimax analysis and determination of optimal guard time length over multipath fading channel, 2008.
2. Chua Tien Han, WiFiGeoloc: A multi-floor IEEE 802.11 b/g wireless local area network based indoor geolocation system, 2007.
3. Siti Zuraidah Ibrahim, Design of multibeam antenna for wireless local area network

applications, 2007.

4. Thomas Peter s/o S. Thomas, Integrated active low noise amplifier design for wireless local area network applications at 5 GHz, 2006.
5. Noor Azwan Shairi, RF system design and development for WLAN bridge at 5 GHz, 2005.
6. Fakher Eldin Mohammed, Performance study of WCDMA technique for IMT-2000 system, 1998

PhD INTERNAL EXAMINER

2017

1. Olakunle Elijah, November 2017, “
2. Safa Elhadi Abdelsamad Abdalla, Oktober 2017 “The Hybrid Mobility Prediction for 5G Femto cellular Networks.

2016

1. Hashim Safdar, November 2016, Distributed Power Allocation for Interference Mitigation in Irregular Geometry Multicellular Networks.
2. Shereen Ali Malek Ahmed, April 2016, Application Based Network Coding Techniques for Vanet Data Advertising.
3. Arnidza Binti Ramli, August 2016, “ Energy Efficiency in Integrated Optical-Wireless Access Network
4. Saizalmursidi B Md Mustam, March 2016, Channel Modeling of Multilayer Diffusion-Based Molecular Nano Communication System

2015

1. Omar Bin Abdul Aziz, September 2015
2. Nurzal Effiyana Binti Ghazali, August 2015
3. Farizah Binti Yunus, August 2015
4. Jong Siat Ling , Feb 2015.
5. Mohd Abedian Kasgari, Ultra Wideband Dielectric Resonator Antennas for Communication Applications, Jan 2015.

2014

1. Syamsuri bin Yaakub, Millimetre Wave Rof System with Selective Delivery, 2014
2. Nassrin Ibrahim Mohamed Elamin, 2014
3. Samad Nejatian, Integrated handoff management and local routing in cognitive radio mobile ad hoc networks, 2014.
4. Ali Farzamnia, 2014.
5. Mohd Khairul Hisham Bin Ismail, 2014
6. Arief Marwanto, Spectrum Exchange Information in Mobile OFDM for Cognitive Radio Networks, 2014.

2007-2011

1. Mohd Faizal bin Jamlos, Adaptive Reconfigurable of RLSA Antenna for Wi-Fi Application, 2011
2. Nor Hafizah Ngajikin, Microelectromechanical System Floating-Fabry Perot Optical Tunable Filter, 2010
3. Mohd Tarmizi Ali, A reconfigurable radiation pattern antenna for beam control at 5.8 GHz, 2010
4. Mohd Haniff Ibrahim, Optical waveguides and multimode interference (MMI) devices based on photodefinable BenzoCyclobutene (BCB 4024-40) Polymer, 2007.

PUBLICATIONS

JOURNAL

ISI Journal:

2018

1. O. Hayat, R. Ngah and Yasser Zahedi, Device discovery for D2D communication in in-band cellular networks using sphere decoder like (SDL) algorithm, EURASIP Journal on Wireless Communications and Networking (2018) 2018:74, Q2 (IF: 1.951)
2. Bushra Naeema, Razali Ngah, and Siti Z. Mohd Hashim, Reduction of Ping-pong effect in Heterogeneous Networks Using Fuzzy Logic, Journal of Soft Computing (Springer), 2018, Q1 (IF: 2.472)

2017(CIF = 5.316)

1. Hayat, O. Ngah, R., Zahedi, Y. "Cooperative Device-to-Device Discovery Model for Multiuser and OFDMA Network Base Neighbour Discovery in In-Band 5G Cellular Networks", Wireless Personal Communications, In Press. . **Q4 (IF: 0.951)**
2. Muhamad, W.A.W., Ngah, R., Jamlos, M.F., Soh, P.J., Ali, M.T., "High-Gain Dipole Antenna Using Polydimethylsiloxane–Glass Microsphere (PDMS-GM) Substrate for 5G Applications", Applied Physics A: Materials Science and Processing, Vol.123 (1), article no: 102, 2017. **Q3 (IF: 1.455)**
3. Muhamad, W.A.W., Ngah, R., Jamlos, M.F., Soh, P.J., Ali, M.T., Narbudowicz, A., "Bandwidth Enhancement of a Multilayered Polymeric Comb Array Antenna for Millimeter-Wave Applications", Applied Physics A: Materials Science and Processing Vol.123 (1), article no: 105 , 2017. **Q3 (IF: 1.455)**
4. Muhamad, W.A.W., Ngah, R., Jamlos, M.F., Soh, P.J., Ali, M.T., "Bandwidth Enhancement using Polymeric Grid Array Antenna for Millimeter-wave Application", Applied Physics A: Materials Science and Processing, Vol.123 (1), article no: 69 ,2017 . **Q3 (IF: 1.455)**

2016(CIF= 6.691)

1. Zahedi, Y. , Ngah, R., Nunoo, S., Mokayef, M., Alavi, S.E., Amiri, I.S., "Experimental measurement and statistical analysis of the RMS delay spread in time-varying ultra-wideband communication channel" , Measurement: Journal of the International Measurement Confederation Vol.89, pp 179-188.2016 IF : 1.742 (Q2) (Scopus & WoS)

2. W.A.W.Muhamad,R.Ngah,M.F.Jamlos,P.J.Soh, H.Logo, “ Antenna Array Bandwidth Enhancement Using Polymeric Nanocomposite Substrate”, Applied Physic A (Material Science & Processing) 2016, 122, pp 426- 435, 2016 (IF: 1.704) (Q2) (Scopus & WoS)
3. Yasser Zahedi, Razali Ngah, Mastaneh Mokayef, Khalid Zahedi, “Stationarity Regions for Ultrawideband Channels”, IEEE Antennas And Wireless Propagation Letters, Vol. 15, pp 139- 142, 2016 (IF: 1.579) (Q2) (Scopus & WoS)
4. Al-Samman, A.M. Rahman, T.A.,Ngah, R., “UWB channel characterization in 28 ghz millimeter waveband for 5G cellular networks, Jurnal Teknologi, 78 (6-11), pp 19-23, 2016.
5. Nunoo, S., Chude-Okonkwo, U.A.K., Ngah, R., Chude-Olisah, C., Zahedi, Y.K., "Channel measurement and time dispersion analysis for outdoor mobile ultrawideband environment", Turkish Journal of Electrical Engineering and Computer Sciences, 24 (6), pp. 4555-4568, 2016.

2015 (CIF = 5.943)

1. Zahedi, Yasser; Ngah, Razali; Abdulrahman, A. Y; Mokayef, Mastaneh; Alavi, S. E; Zahedi, Khalid; Arrifin, S. H. S “ Experimental Measurement and Analysis of Electromagnetic Communications in Underwater Wireless Sensor Network”, Journal of Computational and Theoretical Nanoscience”, 12(12), pp. 6069-6076(8), 2015 IF: 1.666 (Q2) .
2. Al-Samman, A.M., Rahman, T.A., Nunoo, S., Chude-Okonkwo, U.A.K., Ngah, R., Shahdad,R.Q. , Zahedi,Y., “Experimental Characterization and Analysis for Ultra Wideband Outdoor Channel”, Wireless Personal Communications, 83(4),p.p 3103-3118, 2015 (IF: 0.653) (Q3) (Scopus & WoS)
3. Stella I. Orakwue · Razali Ngah · T. A. Rahman · Siti Z. Mohd Hashim · Hamza M. R. Al-Khafaji,“Implementation of Switched Beam Smart Antenna Using Artificial Neural Network”, Wireless Personal Communications,83(1),p.p 87-98, 2015, (IF: 0.979) (Q3) (Scopus & WoS)
4. Al-Samman, A.M., Nunoo, S., Rahman, T.A., Chude-Okonkwo, U.A.K., Ngah, R., “Hybrid Channel Estimation Technique with Reduced Complexity for LTE Downlink”, Wireless Personal Communications,82(2), p.p1147-1159, 2015. (IF: 0.979) (Q3). (Scopus & WoS)
5. Hamza M.R. Al-Khafaji, Razali Ngah, S.A. Aljunid and T.A. Rahman, “A new two-code keying scheme for SAC-OCDMA systems enabling bipolar encoding”, Journal of Modern Optics, 2015, 62(5), 327–335, 2015.(IF: 1.166) (Q3) (Scopus & WoS).
6. Hamza M. R. Al-Khafaji, Razali Ngah, S. A. Aljunid, and T. A. Rahman, “Spectrally efficient SAC-OCDMA system using a new two-code keying scheme,” Electronics Letters. (Impact Factor: 1.068) (*Status: Under Review*)
7. Bushra Naeem, Razali Ngah, U.A.K. Chude-Okonkwo, Siti Zaiton Mohd Hashim, Hamza M.R. Al-Khafaji, and Wajahat Maqbool “An analytical model of outage probability for heterogeneous cellular network,” IETE Technical Review. (Impact Factor: 0.925) (*Status: Under Review*)

2013

1. Nael A. Al-Sharee, Syed I. S. Hassan, Fareq Malek, Razali Ngah, Syed A. Aljunid, Rashid A. Fayadh, Jaafar A. ALdhaibani, and Hasliza A. Rahim, "Development of a New Approach for High-Quality Quadrupling Frequency Optical Millimeter-wave Signal Generation Without Optical Filter", Progress In Electromagnetics Research (PIERS), Vol. 134, page 189-208, 2013 (IF: 5.298).
2. Nael A. Al-Sharee, Syed I. S. Hassan, Fareq Malek, Razali Ngah, Syed A. Aljunid, Rashid A. Fayadh, Jaafar A. ALdhaibani, and Hasliza A. Rahim, "A Cost-Effective Method For High-Quality 60 Ghz Optical Millimeter Wave Signal Generation Based On Frequency Quadrupling", Progress In Electromagnetics Research (Piers), Vol. 137, Page 255-274, 2013 (IF: 5.298).
3. Orakwue Stella Ifeoma, Tharek A. Rahman, Razali Ngah and Iliya Solomon Zakwoi, Effect of Dielectric Waveguide in the Design of RLSA Antenna: a Review, Advanced Materials Research Journal, Vol. 701 ,pp 136-140, 2013.

SCOPUS Journal :

2018 :

1. Zulkifli Ambak, Hizamel M. Hizan, Ahmad Ismat Abdul Rahim, Azmi Ibrahim, Mohd Zulfadli M. Yusoff, and Razali Ngah, Multilayer End Coupled Band Pass Filter using Low-Temperature Co-Fired Ceramic Technology for Broadband Fixed Wireless, Indonesian Journal of Electrical Engineering and Computer Science, Vol. 10, No. 3, June 2018.
3. Zulkifli Ambak, Hizamel M. Hizan, Ahmad Ismat Abdul Rahim, Azmi Ibrahim, Mohd Zulfadli M. Yusoff, Razali Ngah and Syamsuri Yaakob Miniaturized, 38GHz Circular Substrate Integrated Waveguide Band Pass Filter using Low Temperature Co-Fired Ceramic Technology, Research Journal of Applied Sciences, Engineering and Technology 15(2): 40-46, 2018

2017 :

1. Rahayu, Y., Hazman, H., Ngah, R., "Design LTE Microstrip Antenna Rectangular Patch with Beetle-Shaped Slot, Telkomnika (Telecommunication Computing Electronics and Control), 15(3), pp. 1083-1087, 2017

2016 :

1. Al-Samman, A.M. Rahman, T.A., Ngah, R., "UWB channel characterization in 28 ghz millimeter waveband for 5G cellular networks, Jurnal Teknologi 78 (6-11), pp 19-23, 2016.

2015 :

1. Nor Adibah Ibrahim, Razali Ngah, Hamza M.R.Al-Khafaji, "Proposal of new pulse shaping method for side lobes reduction in OFDM system", *Jurnal Teknologi*, 77 (12), pp 1-4, 2015.
2. Stella Ifeoma Orakwue, Razali Ngah, Tharek A.Rahman, B.M. Sa'ad, Mohsen Khalily, " Sterrable Array Antenna Using 2x2 Butler Matrix for 5G Applications, *Jurnal Teknologi* , 77(10),pp 117-121, 2015
3. Stella Ifeoma Orakwue, Razali Ngah, T.A. Rahman, and Hamza M. R. Al-Khafaji, "A 4 x 4 Butler matrix for 28 GHz switched multi-beam antenna," *International Journal of Engineering and Technology (IJET)*, vol. 7, no. 2, pp. 436-442, 2015.
4. Nor Adibah Ibrahim, Razali Ngah, Hamza M. R. Al-Khafaji, "Inter-carrier Interference Mitigation in OFDM System Using a New Pulse Shaping Approach",*International Journal of Engineering and Technology (IJET)*, 6(6), p.p 2738 – 2746, 2015.
5. Nor Adibah Ibrahim, Razali Ngah,Hamza M. R. Al-Khafaji, "ICI Alleviation in OFDM System Utilizing Scale Alpha Pulse Shaping", *Research Journal of Applied Sciences, Engineering and Technology, (RJASET)*,10(1),p.p 45-48,2015

2014

1. Mokayef, Mastaneh; Rahman, Tharek. A.; Ngah, Razali; Ahmed, Marwah Y., "Spectrum Sharing Between High Altitude Platform System (HAPS) and an Incumbent LTE System", *Advanced Science Letters*, Advanced Science Letters, American Scientific Publishers, Vol. 20 2014, pp. 451-454(4) ,2014.
2. Bushra Naeema, Uche A. K. Chude-Okonkwo, Razali Ngah, Siti Z. Mohd Hashim, Wajahat Maqbool, Sadiqa Hashim, " Exploring the Open Problems and Future Trends Concerning Handovers in Heterogeneous Wireless Networks: A Review" , *Jurnal Teknologi*. Issue 3, pp 13-17, 2014.
3. Solomon Nunoo, Uche A. K. Chude-Okonkwo, Razali Ngah "Sparsity-Constraint LMS Algorithms for Time-Varying UWB Channel Estimation" *Research Journal of Applied Sciences, Engineering and Technology.(RJASET)*, 8(24), pp, 2408- 2415 2014.
4. Orakwue Stella Ifeoma, Razali Ngah and T. A. Rahman, "Analysis of Wideband Antenna for Indoor LTE Base Station Application" *International Journal of Applied Engineering Research (IJAER)*, 9 (23) pp. 21911 - 21917, 2014.
5. Nael Ahmed Al-Shareefi, S.I.S Hassan, Fareq Malek, Razali Ngah, Sura Adil Abbas, Optical Generation of 60 GHz Downstream Data in Radio over Fiber Systems Based on Two Parallel Dual-Drive MZMs, *International Journal of Engineering and Technology*, Vol. 6, No.2, 2014, pp 579-587, 2014.
6. Bushra Naeem, Razali Ngah, Siti Zaiton Mohd Hashim , Wajahat Maqbool, Muhaddisa Barat Ali,"A Neural Network Based Approach for Call Admission Control in Heterogeneous Networks". *Life Science Journal* 2014, pp. 238-242, 2014.

2013

1. Mokayef, Mastaneh; Rahman, Tharek. A.; Ngah, Razali; Ahmed, Marwah Y, " Spectrum sharing model for coexistence between high attitude platform system and fixed services at 5.7 GHz". *International Journal of Multimedia and Ubiquitous Engineering*, 8(5), 2013, pp 265-274,2013.

2. Zahedi, Y., Chude-Okonkwo, U.A.K., Ngah, R., Zahedi, K., Nunoo, S. " Modeling of time-varying ultra wideband multiple-input multiple-output channel" , Jurnal Teknologi (Sciences and Engineering) 64 (3) , pp. 67-72 , 2013.
3. Aswani Mamat, N., Ngah, R., Chude Okonkwo, U.A.K., Asmi Ramli, M. "The development of FPGA-based wireless channel simulator using LabVIEW" , Jurnal Teknologi (Sciences and Engineering) 64 (3) , pp. 15-22, 2013.
4. Ifeoma, O.S., Rahman, T.A., Ngah, R., Zakwoi, I.S. "Effect of dielectric waveguide in the design of RLSA antenna: A review" Advanced Materials Research 701 , pp. 136-140, 2013.
5. Al-Shareefi, N.A., Hassan, S.I.S., Malek, F., Ngah, R., Abbas, S.A., Aljunid, S.A. "A cost-effective method for high-quality 60GHZ optical millimeter wave signal generation based on frequency quadrupling", Progress in Electromagnetics Research 137 , pp. 255-274, 2013.
6. Al-Shareefi, N.A., Hassan, S.I.S., Malek, F., Ngah, R., Aljunid, S.A., Fayadh, R.A., Aldhaibani, J.A., Rahim, H.A. " "Development of a new approach for high-quality quadrupling frequency optical millimeter-wave signal generation without optical filter", Progress in Electromagnetics Research 134 , pp. 189-208 ,2013.

2005- 2012

1. Uche A.K Okonkwo, Razali Ngah, and Tharek A. Rahman, Affine Group Linear Operator-based Channel Characterization for Mobile Radio Systems, World Scientific and Engineering Academic Society (WSEAS) Transactions on System Journal, 8(2), pp. 288 – 301, (ISSN: 1109-2777).2009.
2. Razali Ngah, Teguh Prakoso, and Tharek Abdul Rahman, "Coverage Range and Cost Comparison of Remote Antenna Unit Designs for In-building Radio over Fiber Technology" ITB J. ICT, 2 (1) pp. 24-41, 2008.
3. Firsandaya Malik, Reza., Abdul Rahman, Tharek., Mohd Hashim, Siti Zaiton and Ngah, Razali., "New Particle Swarm Optimizer with Sigmoid Increasing Inertia Weight", The International Journal of Computer Science and Security (IJCSS).pp. ,2007 (ISSN: 1985-1533).

2005

1. Z. Ghassemlooy, and R. Ngah, "Simulation of 1 × 2 OTDM Router Employing Symmetric Mach-Zehnder Switches" IEE Proceeding Circuits, Devices & Systems, 152 (2) ,pp. 171-177, 2005.

NON INDEXED Journal :

1. Mastaneh mokayef, Tharek Abd. Rahman, Razali Ngah, "Early Stage of Spectrum Planning for Operation of HAPS at 5.8GHz Band", Life Science Journal, Special Issue 2014.
2. Yasser Zahedi, Razali Ngah, Mastaneh Mokayef "MIMO Correlation-Based Analytical Channel Modeling", Life Science Journal, Special Issue 2014.

H INDEX : 8

PROCEEDINGS/CONFERENCE

INTERNATIONAL

2017

1. Hayat,O.,Ngah,R., Zahedi, Y., “Cooperative GPS and Neighbors Awareness Based Device Discovery for D2D Communication in In-Band Cellular Networks”, ASIA International Multidisciplinary Conference (AIMC 2017), Skudai, Johor, 1-2 May 2017. (Accepted).

2016

1. Muhamad, W.A.W., Ngah, R., Jamlos, M.F. P.J.Soh, H.Logo “Gain Enhancement of Microstrip Grid Array Antenna for 5G Applications” URSI Asia Pacific Radio Science Conference (URSI AP-RASC) 2016. Seoul, South Korea, 21-25 August 2016 ,pp 1827- 1829, 2016
2. Stella. I. Orakwue, R. Ngah and N. Seman “Performance of Array Antenna with Butler Matrix at 2.6GHz 4G and 28GHz 5G Applications”, 6th International Graduate Conference on Engineering Science & Humanity 2016 (IGCESH 2016). Skudai, Johor, 15-17 August 2016. (Accepted).
3. Orakwue Stella Ifeoma , Razali Ngah “A 2-D Scanning Multi-Beam Array Antenna for 5G Wireless Communications Applications”, International Conference on Science, Engineering, and the Social Scienceinternational Conference (ICSESS 2016) , Skudai, Johor, 30May - 1 June 2016 (Accepted).
4. Bushra Naeem, Razali Ngah, Siti Z.Mohd Hashim, “Handovers in small cell based heterogeneous networks”, 2016 International Conference on Computing, Electronic and Electrical Engineering, (ICE Cube 2016) , 11 -12 April 2016
5. Orakwue Stella Ifeoma , Razali Ngah “Circular Polarized Microstrip Antenna for Bandwidth Improvement At 2.4 Ghz For Wlan Applications”, International Conference on Science, Engineering, and the Social Scienceinternational Conference (ICSESS 2016), Skudai, Johor. 30May - 1 June 2016 (Accepted).
6. Orakwue Stella Ifeoma , Razali Ngah, T. A. Rahman “A Two Dimensional Beam Scanning Array Antenna for 5G Wireless Communication”,IEEE Wireless Communications and Networking Conference Workshops, WCNCW 2016, Doha Qatar, 3-6 April 2016, pp 433-436,2016.
7. Muhamad, W.A.W., Ngah, R., Jamlos, M.F., Jamlos, M.A. et.al, “Antenna Array Bandwidth Enhancement using Polymeric Nanocomposite Substrate”, 6th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META15), New York, 4 - 7 August 2015. (Accepted)
8. Nor Adibah Ibrahim, Razali Ngah, and Hamza M. R. Al-Khafaji, “Proposal of New Pulse Shaping Method for Side Lobes Reduction in OFDM System”, International Conference on Science, Engineering and the Social Sciences (ICSESS 2015), Johor, 11-13 May 2015. (Accepted)

9. Stella Ifeoma Orakwue, Razali Ngah, T. A. Rahman, and Hamza M. R. Al-Khafaji "A Steerable 28 GHz Array Antenna Using Branch Line Coupler", 2015 International Conference on Telematic and Future Generation Networks (TAFGEN 2015), Kuala Lumpur, 26-28 May 2015.

2015

1. Muhamad, W.A.W., Ngah, R., Jamlos, M.F., Jamlos, M.A., "Hybrid carbon nanotubes with copper radiator for 4×2 array antennas at 2.6 GHz", 2014 IEEE 2nd International Symposium on Telecommunication Technologies, (ISTT 2014), Langkawi, 24-26 November 2014, pp 179-182, 2015 (*Published 2 September 2015*)
2. Bushra Naeem, Razali Ngah, Siti Zaiton Hashim, "Understanding the Challenges Towards Implementation of the 5G Wireless Networks", 2015 2nd International Symposium on Technology Management and Emerging Technologies (ISTMET 2015), Langkawi, Kedah, 25- 27 August 2015,
3. Stella Ifeoma Orakwue, Razali Ngah, T. A. Rahman, and Hamza M. R. Al-Khafaji "A Steerable 28 GHz Array Antenna Using Branch Line Coupler", 2015 International Conference on Telematic and Future Generation Networks (TAFGEN 2015), Kuala Lumpur, 26-28 May 2015. (*Accepted*)
4. Hamza M. R. Al-Khafaji, Razali Ngah, S. A. Aljunid, and T. A. Rahman, "A new approach for enabling bipolar encoding in high-rate SAC-OCDMA systems," IEEE 2015 International Conference on Communications, Signal Processing, and their Applications (ICCSPA15), Sharjah, United Arab Emirates (UAE), 17 – 19 Feb 2015,p.p 1-4, 2015.
5. Hamza M. R. Al-Khafaji, Razali Ngah , S. A. Aljunid , and T. A. Rahman, "A Novel Encoding and Decoding Structure for SAC-OCDMA Systems Enabling High-Rate Transmission", 6th Asia Pacific Conference on Electromagnetic (APACE 2014), Johor Bahru, 8-10 December 2014. pp. 211-213, 2015.
6. Noriffah Abd Latif, Razali Ngah, Hamza M. R. Al-Khafaji, T. Prakoso, and N.S.M. Noor, "Development of Central Base Station for Radio over Fiber System", 6th Asia Pacific Conference on Electromagnetic (APACE 2014), Johor Bahru, 8-10 December 2014, pp 119-122, 2015.

2014

1. Bushra Naeem, Razali Ngah, Siti Z.Mohd Hashim , Wajahat Maqbool, "Vertical Handover Decision Using History-Based Communication Graph for Heterogeneous Networks" , IEEE Conference on Open System 2014 (ICOS), Kuala Lumpur, 26-28 October 2014. pp. 7-11,2014.
2. Hamza M.R.Al-Khafaji, Razali Ngah, S.A.Aljunid, Tharek Abd Rahman, "An Innovative Encoding/Decoding Architecture Based on Two-Code Keying for SAC-OCDMA Systems", 5th International Conference on Photonics (ICP 2014),Kuala Lumpur, 2-4 September 2014, pp 250-252,2015
3. Zulkifli Ambak, Azmi Ibrahim,Hizamel Mohd Hizan, Ahmad Ismat Abdul Rahim ,Mohd Zulfadli , Mohamed Yusoff , Razali Ngah, Young Chul Lee, " Design of 40GHz

- multilayer end coupled band pass filter using LTCC technology”, .11th IEEE International Conference on Semiconductor Electronics, (ICSE 2014) ,Kuala Lumpur, 27 August - 29 August 2014,p.p 294-297, 2014.
4. Uche A. K. Chude-Okonkwo, Solomon Nunoo, and Razali Ngah, “Diffusion-Based Molecular Communication Concentration and Capacity Dependencies on Human Body Temperature Variation”, IEEE 10th International Colloquium on Signal Processing and Its Applications (CSPA 2014), Kuala Lumpur, 7-9 March 2014,p.p 53 – 57, 2014.
 5. Solomon Nunoo, Uche A. K. Chude-Okonkwo, Razali Ngah, and Ahmed Al-Samman, “UWB Channel Measurement and Data Transfer Analysis for Multiuser Infostation Applications” IEEE 10th International Colloquium on Signal Processing and Its Applications (CSPA 2014), Kuala Lumpur, 7-9 March 2014,p.p 139 – 144, 2014.
 6. Solomon Nunoo, Uche A. K. Chude-Okonkwo, and Razali Ngah , “Variable Step- Size I0 – Norm NLMS Algorithm for Sparse Channel Estimation”, Asia Pacific Conference on Wireless and Mobile (APWiMOB 2014), Bali, Indonesia, 28-30 August 2014,p.p 88 – 91, 2014
 7. Yasser Zahedi, Razali Ngah, Uche A. K. Okonkwo, Solomon Nunoo and Mastaneh Mokayef ,“Measurement and Analysis of an Outdoor MIMO-UWB Communication Channel” Asia Pacific Conference on Wireless and Mobile (APWiMOB 2014), Bali, Indonesia, 28-30 August 2014, pp 168 – 171, 2014
 8. Stella I. Orakwue, Razali Ngah, T. A. Rahman, Siti Zaiton Mohd Hashim “Neural Network Based Switch Beam Smart Antenna”, Asia Pacific Conference on Wireless and Mobile (APWiMOB 2014), Bali, Indonesia, 28-30 August 2014,pp 292 – 296,2014
 9. Al-Samman, A.M. , Rahman, T.A., Chude-Okonkwo, U.A.K., Ngah, R., Nunoo, S., “Time dispersion analysis for UWB channel in an outdoor environment” ”, Asia Pacific Conference on Wireless and Mobile (APWiMOB 2014), Bali, Indonesia, 28-30 August 2014, pp 109-112,2014.
 10. Yasser Zahedi, Razali Ngah, Uche A.K. Chude-Okonkwo, Solomon Nunoo, Mastaneh Mokayef “UWB Channel Measurement and Development of Scatterer Identification Algorithm” The 2nd International Conference on Electronic Design (ICED 2014), Penang, 19-21 August 2014, p.p 139 – 144, 2014.
 11. Ahmed M. Al-Samman,Uche A. K. Chude-Okonkwo, R. Ngah and Solomon Nunoo,“ Experimental Characterization of an UWB Channel in outdoor Environment ” IEEE 10th International Colloquium on Signal Processing and Its Applications (CSPA 2014), Kuala Lumpur, 7-9 March 2014, p.p 91 – 94, 2014.
 12. Solomon Nunoo, Uche A. K. Chude-Okonkwo, Razali Ngah, and Ahmed Al-Samman, “UWB Channel Measurement and Data Transfer Analysis for Multiuser Infostation Applications” IEEE 10th International Colloquium on Signal Processing and Its Applications (CSPA 2014), Kuala Lumpur, 7-9 March 2014,p.p 139 – 144, 2014.
 13. Yasser Zahedi, Razali Ngah, Uche A.K. Chude-Okonkwo, Solomon Nunoo, Mastaneh Mokayef, “ Modeling the RMS Delay Spread in Time-Varying UWB Communication Channels”,International Conference on Intelligent and Advanced Systems (ICIAS2014), Kuala Lumpur ,3-5 June 2014, p.p 1 – 5, 2014

2013

1. A.S.M. Jaya, R. Ngah, H. Haron, S.Z.M. Hashim, M.R. Muhamad, and M.N.A. Rahman, "Modeling of ANFIS in predicting TiN coatings roughness", 5th The International Conference on Computer Science and Information Technology (CSIT 2013), Amman, Jordan, 27-28 March, pp. 13-18, 2013.
2. Aina Musdholifah, Siti Zaiton Mohd. Hashim, and Razali Ngah, "Robust Local Triangular Kernel Density-based Clustering for High-dimensional Data", 5th The International Conference on Computer Science and Information Technology (CSIT 2013), Amman, Jordan, 27-28 March, pp. 24-32, 2013.
3. Teguh Prakoso, Razali Ngah, Tharek Abdul Rahman, and Zabih Ghassemlooy, "Isolation Enhancement and Size Reduction of Printed-Antenna Pairs for Broadband Microwave-Photonic Access-Point", 20th International Conference on Telecommunications (ICT2013), Casablanca, Morocco, 6-8 May Article number 6632109, 2013.
4. Al-Samman, A.M. ; Rahman, T.A. ; Chude-Okonkwo, U.A.K. ; Ngah, R., "Hybrid channel estimation for LTE downlink" , 2013 IEEE 9th International Colloquium on Signal Processing and its Applications (CSPA),8-10 March 2013, pp. 44-48, 2013
5. Nael Ahmed Mohammed, S.I.S Hassan, Fareq Malek, Razali Ngah, Sura Adil Abbas, "Optical Generation of 60-GHz Signal for Millimeter wave Wireless Communication", 2013 IEEE International RF and Microwave (RFM) Conference, Penang, 9-11 December 2013, pp .437-440, 2013.
6. Uche Kennedy Okonkwo, Razali Ngah, Solomon Nunoo, "Time-varying UWB channel model for mobile robot-to-robot communication systems", 2013 11th IEEE Malaysia International Conference on Communications, Kuala Lumpur, 26-28 November 2013, pp. 1-6, 2013.
7. Nael Ahmed Al-Shareefi, S.I.S Hassan, Fareq Malek, Razali Ngah, Syed Alwee Aljunid, Sura Adil Abbas, Noor Anida, "A study in OCS millimeter-wave generation using two parallel DD-MZMs", 2013 11th IEEE Malaysia International Conference on Communications, Kuala Lumpur, 26-28 November,pp 418-421, 2013.
8. Uche A.K. Chude-Okonkwo, Solomon Nunoo, Razali Ngah, Chollete Olisah Chude, Tharek Abd Rahman, and Anthony A. Okafor, "Characterization and Parameterization of a Class of Multivariable Non-Summable Stochastic Processes with Bounded Stochastic Trends", 2013 IEEE International Conference on Signal and Image Processing Applications,Melaka, 8-10 October 2013, pp 322-326, 2013.
9. Solomon Nunoo, Uche A. K. Chude-Okonkwo, Razali Ngah, "Performance of LMS, NLMS and LMF Algorithms in Tracking Time-Varying UWB Channels", 2013 IEEE International Conference on Signal and Image Processing Applications,Melaka, 8-10 October 2013, pp 312-316, 2013.
10. Solomon Nunoo, Uche Kennedy Okonkwo, Razali Ngah, "Path loss and time dispersion analysis for outdoor roadway UWB propagation channel", 2013 11th IEEE Malaysia International Conference on Communications, Kuala Lumpur, 26-28 November 2013,pp.87-291, 2013.
11. Uche A.K. Chude-Okonkwo, Razali Ngah, Solomon Nunoo, Ahmed M. Al-Samman, and Tharek A. Rahman , "Adaptive Transmission Technique for Short Range Mobile

UWB and UWA OFDM Communication”, IEEE (GLOBECOM) 2013 Global Communications Conference Exhibition and Industry Forum ,9-13 December 2013, Atlanta GA,USA, pp,2013.

12. Uche A.K. Chude-Okonkwo, Razali Ngah, Yasser Zahedi, Solomon Nunoo, Ahmed Al-Saman and Tharek Abd Rahman “Measurement and Time Dispersion Analysis of UWB Channels for Infostation Application in an Outdoor Recreation Park” , 7th International Conference on Signal Processing and Communication Systems, ICSPCS’2013, 16-18 December 2013, Gold Coast, Australia, pp,2013.

2012

1. Nor Aswani Mamat, Uche A.K Chude Okonkwo, Razali Ngah and Yasser K. Zahedi, “Development of Generic Wireless Channel Simulator for Diverse Environment”,2012 IEEE Asia-Pacific Conference on Applied Electromagnetics (APACE 2012) ,Melaka, 11-13 December 2012,pp 56-61, 2012.
2. Nur Shazwani Mohd Noor, Norliziani Zamuri, Razali Ngah and Teguh Prakoso, “Multiple Input Multiple Output Orthogonal Frequency Division Multiplexing Based Photonic Access Point”, 2012 IEEE Asia-Pacific Conference on Applied Electromagnetics (APACE 2012) ,Melaka,11-13 December 2012, pp 79-83, 2012.
3. U A.K.C Okonkwo, R. Ngah and Tharek A. Rahman, “Evolutionary Second-Order Statistical Model for Nonstationarity Wideband Communication Channels”, 1st International Symposium on Telecommunication Technologies (ISTT2012), Kuala Lumpur, 26-28 November 2012, pp 147-150, 2012.
4. Musdholifah, A., Hashim, S.Z.M , Ngah, R., “Hybrid PCA-ILGC clustering approach for high dimensional data” , 2012 IEEE International Conference on Systems, Man, and Cybernetics, SMC 2012; Seoul; South Korea; 14- 17 October 2012, pp 420-424, 2012.
5. N.S.M.Noor, R.Ngah, T.Prakoso and S.N.A.Sukito, “Fiber Drop Point Design for Optical –Wireless Access”, 3rd International Conference on Photonics (ICP 2012), Penang, 1-3 October, pp 365-369, 2012.
6. N.S.M.Noor, R.Ngah, T.Prakoso and S.M.Lim, “MIMO-OFDM Optical Backhaul Backup System Using WLAN 802.11n”, 3rd International Conference on Photonics (ICP 2012), Penang, 1-3 October 2012,pp 125-129, 2012.
7. Y. K. Zahedi, Okonkwo, U. A. K., R. Ngah, T.A. Rahman and N.A. Mamat, “Time-Scale Domain Characterization of Ultra- wideband MIMO Channel and Range Extension for Infostation Environment”, IEEE Symposium on Wireless Technology and Applications (ISWTA 2012), Bandung, Indonesia, 23-26 September 2012, pp 2012, pp 151-155, 2012.
8. Okonkwo, U. A. K., Ngah, R., Y. K. Zahedi, S. M. Zaid and Rahman, “Measurement and Parameter Description of Time-varying Ultra-wideband Infostation Channel”, Progress in Electromagnetics Research (PIERS 2012) Conference, Kuala Lumpur 27-30 March, pp 1476-1479, 2012.

2011

1. Muhamad Hatta Hussain, Maliki Ibrahim, Razali Ngah, Uche A.K. Okonkwo, Siti Rafidah Abdul Rahim, Norhaidar Hashim, "Wavelet Shift Keying based Digital Signal Transmission", Proceedings of EnCon 2011, 4th Engineering International Conference, Kuching, Sarawak, Malaysia. 29th November – 1st December 2011.
2. Maliki Ibrahim, Muhamad Hatta Hussain, Siti Rafidah Abdul Rahim, Norhaidar Hashim, Razali Ngah, Uche A.K.Okonkwo, "Wavelet based receiver for Digital Communication System", 3rd CUTSE International Conference on Innovative Green Technology for Sustainable Development, Miri, Sarawak, Malaysia. 8-9 November, 2011
3. Uche A.K. Chude Okonkwo, Razali Ngah, Siti Zaiton Mohd. Hashim, Tharek Abd. Rahman, and Yusnita Rahaya, Bit-Error-Rate Performance of Wavelet-based Multicarrier Transmission in Rayleigh Multipath Channel, The 7th Jordanian International Electrical and Electronics Engineering Conference (JIEEEEC 2011), 11-14 April 2011, Amman, Jordan, pp. 1-5, 2011.
4. T. Prakoso, R. Ngah, N.F. Nanyan, T.A. Rahman, Y. Rahayu, Z. Ghassemlooy, A Broadband Antenna for Microwave Photonic Access Point, The 7th Jordanian International Electrical and Electronics Engineering Conference (JIEEEEC 2011), 11 - 14 April 2011, Amman, Jordan, pp. 1-5,2011.
5. Prakoso, T., Ngah, R., Rahman, T.A., Okonkwo, U.A.K., Ghassemlooy, Z., "An evaluation of half-cut technique for microwave-photonic access-point antenna miniaturization", 2011 IEEE International RF and Microwave Conference, RFM 2011 – Proceedings, Seremban, 12- 14 December 2011, pp 384-388, 2011.
6. Chude-Okonkwo, U.A.K., Ngah, R., Abd Rahman, T., Chude, C., Prokoso, T., "Time-varying infostation channel characterization", 2011 IEEE International RF and Microwave Conference, RFM 2011 – Proceedings, Seremban, 12- 14 December 2011, pp 333-336, 2011.
7. Chude-Okonkwo, U.A.K., Ngah, R., Rahman, T.A., "Non-WSSUS analysis of measurement data for mobile communication channel" , 17th Asia-Pacific Conference on Communications, APCC 2011, Kota Kinabalu, Sabah, pp 682-687, 2011.
8. El Aziz, A.A., Ng, W.P., Ghassemlooy, Z., Aly, M.H., Ngah, R., " Employing multiple wavelengths for an input packet to achieve uniform SOA gain for high speed optical applications", 16th European Conference on Networks and Optical Communications, NOC 2011, Newcastle-Upon-Tyne; United Kingdom, pp 99-102, 2011.

2010

1. Teguh Prakoso, Razali Ngah, Tharek Abdul Rahman, and Z. Ghassemlooy, "A high gain active photonic antenna for high speed backhaul link: A system analysis", 17th International Conference on Telecommunications (ICT2010), 4-7 April 2010, Doha Qatar, pp 455-461, 2010.
2. A. Abd. El Aziz, W. P. Ng, Z. Ghassemlooy, M. H. Aly, R. Ngah, and M. F. Chiang, "Impat of Signal Wavelength on the Semiconductor Optical Amplifier Gain Uniformity for High Speed Optical Routers Employing the segmentation Model," 10th

- International Conference on Information Science, Signal Processing and their Application (ISSPA 2010), 10-13 May 2010, Kuala Lumpur, pp 259-262, 2010
3. N.F Nanyan, R. Ngah, T. Prakoso, Y. Rahayu, and T.A Rahman, "An Active Downlink Photonic Antenna", International Conference on photonics 2010, ICP2010, Langkawi, 5 -7 July 2010, pp 1-5.
 4. Yusnita Rahayu, Razali Ngah, and Tharek A. Rahman,"Current distribution characteristics of various T slotted ultra wide band antenna", IEEE International Conference on Wireless Information Technology and Systems, ICWIT 2010, Hawaii USA, pp 1-4.
 5. Ahmed Shalaby, Wai Pang Ng, Zabih Ghassemlooy, Moustafa Aly and Razali Ngah, "SOA Gain Uniformity Improvement Employing a Non-Uniform Biasing Technique for Ultra-High Speed Optical Routers" IEEE, IET International Symposium on COMMUNICATION SYSTEMS, NETWORKS AND DIGITAL SIGNAL PROCESSING, 21 to 23 July 2010, Newcastle, United Kingdom, pp 642 – 647.
 6. Uche A.K. Okonkwo¹, Razali Ngah², Zabih Ghassemlooy³, and Tharek A. Rahman⁴, Geometrical-based Channel Simulation Model for Ultra Wideband Environment, Accepted for 4th International Symposium on Broadband Communication, (ISBC2010), 11- 14 July 2010, Melaka, pp 1-4.
 7. Uche A.K. Okonkwo¹, Razali Ngah², Zabih Ghassemlooy³, and Tharek A. Rahman⁴, Non-WSSUS Time-Scale Characterization of High Speed Train Communication Channel, 4th International Symposium on Broadband Communication, (ISBC2010), 11- 14 July 2010, Melaka, pp. 1-4.
 8. A. Salleh, A. S. Ja'afar, M. Z. A. Abd. Aziz and R. Ngah, Active Mode Radio Access Point at 2.4 GHz for Radio over Fiber Technology, Proceeding - 4th International Symposium on Broadband Communication, (ISBC2010), 12-14 July 2010, Melaka, pp 1-4
 9. Asieh Haieri Yazdi, Razali Ngah, Zabih Ghassemlooy and Tharek A. Rahman, Comparison of Predicted Path Loss of the 3GPP Spatial Channel Model with the IMT-Advanced Model, IEEE, IET International Symposium on COMMUNICATION SYSTEMS, NETWORKS AND DIGITAL SIGNAL PROCESSING, 21 to 23 July 2010, Newcastle, United Kingdom, pp 1-4
 10. Yusnita Rahayu, Razali Ngah and Tharek A. Rahman, Various Slotted UWB Antenna Design, The Sixth International Conference on Wireless and Mobile Communications, September 20-25, 2010, Valencia, Spain, pp 107-110.
 11. Okonkwo, U. A. K., Ngah, R., Ghassemlooy Z. and Rahman T. A. "Time-Scale Domain Characterization of Nonstationary Wideband Vehicle-to-Vehicle Propagation Channel" IEEE Asia-Pacific Conference on Applied Electromagnetics (APACE 2010), 9-11 Nov. 2010, Port Dickson, Malaysia, pp 1-6.
 12. N.F Nanyan, Siti Zaiton Mohd Hashim, R. Ngah, Y. Rahayu, and T. Prakoso, "An Active Uplink Photonic Antenna" IEEE Asia-Pacific Conference on Applied Electromagnetics (APACE 2010), 9-11 Nov. 2010, Port Dickson, Malaysia, pp 1-4.
 13. Masoumeh Shaneshin, Razali Bin Ngah, Yusnita Rahayu, and Arezo banitalebi, A Review of Femtocell and WiMAX Application, IGCESH 2010: INTERNATIONAL

2009

1. Yusnita Rahayu, Tharek A. Rahman, Razali Ngah, and Peter S. Hall, "Small Printed Ultra Wideband Antenna with Coupled Slot" , Loughborough Antennas & propagation Conference (LAPC 2009), Loughborough University, UK, 16- 17 November 2009 pp 397-400, 2009.
2. Yusnita Rahayu, Tharek A. Rahman, Razali Ngah, and Peter S. Hall "A small couple slotted antenna for ultra wideband application", 2009 3rd IEEE International Symposium on Microwave, Antenna, Propagation and EMC Technologies for Wireless Communications, MAPE 2009, Beijing; China; 27- 29 October 2009, pp 423-426, 2009.
3. Uche A. K Okonkwo, Razali Ngah, and Tharek Abdul Rahman, "Wavelet-Based Digital Modulation Technique", IEEE 9th Malaysia International Conference on *Communications* (MICC'09), Kuala Lumpur, Dec 2009, pp 457-461, 2009.
4. A. A. El Aziz, W. P. Ng, Z. Ghassemlooy, M. H. Aly, R. Ngah, and M. F. Chiang, "The effect of the input energy on the SOA gain with non-uniform biasing," in 14th European Conference on Networks and Optical Communications (NOC09), Vallodolid, Spain, 10-12 June 2009, pp. 307-315, 2009.
5. Teguh Prakoso, Razali Ngah, Tharek Abdul Rahman, and Z. Ghassemlooy, "A Capacity Analysis of Outdoor-Backhaul Network Using WLAN and Radio over Fiber Technology", Accepted for IEEE International Conference on Antennas, Propagation, and Systems (INAS 2009), 3-5 December. 2009, Johor Bahru, Malaysia.
6. Nurul Huda binti Ismail, Razali Ngah, Teguh Prakoso, Tharek Abdul Rahman,, and Z. Ghassemlooy, "Wireless Local Area Network Bridging Using Radio over Fiber Technology", Accepted for IEEE International Conference on Antennas, Propagation, and Systems (INAS 2009), 3-5 Dec. 2009, Johor Bahru, Malaysia.
7. Nadia Nawawi, Razali Ngah, Teguh Prakoso, Tharek Abdul Rahman, and Z. Ghassemlooy, "Wireless Local Area Network System Employing Free Space Optic Communication Link", Accepted for IEEE International Conference on Antennas, Propagation, and Systems (INAS 2009), 3-5 Dec. 2009, Johor Bahru, Malaysia.
8. Uche A. K Okonkwo, Razali Ngah, Frank N. Igboamalu, Zabih Ghassemloy and Tharek Abdul Rahman, "Mobile Radio Channel Characterization and Stationarity Issues", Accepted for IEEE International Conference on Antennas, Propagation, and Systems (INAS 2009), 3-5 Dec. 2009, Johor Bahru, Malaysia.

2007

1. Reza Abdolee, Razali Ngah, Vida Vakilian and Tharek A.Rahman, "Application of Radio-Over-Fiber (ROF) in mobile communication", Asia Pacific Conference on Applied Electromagnetics (APACE 2007), Malacca, Malaysia, 5th – 6st Dec. 2007, Article number 4603945, 2007.

2. Mohamed Sherfi Omer AbuElHassan and Razali Ngah, "Secured Indoor Powerline Communication Using CDMA Technique", Asia Pacific Conference on Applied Electromagnetics (APACE 2007), Malacca, Malaysia, 5th – 6st Dec. 2007, Article number 4603946, 2007.
3. Razali Ngah, Yusnita Rahayu, Teguh Prakoso and Mohd Shukri Othman, "Printed square UWB antenna," International Conference on Electrical Engineering and Informatics (ICEEI 2007), Bandung, Indonesia, 17th – 19th June, 2007, pp 972-975, 2007.
4. Razali Ngah, Teguh Prakoso and Yusnita Rahayu,, "Coverage range and cost comparison of RAU designs for in-building RoF," International Conference on Electrical Engineering and Informatics (ICEEI2007), 17th – 19th June, 2007.
5. Razali Ngah, Reza Abdolee, Tharek Abd Rahman, and Vida Vakilian, "Comparative analysis of four wave mixing effect between conventional optical and radio over fiber system," International Conference on Robotics, Vision, Information and Signal Processing, Penang, Malaysia, vol. 1, 4 pp, 28-30 Nov 2007.
6. Firsandaya Malik, Reza., Abdul Rahman, Tharek., Mohd Hashim, Siti Zaiton., and Ngah, Razali., "Empirical Study of Sigmoid Increasing Inertia Weight in Particle Swarm Optimization", International Conference on Robotics, Visions, Information and Signal Processing (ROVISP 2007), 28 – 30 November 2007, Universiti Sains Malaysia, Penang.
7. Firsandaya Malik, Reza., Abdul Rahman, Tharek., Mohd Hashim, Siti Zaiton., and Ngah, Razali., "Sigmoid Increasing Inertia Weight for Particle Swarm Optimization", 1st International Workshop on Hybrid Soft Computing in Engineering, ICT and Social Science, 3rd Desember 2007, Senai, Johor.

2005

1. Razali Ngah, and Zabih Ghassemlooy, "Self-synchronization scheme for OTDM packet signal using a symmetric Mach-Zehnder switch," IEEE 7th Malaysia International Conference on Communication/13th IEEE International Conference on Networks, Kuala Lumpur, 16-18 Nov. 2005, Vol 1, pp. 284-287, 2005.
2. Yusnita Rahayu, Razali Ngah, and Tharek A. Rahman, "Simulation of wideband inverted suspended path antenna," Asia Pacific Conference on Applied Electromagnetics (APACE 2005), Johor, 20– 21 Dec. pp.114-117, 2005.

NATIONAL

1. Razali Ngah, Imran Ibrahim, and W. Khairuddin W. Ali, "Absorbers analysis for anechoic chamber," NCTT 2000, Johor Bahru, 20-21 Nov 2000.
2. Mazlina Esa, Sh. Kamilah Sy. Yusof, and Razali Ngah, "Preliminary investigation of electromagnetic disturbance from wireless telephones," Seminar Penyelidikan Dalam Bidang Elektrik, Elektronik, Aeroangkasa, Teknologi Maklumat & Telekomunikasi, 18 March 1998.

BOOK CHAPTER

1. Razali Ngah , Abdirahman Ali Hassan, Uplink Broadband Photonic Antenna, Antenna and Applied Electromagnetics Application-Volume 7, ISBN 978-983-52-1170-6 , Desember 2015, pp 27-38,2015
2. Razali Ngah, Muhamad Hazwan Wahab, Downlink Ultra Wideband Photonic Antenna, Antenna and Applied Electromagnetics Application-Volume 5, ISBN 978-983-52-1168-3 , Desember 2015, pp 49- 68, 2015
3. Yusnita Rahayu, Razali Ngah, Tharek Abdul Rahman, Slotted ultra wideband antenna for bandwidth enhancement, Ultra Wideband, ISBN 978- 953-307-139-8, Sciyo, Sept 2010, pp 445-458.2010
4. Yusnita Rahayu, Razali Ngah, Tharek Abdul Rahman, A small novel ultra wideband antenna with slotted ground plane, Ultra Wideband, ISBN 978-953 307-139-8, Sciyo, Sept 2010, pp 427-444.2010
5. Razali Ngah, Teguh Prakoso, Tharek Abdul Rahman, Goh Kuan Chean, “ 2.4 GHz Photonic antenna for wireless local area network” In: Recent Developments In Small Size Antenna., ISBN 978-983-52-0640-5 Penerbit UTM, Johor ,pp 56-73, 2008
6. Razali Ngah, Teguh Prakoso, Tharek Abdul Rahman, Mohd Amin Mualif, Photonic antenna for long range wireless communication, In: Recent Developments In Small Size Antenna ISBN 978-983-52-0640-5, Penerbit UTM Johor, pp 32-55., 2008
7. Yusnita Rahayu, Tharek Abdul Rahman, Razali Ngah, Small slotted UWB antenna based on current distribution for bandwidth enhancement, In: Recent Developments In Small Size Antenna ISBN 978-983- 52-0640-5, Penerbit UTM, Johor ,pp 15-22, 2008
8. Yusnita Rahayu, Tharek Abdul Rahman, Razali Ngah, A small UWB antenna with slotted ground plane, In: Recent Developments In Small Size Antenna ISBN 978-983-52-0640-5 Penerbit UTM,Johor, pp 1-14, 2008

REFEREES

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