

## CURRICULUM VITAE



### ASSOC. PROF. IR. DR. ADUWATI SALI

Department of Computer and Communication Systems Engineering,  
Faculty of Engineering,  
Universiti Putra Malaysia,  
43400 UPM Serdang, Selangor

T: 03-8946 4355  
F: 03-8656 7127  
E: aduwati@upm.edu.my

### Education

1. Phd. Mobile Satellite Communications, 2009, University of Surrey, UK
2. M.Sc. Communications and Network Engineering, 2002, Universiti Putra Malaysia
3. B.Eng. Electrical and Electronics Engineering (Communications), 1999, University of Edinburgh, UK

### Areas of Interest

Mobile and satellite communications, wireless sensor network, heterogeneous networks, green radio resource management, cognitive radio, adaptive techniques, cross-layer approach, reliable multicast, disaster management and preparedness.

### Professional Qualification/ Membership/ Affiliation

1. Chair, IEEE Communication Society/ Vehicular Technology Society (ComVT) Malaysia, (Reg. No.: 41320187) 2017
2. Professional Engineer, BEM, since 4 June 2016 (Reg. No.: 17386)
3. Senior Member, IEEE, since June 2015 (Reg. No.: 41320187)
4. Corporate Member, Institution of Engineers Malaysia (IEM) (MIEM No.: 84909, ELECTRONIC), since January 2016
5. Vice Chair, IEEE Communication Society/ Vehicular Technology Society (ComVT) Malaysia, (Reg. No.: 41320187) 2016
6. Past Chair, IEEE Young Professionals Malaysia, (Reg. No.: 41320187) 2016
7. Secretary, IEEE Communication Society/ Vehicular Technology Society (ComVT) Malaysia, (Reg. No.: 41320187) 2015
8. Chair, IEEE Young Professionals Malaysia, (Reg. No.: 41320187) 2015
9. Secretary, IEEE Young Professionals Malaysia, (Reg. No.: 41320187) 2014
10. Executive Committee, IEEE Communication Society/ Vehicular Technology Society (ComVT) Malaysia, (Reg. No.: 41320187) 2014
11. Chartered Engineer (CEng), Engineering Council, UK, since Nov 2011, Registration No.: 593790
12. Member, IET, (Reg. No.: 70744120) since 2011
13. Member, IEEE Vehicular Technology Society, (Reg. No.: 41320187) since 2010
14. Member, IEEE Communications Society, (Reg. No.: 41320187) since 2010
15. Secretary, Institution of Electrical and Electronics Engineering (IEEE) Graduates of Last Decade (GOLD), 2009
16. Member, Institution of Electrical and Electronics Engineering (IEEE) Malaysia Section, 2000-2004, 2009 onwards
17. Student Member Institution of Electrical and Electronics Engineering (IEEE) UKRI Section 2005-2008
18. Student Member, Institution of Engineering and Technology (IET), 2008
19. Member, Institution of Engineers Malaysia (IEM) since 2002
20. Graduate Member, Board of Engineers Malaysia (BEM) (Reg. No.: GE36545A, ELECTRONIC) since Dec 2002



<b>Appointments</b>	
<b>Position</b>	<b>Duration</b>
1. Science, Technology Industry Linkage Committee Member (STILC), Academy of Sciences Malaysia (ASM)	2017
2. Science, Technology and Innovation Policy Advisory Council (STIPAC) Member, Academy of Sciences Malaysia (ASM)	2017
3. Co-Chair, Science Policy, Young Scientists Network – Academy of Sciences Malaysia (YSN-ASM)	2017
4. MyRA Taskforce, Ministry of Higher Education (KPT), Malaysia Research Assessment (MyRA), Bahagian Perancangan dan Kecemerlangan IPTA (BPKI), KPT	1/1//2017 – 31/12/2018
5. External Assessor, M. Eng in Communication Systems, Dept. of Electrical and Electronics, Faculty of Engineering, UNIMAS	6/3/2017
6. Member, Young Scientists Network – Academy of Sciences Malaysia (YSN-ASM)	1/12/2016 – 31/12/2019
7. Deputy Director Research Planning and Knowledge Management Division, Research Management Centre (RMC), UPM	1/6/2016 – 31/5/2019
8. Head for Academic – Communication Systems Engineering Bachelor of Engineering Computer and Communication Systems Engineering	10/8/2015 – 9/8/2017
9. Committee for Curriculum Review Bachelor of Engineering Computer and Communication Systems Engineering 2016 - 2020	
10. Industry Attachment / Systems Engineer National Space Agency (AAN)	1/3/2014 – 28/2/2015
11. Associate Professor Universiti Putra Malaysia	1/12/2013 – present
12. Head of Program MSc / PhD in Network and Communication Engineering, Dept. of Computer and Communication Systems Engineering, Faculty of Engineering, UPM	1/8/2013 – 31/7/2015
13. Research Coordinator Dept of Computer and Communication Systems Engineering, Faculty of Engineering, UPM	1/8/2011 – 31/7/2013
14. Senior Lecturer Universiti Putra Malaysia	1/4/2010 – 30/11/2013
15. Research Fellow Institute of Space Science (ANGKASA) UKM	1/1/2010 - 31/12/2012
16. Head of Networking Lab Universiti Putra Malaysia	1/8/2009 - 31/7/2011
17. Lecturer Universiti Putra Malaysia	15/7/2003 - 31/3/2010
18. Tutor Universiti Putra Malaysia	10/4/2000 - 14/7/2003
19. Assistant Manager Telekom Malaysia Berhad	16/9/1999 - 9/4/2000

<b>Publications</b>	
<b>Journals (30 recent journals)</b>	
1. Raja Syamsul Azmir Raja Abdullah, Asem A Salah, Ali A Alnaeb, Aduwati Sali, Nur Emileen Abd Rashid, Idnin Pasya Ibrahim, 'Micro-Doppler Detection in Forward Scattering Radar: Theoretical Analysis and Experiment', Electronics Letters, 2 pp. DOI: 10.1049/el.2016.4163 , Online ISSN 1350-911X Available online: 18 January 2017	
2. Md Nazmus Saadat, Borhanuddin Mohd Ali, Aduwati Sali, Raja Syamsul Azmir Raja Abdullah, Hafizal Mohamad, 'Resource Allocation Algorithm for Improving Performance of the OFDMA	

- Based Connection Oriented Networks', Transactions on Networks and Communications, Vol. 3, No. 6, 2015
3. M. I. Salman, C. K. Ng, N. K. Noordin, B. M. Ali, A. Sali, 'A Partial Feedback Reporting Scheme for LTE Mobile Video Transmission with QoS Provisioning', Elsevier Computer Networks, Vol. 112, pp108-121, Jan 2017 (Q2, IF: 1.445)
  4. Kamelia Quzwain, Alyani Ismail, Aduwati Sali, 'Compact High Gain and Wideband Octagon Microstrip Yagi Antenna', Electromagnetics, Volume 36, Issue 8, 16 November 2016, Pages 524-533 (Q4, IF: 0.333)
  5. Ibrahim Mustapha, Borhanuddin Mohd Ali, Mohd Fadlee A. Rasid, Aduwati Sali and Hafizal Mohamad, 'An Energy Efficient Reinforcement Learning Based Cooperative Channel Sensing for Cognitive Radio Sensor Networks', Elsevier Pervasive and Mobile Computing, Volume 35, February 2017, Pages 165–184 (Q2, IF: 1.719)
  6. M. A. Gadam, N. K. Nordin, F. Hisham, A. Sali, 'Hybrid Channel Gain Prioritized Access-Aware Cell Association with Interference Mitigation in LTE Advanced HetNets', International Journal of Communication Systems, Volume 29, Issue 18, 1 December 2016, Pages 2650-2668 (Q3, IF: 1.099)
  7. Mohammed Al-Medhwahi, Fazirulhisyam Hashim, Borhanuddin Mohd Ali, A. Sali, 'Pliable Cognitive MAC for Heterogeneous Adaptive Cognitive Radio Sensor Networks', accepted in Sensors, 11 (6), e0156880, <http://dx.doi.org/10.1371/journal.pone.0156880>, June 2016 (Q1, IF: 2.245)
  8. Idris Abubakar Omar, Zurina Mohd Hanapi, A. Sali, Zuriati A. Zulkarnain, 'FuGeF: A Resource Bound Secured Forwarding Protocol for Wireless Sensor Networks', Sensors 2016, 16(6), 943 (Q1, IF: 2.245)
  9. Ali M. Al-Saegh, A. Sali, J. S. Mandeep, and Fernando Pérez Fontán<sup>3</sup>, 'Channel Measurements, Characterization, and Modeling for Land Mobile Satellite Terminals in Tropical Regions at Ku-band', IEEE Transactions in Vehicular Technology, 66 (2), 7464863, pp. 897-911, Feb 2017 (Q1, IF: 1.978)
  10. Al-Omari, M., Ramli, A. R, Sali, A., Azmir, R. S., 'Deployment of femtocell and its interference management in approached in LTE Heterogenous Networks', Journal of Theoretical and Applied Information Technology, 87 (1), pp. 54-79, 2016 (Scopus-indexed)
  11. Al-Omari, M., Ramli, A. R, Sali, A., Azmir, R. S., 'A femtocell cross-tier interference mitigation technique in OFDMA-LTE system: A cuckoo search based approach', Indian Journal of Science and Technology, 9 (2), 2016 (Scopus-indexed)
  12. Peter O. Aiyelabowo, A. Sali, Samsul Bahari b. Noor, Nor Kamariah Noordin, 'Outage Probability Assessment of Power Line Cooperative Communication (PLCC) System', International Journal of Advanced Engineering Research and Science, Vol. 3, Issue 4, Apr 2016, ISSN: 2349-6495 (Scopus-indexed)
  13. Al-Samawi, Aida, A. Sali, Nor Kamariah Noordin, Mohamed Othman, and Fazirulhisyam Hashim, 'Feasibility of Green Network Deployment for Heterogeneous Networks', Springer Wireless Personal Communications, Apr 2016, DOI: 10.1007/s11277-016-3691-0 (Q4, IF: 0.653)
  14. Ahmed Mohamedou, A. Sali, Borhanuddin M. Ali, M. Othman, 'Dynamical Spectrum Sharing and Medium Access Control for Heterogeneous Cognitive Radio Networks', International Journal of Distributed Sensor Networks, Vol. 2016 (2016), Article ID 3630593, 15 pages <http://dx.doi.org/10.1155/2016/3630593>, Apr 2016 (Q4, IF: 0.665)
  15. A. Mohammed, M. Ovayi, C. K. Ng, N. K. Noordin, A. Sali, F. Hashim, 'Review of Adaptive Cell Selection Techniques in LTE-Advanced Heterogeneous Networks', Journal of Computer Networks and Communications, Article ID 7394136, <http://dx.doi.org/10.1155/2016/7394136>, April 2016 (Scopus-indexed)
  16. Hamzah F. Zmezm, S. J. Hashim, Aduwati Sali, Kamal Ali Alezabi, 'Pre-authentication design for seamless and secure handover in Mobile WiMAX', International Review on Computers and Software (IRECOS), Vol. 10, No 7, August 2015 (Scopus-indexed)
  17. Ibrahim Mustapha, Borhanuddin Mohd Ali, Mohd Fadlee A. Rasid, Aduwati Sali and Hafizal Mohamad, 'An Energy-Efficient Spectrum Aware Reinforcement Learning Based Clustering Algorithm for Cognitive Radio Sensor Networks', Sensors 2015, 15(8), 19783-19818; doi:10.3390/s150819783 (Q1, IF: 2.245)
  18. Y. S. Hussein, B. M. Ali, M. F. A. Rasid, A. Sali, 'A Novel Cell-Selection Optimization Handover for Long-Term Evolution (LTE) Macrocell Using Fuzzy TOPSIS' Elsevier Computer Communications (COMCOM), Volume 73, Part A, 1 January 2016, pp 22–33 (Q1, IF: 1.695)
  19. Al-Samawi, Aida, A. Sali, Nor Kamariah Noordin, Mohamed Othman, and Fazirulhisyam Hashim, 'Wireless Network Power Optimization using Relay Stations Blossoming and Withering

- Technique', Transactions on Emerging Telecommunications Technologies, June 2015, 28 (3), e2954 (Q2, IF: 1.354)
20. Y. S. Hussein, B. M. Ali, M. F. A. Rasid, A. Sali, 'Handover in LTE networks with proactive multiple preparation approach and adaptive parameters using Fuzzy Logic Control', KSII Transactions on Internet and Information Systems, Vol. 9, No7, July 2015 (Q4, IF: 0.561)
  21. Abdulmajeed H. J. Al-Jumaily, A. Sali, J. S. Mandeep, and Alyani Ismail, 'Propagation Models on Earth-sky Signal Effects for High Speed Train Satellite Channel in Tropical Region at Ku-band,' International Journal of Antennas and Propagation , Volume 2015 (2015), Article ID 270949, 10 pages, Feb 2015 (Q3, IF: 0.660)
  22. Haafizah Rameeza Shaukat, Fazirulhisyam Hashim, Aduwati Sali, and M. Fadlee Abdul Rasid, 'Node Replication Attacks in Mobile Wireless Sensor Network: A Survey', International Journal of Distributed Sensor Networks, Volume 2014 (2014), Article ID 402541, pp1-15, <http://dx.doi.org/10.1155/2014/402541> (Q4, IF: 0.665)
  23. A. Mohamedou, A. Sali, B. M. Ali, M. Othman, H. Mohamad, 'Bayesian Inference and Fuzzy Inference for Spectrum Sensing Order in Cognitive Radio Networks', Transactions on Emerging Telecommunications Technologies, DOI: 10.1002/ett.2916 Dec 2014 (Q2, IF: 1.049)
  24. Hamzah F. Zmezm, S. J. Hashim, Aduwati Sali, Kamal Ali Alezabi, 'Seamless and Secure Design for Subsequent Handover in Mobile WiMAX Networks', International Review on Computers and Software (IRECOS), Vol. 9, No. 8, August 2014 (Scopus-indexed)
  25. Ali Al-Saegh, Aduwati Sali, J.S. Mandeep and Alyani Ismail, 'Tracking- and Scintillation-Aware Channel Model for GEO Satellite to Land Mobile Terminals at Ku-Band', International Journal of Antennas and Propagation, Vol. 2015, Article ID 392714, <http://dx.doi.org/10.1155/2015/392714> (Q3, IF: 0.660)
  26. Shahideh Kiehbadroudinezhad, Nor Kamariah Noordin, A. Sali, Zamri Zainal Abidin, 'Optimization of an Antenna Array Using Genetic Algorithms', The Astronomical Journal, Vol. 147, Issue No. 6 (2014) (Q2, IF: 4.024)
  27. M. I. Salman, C. K. Ng, N. K. Noordin, B. M. Ali, A. Sali, 'A Self-Configured Link Adaptation for Green LTE Downlink Transmission', Transactions on Emerging Telecommunications Technologies, Volume 26, Issue 2, pages 258–275, February 2015 (Q2, IF: 1.049)
  28. Y. S. Hussein, B. M. Ali, M. F. A. Rasid, A. Sali, 'Reduction of outage probability due to handover by mitigating inter-cell interference in Long Term Evolution (LTE) Networks', ETRI Journal, Vol. 36, pp.554-563, 2014 (Q3, IF: 0.771)
  29. H. F. Zmezm, S. J. Hashim, Aduwati Sali, 'Fast and Secure Handover Authentication Scheme in Mobile WiMAX', Journal of Theoretical and Applied Information Technology, Vol. 59, No. 2, 2014 (Scopus-indexed)
  30. H usam Kareem, S. J. Hashim, Shamala Suberamaniam, Aduwati Sali, 'Energy Efficient Two-Stage Chain Routing Protocol for Wireless Sensor Network', Journal Of Theoretical And Applied Information Technology, Vol. 59, No. 2, 2014 (Scopus-indexed)

**Conference Proceedings (30 recent Conference Proceedings)**

- 1) Ibrahim Mustapha, Borhanuddin Mohd Ali , Mohd Fadlee A. Rasid, Aduwati Sali and Hafizal Mohamad, 'A Weighted Hard Combination Scheme for Cooperative Spectrum Sensing in Cognitive Radio Sensor Networks', 12<sup>th</sup> International Malaysia International Conference in Communications 2015 (MICC2015), 23 -25 Nov 2015, Kuching, Sarawak
- 2) Noor Alsaedi, Fazirulshiyam Hashim, A. Sali, 'Energy Trust System for Detecting Sybil Attack in Clustered Wireless Sensor Networks', 12<sup>th</sup> International Malaysia International Conference in Communications 2015 (MICC2015), 23 -25 Nov 2015, Kuching, Sarawak
- 3) N.S. Ibrahim, A. Sali, M.H Mohamad, S.J. Hashim, 'Outage Performance in Relay-Assisted Overlay Cognitive Radio Networks', 12<sup>th</sup> International Malaysia International Conference in Communications 2015 (MICC2015), 23 -25 Nov 2015, Kuching, Sarawak
- 4) Mustafa I. Salman, Muntadher Q. Abdulhassan, Nor K. Noordin, Borhanuddin M. Ali, Aduwati Sali, Chee K. Ng, 'An Adaptive Threshold Based CQI Compression Scheme for LTE Cellular Networks', Network Research Workshop 2015, 40<sup>th</sup> Asia Pacific Advanced Network Meeting, Kuala Lumpur, Aug 10, 2015 – *Best Student Paper Award*
- 5) Aduwati Sali, Dasimah Zainal, Noor Hidayah Tauhid Ahmad, Mohd Farid Omar, Syafiah Mohamad, 'Remote Earthquake Monitoring over GEO Satellite Network', 7<sup>th</sup> International Conference on Recent Advances on Space Technologies, 16 – 19 June 2015, Istanbul, Turkey
- 6) Peter O. Aiyelabowo, Aduwati Sali, Samsul Bahari Noor, Bamidele Adebisi, Nor Kamariah Noordin, 'Reed-Solomon and Convolutional Codes on Modulation Schemes for Power Line Communication (PLC)', International Conference on Robotics, Automation and Communication Engineering (ICRACE2015), Kuala Lumpur, Malaysia, 2 May 2015 - *The IIER Excellent Paper Award for Category of Best Presentation / Best Content at 25<sup>th</sup> IIER International Conference*
- 7) H. A. Karim H. Mohamad, N. Ramli, A. Sali, 'Multiple Description Coding for Underlay Cognitive Radio Network', 10<sup>th</sup> International Conference on Cognitive Radio Oriented Wireless Networks and Communications (CROWNCOM2015), Doha, Qatar, 21-23 Apr 2015
- 8) Al-Samawi, Aida, A., Sali, Nor Kamariah Noordin, Mohamed Othman, and Fazirulhisyam Hashim, 'Base Station Blossoming and Withering Technique for Heterogeneous Wireless Networks Using Fuzzy Logic,' International Symposium on Telecommunication Technologies (ISTT), Langkawi, Malaysia, 2014.
- 9) Ali Al-Saegh, A. Sali, J.S. Mandeep, A. Ismail, 'Analysis and Modeling of Cloud Impairments of Satellite-to-Land Mobile Channel at Ku and Ka Bands', 7<sup>th</sup> Advanced Satellite Multimedia Systems 2014 (ASMS2014) / 13<sup>th</sup> Signal Processing for Satellite Communication Workshop (SPSC2014), Livorno, Italy, 8 – 10 Sept 2014
- 10) Aida Al-Samawi, Aduwati Sali, Nor Kamariah Noordin, Mohamed Othman, Fazirulhisyam Hashim, 'Base Station Location Optimisation in LTE using Genetic Algorithm', International Conference on ICT Convergence 2013(ICTC2013), Jeju Island, Korea, 14-16 Oct 2013
- 11) A. M. Al-Saegh, A. Sali, J. S. Mandeep, A. Ismail, A. H. J. Aljumaily, 'Performance Analysis of Rain Attenuation in Malaysia using two Models At Ku-Band', 2013 IEEE International Conference on Space Science and Communication, Malacca, 1-3 July 2013
- 12) A. M. Al-Saegh, A. Sali, J. S. Mandeep, A. Ismail, A. H. J. Aljumaily, 'Energy-Driven Scheduling for Digital Video Broadcasting - Satellite Second Generation (DVB-S2)', 2013 IEEE International Conference on Space Science and Communication, Malacca, 1-3 July 2013
- 13) Sin Yong You, Aduwati Sali, Nor Kamariah Noordin, Chee Kyun Ng, 'An Enhanced Weighted Fair Queuing Scheduling for WIMAX Using QualNet', CIMSIM '12: Proceedings of the 2012 Fourth International Conference on Computational Intelligence, Modeling and Simulation, September 2012, Kuantan, Pahang.
- 14) Z. Dahham, A. Sali, B. M. Ali, S. Jahan, 'An Efficient CSMA-CA Algorithm for IEEE 802.15.4 Wireless Sensor Networks', International Symposium on Telecommunication Technologies (ISTT) 26 - 28 November 2012.
- 15) A. Mohamedou, A. Sali, B.M.Ali, M. Othman, 'Genetic Fuzzy Scheduler for Spectrum Sensing in Cognitive Radio Networks', 2012 International Symposium on Communications and Information Technologies (ISCIT), 2-5 October 2012, Gold Coast.
- 16) H. A. Karim, H. Mohamad, N. Ramli, A. Sali, 'Scalable Video Streaming over Overlay/Underlay Cognitive Radio Network', 2012 International Symposium on Communications and Information Technologies (ISCIT), 2-5 October 2012, Gold Coast.



- 17) N. A. M. Arif, H. A. Karim, H. Mohamad, A. Sali, M. R. Mokhtar, 'User Perception Evaluations of 3D Video Telephony as Compared to Actual Experience for Face-to-Face Immersive Communications', 15th IEEE International Symposium on Consumer Electronics, ISCE 2011, 14 - 17 June 2011, Singapore.
- 18) M. S. Jahan, A. Sali, B. Azarbad, W. Usaha, M. F A. Rasid, B. M. Ali, 'Energy Efficient Geographical and Power Based Clustering Algorithm for Heterogeneous Wireless Sensor Networks', Asia-Pacific Conference on Communications 2011, APCC'11, 2-5 October 2011, Kota Kinabalu, Sabah.
- 19) F. Arvin, H. Majid, S. J. Hashim, R. S. A. R. Abdullah, A. M. Ali, M. F A. Rasid, A. Sali, A. Ismail, F. Hashim, 'Effects of Emission from Different UWB Short-Range Communication Devices', Asia-Pacific Conference on Communications 2011, APCC'11, 2-5 October 2011, Kota Kinabalu, Sabah.
- 20) A. Marzook, A. Ismail, B. M. Ali, A. Sali, S. Khatun, M. Khalaf, 'Study of Joint Channel Estimation and Joint Data Detection in TD-SCDMA Systems', Asia-Pacific Conference on Communications 2011, APCC'11, 2-5 October 2011, Kota Kinabalu, Sabah.
- 21) B. Azarbad, A. Sali, B.M. Ali, 'Study of BER in DVB-S2 Satellite Implemented in Matlab', International Conference on Space and Satellite Communications 2011, IConSpace 2011, 12-13 July 2011, Penang, Malaysia
- 22) H. A. Karim, N. A. M. Arif, A. Sali, S. Worrall, A. H. Sadka, 'An Error Resilience Method for Depth in Stereoscopic 3D Video', IEEE International Conference on Signal and Image Processing Applications, ICSIPA, November 2009, Kuala Lumpur, Malaysia
- 23) W. L. Ng, J. H. Chong, C. K. Ng, A. Sali, N. K. Noordin, 'GPS-Based Childcare System using RSSI Technique', Malaysia International Communications on Communications 2009, MICC'09, 15-17 Dec 2009, Kuala Lumpur
- 24) A. Sali, H. Karim, G. Acar, B. G. Evans, G. Giambene, 'Integrated Adaptive Approach for Reliable Transmission of Multicast Data over Geostationary Satellite Network', International Conference on Space Communications, IconSpace 2009, 26-27 Oct 2009, Port Dickson, Malaysia
- 25) G. Fairhurst, G. Giambene, C.P. Niebla, A. Sali, 'Cross-layer study for resource management in DVB-S2 with mobile users', International Workshop on Satellite and Space Communications 2009, IWSSC'09, Sienna, 10 – 11 September 2009, pp257-261
- 26) A. Sali, G. Acar, B. G. Evans, G. Giambene, 'A Comparison of Multicast Adaptive Techniques in Reliable Delivery over GEO Satellite Networks', accepted for IEEE 69th Vehicular Technology Conference VTC2009-Spring, 26–29 April 2009, Barcelona, Spain
- 27) G. Fairhurst, G. Giambene, G. Giannetti, C. Parraga, A. Sali, 'Multimedia Traffic Scheduling in DVB-S2 Networks with Mobile Users', International Workshop on Satellite and Space Communications 2008 IWSSC'08, Toulouse, 1<sup>st</sup> – 3<sup>rd</sup> October 2008, pp211-215
- 28) A. Sali, G. Acar, B. G. Evans, G. Giambene, 'Channel-Aware Scheduling Algorithms with Channel Prediction for Reliable Multicast Data Transmission over Geostationary Satellite Networks, International Workshop on Satellite and Space Communications 2008 IWSSC'08, Toulouse, 1 – 3 October 2008, pp85-89
- 29) Sali, G. Acar, B. Evans, G. Giambene, 'Change Detection Mechanism in Feedback Implosion Suppression Algorithm for Reliable Transmission of Multicast Data over Geostationary Satellite Network', 26th AIAA International Communications Satellite Systems Conference (ICSSC-2008), California, 10th-12th June 2008, (published)
- 30) Sali, G. Acar, B. Evans, G. Giambene, 'Feedback Implosion Suppression Algorithm for Reliable Multicast Data Transmission over Geostationary Satellite Networks', International Workshop on Satellite and Space Communications 2007 IWSSC'07, Salzburg, 12<sup>th</sup>-14<sup>th</sup> September 2007, pp139-144

#### Books (If any)

1. Zahraa Dahham, Aduwati Sali, Borhanuddin b. Mohd Ali, 'Efficient Backoff Mechanism for IEEE 802.15.4 Wireless Sensor Networks', LAP LAMBERT Academic Publishing, 2015, ISBN 978-3-659-76193-5
2. Laporan Kajian Penilaian Program-Program IPTA: Keberkesanan dan Kerelevanan dari Aspek Penawaran dan Permintaan: Kluster Teknikal, Fakulti Kejuruteraan UPM 2014, ISBN 9789789832408
3. A. Sali, 'Reliable Multicast Transmission over Satellite Networks: Using Cross-Layer Approach', LAP LAMBERT Academic Publishing, 2011, ISBN 978-3-8433-9116-0, 3843391165

### Chapter in Books (If any)

1. 'Chapter 16: Green Network for Wireless Systems: Malaysia', in 'Innovations in Science and Technology in Developing Countries – Vol. 2', The World Academy of Sciences (TWAS), Trieste, Italy, 2014
2. A. M. Al-Saegh, A. Sali, J. S. Mandeep, A. Ismail, 'Chapter 9: Atmospheric Propagation Model for Satellite Communications' in 'MATLAB Applications for Practical Engineers', InTech Publishing, 2014, ISBN 978-953-51-1719-3
3. B. Azarbad, A. Sali, 'DVB-S2 Model in Matlab: Issues and Impairments', in 'MATLAB / Book 2', InTech Publishing, 2012, ISBN 980-953-307-501-8
4. G. Giambene, C. P. Niebla, V. Y. H. Kueh, A. Sali, et al. 'Access Schemes and Scheduling Techniques', in 'Adaptive Resource Management and Optimization in Satellite Networks: Optimization and Cross-Layer Design', Chapter 5, pp. 119-175, Springer, Apr. 2007, ISBN 978-0-387-36897-9
5. Contributor to Chapter 2, 'Packet Scheduling and Congestion Control', Lecture Notes in Electrical Engineering, "Traffic and QoS Management in Wireless Multimedia Networks", COST 290 Final Report, pp13-87, Springer, 2009, ISBN 0387855726, 9780387855721

### Research Grants

No	Project Title	Amount	Duration	Source of Fund
1.	Impact of Professional Activities 'Building Next Generation Workforce in Communications and Vehicular Technology' <b>(Project Leader)</b>	USD500	24/6/2016 – 31/12/2016	IEEE Region 10 (R10) Fund
2.	On the Cogitation of Primary User Reappearance in Cognitive Radio Network <b>(Project Leader)</b>	RM88,000	1/11/2015 – 30/10/2017	FRGS
3.	'ATOM' - Advancing the State of the Art of MIMO: The Key to Successful Evolution of Wireless Networks <b>(Project Leader)</b>	RM622,170	1/2/2016 – 31/1/2020	MSCA-RISE-2015
4.	Investigation of Low-Energy GPS Baseband Receiver: Study on Design and Implementation Using Multi Criteria Decision-Making Techniques <b>(Project Leader)</b>	RM20,000	1/3/2015 – 28/2/2017	Research Acculturation Collaborative Effort (RACE)
5.	ECOSAN: Emergency Communications over Satellite-Assisted Network <b>(Project Leader)</b>	RM 48,455	2/12/2013 – 1/12/2015	Geran UPM
6.	Intelligent Spectrum Sensing and Sharing in Cognitive Radio Networks <b>(Project Leader)</b>	USD2,500	7/6/2013 – 6/2/2015	TWAS-COMSTECH
7.	S-PROMOTE: Satellite Propagation Model at Near Equatorial Region for Train Environment <b>(Project Leader)</b>	RM 62,550	1/8/2012 – 31/7/2014	ERGS
8.	Green Network Optimisation for Wireless Networks <b>(Project Leader)</b>	RM82,000	1/9/2011 – 30/8/2014	FRGS
9.	MAC Layer Issues in Hybrid WSN / Satellite Communications for Emergency Communications (HySSECom) <b>(Project Leader)</b>	RM107,000	15/4/2011 – 14/10/2013	RUGS
10.	Radio Resource Management for Mobile Sensor Networks <b>(Project Leader)</b>	RM25,330.50	25/5/2010 – 24/11/2011	TWAS-COMSTECH
11.	3D Video Transmission over GEO Satellite Networks for Disaster Management	RM89,500	1/6/2010 – 30/5/2011	eScience fund

Applications (**Project Leader**)

12.	Reliable and Adaptive Multicast Transmission Over GEO Satellite Network for Disaster Monitoring Applications ( <b>Project Leader</b> )	RM25,000	1/10/2009 – 30/9/2010	RUGS
13.	Minimizing Feedback Overhead in the Uplink of Fifth Generation (5G) Cellular Networks for Practical Implementation of Massive-MIMO System ( <b>Co-researcher</b> )	RM228,066.00	1/11/2015 – 30/9/2017	eScience fund
14.	Pilot Contamination and its Effect Towards Massive-MIMO Capacity in Fifth Generation (5G) Wireless Transmissions ( <b>Co-researcher</b> )	RM100,500	02/11/2015 - 31/10/2017	FRGS
15.	Investigation to Increase the Reliability of Skin Detector using Color for Images from Real Time Camera ( <b>Co-researcher</b> )	RM40,800	1/12/2013 – 30/11/2016	FRGS
16.	Relations Between Solar Bursts Type II and III and also their relations to Coronal Mass Ejection (CME) and Solar Flares ( <b>Co-researcher</b> )	RM75,200	1/12/2013 – 30/11/2016	FRGS
17.	Investigation of the use of TV White Space for Wireless Sensor Network using cognitive radio ( <b>Co-researcher</b> )	RM62,200	1/7/2014 – 30/12/2015	FRGS
18.	The Optimization of Hypercomplex Adaptive Filtering Algorithms based on Higher Order Statistics ( <b>Co-researcher</b> )	RM51,700	01/06/2013 - 31/05/2015	FRGS
19.	Hyperspectral Imager on-board Autonomous Airborne Platform for Natural Resource and Environment Assessment ( <b>Co-researcher</b> )	RM145,000	2/1/2013 – 1/1/2015	RUGS
20.	The Effect of Emission from Short Range Devices (SRD) on Radio-communication Services ( <b>Co-researcher</b> )	RM236,000	1/1/2011 – 1/6/2011	MCMC
21.	Object Based Error Concealment for Stereoscopic 3D Video ( <b>Co-researcher</b> )	RM83,500	1/1/2010 – 30/6/2011	MOSTI escience Fund
22.	A Study on Error Resilience for 3D Video ( <b>Co-researcher</b> )	RM32,000	1/4/2010 – 30/9/2011	MOHE FRGS
23.	Reduction of PAPR in OFDM Wireless Communication systems Using Statistical Techniques ( <b>Co-researcher</b> )	RM92,000	27/8/2009 – 26/8/2011	RUGS

**Awards/Recognition (Current)**

1. **2016 Excellent Project Award by Malaysia IEEE Communications Society / Vehicular Technology Joint Chapter**, Mohammad Azhar Nawayi (Measurement of Scintillation Effect on Satellite Signal in Tropical Region at Ka-Band), 28 June 2016
2. **IEEE ComSoc/VTS Outstanding Dissertation Award (PhD Level)**, Mustafa Ismael Salman, Nor Kamariah Noordin, Borhanuddin Mohd Ali and Aduwati Sali, Self-Configured Link Adaptation using Channel Quality Indicator-Modulation and Coding Scheme Mapping with Partial Feedback for Green Long-Term Evolution Cellular Systems, 30 Jan 2016



3. **Best Student Paper Award** - Mustafa I. Salman, Muntadher Q. Abdulhassan, Nor K. Noordin, Borhanuddin M. Ali, Aduwati Sali, Chee K. Ng, 'An Adaptive Threshold Based CQI Compression Scheme for LTE Cellular Networks', Network Research Workshop 2015, 40<sup>th</sup> Asia Pacific Advanced Network Meeting, Kuala Lumpur, 10 Aug 2015
4. **The IIER Excellent Paper Award for Category of Best Presentation / Best Content at 25<sup>th</sup> IIER International Conference** - Peter O. Aiyelabowo, Aduwati Sali, Samsul Bahari Noor, Bamidele Adebisi, Nor Kamariah Noordin, 'Reed-Solomon and Convolutional Codes on Modulation Schemes for Power Line Communication (PLC)', International Conference on Robotics, Automation and Communication Engineering (ICRACE2015), Kuala Lumpur, Malaysia, 2 May 2015
5. **Best Final Year Project: Best Poster Award by Malaysia IEEE Young Professionals 2015** - Melvin John Thomas (Analysis of Tropospheric Scintillation Effect on Satellite Signal in Tropical Region at Ka-band), June 2015
6. **ANGKASA Publication Award – Space Application Category ('Hadiah Penerbitan ANGKASA – Bidang Aplikasi Angkasa')** – A. M. Al-Saegh, A. Sali, J. S. Mandeep, A. Ismail, 'Extracted Atmospheric Impairments on Earth-Sky Signal Quality in Tropical Regions at Ku-Band', Elsevier Journal of Atmospheric and Solar-Terrestrial Physics, Vol. 104, pp. 96-105, Nov 2013, (IF:1.417), 8 Nov 2014
7. Nor Kamariah Nordin, Mustafa Ismael Salman, Chee Kyun Ng, Borhanuddin Mohd Ali, Aduwati Sali, 'A Self-Configured Link Adaptation for Green LTE Downlink Transmission', **Silver Medal**, PRPI 2014, 30 Sept – 1 Oct 2014, UPM
8. **Finalist**, International Science, Technology and Innovation Centre for South-South Cooperation under the Auspices of UNESCO (ISTIC-TWAS) Competition "Successful Innovation in Science and Technology in Developing Countries", 20-21 October 2012, Penang, Malaysia

## Media Coverage

1. Agenda Awani - Pengiktirafan Anugerah Seri Angkasa 2016' – Invited Expert in Sharing of Knowledge and Opinion during Agenda Awani – Setahun MH370 which won the Anugerah Pengacara Terbaik Anugerah Seri Angkasa 2016, 8:30 – 9:00, 23 May 2016 <https://www.youtube.com/watch?v=2K1rpqn3jQY>
2. 'Agenda Awani Khas Dua Tahun Kehilangan MH370: Pencarian Masih Diteruskan'- Invited Expert in Satellite Communications, Agenda Awani Khas 9:30 – 10:00pm, 8 March 2016 <http://www.astroawani.com/video-malaysia/dua-tahun-mh370-pencarian-masih-diteruskan-108185>
3. Icon for 'School Bus Heroes Program', RTM1, 9:00 – 17:00, 22 Oct 2015
4. 'Agenda Awani Khas Setahun MH370'- Invited Expert in Satellite Communications, Agenda Awani Khas 8:30 – 10:30pm, 8 March 2015 <https://www.youtube.com/watch?v=A7oSTjmdVJA&index=99&list=PLspdXQtUvxlywSFC0NVkIc2W-tX8PaY6F>
5. 'MH370: Penelitian dan Analisis Semula Data' - Invited Expert in Satellite Communications, Agenda Awani 8:30 – 9:30pm, 13 June 2014
6. '100 Hari Tragedi MH370' – RTM1, 1:00 – 3:00pm, 16 June 2014 <https://www.youtube.com/watch?v=A7oSTjmdVJA&index=99&list=PLspdXQtUvxlywSFC0NVkIc2W-tX8PaY6F>
7. 'Masih di Lautan Hindi' – Metro Ahad, 1 June 2014
8. 'MH370 – Pencarian Memasuki Fasa Baru' - Invited Expert in Satellite Communications (Buletin Awani Khas, 8:30 – 9:00pm, 5 May 2014) [https://www.youtube.com/watch?v=E6xXu5PBH\\_Y](https://www.youtube.com/watch?v=E6xXu5PBH_Y)
9. 'Assalamualaikum - Mata di Langit (Satelit)' – Invited Expert in Satellite Communications (TV AlHijrah 8:30 – 09:00am 3 April 2014)

10. 'Kegunaan Cloud Computing dan Satelit Komunikasi untuk Komplemen kepada Black Box' – Invited Expert in ICT (Berita RTM TV1 8:00 – 9:00 pm 2 April 2014)
11. 'Bual Bicara' – Invited Expert in Satellite Communications (RTM TV1, 10:00 – 11:00 27 March 2014)
12. 'Mencari MH370: Memahami Isyarat Satelit' - Invited Expert in Satellite Communications (Buletin Awani Khas, 8:30 – 9:00pm, 25 March 2014)  
[https://www.youtube.com/watch?v=xZ5-esin\\_zY](https://www.youtube.com/watch?v=xZ5-esin_zY)
13. 'Tragedi MH370: Kaedah Satelit Inmarsat Kesan Pesawat' – Invited Expert in Satellite Communications (Harian Metro 25 March 2014)  
<https://www.youtube.com/watch?v=8ojDRiisnuc>
14. 'Ruang Bicara – MH370' – Invited Expert in Satellite Communications (BERNAMA 17:00 – 18:00 27 March 2014)
15. 'Tragedi MH370' – Invited Expert in Satellite Communications (TV alHijrah 26 March 2014)
16. 'Mencari MH370' Astro Awani – Invited Expert in Satellite Communications (Buletin Awani Khas, 8:30 – 9:00pm, 16 March 2014)  
[https://www.youtube.com/watch?v=xZ5-esin\\_zY](https://www.youtube.com/watch?v=xZ5-esin_zY)
17. 'Mencari MH370' Astro Awani – Invited Expert in Satellite Communications (Buletin Awani Khas, 8:30 – 9:00pm, 14 March 2014)  
<https://www.youtube.com/watch?v=O6bAgMRHS-I>

### Professional Services/Consultation

No	Year	Title	Authority
1.	2015-2016	Development and Application of Shake Map, in collaboration with US Geological Survey (USGS) and MetMalaysia	Task Force Shakemap
2.	2015-2018	Research Project on Meteorological Satellite, UPM Deputy Vice Chancellor for Research and Innovation (TNCPI) Office	Technical Working Group (TWG) Member
3.	2015	After Action Review (AAR) – Head of Communications and Media, Logistics and Support Group	ASEAN Regional Forum (ARF)
4.	2014	REM-SAN: Remote Earthquake Monitoring over Satellite-Assisted Network ~ USD 2,200	Joint NBTC-TTC-MTSFB Workshop on Telecommunications and Public Protection and Disaster Relief (PPDR), Gold Mountain, Nakhon Ratchasima, Thailand
5.	2014	Technical Talk on Digital Radio Communications – RM200	Science and Technology Research Institute for Defence (STRIDE)
6.	2014	Workshop on Satellite Communications and Technology	Defense and Security Technology Conference (DSTC)
7.	2014	Trainer for 'Satellite Communications', Exchange Student Program (Short Mobility) – RM 1,200.00	Soka University, Japan
8.	2013	Consultant for Backbone Transmission Technology Level 1 & 2 – RM 6,000.00	Institut Teknologi Petroleum Petronas (Instep)



9.	2012	T1A MIMO Communications, The 12th International Symposium on Communications & Information Technologies (ISCIT 2012), Gold Coast	Session Chair
10.	2011	Consultant for Value Management for National Communication Satellite (CommSat) Program	National Space Agency (ANGKASA) and ATSB
11.	2011-2013	Consultant for Establishment of Standards and Guidelines for WSN Implementation in Malaysia – RM 470,000.00	Ministry of Information, Communications and Cultural, Malaysia
12.	2010-2012	Associate Consultant for Satellite Communications and Networking – RM 9,000.00	ZOHL Consultancy Sdn. Bhd.
13.	2010	Interviewer and Assessor for National Science Foundation (NSF) Scholarship	MOSTI
14.	2010	Consultant for System Capacity and Link Budget Analysis, National Communication Satellite (CommSat) User Requirements Seminar	National Space Agency (ANGKASA) and ATSB
15.	2011	Resource Management and Mobility Management Sessions, Asia-Pacific Conference on Communications 2011, APCC 2011, 3-5 October, 2011, Kota Kinabalu, Sabah	Session Chair

### Student Supervision

#### PhD (Main Supervisor)

No.	Name	Title	Status
1.	Saukat Jahan	Adaptive MAC protocol over Next Generation Wireless Sensor Networks	Graduated
2.	Ahmad Mohamedou	Cognitive Radio in WLAN Transmission over TV White Space Frequencies	Graduated
3.	Aida Ismail	Green Network Planning and Operational Power Consumption Optimization in LTE-A Using Artificial Intelligence Techniques	Graduated
4.	Ali Mohamed	Channel Characterisation and Modeling for GEO Satellite-to-Land Terminals at Ku-band with Tropical Awareness	Graduated
5.	Abdulmajid alMqdashi	Adaptive Resource Allocation for Cognitive Radio Network	Ongoing
6.	Ahmad Nuzli Anas	Adaptive and Intelligent Resource Allocation for Cognitive Radio Network	Ongoing
7.	Mas Haslinda Mohammad	Interference Management for Cognitive Radio Network	Ongoing
8.	Vahid Khodamoradi	Energy-Efficient CRAN Location in Massive-MIMO Framework	Ongoing

#### MS with thesis (Main Supervisor)

No.	Name	Title	Status
1.	Bahman Azarbad	Cross-layer in 3D Video Transmission over GEO Satellite Networks	Graduated
2.	Mohamad Reza Ranjbari	Multiple Description Coding over GEO Satellite	Graduated



No.	Name	Title	Status
		Networks	
3.	Sin Yong You	Radio Resource Management in WiMAX	Graduated
4.	Zahraa Dahham	Energy Efficient MAC Protocol in WSN	Graduated
5.	Abdulmajeed Jasim	Propagation Models for Train Environment over GEO Satellite Networks in Malaysia	Graduated
6.	Haafizah Rameeza Shaukat	Danger Theory Based Node Replication Attack Detection and Mitigation in Mobile Wireless Sensor Networks	Graduated
7.	Faraz Talebpour	Digital Quadrature Compensator Scheme for Analog Imperfections of Quadrature Modulator in Wireless Communication Systems	Graduated
8.	Nur Syahirah Ibrahim	Performance Analysis on Relay-Assisted Cognitive Radio Networks	Graduated

