



## CURRICULUM VITAE



### **Dr. Mohd Hanif Yaacob**

Department of Computer & Communication systems  
Faculty of Engineering  
Universiti Putra Malaysia  
43400 UPM-Serdang, MALAYSIA

T : 03 . 8946 4345

F : 03 . 8565 7127

E : [hanif@upm.edu.my](mailto:hanif@upm.edu.my)

### **Nationality**

Malaysian

### **Educations**

1. Kolej Islam Sultan Alam Shah, Klang, Selangor
2. Maktab Sains MARA, Kuala Lumpur
3. Northern Consortium of United Kingdom, Institut Teknologi MARA, Shah Alam, Selangor
4. Salford University, Salford, UK
5. Universiti Putra Malaysia, Serdang, Selangor
6. Royal Melbourne Institute of Technology (RMIT) University, Melbourne, Australia

### **Academic Qualifications**

- PhD in Electrical and Computer Engineering, RMIT University, Australia, 2012
- MSc Communications and Network Engineering, Universiti Putra Malaysia, Malaysia, 2002
- B.Eng. (Hons) Electronic Computer System, Salford University, UK, July 1999

### **Professional Qualification/ Membership/ Affiliation**

- Member, Photonics Society, Institute of Electrical and Electronics Engineers (IEEE), USA
- Member, Australian Nanotechnology Network (ANN)

### **Experience: Full-Time**

1. Tutor, Department of Computer and Communication Systems Engineering, Faculty of Engineering, Universiti Putra Malaysia (January 2000 . July 2003)
2. Lecturer, Department of Computer and Communication Systems Engineering, Faculty of Engineering, Universiti Putra Malaysia (July 2003 . Present)



## Experiences

- July 03 . Present            Lecturer, Department of Computer and Communication Systems Engineering,  
Faculty of Engineering, Universiti Putra Malaysia
- Jan 00 . Jul 03            Tutor, Department of Computer and Communication Systems Engineering,  
Faculty of Engineering, Universiti Putra Malaysia
- Oct 99 . Dec 09            Research Assistant, Department of Computer and Communication Systems Engineering,  
Faculty of Engineering, Universiti Putra Malaysia

## Administrative Duties and Other Responsibilities

### NATIONAL

1. Member of ICT Advisory Committee for ANGKASA, Malaysia Ministry of Energy, Water and Communication (Jan . July 2007)

### UNIVERSITY

1. Head of Electronic Engineering Laboratory, Department of Computer and Communication Systems Engineering, Faculty of Engineering, Universiti Putra Malaysia, UPM (Aug 2011 - present)
2. Committee Member of Collaboration Program with Renesas (M) Sdn Bhd (2006 . 2007)
3. Coordinator of Collaboration Program UPM-IPTS : DKTM Kolej UNITI (Jan 2012 . present)

## Areas of Interest

- Photonics
- Nanotechnology
- Optical Sensors
- Communications and Optoelectronics (systems and devices)



## Research Grants

### Principle Researcher

Topic/ Sponsor	Amount (RM)
1. Development and Implementation of Home Environment Using Bluetooth Technology, MOSTI (2004 . 2006)	133,000
2. Ultra Sensitive Ammonia Sensor Based On Tapered Optical Fiber Coated With Nanostructured Thin Films, RUGS 2 (2012 . 2014)	155,000

### Co-Researcher

1. National Top-down Photonic Project, MOSTI (2000 - 2003)	3,500,000
2. Development of On-board Computer for an Unmanned Aerial Vehicle (UAV), MOSTI (2006 . 2008)	148,000
3. ZigBee Based Non-Invasive Medical Sensors for Wireless Body Area Network, MOSTI (2006 . 2008)	196,000
4. Design and Development of OSCDM Transponders for Metro Networks, MOSTI (2006 . 2008)	108,000
5. Design and Development of an Integrated Tunable Laser and Amplifier, MOSTI (2008 . 2009)	207,800
6. Development of 3-D Laser Ranger for Building Surveying, MOSTI (2008 . 2010)	220,300
7. Design and Development of Robust Communication Model and Control System with incorporated Decentralized Renewables in Smart Grids, MOSTI (2012 . 2014)	227,200
8. Nano-photonic Microfiber Sensors for Low Concentration Volatile Organic Compound Detection, RUGS 1 (2012 . 2014)	234,000

**Total Research Grant Received 5,129,300**

## Consultancy Projects

- Consultant: Technology Pre-feasibility and Feasibility Study to Develop and Manufacture Optical Media Converter for Metropolitan and Access Network Application (AJV Electronics - 2005) . RM 7,000.00.

## Student Supervisions

- 8 Postgraduate students . completed (co-supervisor - 4 MSc), on-going (main supervisor . 2 MSc, co-supervisor 2 PhD and 2 MSc)
- 15 BEng projects . 15 completed and 2 on-going

## Academic Reviewers

1. Secretary and Assistant Editor, IEEE LEOS Malaysian Conference on Photonics 2005
2. Reviewer, MMU International Symposium on Information and Communications Technologies (M2USIC 2005)
3. Secretary, ICT Technical Committee & Editorial Board, World Engineering Congress 2007 Jan - July 2007
4. Reviewer, IEEE Malaysia International Conference on Photonics 2011
5. Technical Committee, IEEE Malaysia International Conference on Photonics 2012
6. Reviewer, IEEE Malaysia International Conference on Intelligent and Advanced Systems (ICIAS) 2012



7. Journal Reviewer, Physica E: Low-Dimensional Systems and Nanostructures (Q3)
8. Journal Reviewer, Sensors and Actuators B: Chemical (Q1)
9. Journal Reviewer, ECS Solid-State Letters (Q2)

### Professional Activities

1. Member, IEEE, USA
2. Exco, IEEE Malaysia Photonics Society, 2004 & 2012
3. Chair, IEEE GOLD Malaysian Chapter, 2005-2006
4. Member, Australian Nanotechnology Network (ANN)
5. Fiber Optic Association Inc. (FOA) USA . Fiber Optic Certified Technician Certificate

### Publications

#### TOTAL NUMBER OF PUBLICATIONS = 47

- » Journals = 14
- » Chapter in Books = 1
- » Conference Proceedings = 31
- » Consultancy Report = 1

#### Journals - Citation Index

1. A.A.A. Bakar, M.Z. Jamaludin, F. Abdullah, **M.H. Yaacob**, M.A.Mahdi, M.K. Abdullah, A New Technique of Real-Time Monitoring of Fiber Optic Cable Networks Transmission, Optics and Lasers in Engineering, Issue 1, vol. 45, pp.126-130, 2006. Impact Factor: 1.660 (Q2)
2. **M.H. Yaacob**, M. Breedon, K. Kalantar-zadeh, W. Wlodarski, Absorption spectral response of nanotextured WO<sub>3</sub> thin films with Pt catalyst towards H<sub>2</sub>,+ Sensors and Actuators B: Chemical, vol. 137, no. 1, pp. 115-120, 2009. Impact Factor: 3.898 (Q1)
3. **M.H. Yaacob**, J. Yu, K. Latham, K. Kalantar-zadeh, W. Wlodarski, Optical Hydrogen Sensing Properties of Nanostructured Pd/MoO<sub>3</sub> Films,+Sensor Letters, vol 9, no. 1, pp. 16-20, 2011. Impact Factor: 0.819 (Q3)
4. E. Della Gaspera, A. Martucci, **M. Yaacob**, J. Ou, K. Kalantar-zadeh, W. Wlodarski, WO<sub>3</sub>-Au-Pt nanocrystalline thin films as optical gas sensors,+ Sensor Letters, vol 9, no. 1, pp. 595-599, 2011. Impact Factor: 0.819 (Q3)
5. **M.H. Yaacob**, J.L. Campbell, A. Wisitsoraat and W. Wlodarski, Gasochromic Response of Pd/NiO Nanostructured Film towards Hydrogen,+Sensor Letters, vol 9, no. 1, pp. 898-901, 2011. Impact Factor: 0.819 (Q3)
6. A. Chapelle, **M.H. Yaacob**, I. Pasquet, L. Presmanes, A. Barnabé, P. Tailhades, J. Du Plessis and K. Kalantar-zadeh, Structural and gas-sensing properties of CuO. CuxFe<sub>3</sub>xO<sub>4</sub> nanostructured thin films,+Sensors and Actuators B: Chemical, vol. 153 (1), pp. 117-124, 2011. Impact Factor: 3.898 (Q1)
7. J.Z. Ou, **M.H. Yaacob**, M. Breedon, H.D. Zheng, J.L. Campbell, K. Latham, J.du. Plessis, W. Wlodarski and K. Kalantar-zadeh, In-situ Raman Spectroscopy of H<sub>2</sub> Interaction with WO<sub>3</sub> Films,+Physical Chemistry Chemical Physics, vol. 13, pp. 7330-7339, 2011. Impact Factor: 3.57 (Q1)
8. **M. Yaacob**, J. Ou, W. Wlodarski, C.S. Kim, J.Y. Lee, Y.H. Kim and J.H. Kang Gasochromic Performance of WO<sub>3</sub> Nanorods Thin Films Fabricated with ArF Excimer Laser,+Journal of Korean Physical Society, vol. 60 (3), pp. 393-397, 2012. (Q4)
9. J.Z. Ou, **M.H. Yaacob**, J.L. Campbell, K. Kalantar-zadeh and W. Wlodarski, H<sub>2</sub> Sensing Performance of Optical Fiber Coated with Nano-platelet WO<sub>3</sub> Film,+Sensors and Actuators B: Chemical, vol. 166. 167, pp. 1-6, 2012. Impact Factor: 3.898 (Q1)
10. J. H. Kang, C. Oh, J. Y. Kim, **M.H. Yaacob**, J. Ou and W. Wlodarski, Optical Sensing Properties of WO<sub>3</sub> Nanostructured Thin Films on Sapphire Substrate Towards Hydrogen,+



- Biomedical Engineering: Applications, Basis and Communications, Vol. 24 (2), pp. 123 . 129, 2012. (Q4)
11. M. Z. Ahmad, A. Z. Sadek, **M. H. Yaacob**, D. P. Anderson, G. Matthews, V. B. Golovko, W. Wlodarski, "Optical Characterisation of Nanostructured Au/WO<sub>3</sub> Thin Films for Sensing Hydrogen at Low Concentrations," Sensors and Actuators B: Chemical (In Press), 2012. Impact Factor: 3.898 (Q1)
  12. **M.H. Yaacob**, M.Z. Ahmad, A.Z. Sadek, J.Z. Ou, J. Campbell, W. Wlodarski, "Optical Response of WO<sub>3</sub> Nanostructured Thin Films Sputtered on Different Transparent Substrates Towards Hydrogen of Low Concentration," Sensors and Actuators B: Chemical (accepted) 2012. Impact Factor: 3.898 (Q1)

#### Journals - Non Citation Index

1. **Mohd Hanif Yaacob**, Ahmad Ashrif Abu Bakar, Norhana Arsad, Norshamsuri Ali, Aidi Zakarna and Mohamad Khazani Abdullah, The Effects of a Feedback Capacitor in an Optical Receiver Designed with Transimpedance Amplifier, Jurnal Teknologi (D) UTM, no. 42, pp. 1-8, June 2005.
2. MT Al-Qdah, HA Abdul-Rashid , K Dimyati, **MH Yaacob**, BM Ali, M Khazani, CD and OBI Penalties in MOC-SCM Optical Networks in Presence of FWM, WSEAS Transactions On Communications, Issue 3, vol. 5, pp. 593-598, March 2006.

#### Chapter in Books

1. R. Arsat, **M. H. Yaacob**, P. L. Leow, F. K. C. Harun, K. Kalantar-zadeh and W. Wlodarski, "Electropolymerized Polyaniline Nanostructured Thin Films for Gas Sensing applications" Chapter 13, in Progress in Process Tomography & Instrumentation System: Series 3, ISBN: 978-967-354-180-5.

#### Conference Proceedings

1. Z Zan, S Hitam, WAW Adnan, **MH Yaacob**, MK Abdullah, Design of an Optical Fiber Link Employing QPSK Format with SCM Scheme, IEEE Asia Pacific Communication Conference, Penang, Sept 2003.
2. **MH Yaacob**, N Arsad, MA Mahdi, MK Abdullah, Reduction of Gain Peaking using a Simple Feedback Capacitor in an Optical Front-end Receiver, International Conference on Advances in Strategic Technologies, Kuala Lumpur, Aug 2003.
3. A.A.A. Bakar, **M.H. Yaacob**, M.Z. Jamaluddin, N. Ali, M.A. Mahdi and M.K. Abdullah, Fiber break monitoring system employing strong back-reflected light in optical fibers, MMU International Symposium on Information and Communication Technologies (M2USIC 2004), paper TS 2C . 3, pp. 8-10, 2004.
4. M.S.Z. Abidin, A.W. Najj, M.H. Al-Mansoori, S.B.A. Anas, **M.H. Yaacob**, F.R.M. Adikan and M.A. Mahdi, Design considerations of remotely-pumped EDFA location in repeaterless transmission systems, MMU International Symposium on Information and Comm. Technologies (M2USIC 2004), paper TS 1C . 5, pp. 15-18, 2004.
5. M. S. Z. Abidin, A.W. Najj, M. H. Al-Mansoori, S. B. A. Anas, **M. H. Yaacob**, F.R.M. Adikan and M. A. Mahdi, Optimization of Remotely Pumped EDFA Location In Repeaterless Transmission Systems, IEEE LEOS Malaysian Conference on Photonics 2004, Kuala Lumpur, Sept 2004.
6. SA Aljunid, MDA Samad, **MH Yaacob**, MK Abdullah, A Variable-Weight Code For Spectral Amplitude Coding Optical Code Division Multiple Access System, IEEE LEOS Malaysian Conference on Photonics 2004, KL, 2004.
7. N. Ali, M. Z. Jamaluddin, **M.H. Yaacob**, A.A.A. Bakar, M. K. Abdullah, Analysis the Effect of Wavelength Spacing on CWDM System in the Access Network, IEEE LEOS Malaysian Conference on Photonics 2004, Kuala Lumpur, Sept 2004.
8. Z.Zan, M.K.Abdullah, S.A.Aljunid, **M.H.Yaacob**, S.B.A.Anas, and S.Shaari, Design of Encoder and Decoder Modules based on Fiber Bragg Gratings (FBGs) for Spectral Amplitude Coding (SAC) Optical Code Division Multiple Access (OCDMA) System, IEEE



- International Conference on Instrumentation, Communication, and Information Technology (ICICI) 2005, Bandung Indonesia, August 2005.
9. Z.Zan, S.A. Aljunid, **M.H. Yaacob**, M.K. Abdullah and S. Shaari, Design Configuration of Encoder and Decoder Modules for Modified Double Weight (MDW) Spectral Amplitude Coding (SAC) Optical Code Division Multiple Access (OCDMA) based on Fiber Bragg Gratings (FBGs), IEEE LEOS International Conference on Advanced Optoelectronics and Lasers (CAOL 2005), Ukraine, Sept 2005.
  10. Z.Zan, S.A. Aljunid, **M.H. Yaacob**, S.B.A. Anas and M.K. Abdullah Design of Parallel and Serial Configurations of Encoder and Decoder Modules for Spectral Amplitude Coding (SAC) Optical Code Division Multiple Access (OCDMA) based on Fiber Bragg Gratings (FBGs), IEEE Malaysia International Conference on Communications 2005, Kuala Lumpur, November 2005.
  11. MN Saadat, **MH Yaacob**, RKZ Sahbuddin, S Khatun, BM Ali and RSAR Abdullah, Bluetooth Based Wireless Remote Device Controlling and Data Acquisition, IEEE Advanced International Conference on Telecommunications (AICT 2006), Guadeloupe French Caribbean, February 2006.
  12. Z. Zan, M.K. Abdullah, S.A. Aljunid, R.K.Z. Sahbudin, **M.H. Yaacob**, M. Mokhtar and S. Shaari, Effects of the Power Differences in the AND Subtraction Detection Technique in SAC-OCDMA System Performance, 2006 IEEE International Conference on Semiconductor Electronics (ICSE06), Kuala Lumpur, 29 Nov -1 Dec 2006.
  13. Z. Zan, M.K. Abdullah, S.A. Aljunid, R.K.Z. Sahbudin, **M.H. Yaacob**, M. Mokhtar and S. Shaari, Wavelength Shifting in the Fiber Bragg Grating (FBG) Based Encoder and Decoder Modules for SAC-OCDMA System, 2006 IEEE International Conference on Semiconductor Electronics (ICSE06), Kuala Lumpur, 29 Nov -1 Dec 2006.
  14. **M.H. Yaacob**, M. Breedon, K. Kalantar-zadeh, W. Wlodarski,  $H_2$  Absorption Spectral Response of Nanostructured  $WO_3/Pt$  Films,+Proceedings of the 12th International Meeting on Chemical Sensors 2008, pp. 421-422, Ohio, USA.
  15. **M. H. Yaacob**, M. Breedon, K. Kalantar-zadeh, Y. Li, W. Wlodarski, Comparative Study of the Gasochromic Performance of  $Pd/WO_3$  and  $Pt/WO_3$  Nanotextured Thin Films for Low Concentration Hydrogen Sensing,+ Proceedings of IEEE Sensors 2009, pp. 304-307, Christchurch, New Zealand.
  16. **M.H. Yaacob**, A.Z. Sadek, K. Latham, K. Kalantar-zadeh, W. Wlodarski, Optical  $H_2$  Sensing Performance of Anodized Nanoporous  $TiO_2$  Thin Films,+ Proceedings of 23rd Eurosensors 2009 - Procedia Chemistry, vol. 1, no. 1, pp. 951-954, 2009, Lausanne, Switzerland.
  17. **M.H. Yaacob**, M. Breedon, W. Wlodarski, K. Kalantar-zadeh, A systematic investigation into the gasochromic response observed in a series of  $Pd/WO_3$  nanotextured thin films exposed to  $H_2$ ,+Nano Today 2009, Singapore (presented)
  18. R. Arsat, **M.H. Yaacob**, X. He, W. Wlodarski, K. Kalantar-zadeh, Absorption Spectral Response of Electropolymerised Nanostructured Polyaniline Thin Films Towards  $NO_2$ ,+ Nano Today 2009, Singapore (presented)
  19. **M.H. Yaacob**, J. Yu, K. Latham, K. Kalantar-zadeh, W. Wlodarski, Optical  $H_2$  Sensing Properties of Nanostructured  $Pd/MoO_3$  Films,+8th Asian Conference on Chemical Sensors 2009, Daegu, Korea (presented)
  20. **M.H. Yaacob**, J.L. Campbell, A. Wisitsoraat, K. Kalantar Zadeh and W. Wlodarski, Gasochromic Response of  $Pd/NiO$  Nanostructured Film Towards Hydrogen, +Proceedings of the 13th International Meeting on Chemical Sensors 2010, pp. 310, Perth, Australia.
  21. **M.H. Yaacob**, J. Ou, O. Berger, W.-J. Fischer, K. Kalantar Zadeh and W. Wlodarski, Gasochromic Response of Electron-beam Deposited  $WO_3$  Thin Films Towards Low Concentrations of Hydrogen,+ Proceedings of the 5th Asia-Pacific Conference on Transducers and Micro-Nano Technology 2010, pp. 121, Perth, Australia.
  22. E. Della Gaspera, A. Martucci, **M. Yaacob**, J. Ou, K. Kalantar-zadeh, W. Wlodarski,  $WO_3$ -Au nanocomposite thin films as optical gas sensors,+Proceedings of the 13<sup>th</sup> International Meeting on Chemical Sensors 2010, pp. 287, Perth, Australia.



23. J. Ou, **M.H. Yaacob**, J.L. Campbell, H.Zheng, K. Kalantar-zadeh, W. Wlodarski, %Optical Hydrogen Sensing of Anodized Nanoporous Tungsten Trioxide Film,+Proceedings of the 13<sup>th</sup> International Meeting on Chemical Sensors 2010, pp. 70, Perth, Australia.
24. J.Z. Ou, M. Consales, **M.H. Yaacob**, M. Penza, A. Cusano, W. Wlodarski, %Optical Fiber Gas Sensing Using WO<sub>3</sub> Nanostructured Layers,+Proceedings of the 13<sup>th</sup> International Meeting on Chemical Sensors 2010, pp. 38, Perth, Australia.
25. J. Ou, **M.H. Yaacob**, M. Breedon, K. Kalantar-zadeh, W. Wlodarski, %H<sub>2</sub> Sensing Performance of Optical Fiber Coated with Sputtered WO<sub>3</sub> Film,+European Workshop on Optical Fibre Sensors (EWOFS) 2010 - Proceedings of SPIE, vol. 7653, pp. 76530N-76530N-4, Porto, Portugal.
26. J. Ou, **M.H. Yaacob**, J.L. Campbell, K. Kalantar-zadeh, W. Wlodarski, %H<sub>2</sub> Sensing Performance of Optical Fiber Coated with Nano-platelet WO<sub>3</sub> Film,+24<sup>th</sup> Eurosensors 2010 - Procedia Engineering, vol. 5, pp. 1204-1207, Linz, Austria.
27. **M.H. Yaacob**, J. Ou, K. Kalantar-zadeh, W. Wlodarski, %Investigation of Nanostructured Tungsten Trioxide (WO<sub>3</sub>) based Optical Sensor for Hydrogen (H<sub>2</sub>) Sensing Application,+IEEE Australia and New Zealand Student Congress 2010, Melbourne, Australia. 1st Prize Winner Project/Poster Presentation.
28. **M.H. Yaacob**, C.M. Oh, J.H. Kang, G. Sbverelgieri, W. Wlodarski, %Gasochromic Response Of WO<sub>3</sub> Nanorods Towards Low Hydrogen Concentrations,+25<sup>th</sup> Eurosensors 2011, Athens, Greece.
29. Joonhee Kang, Chul M. Oh, **Mohd H. Yaacob**, Jian Z. Ou, Chung S. Kim, Jeong Y. Lee, Wojtek Wlodarski, %Optical H<sub>2</sub> Sensing Properties Of WO<sub>3</sub> Nanostructured Thin Films on Sapphire (Al<sub>2</sub>O<sub>3</sub>) Substrate,+9th Asian Conference on Chemical Sensors 2011, Taipei, Taiwan.
30. J. Kang, C.M. Oh, C.S. Kim, J.Y. Lee, Y.H. Kim, M. Rekas, D. Flak, **M. H. Yaacob**, W. Wlodarski, %Fabrication of ZnO and WO<sub>3</sub> Nanostructured Thin Films by ArF Excimer Laser for Gas Sensing Applications,+European Material Research Society (E-MRS) Meeting 2011, Strasbourg, France.
31. Wisitsoorat A., Ahmad M.Z., **Yaacob M.**, Horpratum M., Wlodarski Wojtek, %Optical H<sub>2</sub> Sensing Properties of the WO<sub>3</sub> Nanorod Thin Films Deposited via Glancing Angle RF Magnetron Sputtering,+4<sup>th</sup> International Symposium on Transparent Conductive Materials 2012, Crete, Greece.

### Consultancy Reports

1. M.K. Abdullah and **M.H. Yaacob**, Technology Pre-feasibility and Feasibility Study to Develop and Manufacture Optical Media Converter for Metropolitan and Access Network Application (2005).

### Patent

1. Dual Core Erbium Doped Fiber Amplifier PI 20055029 (Pending)

### Awards & Recognitions

1. Bronze, Media Converter, UPM Research & Invention Exhibition 2003, UPM.
2. Bronze, Automatic Protection Switch, 32<sup>nd</sup> International Invention and New Product Exhibition 2004, Geneva Switzerland
3. Gold Paper, A Variable-Weight Code For Spectral Amplitude Coding Optical Code Division Multiple Access System, IEEE LEOS Malaysian Conference on Photonics 2004, Kuala Lumpur
4. Excellent Scientist Award 2004, Malaysia Ministry of Higher Education, Kuala Lumpur, October 2004
5. Gold, Optical Fiber Duplexer Module, British Invention Show 2004, London, UK
6. Gold, Optical Fiber Duplexer Module and Double Carrier Modulation /Differential Detection, International Exhibition on New Inventions (IENA) 2004, Nuremberg, Germany



7. 2003 UPM Excellent Service Award - Universiti Putra Malaysia
8. 1<sup>st</sup> Place, Vehicle Collision Avoiding Device (VECAD), MSC-UPM Business Plan Competition 2004
9. 2<sup>nd</sup> Runner UP, Vehicle Collision Avoiding Device (VECAD), National MSC-Institute of Higher Learning Business Plan Competition, February 2005
10. Bronze, Development of Dual Core EDFA Based on Polarization, ITEX 2005 (16th International Invention, Innovation, Industrial Design and Technology Exhibition), Kuala Lumpur
11. Bronze, Wireless Remote Data Acquisition Using Bluetooth Technology, ITEX 2005 (16th International Invention, Innovation, Industrial Design and Technology Exhibition), Kuala Lumpur
12. Bronze, Development of Dual Core EDFA Based on Polarization, UPM Invention, Research and Innovation Exhibition 2005, UPM
13. Bronze, Wireless Remote Data Acquisition Using Bluetooth Technology, UPM Invention, Research and Innovation Exhibition 2005, UPM
14. Excellent Scientist Award 2005, Malaysia Ministry of Higher Education, Kuala Lumpur, August 2005
15. Bronze, Optical Fiber Duplexer Module, Malaysia IPTA Exhibition 2005, Kuala Lumpur
16. 2004 UPM Excellent Service Award - Universiti Putra Malaysia
17. Gold, Bluetooth Smart Remote Control and Sensor System (BLUESS), 54<sup>th</sup> World Exhibition on Innovation, Research and New Technologies (EUREKA 2005), Brussels, Belgium
18. Silver, Multi-channel m-health System with Embedded Bluetooth and J2ME Interfaces, Engineering Research, Innovation and Commercial Exhibition, Mac 2006, UPM
19. 2005 UPM Excellent Service Award - Universiti Putra Malaysia
20. 2005 UPM Excellent Researcher Award for International Exhibition . Universiti Putra Malaysia
21. 2006 Selangor Young Scientist Award (team member) - Selangor State Government
22. 2007 PhD Scholarship Award, Islamic Development Bank (IDB), Jeddah, Saudi Arabia
23. 2007 PhD Scholarship Award, Malaysia Ministry of Science, Technology and Innovation
24. Best Project (1<sup>st</sup> Prize), IEEE Australia and New Zealand Student Congress 2010, Melbourne, Australia

### Other Publication

1. Kaharudin Dimiyati and Mohd Hanif Yaacob (editors), Proceeding of 2004 IEEE LEOS Malaysian Conference on Photonics, Bangi, 2004. ISBN 983-41948-0-3.