



Prof. Madya Dr. Ishak Bin Aris

Department of Electrical & Electronics Engineering,
Faculty of Engineering, University Putra Malaysia,
43400 UPM Serdang, Selangor.
Tel : 03-89466324
Fax : 03-89466327
E-mail : ishak@eng.upm.edu.my



Areas of Expertise:

Power Electronics and Drives System (Electric & Hibrid Vehicle),
Artificial Intelligence and Robotic System,
Automotive Power Train Engine Management System.

Academic Qualification :

- | | | |
|--|-----------|--|
| 1. Primary School –
Sekolah Rendah Kebangsaan L. B. Johnson, Seremban | 1973-1978 | - |
| 2. Secondary School -
Sekolah Menengah Dato' Mohd Said, Nilai | 1979-1981 | SRP - Grade A,
Agg. 8 |
| 3. Royal Military College, Sg. Besi, Selangor. | 1982-1984 | SPM - Grade 1
Agg. 18 |
| 4. George Washington University,
Washington D.C., USA. | 1984-1988 | BSc in Electrical
Engineering |
| 5. University of Bradford, UK/
Loughborough University of Technology, UK. | 1990-1991 | MSc in Power
Electronics Engineering. |
| 6. University of Bradford, UK. | 1992-1995 | PhD in Power
Electronics Engineering |

Previous Appointment :

<u>Employer</u>	<u>Position</u>	<u>Duration</u>
1. Ministry of Defence (Electrical and Mechanical Eng. Corps)	Army Officer	5 Dec 88 - 14 March 90
2. Universiti Sains Malaysia (Electrical and Electronic Eng. Department)	Tutor	15 March 90 - 30 Sept. 90
3. University of Bradford (Dept. of Electrical and Electronic Eng.)	Demonstrator for Power Electronics Lab. MSc course	Oct. 92 - Dec. 92

- | | | | |
|-----|--|--|---------------------------|
| 4. | University of Bradford (Dept. of Electrical and Electronic Eng.) | Demonstrator for Power Electronics & Machines undergraduate lab. | Feb. 94 - April 94 |
| 5. | Universiti Sains Malaysia (School of Electrical and Electronic Eng.) | Lecturer | 28. 8. 95 - 7. 8. 96 |
| 6. | Universiti Putra Malaysia (Dept. of Electrical and Electronic Eng.) | Lecturer | 8. 8.96 – 30.4.03 |
| 7. | Collaborate with Texas Instrument and UTM.
Project title: Design and Development of Character and Marking Inspection System for Semiconductor Applications – Symbol Inspection
Research Contract:
RM192,720.00 | Project Leader | 2002 – 2005 |
| 8. | Collaborate with Advance Interconnection Technologies Sdn. Bhd.
Project Title: RFID GSM-based vehicle immobiliser system.
Research Contract:
RM209,236.00. | Project Leader | 2002 - 2004. |
| 9. | Collaborate with Proton, Petronas Research, UKM, UM, UTM, UTP, UiTM
Program Title: CNG/DI Engine and Transmission
Project title: Development of an Electronic Control Unit and its Diagnostic Kit for CNG Direct Injection Engine (2002 – 2007) – RM2.94 million
Research Grant: RM28.8 million (IRPA) – from the Ministry of Science Technology and Environment | Project Leader | 2002 - 2007 |
| 10. | Malaysia Utility Board Research Centre (TNB Research Sdn. Bhd) – | Sabbatical Leave (Research Associate) | August 2001 – April 2002. |
| 11. | Universiti Putra Malaysia (Department of Electrical and Electronic Eng.) | Associate Prof. | 1. 5. 2003 – to date |

12. Universiti Putra Malaysia Deputy Director 1. 6. 2007 – to date
(Institute of Advanced Technology)

Professional Affiliation :

1. TAU BETA PI (USA National Engineer Honor Society).
Member (1987 – to date)
2. ETA KAPPA NU (USA Electrical Engineer Honor Society).
Member (1988 – to date)
3. BEM (Board of Engineers Malaysia).
Graduate member (1994 – to date) (Ref. No.: 21852A)
4. IEEE – Member (2000 – to date)
Membership No.: 41319651
- Member of IEEE Engineering in Medicine and Biology Society
- Member of IEEE Power Electronics Society
- Member of IEEE Robotics and Automation Society
5. Member of Malaysian Invention and Design Society
Membership No.: 1555.
6. Member of robotic round table.
7. Member of the Society of Automotive Engineers International (SAE)
Membership No.: 611680902
Vice Chair Math & Science for SAE Malaysia group for 2007/2008
Vice-Chairman of SAE Malaysia Group for 2008/2009

Research :

I. Research Activities

Research Completed;

I.1 M.Sc. dissertation (University of Bradford, United Kingdom)

-Inverter high quality audio amplifier- (1991)

This project deals with the design and development of a switched mode pulse width modulated audio power amplifier using power MOSFETs as switching devices.

Courses attended include: Power Device Physics & Characteristics; Analogue & Digital Power Circuitry; Introduction to Microprocessor Architecture; AC-DC Conversion; AC Load Control and HVDC Transmission; Self Commutated Converters; Instrumentation, Passive Components, Protection and Cooling; Control Theory; Power Electronics Control of Electrical Machines and Microprocessor Control in Power Electronics and Drives.

I.2 Ph.D thesis (University of Bradford, United Kingdom)

-Application of Artificial Intelligence to Power Electronic Circuit Design and Fault Diagnosis- (1995)

The research work is divided into two parts. The first part involves the upgrade and improvement of a Power Electronics simulation package called PECT II. This includes designing and implementing a power MOSFET model into the package and the increase of its simulation speed using both HSPICE and an object-oriented language Smalltalk-80. The second part deals with the development and implementation of a fault diagnosis knowledge-based system to be used for detecting faults that occur in a three-phase PWM inverter system, in real time. It is also included the design and development of a three-phase PWM inverter.

I.3 Robolab – Auto-Laboratory and Testing Machine (1999-2000)

Function: Research Leader

I.4 A Portable Fiber Optic-based Lightning Detector System (2000 – 2002)

Function: Research Leader

Research grant: RM 114,000.00, (IRPA) – from the Ministry of Science Technology and Environment (51512/2000/01) under project Investigation of lightning surge resonance and development of ultra-fast lightning arrester.

I.5 Robotoy – Robotic kit for school children (2000 – 2002)

Function: Research Leader

I.6 IPAD ROBOT – An autonomous guided robot for ROBOCON Contest 2002 (2001 – 2002)

Function: Research Leader

Research Grant: RM53,000.00 from the Ministry of Education Malaysia

I.7 Development of a microcontroller based speed controller for model aeroplane engine (2000 – 2001)

Function: Research Leader

Research Grant: RM10,000.00 from the Short-Term Research Grant

I.8 Development of an automated IC casing system using PLC (2000 – 2001)

Function: Research Leader

Research Grant: RM10,000.00 from the Short-Term Research Grant

- I.9 Telemedicine: Blood Pressure Monitoring System for Individual Use Through Internet (1999 – 2000)**
- Function:** Research Leader
Research Grant: RM10,000.00 from the Short-Term Research Grant
- I.10 Development of Knowledge Based Expert System for Power Electronic Circuit Design (1997 – 2000)**
- Function:** Researcher
Research Grant: RM195,000.00 (IRPA) – from the Ministry of Science Technology and Environment (51314/1999)
- I.11 Development of Uninterruptible Power Supply (UPS) for PC (1999 – 2000).**
- Function:** Research Leader
Research Grant: RM10,000.00 from the Short-Term Research Grant (50208-99-04)
- I.12 Smart Battery Charger for an Electric Vehicle (1998 – 1999)**
- Function:** Research Leader
Research Grant: RM10,000.00 from the Short-Term Research Grant (50223-98-01)
- I.13 Microprocessor-based Three-Channel Current Probe System (1997 – 1998).**
- Function:** Research Leader
Research Grant: RM10,000.00 from the Short-Term Research Grant (50223/1997)
- I.14 Early Warning Monitoring System for PETRONAS Natural Gas Pipeline Network (1997 – 1998)**
- Function:** Research Leader
Research Grant: RM15,000.00 from the Short-Term Research Grant (50223/1997)
- I.15 Development of Courseware Using Multimedia Approach (1999 – 2000)**
- Function:** Research Leader
- I.16 House painter robot (2001-2003)**
- Function:** Research Leader
- I.19 Project Title:** The development of a pager system to be interfaced with an immobilizer system for motorcycles and heavy vehicles (RFID GSM-based vehicle immobiliser system).

Function: Project Leader

Research Contract: RM209,236.00 – from Advance Interconnection Technologies Sdn. Bhd. (345074 P) 2002 - 2004.

Industry Research and Development Grant Scheme (IGS) awarded: RM2.637 million

I.20 Program Title: Design and Development of an Intelligent Vision Software with Integrated Automated Systems and their Applications – RM3.6 million

Sub project title: Design of Character and Marking Inspection System for Semiconductor Applications – Symbol Inspection (2002 – 2005) – RM1.6 million

Collaborate with UTM and Texas Instrument.

Research Grant to UPM: RM192,720.00

Function: Project leader

Total Research Grant: RM3.6 million (IRPA) – from the Ministry of Science Technology and Environment

I.21 Development of e-diabetes monitoring system

Function: Project Leader

Research Grant: RM15,000.00 (Short term research grant)

I.22 Development of fuzzy logic based position estimation in three-phase brushless permanent magnet motors

Function: Project Leader

Research Grant: RM50,000.00 (Short term research grant)

I.24 Project Title: Development of an FPGA-Based SoC (system-on-a-chip) for Low Cost IC Testing.

Function: Researcher

Research Grant: RM178,000.00, from the Ministry of Science Technology and Environment, IRPA 09-02-04-0829-EA001

Project Duration: Oct' 2003 - March'2006.

I.25 Project Title: Development of Hybrid Photovoltaic System for Tropical Greenhouse Cooling

Function: Researcher

Research Grant: RM189,400.00, from the Ministry of Science Technology and Environment, IRPA 09-02-04-0873-EA001

Project Duration: 2004 - 2006.

I.26 Program Title: CNG/DI Engine and Transmission

Project title: Development of an Electronic Control Unit and its Diagnostic Kit for CNG Direct Injection Engine (2002 – 2007) – RM2.94 million

Collaborate with Proton, Petronas Research, UKM, UM, UTM, UTP, UiTM

Function: Project Leader

Research Grant: RM28.8 million (IRPA) – from the Ministry of Science Technology and Environment

Project Duration: 2002 - 2007

On Going Research;

- I.27 **Project Title:** Automated analysis of numerical protective relay operation using FPGA
Function: Project member
Research Grant: RM60,000.00 –from Ministry of Higher Education Malaysia
Duration: 2007 -2009
- I.28 **Project Title:** Development of a Macro Language for representing spatial relations in natural language
Function: Project member
Research Grant: RM80,000.00 –from Ministry of Higher Education Malaysia
Duration: 2007 -2009
- I.29 **Project Title:** Development of a New Artificial Intelligent Controlled ND:YAG Laser Module
Function: Project member
Research Grant: RM186,000.00 –from Ministry of Science Technology and Innovation
Duration: 2007 -2009
Project Collaborator: UNITEN
- I.30 **Project Title:** Miniaturization of Driver module of ECU for Compressed natural Gas Direct Injection (CNGDI) Vehicle
Function: Project member
Research Grant: RM123,000.00 – from Ministry of Science Technology and Innovation
Duration: 2007 -2009
- I.31. **Project Title:** Kinematics Analysis of Serial Robot Manipulators, Analytical and Experimental Artificial Intelligence Approach.
Function: Project member
Research Grant: FRGS RM70,700.00 from Ministry of Higher Education Malaysia
Duration: 2007 -2009
- I.32. **Project Title:** Development of Signal Emulator and Calibration Tool for Multifuel Electronic Control Unit of a Vehicle Power Train.
Function: Project Leader
Research Grant: RM30,000.00 from Research University Grant Scheme
Duration: 2008 –2010
- I.33 **Project Title:** Development of an On-line Genetic Algorithm-based High Precision Dispenser System for High Viscosity Material.
Function: Project member
Research Grant: RM225,000.00 –from Ministry of Science Technology and Innovation
Duration: 2008 -2010
Project Collaborator: UNITEN

Publications :

N.1 Thesis

1. **I. B. Aris**, “*Inverter High Quality Audio Amplifier*”, MSc Dissertation, University of Bradford, UK, 1991.
2. **I. B. Aris**, “*Application of Artificial Intelligence to Power Electronic Circuit Design and Fault Diagnosis*”, PhD Dissertation, University of Bradford, UK, 1995.

N.2 Journals Papers

1. **Ishak Aris**, N. B. Mariun, L. Zhang and R. K. Z. Sahbudin, “*Development of a PC-Based Three-Channel Current Probe System Using Object-Oriented Programming Language*”, Journal of Institution of Engineers Malaysia, Vol. 60, No. 4, pp79-88, 1999.
2. N. B. Mariun, E. M. Radwan, M. Ahmad and **Ishak Aris**, “*Switched Mode Pulse Width Modulated DC-to-DC Converter for Electric Vehicle Application*”, Elekrika, IEEE affiliated Journal for Electrical Engineering, Vol. 2, No.2, pp. 12-18, September,1999.
3. Norman Bin Mariun, **Ishak Aris**, D. Liang and W. Shepherd, “*IGBT Modelling Using Curve-Fitting Optimisation Method*”, Engineering Journal, National University Malaysia, No. 12, pp. 81-98, 2000.
4. Elobied, W. A. A., **Aris, I. B.**, Mariun, N.B. and Jammal, A.B.E., Blood Pressure Monitoring System for Individual Use Through the Internet, Telemedicine Journal, 6(1):pp 123, 2000.
5. **Ishak Aris**, A. A. E Wagie, Norman Bin Mariun and A. B. E. Jammal, “*An Internet-based Blood Pressure Monitoring System for Patients*”, Journal of Telemedicine and Telecare, Vol. 7, No. 1 2001: pp 51-53, Royal Society of Medicine Press, United Kingdom, 2001.
6. N. Khan, N. Mariun, **Ishak Aris**, M. Zaki and L. Dinish, “*Transient Analysis of Pulsed Charging of Supercapacitors*”, Journal of Industrial Technology, Vol. 10, No. 1, pp. 1 –14, 2001.
7. N. Khan, S. M. Bashi, **Ishak Aris** and Rashidi Aziz, “*Design of an EDFA with OASIX Package*”, Elekrika, IEEE affiliated Journal for Electrical Engineering, Universiti Teknologi Malaysia, Vol. 4, No.2, pp. 36-43, September 2001.
8. Sinan M. Bashi, N. Khan, N. Mariun and **Ishak Aris**, “*Simulation of Line Commutating Conversion Systems*”, Journal – Institution of Engineers, Malaysia, Vol. 62 No. 3, pp. 27-31, 2001.
9. N Khan, N Mariun, **Ishak Aris** and J Yeak, “*Laser Triggered Lightning Discharge*”, New Journal of Physics, 4, 61.1-61.20, 2002.
10. Liakot Ali, Roslina Sidek, **Ishak Aris**, Mohd. Alauddin Mohd. Ali and Bambang Sunaryo Suparjo, “*Design of a Mini-UART Using VHDL*”, Journal of Industrial Technology, SIRIM, Vol. 11(2), pp. 67-76, 2002.

11. Bouketir Omrane, Norman Mariun, **Ishak Aris**, Senan Mahmoud and Taib Soib, “CAD Systems for Power Electronics Converters”, Engineering Transactions, Mahanakorn University of Technology, Vol. 6, No. 2 (15), pp. 97-105, July – Dec. 2003.
12. N. Mariun, E. Radwan, S. M. Bashi, **Ishak Aris** and A. H. Yatim,, “Induction Motor IRFOC with Rotor Time Constant Estimation”, Engineering Transactions, Mahanakorn University of technology, Vol. 6, No. 1 (14), pp. 37-52, Jan – June 2003.
13. Liakot Ali, Roslina Sidek, **Ishak Aris**, Bambang Sunaryo Suparjo and Mohd. Alauddin Mohd. Ali, “Challenges and Directions for Testing IC”, Vol.37, pp 17-28, Integration, the VLSI Journal, Elsevier, 2004.
14. Liakot Ali, Roslina Sidek, **Ishak Aris**, Alauddin Mohd Ali and Bambang Sunaryo Suparjo, “Design of a Micro-UART for SOC Application”, International Journal of Computer and Electrical Engineering, Elsevier, 30 (2004), pp. 257-268, 2004.
15. S. M. Bashi, **Ishak Aris** and Hamad S. H. A., “Microcontroller-Based Adjustable Speed Drive for a Single Phase Induction Motor”, Engineering Transactions, Mahanakorn University of Technology, Vol. 7, No. 1 (16), pp. 51-56, Jan – June. 2004.
16. **Ishak Aris**, Ibrahim Mat, R.K.Z. Sahbudin, Sinan Mahmud and Khairul Nizam, “The Revolution of the Electronic Control Unit for Road Vehicle”, Engineering Transactions, Mahanakorn University of Technology, Vol. 7, No.2(17), pp. 137-146, 2004.
17. E. Radwan, N. Mariun, S. Mahmud, **Ishak Aris** and A. H. Yatim, “Rotor Time Constant Estimation for IRFO Induction Motor”, Journal of Electrical Engineering, University Politehnica Timisoara, Romania, No. 2, Vol. 4, pp. 86- 93, 2004.
18. **Ishak Aris**, S. P. Koh and C. C. Teh, “Design and Development of a Cartesian Robotic Arm for Use in an Automatic Lighter Packaging System”, Elekrika, IEEE affiliated Journal for Electrical Engineering, Vol. 6, Number 1, pp. 5-15, Dec. 2004.
19. S. M. Bashi, **Ishak Aris** and Hamad S. H. Hamad, “Development of Single Phase Induction Motor Adjustable Speed Control Using M68HC11E-9 Microcontroller”, Journal of Applied Sciences, ANSINET Publication, 5 (2):pp. 249-252, 2005.
20. Liakot A., Roslina S., **Ishak Aris.**, Alauddin M. A, Bambang S. S., “Design of a Low Cost IC Tester”, American Journal of Applied Sciences, 2(4): pp. 824-827, 2005.
21. Bouketir Omrane, Norman Mariun, **Ishak Aris**, Senan Mahmoud and Taib Soib, “Knowledge-based Design Aid Tool for Power Electronic Converters”, Engineering Computations: International Journal for Computer-Aided Engineering and Software, Emerald UK, Vol. 22, Numbers 1 and 2, pp. 5-14, 2005.
22. M. Nour, **I. Aris**, N. Mariun, S. Mahmud, Mohibullah, “Hybrid Model Reference Adaptive Speed Control for Vector Controlled PMSM Drive”, Engineering Transactions, Mahanakorn University of Technology, Vol. 8, No.1(18), pp. 1-10, Jan. - June 2005.

23. **Ishak Aris**, Mohd Khair Hassan, Ibrahim Mat, Khairul Nizam, Nik Anis Alina, Ratna Kalos Zakiah, Roslina Sidek and Senan Mahmud, "Model-Driven Electronic Control Unit with Real-Time Embedded Target", *Engineering Transactions*, Mahanakorn University of Technology, Vol. 8, No.1(18), pp. 62-67, Jan. - June 2005.
24. **Ishak Aris** and L. N. Hulley, "Development of a Low Power High Quality Pulse Width Modulated Audio Amplifier", *Journal of Industrial Technology*, SIRIM, Vol. 14(1), pp. 1 – 19, 2005.
25. E. Radwan, N. Mariun, **I. Aris**, S. M. Bash and A. H. Yatim, "Indirect Rotor Flux Orientation Control Induction Motor with Rotor Time Constant Estimation Modelling and Simulation", *The International Journal for Computation and Mathematics in Electrical and Electronic Engineering*, Emerald UK, Vol. 24, No. 4, pp. 1093-1119, 2005.
26. **Ratna Kalos Zakiah**, Nurulaza Azhar, **Ishak Bin Aris** and Goh Kean Jeet, "Home and Office Environment Using Bluetooth Technology", *Journal of Technology*, 43(D) Universiti Teknologi Malaysia, Dis. 2005, pp. 1- 10.
27. **Ishak Aris**, A. K. M. Parvez Iqbal, A. R. Ramli and S. Shamsuddin, "Design and Development of a Programmable Painting Robot for Houses and Buildings", *Jurnal Teknologi*, UTM, No. 42(A), pp. 27-48 Jun 2005.
28. O. Bouketir, N. Mariun, **I. B. Aris**, S. M. Bashi and S. Taib, "A Learning Aid Tool for Power Electronics Converters", *Journal of Electrical Systems*, Vol. 1- Issue 2, June 2005, pp. 35-62. ISSN 1112-5209. www.joes.org.uk.
29. Faisal Mohammed Seif Ai-Shamiry, Rezuwan Kamaruddin Abdul Rashid Mohamed Sharif, **Ishak Aris**, Desa Ahmad and Rimfiel Janius, "Economical Evaluation of a Hybrid (PV/electric grid) System to Meet Tropical Greenhouse Ventilation Load", *Journal of Natural and Applied Sciences*, Vol. 9 (3), 2006, pp. 653-659.
30. S. P. Koh, **I. B. Aris**, V. K. Ramachandaramurthy, S. M. Bashi and M. H. Marhaban, "Design, Development and Performance Optimization of a New Artificial Intelligent Controlled Multiple-Beam Optical Scanning Module", *Journal of Applied Sciences*, ANSINET Publication, Vol. 6, Issue 10, pp. 2201-2208, 2006.
31. Ibrahim Mat, **Ishak Aris**, Mohd Khir, Roslina Mohd Sidek, Anisalina and Syed Malek, "Electronic Control Unit for Vehicles: Issues and the Way Forward", *Journal of Industrial Technology*, SIRIM, Vol. 15, No. 1, 2006, pp.73-85.
32. Mohammad Lutfi Othman, **Ishak Aris**, Norman Mariun and Ratna Kalos Zakiah Sahbudin, "Knowledge-based power system protection design courseware", *Journal of Applied Sciences*, ANSINET Publication, 6 (15) , pp. 2963-2977, 2006.
33. **Ishak Aris** and Parvez Iqbal, "Design and Fabrication of a Cartesian Painter Robot for Construction Industry", *International Journal of Mechanical Engineering Education*, Manchester University Press, Vol. 34 , Number 2. pp.125 – 144, 2006.

34. S. P. Koh, **I. B. Aris**, C. K. Ho, S. M. Bashi, "Design and Performance Optimization of a Multi-TSP (Traveling Salesman Problem) Algorithm", *Artificial Intelligence and Machine Learning International Journal*, International Congress for Global Science and Technology (ICGST), Vol. 6, Issue 3, Sept. 2006 pp. 29-33.
35. K. H. Chong, **I. B. Aris**, and S. M. Bashi, "Application of Evolutionary Algorithm in Optimization Digital Structure Design", *Artificial Intelligence and Machine Learning International Journal*, International Congress for Global Science and Technology (ICGST), Vol. 6, Issue 4, pp. 9-14, Dec 2006.
36. K.H. Chong, **I. B. Aris**, Sinan M. A. and Hamiruce B. M., "Digital Circuit Structure Design Via Evolutionary Algorithm Method", *Journal of Applied Sciences*, ANSINET Publication, 7 (3), pp. 380-385, 2007.
37. Faisal Mohammed Seif Al-Shamiry, Desa Ahmad, Abdul Rashid Mohamed Sharif, **Ishak Aris**, Rimfiel Janius and Rezuwan Kamaruddin, "Design and Development of a Photovoltaic Power System for Tropical Greenhouse Cooling", *American Journal of Applied Sciences*, 4(6), pp. 386-389, 2007.
38. Hayder M A Ali, A. M. S. Hamouda, N. Ismail, **Ishak Aris**, "An Adaptive Learning Algorithm for Controlling a 2 Degree of Freedom Serial Ball and Socket Actuator" *Journal of System and Control Engineering*, Proceedings of Institution of Mechanical Engineers, Part 1, United Kingdom, pp. 1-6, 2007.
39. Mutasim Nour, **I. Aris**, N. Mariun, S. Mahmud, "A comparative investigation of ANFIS parameters for the development of adaptive fuzzy speed controller for AC Drives", *Journal of Electrical Engineering*, University Politehnica Timisoara, Romania, Vol. 7, 2nd. Edition, No. 5, pp. 7.2.5 2007.
40. Liakot Ali, Roslina Sidek, **Ishak Aris** and Mohd. Alauddin Mohd. Ali, "Design of a test chip for low cost IC testing", *Intelligent Automation and Soft Computing*, Vol. 14, No. X, pp. 1-10, 2008.
41. **I. B. Aris** and K. H. Chong, "Genetic Algorithm: A General Overview and Applications in Planning and Electronic Engineering", accepted for publication in *Journal of Institution of Engineers Malaysia*, 2007.
42. K. H. Chong, **I. B. Aris** and S. M. Bashi, "Digital Circuit Structure Design via Evolutionary Algorithm Method", accepted for publication in *Journal of Institution of Engineers Malaysia*, 2008.
43. K. H. Chong, **I. B. Aris**, M. A. Sinan and B. M. Hamiruce, "The optimization of digital circuit design using evolutionary algorithm", *Journal of Science and Technology in the Tropics*, 3, pp. 107-113, 2007.
44. S. P. Koh, **I. B. Aris**, and S. M. Bashi, "Design of Multi-machine System Workflow Optimization Algorithm", accepted for publication in *International Journal of Robotics and Automation*, 2008.
45. S. P. Koh, **I. B. Aris**, and S. M. Bashi and K. H. Chong, "Handling a Multi-Tasking Environment via the Dynamic Search Genetic Algorithm", *Journal of Electrical Engineering & Technology*, Korean Institute of Electrical Engineers, Vol. 3, No. 1, pp. 125-129, 2008.
46. N. F. Mailah, S. m. Bashi, N. Mariun and **I. Aris**, "Simulation of a three-phase Multilevel Unified Power Flow Controller UPFC", *Journal of Applied Sciences* 8 (3) pp. 503- 509, 2008.

N.3 Published Conference Proceeding

1. **I. B. Aris**, N. B. Mariun and D. Liang, “*Selection of Power Devices for a Power Electronic Expert System*”, Proc. of the 28th. Universities Power Engineering Conference, United Kingdom, 1993, pp 812-815.
2. **I. B. Aris**, L. Zhang and L. N. Hulley, “*Fault Detection of an Inverter Circuit by Digital Signal Processing and Knowledge Base Approach*”, Proc. of the 29th. Universities Power Engineering Conference, Galway, Ireland, 1994, pp 489-492.
3. L. Zhang, **I. B. Aris** and L. N. Hulley,, “*A Knowledge-Based System for On-Line Fault Diagnosis of Power Inverter Circuits for AC Machine Drive*”, Proc. of the 6th European Conference on Power Electronics and Applications, Sevilla, Spain, Sept. 1995, pp 3.334-3.339.
4. Norman Mariun, **Ishak Aris** and Lee Zhang, “*Modelling of Power Electronics Circuit Devices and Instruments Using Object Oriented Programming Language*”, Proc. of the National Conference on Research and Development in Computer Science and its Applications, Universiti Pertanian Malaysia, 26 - 27 June 1996, pp. 200-204.
5. **I. B. Aris**, Ratna Kalos Zakiah Sahbudin and Norman Mariun, “*A Microprocessor-based On-line Fault Diagnosis System for Power Inverter Circuits*”, Proc. of 11th. International Conference of the Electricity Power Supply Industry, Kuala Lumpur, Malaysia, October 21 - 25 1996, Vol. 1, pp. 55-64.
6. **I. B. Aris**, R. K. Z. Sahbudin, L. N. Hulley and N. B. Mariun, “*Estimation of Power MOSFET Model Parameters by a Curve-Fitting Optimisation Technique*”, Proc. of the 2nd. International Conference on Robotics, Vision and Parallel Processing for Industrial Automation, Ipoh, Malaysia, 28 - 30 Nov. 1996, Vol.2, pp. 716-721.
7. N. Mariun, B. S. Suparjo, R. Wagiran and **I. B. Aris**, “*Paradigm Shift in Engineering Education: ISO 9000 for an Engineering Faculty*”, The Monthly Bulletin of the Institution of Engineers Malaysia, Oct. 1997, pp. 47-56.
8. **I. B. Aris**, R. K. Z. Sahbudin and N. B. Mariun, “*Development of an On-line PC-based Three-phase Current Transducer System Using Object-Oriented Programming Language*”, Proc. of the 2nd. International Con. On The Application of Numerical Methods in Engineering, 23-25 June 1997, UPM, Serdang, Malaysia, pp 431-443.
9. R. K. Z. Sahbudin, C. P. Goh and **I. B. Aris**, “*Slotline Parameters: A Numerical Computation Approach*”, Proc. of the 2nd. International Con. On The Application of Numerical Methods in Engineering, 23-25 June 1997, UPM, Serdang, Malaysia, pp. 444 – 453.
10. **I. B. Aris**, R. K. Z. Sahbudin, R. M. Yusuff and N. Mariun, “*The Roles of Information Technology (IT) and Computers in Promoting and Creating Awareness in Malaysian Engineering Education*”, Proc. of an International Con. On Global Challenges in Engineering Education: Role of Islamic Countries, Kuala Lumpur, Malaysia, 8-10 July 1997, pp. 95-100.

11. Rosnah M. Yusuff, M. S. M. Amin, R. K. Z. Sahbudin and **I. B. Aris**, “*Women in Engineering Education and Training-Trends and Challenges*”, Proc. of an International Con. On Global Challenges in Engineering Education: Role of Islamic Countries, Kuala Lumpur, Malaysia, 8-10 July 1997, pp. 157-162.
12. N. Mariun, R. Wagiran, **I. B. Aris** and S.S. Jamuar, “*ISO9000 for an Engineering Program: Shall and can it be Implemented*”, Proc. of an International Con. On Global Challenges in Engineering Education: Role of Islamic Countries, Kuala Lumpur, Malaysia, 8-10 July 1997, pp. 67–72.
13. R. K. Z. Sahbudin, C. P. Goh and **I. B. Aris**, “*Estimation of Slotline Parameters: A Numerical Computation Approach*”, Proc. of an International Wireless and Telecommunications Symposium, Shah Alam, Malaysia, 14 – 16 May 1997, Vol. 1, pp. 11–16.
14. N. B. Mariun, **I. B. Aris** and W. Shepherd, “*Determination of Static Parameters for HSPICE IGBT Model Using Curve-Fitting Optimisation Method*”, IEEE National Symposium on Microelectronics, Bangi, Malaysia, 22-25 November 1997.
15. **I. B. Aris**, Mohd. Rasid bin Osman, Rosnah binti Mohd. Yusuff and Norkamariah binti Noordin, “*Implementation of ISO 9000 at the Faculty of Engineering, Universiti Putra Malaysia: Teaching*”, Seminar on Q-day, Universiti Putra Malaysia, 19 November 1997.
16. N. B. Mariun, S. Narainasamy, S. S. Jamuar, S. B. Mohdnoor, **I. B. Aris**, “*Implementation of Digital Control Algorithm for Motor Control Using Digital Signal Processor*”, 7th. JSPS-VCC Seminar on Integrated Engineering, 7-8 December 1998, pp. 92-97, Universiti Malaya, Kuala Lumpur.
17. N. B. Mariun, **I. B. Aris** and W. Shepherd, “*Determination of Dynamic Parameters for HSPICE IGBT Model Using Curve-Fitting Optimisation Method*”, IEEE 1998 International Conference on Semiconductor Electronics (ICSE '98), 24-25 Nov. 1998, Bangi, Malaysia, pp.138-142.
18. **I. B. Aris**, N. Hulley, N. B. Mariun and R. K. Z. Sahbudin, “*Using Curve-Fitting Optimisation Technique to Estimate Power MOSFET Model Parameters for PECT II System*”, IEEE 1998 International Conference on Semiconductor Electronics (ICSE '98), 24-25 Nov 1998, Bangi, Malaysia, pp. 157-161.
19. **I. B. Aris**, N. Hulley, N. B. Mariun and R. K. Z. Sahbudin, “*Development of a Pulse-Width Modulated Power MOSFET-Based Audio Amplifier*”, IEEE 1998 International Conference on Semiconductor Electronics (ICSE '98), 24-25 Nov 1998, Bangi, Malaysia, pp. 152-156.
20. N. B. Mariun, **I. B. Aris** and W. Shepherd, “*Modelling of Pulse Width Modulation Signal Generator for Knowledge Based Expert System Using Object-Oriented Programming Language*”, 12th. International Conference of the Electricity Power Supply Industry (12th. CEPSI), Pattaya, Thailand, 2-6 Nov. 1998.
21. Norman Mariun, Eyad M Radwan, Mukhtar Ahmed and **Ishak Aris**, “*A DC-to-DC Converter Using Parallel Insulated Gate Bipolar Transistors for Electric Vehicle Drive Systems*”, Electrical and Electronic Engineering Proceeding, World Engineering Congress (WEC '99), 19th. – 22nd. of July 1999, Subang, Malaysia, pp. 7 – 11.

22. Yousif Adam, Norman Mariun, and **Ishak Aris**, “*Design of 6kW Variable DC Power Supply Using Switching Technique*”, Electrical and Electronic Engineering Proceeding, World Engineering Congress (WEC ‘99), 19th. – 22nd. of July 1999, Subang, Malaysia, pp. 35-40.
23. Mohamed Edardar, Norman Mariun, Rahman Wagiran and **Ishak Aris**, “*A DC-to-AC Inverter Design for Photovoltaic System*”, Electrical and Electronic Engineering Proceeding, World Engineering Congress (WEC ‘99), 19th. – 22nd. of July 1999, Subang, Malaysia, pp. 41 – 46.
24. Mutasim I. H. Nour, **I. B. Aris**, N. B. Mariun, and S. B. M. Noor, “*Development of a Smart Lead-Acid Battery Charger for Electric Vehicle Applications*”, Electrical and Electronic Engineering Proceeding, World Engineering Congress (WEC ‘99), 19th. – 22nd. of July 1999, Subang, Malaysia, pp. 47 – 50.
25. **I. B. Aris**, L. Zhang, N. B. Mariun, and C. Wathanasaran, “*Development of a Three-phase Pulse-Width-Modulated Inverter System Using Space Vector Modulation Strategy*”, Electrical and Electronic Engineering Proceeding, World Engineering Congress (WEC ‘99), 19th. – 22nd. of July 1999, Subang, Malaysia, pp. 57 – 62.
26. **I. B. Aris**, Mohammed E Salem, N. B. Mariun, and S. B. M. Noor, “*Development of an Automatic Fan Control System for Electric Vehicles Passangers Cabin*”, Electrical and Electronic Engineering Proceeding, World Engineering Congress (WEC ‘99), 19th. – 22nd. of July 1999, Subang, Malaysia, pp. 109 – 114.
27. Malik Taysir Al-Qdah, Md. Mahmud Hassan, Abdul Rahman Ramli and **Ishak Aris**, “*Autonomous Mobile Robots Power Management System*”, Robotics and Automation Proceeding, World Engineering Congress (WEC ‘99), 19th. – 22nd. of July 1999, Subang, Malaysia, pp. 43 - 48.
28. R. K. Z. Sahbudin, F. A. Rahman, S. Hussien and **I. B. Aris**, “*Development of a Multimedia Courseware in Electromagnetic Engineering Education*”, International Conference on Robotics, Vision and Parallel Processing for Automation (ROVPIA ‘99), 16th. – 18th. of July 1999, Ipoh, Malaysia, pp. 234 – 241.
29. R. K. Z. Sahbudin, M. Kamtani and **I. B. Aris**, “*Fibre Optic-based Security System*”, International Conference on Robotics, Vision and Parallel Processing for Automation (ROVPIA ‘99), 16th. – 18th. of July 1999, Ipoh, Malaysia, pp. 454 – 459.
30. **I. B. Aris** , L. N. Hulley, N. B. Mariun and R. K. Z. Sahbudin, “*Design Considerations in a 20-Watts High Quality Pulse-Width-Modulated Audio Amplifier*”, International Conference on Robotics, Vision and Parallel Processing for Automation (ROVPIA ‘99), 16th. – 18th. of July 1999, Ipoh, Malaysia, pp. 254 – 261.
31. **I. B. Aris** , L. Zhang, N. B. Mariun and R. K. Z. Sahbudin, “*Development of an On-line PC-Based Three-Channel Current Probe System Using Smalltalk-80*”, International Conference on Robotics, Vision and Parallel Processing for Automation (ROVPIA ‘99), 16th. – 18th. of July 1999, Ipoh, Malaysia, pp. 680 – 688.
32. **I. B. Aris** , Wagie A. A. E., N. B. Mariun and J. A. Essa, “*Telemedicine: Blood Pressure Monitoring System for Individual Use Through Internet*”, International Medical Imaging & Instrumentation Technology Conference & Exhibition (IMIIT ‘99) 27th. – 29th. of August 1999, pp. 90, Kuala Lumpur, Malaysia.

33. Norman Mariun, Ahmad Dib Zahran, Nasrullah Khan and **Ishak Aris**, “*Development of Power Electronic Circuits Data Base for Knowledge Based Expert System*”, Malaysian Science and Technology Congress '99, Holiday Inn Crowne Plaza, Johor Bahru, 6-8 December 1999.
34. Mohd Amir Abas, Norman Mariun, **Ishak Aris**, and Samsul Bahari Mohd Noor, “*Pulse Width Modulation Inverter for Electrical Drive Applications*”, Malaysian Science and Technology Congress '99, Holiday Inn Crowne Plaza, Johor Bahru, 6-8 December 1999.
35. **Ishak Bin Aris**, “*Pembentukan Kriteria Spesifik Bidang Pengajian kejuruteraan Elektrik dan Elektronik*”, Lembaga Akreditasi Negara, 1 Nov. 1999.
36. **I. B. Aris**, G. Sreedharan and S. Subramaniam, “*Modification of Pulsemaster Software for Automated Relay Testing Using Pulsar Test Set*”, Proceedings of Regional Conference on Energy and Environment, pp. C16-1-C16-9, Universiti Tenaga Nasional, Kajang, Malaysia, 15-16 February 2000.
37. **I. B. Aris**, and Lai Kwang Fatt, “*Development of a Courseware on Transformer Using Multimedia Approach*”, Proceedings of Regional Conference on Energy and Environment, pp. B7-1-B712, Universiti Tenaga Nasional, Kajang, Malaysia, 15-16 February 2000.
38. Mohd Amir Abas, Norman Mariun, **Ishak Aris** and Samsul Bahri Mohd Noor, “*Pulse Width Modulation Inverter for Electric Drive System*”, Proceedings of Regional Conference on Energy and Environment, pp. B6-1-B6-7, Universiti Tenaga Nasional, Kajang, Malaysia, 15-16 February 2000.
39. Norman Mariun, Ghassan, Mohammed Shaheen, **Ishak Aris** and Nasrullah Khan, “*Development of Power Semiconductor Devices Database for Knowledge-based System*”, Proceedings of IEEE TENCON, Kuala Lumpur, Sept. 2000, pp.458-465, vol. 1.
40. N. Mariun, Y. Adam and **I. Aris**, “*A Robust 6kW Variable DC Power Supply with Closed Loop Control System*”, Proceedings of IEEE TENCON, Kuala Lumpur, Sept. 2000, pp. 283-289, Vol. 3.
41. Norman Mariun, Indra Nisja, **Ishak Aris** and Sinan Bashi, “*Design of High Power Factor and Low Harmonic Rectifier for Electric Vehicle Battery Charging Application*” Proceedings of IEE Regional Electrical and Electronic Conference, pp. 30-32, Petaling Jaya, August 2000.
42. Muhammad M Othman, Norman Mariun, **Ishak Aris** and Nasrullah Khan, “*Design and Simulation of Differential Protective Relay of 33/11kV Delta-Wye Transformer for Substation Automation*” Proceedings of IEE Regional Electrical and Electronic Conference, pp. 26-28, Petaling Jaya, August 2000.
43. **Ishak Bin Aris** and Kang Chin Tat “*Latest Technology to Combat Car Theft*”, Seminar Towards Zero Car Theft”, Subang Jaya, August 2000,
44. **Ishak bin Aris**, and Lai Kwang Fatt, “*Development of a Transformer Courseware Using Scala MM200*”, International Conference on Towards Digital Universiti, Universiti Putra Malaysia, May 2000.
45. **Ishak Bin Aris**, “*Transformation of an old PC-486 to an Autonomous Guided Vehicle*”, Inventions, Innovative Research and Products, Universiti Putra Malaysia, April 2000 pp.16.

46. **Ishak Bin Aris**, “*RF-based Car Pager System*”, Inventions, Innovative Research and Products, Universiti Putra Malaysia, April 2000 pp.17.
47. **Ishak Bin Aris**, Mutasim Ibrahim, Goh Hong Keong, Norman Mariun and Nasrullah Khan, “*Lightning Arresters: Past, Present and Future*”, Seminar on Advances in Malaysian Energy Research 2000, Shah Alam, Oct. 2000.
48. **Ishak Bin Aris**, and Choong Chee Yee, “*Development of a Battery Charger for a Solar-Based Electric Bicycle*”, Seminar on Advances in Malaysian Energy Research 2000, Shah Alam, Oct. 2000.
49. **Ishak Bin Aris**, Ali Omar Elmthnani, N. B. Mariun and R. K. Z. Sahbudin, “*Development of a Single-phase PWM-based DC-to-DC Converter for Electric Bicycle*”, Seminar on Advances in Malaysian Energy Research 2000, Shah Alam, Oct. 2000.
50. Z. Zahidanishah, N. Mariun, M. A. M. Radzi, **Ishak Aris** and Nasrullah Khan, “Development of Lightning Surge Protection Device”, Seminar on Advances in Malaysian Energy Research 2000, Shah Alam, Oct. 2000.
51. Majdi Taysir Al-Qdah, Abd. Rahman Ramli, **Ishak Aris** and Sinan Bashi, “*An Encryption/Decryption System Using Rotation of data and XOR Operations*”, *Proceeding of Malaysian Science and Technology Congress 2000: Research and Development in Science and Technology for the New Era, 7-9 November 2000, Genting Highlands, pp.611-621.*
52. **Ishak Aris**, “*Penerangan Berkaitan Program Vokasional/Teknikal Peringkat Diploma dan Ijazah Sarjana Muda*”, Lembaga Akreditasi Negara, Petaling Jaya, 29th. July 2000.
53. Nasrullah K and **I Aris**, “*Design of an Opto-Numerical Distance Relay*”, Seminar on Advances in Malaysian Energy Research 2000, Shah Alam, Oct. 2000.
54. Nasrullah K and **I Aris**, “*Development of an Optronic Overcurrent Relay*”, *SPIE Environmental and Industrial Sensing Systems Conference, Paper Number 4202-06, Nov. 2000, Boston USA.*
55. Nasrullah K, J. Yeak, N. Mariun and **I. B. Aris** “*Atmospheric Electricity – The New Alternative Source of Energy?*”, 8th. Int. Energy Forum (Energex’ 2000), July 23-28 in Las Vegas, USA.
56. **Ishak Bin Aris** and Norkamariah Nordin, “*ISO9000: The Procedures*”, *Faculty of Engineering, UPM, 2nd. June 2000.*
57. Norman Mariun, Bambang Sunaryo Suparjo, Rahman Wagiran and **Ishak Aris**, “*Paradigm Shift in Engineering Education: ISO 9000 for an Engineering Program?*”, *Buletin Fakulti Kejuruteraan, UPM, Bil 5, Mac 2000, pp. 3- 5.*
58. Nasrullah Khan, Norman Mariun, **Ishak Aris** and Jeremy Yeak, “*Modelling of Laser Beam Propagation in Atmosphere for the Development of Future Lightning Power Generation*”, *Proceeding of Conference on Engineering in Sarawak: In the last Century and for the Next Decade, May 2000, Kuching, Sarawak.*
59. Norman Mariun, Bouketir Omrane, **Ishak Aris** and Sinan Bashi, “*Design and Development of a Power Converters Design Aid System*”, *Proceeding of International Conference on Advances in Strategic Technologies ICAST 2000, Putra Jaya, August 2000.*

60. **Ishak Bin Aris**, S. P. Koh and C. C. Teh, “Development of X-Y-Z Cartesian Robotic Arm for a Lighter Packaging System: Part I – Hardware Development”, 1st. International Conference on Mechatronics (ICOM 01), Kuala Lumpur, pp. 268 – 277, 12 –13th. February 2001.
61. **Ishak Bin Aris**, C. C. Teh, and S. P. Koh, “Development of X-Y-Z Cartesian Robotic Arm for a Lighter Packaging System: Part II – Software Development”, 1st. International Conference on Mechatronics (ICOM 01), Kuala Lumpur, pp. 278 – 286, 12 –13th. February 2001.
62. **Ishak Bin Aris**, Chong Kok Hen, Lim Chong Seng and Samsul Bahari Mohd Noor, “Development of an Automated Book Casing System for IC Industry Using Programmable Logic Controller”, 1st. International Conference on Mechatronics (ICOM 01), Kuala Lumpur, pp. 681 – 689, 12 –13th. February 2001.
63. **Ishak Bin Aris**, Mutasim Ibrahim Nour, Abdul Halim Shaari, Nasrullah Khan and Norman Mariun, “Application of High Temperature Superconductors in the Design of Surge Current Arrester System”, Engineering Research Conference and Exhibition, UPM, pp. 225-232, Oct. 2001.
64. M.R. Ghumman, N. Khan, **I. Aris**, N. Mariun and S. M. Bashi, , “Performance limitations of overcurrent relays and their solutions”, Engineering Research Conference and Exhibition, UPM, pp. 294-307, Oct. 2001.
65. N. Khan, N. Mariun, **I. Aris** and C. G. Yung, , “Distance relaying problems and their fiber optic CT/VT based solutions”, Engineering Research Conference and Exhibition, UPM, pp. 308-326, Oct. 2001.
66. Seedahmed Sharif, Norman Mariun, **Ishak Aris** and Nasrullah Khan, “Intelligent Energy Management System for a Multi-Storey Building”, Students Conference on Research and development 2001 (SCOReD 2001), Kuala Lumpur, 20-21 Feb. 2001.
67. **Ishak Bin Aris**, “Short Course on HVDC Transmission: Theory, Design and Its Implementation”, TNBR, 8 Nov 2001.
68. **Ishak Bin Aris** and Norman Mariun, “Research Enhancement as an Academician Towards Commercialisation: Part I”, Bengkel Pengurusan Makmal dan Penyelidikan 2001, 2-4 November 2001, Hotel Seri Malaysia, Port Dickson.
69. Norman Mariun and **Ishak Bin Aris**, “Research Project Proposal, Management and Publication”, Bengkel Pengurusan Makmal dan Penyelidikan 2001, 2-4 November 2001, Hotel Seri Malaysia, Port Dickson.
70. **Ishak Bin Aris**, “Syarahan Kerjaya dan Motavasi Sains Kepada Pelajar Sekolah” at Dewan Kompleks Sukan Kepala Batas, Seberang Prai, organised by Academy Sciences Malaysia and National Science Centre, 3rd. August 2001.
71. **Ishak Bin Aris**, “Simulation of HVDC Converter Station Using PSCAD Version 3”, TNBR Colloquium, 23rd March 2002.
72. N. Mariun, I. Nisja, **I. Aris**, S. M. Bashi, “Design of Single Switch High Power Factor Rectifier Using Multi-Resonant Zero Current Switching for Electric Vehicles Battery Charger Application”, Proceeding of Electrical and Electronics, 2nd World Engineering Congress, pp. 147-152, 2002.

73. Bouketir Omrane, Norman Mariun, **Ishak Bin Aris**, Senan M. Bashi and Soib Taib, “Expert System-Based Approach to Automate the Design Process of Power Electronics Converters”, IEEE/PES Transmission and Distribution Conference and Exhibition 2002: Asia Pacific, Yokohama, Japan, pp. 1943 – 1946, Vol. 3, Oct. 2002.
74. Liakot Ali, Roslina Sidek, **Ishak Aris**, Alauddin Mohd Ali and Bambang Sunaryo Suparjo, “Maximization of Fault Detection in IC Testing”, IEEE International Conference on Semiconductor Electronics, Penang, Malaysia 19-21 Dec. 2002, pp. 557 - 560.
75. **Ishak Aris**, Zainab Hassan, Maaspaliza Azri, Harith Alvin Cyril, Shamsudin Amin and Marzuki Khalid, “Detection of Defective Symbols Printed on the Integrated Circuit Chip Using Optical Character Recognition Approach”, First Regional Malaysia-France Workshop on Image Processing for Vision Systems and Multimedia Communications, 21-22 April 2003, Sarawak, 53-1-8..
76. **Ishak Aris**, Maaspaliza Azri, Zainab Hassan, Harith Alvin Cyril, Shamsudin Amin and Marzuki Khalid, “Development of Software for Detecting Defective Characters Printed on the Integrated Circuit Chip Using Neural Network Approach”, First Regional Malaysia-France Workshop on Image Processing for Vision Systems and Multimedia Communications, 21-22 April 2003, Sarawak, 54-1-8
77. Bouketir O, Norman M, **Ishak A**, Senan M B and Soib T. “Computer Aided Tool for Power Electronic Converters. Proceedings of the International Conference ROVISP, Jan 2003, Penang, Malaysia, pp. 709-716.
78. Roslina M Sidek and **Ishak Aris**, “Welcome to Workshop on Research”, Workshop on Lab Management, Experiment Manual and Research 2003, Universiti Putra Malaysia, 26th – 27th May 2003.
79. **Ishak Bin Aris** and Roslina Sidek, “Effective Management of Research Projects”, Workshop on Lab Management, Experiment Manual and Research 2003, Universiti Putra Malaysia, 26th – 27th May 2003.
80. **Ishak Bin Aris**, “Smart Facility Control System”, Installation and Public Security Seminar: Towards a Safer and Secure Community, Bintulu, Sarawak, 24th – 27th June 2003.
81. **Ishak Bin Aris**, A. K. M. ParvezIqbal, S. Sulaiman, A. R. Ramli and M. M. Hassan, “Development of a painter robot for construction industries”, Proceedings of Malaysia – Japan Seminar on Artificial Intelligence Applications in Industry, CDROM-Id-86, Kuala Lumpur, 24th – 25th June 2003.
82. **Ishak Bin Aris**, “Smart Facility Control System”, Installation and Public Security Seminar: Towards a Safer and Secure Community, Serdang, 18th – 21st July 2003.
83. **Ishak Bin Aris**, S. P. Koh and C. C. Teh, “Development of an Automatic Lighter Packaging System for Small and Medium Scale Industries”, Proceedings of IEEE/ASME International Conference on Advanced Intelligent Mechatronics, pp. 1021-1026, Vol. 2, July 20 – 24, 2003, Kobe, Japan.
84. **Ishak Bin Aris**, “Research Projects in UPM”, University of Tokyo, 25th July 2003.
85. **Ishak Bin Aris**, “Instrumentation and Measurements in Research Problems”, Research Methodology Course (SLAB), International Islamic University of Malaysia, 30th July 2003.
86. **Ishak Bin Aris**, “ECU development course: Part 1 ”, UPM, 16 August 2003.

87. **Ishak Bin Aris**, “ECU development course: Part 2”, UPM, 22 August 2003.
88. **Ishak Bin Aris**, “Enrollment of Students in Electrical and Electronics Engineering Degree Programs in IPTA”, Malaysian Industrial Development Authority (MIDA), Kuala Lumpur, 27 August 2003.
89. **Ishak Bin Aris**, “ECU development course: Part 3”, UPM, 29 August 2003.
90. Asnor J. I. , **Ishak Aris**, Denny Lim, Parvez Iqbal, Samsul Bahari M. N., Napsiah I. and Aziz K., “Design of Entertainment Mobile Robot: IDAP”, Proceeding of IEEE Student Conference on Research and Development 2003, CDROM, Putrajaya, 25-26th August 2003.
91. Bouketir Omrane, Norman Mariun, Senan Mahmoud, **Ishak Aris** and Soib Taib, “Validation of the Power Electronics Design Aid System (PEDAS)”, Proceeding of IEEE Student Conference on Research and Development 2003, CDROM, Putrajaya, 25-26th August 2003.
92. **I. B. Aris**, C. C. Teh, S. P. Koh, Yeoh Eng Chin and Tiong Siew Kiong, “Software Design and Development for Robotic and Machine Learning System”, Proceeding of Malaysian Science and Technology Congress 2003, 23-25 September 2003, pp271.
93. **Ratna Kalos Zakiah Sahbudin**, Leong Miaw Yen and **Ishak Aris**, “Effect of Dielectric materials on Input Impedance of Microstrip Antennas”, CD Proceeding of En Tech 2003 Conference, 30 July – 1 August 2003.
94. Mariun N., Omrane B, **Aris, I.**, Mahmoud S. and Soib T., Power Electronics Design Aid System, A Knowledge-based Approach, Proceeding of the 2003 International Conference on Power Electronics and Drive Systems PEDS 2003, Singapore, pp. 1031-1036.
95. L. Ali, R. Sidek, I. Aris, A. Mohd. Ali, B. Sunaryo Suparjo, “Design of a SoC for low cost IC Testing”, Proceedings of International Conference on Design and Reuse, Grenoble, France, Nov. 2003.
96. Liakot A., Roslina S., **Ishak A.**, Alauddin M. A and Bambang S. S., “SoC for low cost IC Testing”, Proceedings of World Automation Congress, **Seivelle**, Spain, June 28, 2004. (**Waiting for proceedings**).
97. Liakot A., Roslina S., **Ishak A.**, Alauddin M. A and Bambang S. S., “Low Cost IC testing using pseudo-random approach”, Proceedings of IEEE international conference of circuits and Systems on communication, Moscow, **Rusia**, June 30, 2004.
98. Faisal M. S. A., Abdul Rashid Mohd Shariff, Desa Ahmad, Rezuwan Kamaruddin, Rimfiel Janius, **Ishak Aris** and Mohammed A. A., “Solar Map of Malaysia”, International Symposium and Exhibition on Geoinformation 2004, 21-23 September 2004, Kuala Lumpur, p. 49.
99. Ibrahim Mat, **Ishak Aris**, Mohd Khair, R. K. Z. Sahbudin, Roslina Sidek, Sinan Mahmud, Syed Malik, Anisalina and Khairul Nizam, “Real-Time Systems in Electronic Control Unit for Vehicles: Issues and Trends”, National Real-time Technology and Applications Symposium, November 2004, p. 89 –94.
100. Hamad S. H., S. M. Bashi, I. Aris and N. F. Mailah, “Speed Drive of Single-phase Induction Motor”, National Power & Energy Conference, November 2004, p. 121 – 125.

101. M. L. Othman, **Ishak Aris**, N. Mariun and R. K. Z Sahbudin, “Development of Power System Protection Knowledge-based Expert System Using Interactive Multimedia Approach”, Proceeding of The Asia-Oceania Regional Regional Technical Meeting, AORC-CIGRE, Putrajaya, Malaysia, 23rd – 25th March 2004, pp 72-81.
102. Faisal Mohammed Seif Al-Shamiry, Abdul Rashid Mohamed Sharif, Desa Ahmad, **Ishak Aris**, Rimfiel Janius and Rezuwan Kamaruddin, “Stand-alone Photovoltaic Hybrid System Simulation for Tropical Greenhouse Cooling in Selangor Malaysia”, Brunei International Conference on Engineering and Technology, pp. 205-211, 15th – 18th. August 2005.
103. **Ishak Aris**, Mohd Khair Hassan, Senan Mahmud, Roslina Sidek, Ibrahim Mat, K. n. zainuddin, N. A. A. Nik Othman and R. K. Z. Sahbudin, “Trend in Electronic Control Unit Development with Real-Time Embedded Target, Brunei International Conference on Engineering and Technology, pp. 127- 135, 15th – 18th. August 2005.
104. **Ishak Aris**, Khairul Hamzani Hamid, Mohammad Hamiruce Marhaban and Norhisam Mison, “Development of Global System for Mobile Communication (GSM) Based Vehicle Anti-theft System”, Proceedings of the International Conference on Robotics, Vision, Information and Signal Processing, ROVISIP, Penang, pp. 1048- 1052, 20-22 July 2005.
105. **Ishak Aris**, Siti Marlina Mohd. Amin and Nor Jamilah Abd. Ghafar, “Development of a Low Cost Portable Automatic Water Sampler System, Proceedings of the International Conference on Robotics, Vision, Information and Signal Processing, ROVISIP, Penang, pp. 250 – 253, 20-22 July 2005.
106. Liakot Ali, Roslina Sidek, **Ishak Aris**, Mohd. Alauddin Mohd. Ali, Rahman Wagiran and Siti Anom, “Design of a Low Cost IC Testing System”, Proceedings of the International Conference on Robotics, Vision, Information and Signal Processing, ROVISIP, Penang, pp. 254-258, 20-22 July 2005.
107. R. K. Z. Sahbudin, Eddie W. Y. Lai and **I. B. Aris**, “Estimation of Coupling Loss between Optical Fiber and Waveguide”, Proceedings of the International Conference on Robotics, Vision, Information and Signal Processing, ROVISIP, Penang, pp. 976-980, 20-22 July 2005.
108. Barkawi sahari, Yusoff Ali, Fakhru'l-Razi Ahmadun, Shahrir Abdullah, Masjuki Hassan, **Ishak Aris**, Muhamad Adlan Abdullah, Mohd Fauzy Ahmad, V. Chelliah, Zahari Taha, Abd. Rashid Aziz, Md. Nor Musa, T. G. Chuah, Norman Mariun, KU Halim Ku Hamid, V. R. Radhakrishnan, “A Compressed Natural Gas Direct Injection (CNGDI) Passenger Vehicle Development Program – A Malaysian Initiative”, Proceeding CD of Asia Pacific Natural Gas Vehicle Association, ANGVA 2005, 26-28 July 2005, Kuala Lumpur, P7, 1-14.
109. Norman bin Mariun, **Ishak Bin Aris**, Nasrullah Khan and Liyth, “RF coaxial resonant cavity for CNG ignition”, Proceeding CD of Asia Pacific Natural Gas Vehicle Association, ANGVA 2005, 26-28 July 2005, Kuala Lumpur, PS1, 1-7.
110. **Ishak Aris**, Maaspaliza Azri, Zainab Hasan, M. K. Hassan, M. Khalid, S. M. Amin and H. A. Cyril, “Development of Software System for Detecting Defective Symbols on Integrated Circuit Chip with Adjustable Readability Level”, CD Proceeding of the 9th International Conference on Mechatronics Technology (ICMT), Kuala Lumpur, 5-8 December 2005.

111. M. Nour, **I. Aris**, N. Mariun and S. Mahmoud, "Hybrid Model Reference Adaptive Speed Control for Vector Controlled Permanent Magnet Synchronous Motor Drive", The Sixth IEEE International Conference on Power Electronics and Drive Systems PEDS 2005, Kuala Lumpur, 28 Nov. – 1 Dec 2005, pp. 618-623.
112. N. Mariun, Nasrullah Khan, **Ishak Aris**, Azimah Omar, "Testing and Optimisation of Ignition System Parameters Inside CNG-Di Engine", CD Proc. of International Advanced Technology Congress: Conf. On Automotive Technology, Dec 6-8, 2005, Putrajaya.
113. Mohammad Karimadini, Mohammad Hamiruce Marhaban, Samsul Bahari Mohd Noor, **Ishak Aris** and Atefeh Davari, "Minimum Rule-based Parallel Structure Fuzzy Controller", CD Proc. of International Advanced Technology Congress 2005: Conf. On Intelligent Systems and Robotics, Dec 6-8, 2005, Putrajaya.
114. **Ishak Aris** and Khairul Hamzani Hamid, "Development of GSM-based Motorcycle Anti-theft System", CD Proc. of International Advanced Technology Congress 2005: Conf. On Automotive Technology, Dec 6-8, 2005, Putrajaya.
115. M. R. Daud, **I. Aris**, M. H. Marhaban and N. Misron "Smart Vision System for Car Tire Condition Monitoring (SVSCTCN)", CD Proc. of International Advanced Technology Congress 2005: Conf. On Automotive Technology, Dec 6-8, 2005, Putrajaya.
116. I. Mat, **I. Aris**, M.S. Mahamod, R. M. Sidek and M. I. Syono, "Low-G Accelerators for Navigation System: A Review", CD Proc. of International Advanced Technology Congress 2005: Conf. On Automotive Technology, Dec 6-8, 2005, Putrajaya.
117. S. P. Koh, S. K. Tiong, **I. B. Aris** and S.M. Bashi, "Development of a New Operator for Efficiency Improvement in Evolutionary Solutions", CD Proceeding of the 9th International Conference on Mechatronics Technology (ICMT), Kuala Lumpur, 5-8 December 2005.
118. K. H. Chong, **Ishak B. A.**, Sinan M. A. and S. J. Lim, "Automated Synthesis and Optimization Design of Digital Circuit Base on Evolutionary Algorithm", CD Proceeding of the 9th International Conference on Mechatronics Technology (ICMT), Kuala Lumpur, 5-8 December 2005.
119. K. H. Chong, **Ishak B. A.**, Sinan M. A. and S. J. Lim, "Development of Automated Digital Circuit Design Base on Evolutionary Algorithm Optimization Method", CD Proceeding of the International Conference on Intelligent Systems (ICIS 2005), Kuala Lumpur, 1-3 December 2005.
120. S. P. Koh, V. K. Ramachandaramurthy, **I. B. Aris** and S.M. Bashi, "Performance Optimisation of Marking Machines Via Evolutionary Solutions", CD Proceeding of the International Conference on Intelligent Systems (ICIS 2005), Kuala Lumpur, 1-3 December 2005.
121. Johnny Koh, Tiong Sieh Kiong, **I. B. Aris** and Senan Mahmoud, "Dual-Head Marking Performance Optimisation Via Evolutionary Solutions", 3rd. IEEE International on Electronic Design, Test & Applications (DELTA 2006), 17-19 January 2006, Kuala Lumpur, pp. 85-88.
122. Mohd Khair Hassan, **Ishak Aris**, Roslina Sidek, Senan Mahmod, "Model-based Approach with Real Time Embedded Target for Rapid ECU Development: An Overview, JIEEEC, 2006, Amman, Jordan.

123. Mohamad Fauzi Zakaria, **Ishak Aris**, Senan Mahmud Abdullah and Roslina Mohd Sidek, "OBD-II Driver Information System", Proceeding of 3rd. International Conference on Artificial Intelligence in Engineering and Technology, Kota Kinabalu, Sabah, 22-24 November 2006, pp. 590 - 594.
124. M. A. M. Azau, **I . Aris**, M. A. Mahadi, "Image Enhancement Using Sigmoid Function for Dark and Overexposed Images", International Conference on Man-Machine Systems 2006, 15 – 16 September 2006, Langkawi, pp. 14.
125. Faisal, M.S. Al-shamiry, A. M. Shariff, D. Ahmad, **I. Aris**, R. Kamaruddin and R. Janius, "Mapping of Horizontal temperature distribution in a single span green house", Agriculture Congress 2006, 12-15 Dec. 2006, pp.412-414.
126. Faisal Mohammed Seif Al-Shamiry, Abdul Rasid Mohamed Sharif, Desa Ahmad, Rezuwan Kamaruddin, Rimfiel Janius and **Ishak Aris**, "Reduction of greenhouse temperature using misting fans", International Society for Southeast Asian Agricultural Sciences, 9 – 11 December 2006, Universiti Putra Malaysia, pp77.
127. Rizal mat Jusoh, M. Hamiruce Marhaban, Ishak Aris, Samsul Bahari M. Noor, Application of Vision Target Localisation for Mobile Robot, "4th. Student Conference on Research and Development (SCORed 2006), Shah Alam, Selangor, Malaysia, pp. 112-114.
128. A. Omar, N. Mariun, N. Khan, **Ishak Aris**, "Testing and Optimization of Ignition System Parameters Inside CNG-DI Engine, 10th International Conf. & Exhibition on NGV, Cairo, Egypt, 7-9 Nov. 2006 pp.1-10.
129. Mohamad Fauzi Zakaria, **Ishak Aris**, Senan Mahmud Abdullah and Roslina Mohd Sidek, "Multimediacard Program Code Loader and Data for Low-Cost On-board Diagnostic II Driver Information System", 1st. International Conference of Control, Instrumentation and Mechatronics, Johor Bahru, Johor, 28 -29 May 2007, pp. 132-137.
130. **Ishak Aris**, Mohamad Fauzi Zakaria, Senan Mahmud Abdullah and Roslina Mohd Sidek, "Development of OBD-II Driver Information System", Proceeding of International Engineering Convention, Jeddah, Saudi Arabia, 10-14 March 2007, pp. 108-114.
131. M. K. Hassan, **Ishak Aris**, K. N. Zainuddin, H. H. Masjuki, M. Redzuan and M. A. Kalam, "Performance Analysis of 1.6L Campro Engine Using Motec and OEM Engine Control Unit", Proceeding of International Engineering Convention, Jeddah, Saudi Arabia, 10-14 March 2007, pp. 378-382.
132. Faisal Mohammed Seif Al-Shamiry, Abdul Rasid Mohamed Sharif, Desa Ahmad, Rezuwan Kamaruddin, **Ishak Aris** and Rimfiel Janius, "Effects of wind speed on the ventilation rates of crop protection structure in Malaysia", World Engineering Congress 2007, Penang, 5-9 August 2007, pp. 76 – 82.
133. Mohd Khair Hassan, **Ishak Aris**, J. Jasni, Senan Mahmud Abdullah, Roslina Sidek and H. Hizam, "Comparative study of the potential of Campro 1.6L engine fuelled with compressed natural gas", World Engineering Congress 2007, Penang, 5-9 August 2007, pp. 222 -228.
134. Mutasim Nour, **Ishak Aris**, Norman Mariun, Senan Mahmud and Eyad Radwan, "Adaptive fuzzy PI speed controller gains for permanent magnet synchronous motor", World Engineering Congress 2007, Penang, 5-9 August 2007, pp. 24-30.

135. M. Norhisam, H. Noor Hasmiza, H. Ezril, **A. Ishak**, M. Norman, “Analysis on head length gap of wire rope sensor using simplified permeance method”, World Engineering Congress 2007, Penang, 5-9 August 2007, pp. 13-18.
136. Technology Business Review, “Excellence in Research: Universiti Putra Malaysia and its role in facilitating research that aids Malaysia’s national building initiatives”, vol.30, pp. 82-88, 2007.
137. **I. Aris**, M.K. Hassan, S. Mahmud, R. Sidek, K. N. Zainuddin, N. A. Alina, H.H. Masjuki, M. Redzuan, M. A. Kalam, “Experimental Tests and Simulations of Compressed Natural Gas Direct Injection (CNGDI) Single Cylinder Engine”, Proceedings of 1st Engineering Conference on Energy and Environment, Dec. 27-28 2007, Kuching, Sarawak, pp. 315 – 318.
138. M. K. Hassan, **I. Aris**, S. Mahmud, R. Sidek, K. N. Zainuddin, N. A. Alina, H.H. Masjuki, M. Redzuan, M. A. Kalam, “The Effect of Ignition and Injection Timings on Compressed Natural Gas Direct Injection (CNGDI) Multi-cylinder Engine”, Proceedings of 1st Engineering Conference on Energy and Environment, Dec. 27-28 2007, Kuching, Sarawak, pp. 311 – 314.
139. N. F. Mailah, S. M. Bashi, N. Mariun and **I. Aris**, “Simulation of a Three-phase UPFC”, Proceedings of 1st Engineering Conference on Energy and Environment, Dec. 27-28 2007, Kuching, Sarawak., pp. 400 - 403.
140. K. H. Chong, **I. B. Aris**, S. M. Bashi and S. P. Koh, “Development of a Digital Circuit Design Simulator based on Artificial Intelligent Approach”, Proceedings of the International Conference on Robotics, Vision, Information and Signal Processing, ROVISIP, Penang, 2007, pp. 89-96.
141. K. H. Chong, **I. B. Aris**, S. M. Bashi and S. P. Koh, “Implementation of Genetic Algorithm in the Digital Structure Design”, Proceedings of the International Conference on Robotics, Vision, Information and Signal Processing, ROVISIP, Penang, 2007, pp. 113-117.
142. A. Omar, N. Mariun, I. B. Aris, “Ignition Circuit for Natural Gas Ignition System”, 5th. Student Conference on R & D, SCORed 2007, 11-12 Dec. 2007, PERMATA, Bangi.
143. M. Norhisam, R.N. Firdaus, Fairul Azhar, N. Mariun, **Aris I.**, Abdul Razak J., H. Wakiwaka, “Analysis of Thrust Constant, Electrical and Mechanical Time Constant for Slot-less Moving Magnet Linear Oscillatory Actuator”, Asia-Pacific Symposium on Applied Electromagnetics and Mechanics, Siam City Hotel, Thailand, 24-25th. July 2008, pp. 165-168.
144. M. Norhisam, m. Norafiza, M. Syafiq, I. Aris, Abdul Razak J., H. Wakiwaka, and M. Nirei, “Comparison on Performance of Two Types Permanent Magnet Generator”, Asia-Pacific Symposium on Applied Electromagnetics and Mechanics, Siam City Hotel, Thailand, 24-25th. July 2008, pp. 169-172.

N.4 Keynote Speaker / Invited Papers

1. **Ishak Aris**, “*Penerangan Berkaitan Program Vokasional/Teknikal Peringkat Diploma dan Ijazah Sarjana Muda*”, Lembaga Akreditasi Negara, Petaling Jaya, 29th. July 2000.
2. **Ishak Aris**, “*Latest Technology to Combat Car Theft*”, Seminar Towards Zero Car Theft”, Subang Jaya, August 2000.

3. **Ishak Bin Aris**, “Syarahan Kerjaya dan Motavasi Sains Kepada Pelajar Sekolah” at Dewan Kompleks Sukan Kepala Batas, Seberang Prai, organised by Academy Sciences Malaysia and National Science Centre, 3rd. August 2001.
4. **Ishak Bin Aris**, “Research Enhancement as an Academician Towards Commercialisation: Part I”, Workshop on Lab management and Research 2001, 2-4 November 2001, Hotel Seri Malaysia, Port Dickson.
5. **Ishak Bin Aris** and Roslina Sidek, “Effective Management of Research Projects”, Workshop on Lab Management, Experiment Manual and Research 2003, Universiti Putra Malaysia, 26th – 27th May 2003.
6. **Ishak Bin Aris**, “Smart Facility Control System”, Installation and Public Security Seminar: Towards a Safer and Secure Community, Bintulu, Sarawak, 24th – 27th June 2003.
7. **Ishak Bin Aris**, A. K. M. ParvezIqbal, S. Sulaiman, A. R. Ramli and M. M. Hassan, “Development of a painter robot for construction industries”, Malaysia – Japan Seminar on Artificial Intelligence Applications in Industry, Kuala Lumpur, CDROM-Id-86, 24th – 25th June 2003.
8. **Ishak Bin Aris**, “Smart Facility Control System”, Installation and Public Security Seminar: Towards a Safer and Secure Community, Serdang, 18th – 21st July 2003.
9. **Ishak Bin Aris**, “Instrumentation and Measurements in Research Problems”, Research Methodology Course (SLAB), International Islamic University of Malaysia, 30th July 2003
10. **Ishak Bin Aris**, “Software Development for the EMS”, Direct Injection Technology & EMS Development Workshop”, Hotel Residence, Uniten, 23-24 Sept. 2003.
11. **Ishak Bin Aris**, “Instrumentation and Measurements in Research Problems”, Research Methodology Course (SLAB), International Islamic University of Malaysia, 11th. March 2004.
12. **Ishak Bin Aris**, “Latest Technology in Robotic”, Workshop on Robotic 2004, Faculty of Engineering, Universiti Putra Malaysia, 7th August 2004.
13. **Ishak Bin Aris**, “Development of ECU and its Diagnostic Kit for CNG/DI Engine”, 24-27 March 2006, Penang Island, CNG/DI Engine & Transmission Retreat 2006.
14. **Ishak Bin Aris**, “Development of ECU and its Diagnostic Kit for CNG/DI Engine – Final Retreat”, 6th - 8th March 2007, Equatorial Hotel Bangi, CNG/DI Engine & Transmission End of Project 2007.
15. **Ishak Aris**, “Research Proposal and Data Analysis”, Putra Sarjana 2007, Universiti Putra Malaysia, 26 Oct. 2007.
16. **Ishak Aris**, “Writing Techniques of High Impact Factor Journal Paper”, Academic Writing Workshop, ITMA, Cyberview Lodge Resort, Cyberjaya, 7 Nov. 2007.
17. **Ishak Aris**, “Regulations, operation and expectation on postgraduate study and research in ITMA”, Welcome ceremony for new postgraduate students 07, 18th July 2007.

18. **Ishak Aris**, Experience in Design Compressed Natural Gas Direct Injection Vehicle, Malaysian Invention and Design Society (MINDS), 15 March 2008.
19. **Ishak Aris**, The Experience of Designing and Fabrication Compressed Natural Gas Direct Injection Vehicle, 2nd. International Power Engineering and Optimization Conference, PEOCO 2008, 4-5 June 2008, Co-sponsor WSEAS, Shah Alam, Malaysia.
20. **Ishak Aris**, Finishing School for Faculty of Management, UPM, 1 & 2 Feb. 2008.
21. **Ishak Aris**, Finishing School for Faculty of Forestry, UPM, 2 & 3 August 2008
22. **Ishak Aris**, “Research Proposal and Data Analysis”, Putra Sarjana 2008, Universiti Putra Malaysia, 13 August 2008.
23. **Ishak Aris**, “Regulations, operation and expectation on postgraduate study and research in ITMA”, Welcome ceremony for new postgraduate students 08, 1 August 2008.

N.5 Consultant Work Reports

1. **I. B. Aris**, “*Report on Visit to University of Southampton, University of Surrey and Imperial College, Technology and Medicine, London (10th. Oct. – 23rd. Oct. 1998)*”, CICHE/UPM Program 1998/99, P541: Biomedical Sciences.
2. **Teaching Group**, “ISO9000 Quality Manual (Teaching) for Universiti Putra Malaysia”, 1998.
3. **I. B. Aris**, “Evaluation Report on Diploma in Electronic Engineering for Federal Institute of Technology, Kuala Lumpur”, National Accreditation Board (LAN), 29th December 1998.
4. **I. B. Aris**, “Evaluation Report on Diploma in Electrical Engineering for Federal Institute of Technology, Kuala Lumpur”, National Accreditation Board (LAN), 17th December 1998.
5. **I. B. Aris**, “Evaluation Report on Diploma in Electrical Engineering for Federal Institute of Technology, Petaling Jaya”, National Accreditation Board (LAN), 23rd. December 1998.
6. **I. B. Aris**, “Evaluation Report on Diploma in Electronic Engineering for Federal Institute of Technology, Petaling Jaya”, National Accreditation Board (LAN), 29th December 1998.
7. **I. B. Aris**, “Evaluation Report on Bachelor of Engineering in Electrical and Electronic Engineering for Inti College, Nilai”, National Accreditation Board (LAN), 12th. July 1999.
8. **I. B. Aris**, “Accreditation Report on Certificate in Degree Foundation Studies in Science and Engineering for Sepang Institute of Technology, Klang”, National Accreditation Board (LAN), 29th December 1998.
9. **I. B. Aris**, “Evaluation Report on Bachelor of Engineering (Hons) in Electronics and Computing for Kolej Bandar Utama”, National Accreditation Board (LAN), Jan. 2000.
10. **I. B. Aris**, “Evaluation Report on Diploma in Electrical and Electronics Engineering for Institut Informasi Teknologi Cosmospect”, National Accreditation Board (LAN), 1st. April 2000.

11. **I. B. Aris**, “Evaluation Report on Bachelor of Engineering (Hons) in Microelectronics Engineering for Kolej Sedaya”, National Accreditation Board (LAN), 24th. April 2000.
12. **I. B. Aris**, “Evaluation Report on Diploma in Electrical and Electronics Engineering for Universiti Industri Selangor”, National Accreditation Board (LAN), 13th June 2000.
13. **I. B. Aris**, “Penerangan Berkaitan Program Vokasional/Teknikal Peringkat Diploma dan Ijazah Sarjana Muda”, National Accreditation Board (LAN), 29th June 2000.
14. **I. B. Aris**, “Accreditation Report on Diploma in Electronic Technologies (Industries) for PSDC”, National Accreditation Board (LAN), 21 Feb 2001.
15. **Ishak Bin Aris**, “Evaluation Report on BTEC Higher National Diploma in Electrical and Electronic Engineering for Linton College, Ipoh”, National Accreditation Board (LAN), 16th Oct. 2001.
16. **Ishak Bin Aris**, “Accreditation Report on Diploma in Electrical and Electronic Engineering for Inti College, Sarawak”, National Accreditation Board (LAN), 16th Oct. 2001.
17. **Ishak Bin Aris**, “HVDC Transmission Project”, TNB Research, April 2002.
18. Postgraduate Diploma in Biomedical Engineering Concept Paper, August 2002.
19. **Ishak Bin Aris**, Evaluation Report IGS Technical Panel of Assessors for AS & A Sdn. Bhd. On Development of Electronic Sensorless Closed Loop Temperature Controller, August 2002.
20. **Ishak Bin Aris**, “Visit Evaluation Report on BTEC Higher National Diploma in Electrical and Electronic Engineering for Linton College, Ipoh”, National Accreditation Board (LAN), 14th Oct. 2002.
21. **Ishak Bin Aris**, “Accreditation Final Report on Diploma in Electrical and Electronic Engineering for Inti College, Sarawak”, National Accreditation Board (LAN), 16th Oct. 2002.
22. **Ishak Bin Aris**, “Evaluation Report in Achieving Minimum Standard on Diploma in Electrical and Electronics Engineering for Universiti Industri Selangor”, National Accreditation Board (LAN), 5th Nov. 2002.
23. **Ishak Bin Aris**, “Keperluan bagi memperbaiki system pertahanan kilat dan pembumian bagi bangunan 11 tingkat Fakulti Kejuruteraan, UPM – justifikasi dan cadangan”, 4 Feb. 2003.
24. **Ishak Bin Aris**, “Visit Report to Orbital Engine Company, Perth Australia”, 10 April – 12 April 2003.
25. **Ishak Bin Aris**, M. K. Hassan and S. M. F. S Mohamad, Report of the training on Development of Engine Controller Unit Hardware and Software for Production at Orbital Engine Company: 4th – 18th June 2003.
26. **Ishak bin Aris**, “Report on Attending IEEE International Conference on Advanced Intelligent Mechatronics, Kobe Japan and Visit to University of Tokyo”.
27. **Ishak Bin Aris**, “Accreditation Final Report – Pre-visit on B.Eng (Hons) in Electrical and Electronic Engineering for Sedaya College, K. Lumpur”, National Accreditation Board (LAN), 30th August 2003.

28. **Ishak Bin Aris**, “Accreditation Final Report on B.Eng (Hons) in Electrical and Electronic Engineering for Sedaya College, K. Lumpur”, National Accreditation Board (LAN), 22nd Sept. 2003.
29. **Ishak Bin Aris**, Review of Sepang Institutes of Technology Diploma in Electronic Program Reviewer, 3 Oct. 2003
30. **Ishak Bin Aris** , Technology Assessment Report for Paracorp Technology Sdn Bhd – Enterprise Telemetry Application (ETA), Multimedia Development Corporation, 9 Oct. 2003.
31. **Ishak Bin Aris**, Laporan Penilaian Pra-Lawatan Panel Penilai – Penilaian Dokumentasi Kelulusan (Diploma in Elektrical & Electronic Eng. – Institut Eksekutif, Sarawak, Lembaga Akreditasi Negara, 10 Oct. 2003.
32. **Ishak Bin Aris**, Laporan Penilaian Pra-Lawatan Panel Penilai – Penilaian Dokumentasi Kelulusan (Bachelor Degree in Engineering Sciences – KBU International College, Lembaga Akreditasi Negara, 10 Dis. 2003.
33. Radin Umar Radin Sohadi and **Ishak Bin Aris**, “An Estimated Budget for Industrial Driven Research Model for Research Intensified University”, requested by the university, 29th Dec 2003.
34. **Ishak Aris**, Noor Izzri Abdul Wahab and Norhisam Misron, Program MS (Kejuruteraan Elektrik Kuasa Struktur C), Nov. 2004.
35. **Ishak Aris**, CNG/DI Engine & Transmission ECU Progress Monitoring Report, Oct. 2002 – Dec 2003, 5-7 Dec 2003, Equatorial Hotel, Cameron Highland.
36. **Ishak Aris**, Noor Izzri Abdul Wahab and Norhisam Misron, Program MS (Kejuruteraan Elektrik Kuasa Struktur C), Nov. 2004.
37. **Ishak Aris**, CNG/DI Engine & Transmission ECU Progress Monitoring Report, Mac 2004.
38. **Ishak Aris**, CNG/DI Engine & Transmission ECU Progress Monitoring Report, June 2004.
39. **Ishak Aris**, CNG/DI Engine & Transmission ECU Progress Monitoring Report, Sept. 2004.
40. **Ishak Aris**, CNG/DI Engine & Transmission ECU Progress Monitoring Report, Dec 2004.
41. **Ishak Aris**, Design of Character and Marking Inspection System for Semiconductor Applications – Symbol Inspection Progress Monitoring Report, Mac 2004.
42. **Ishak Aris**, Design of Character and Marking Inspection System for Semiconductor Applications – Symbol Inspection Progress Monitoring Report, June 2004.
43. **Ishak Aris**, Design of Character and Marking Inspection System for Semiconductor Applications – Symbol Inspection Progress Monitoring Report, Sept. 2004.
44. **Ishak Aris**, Design of Character and Marking Inspection System for Semiconductor Applications – Symbol Inspection Progress Monitoring Report, Dec 2004.

45. **Ishak Aris**, Development of a pager system to be interfaced with an immobilizer system for motorcycles and heavy vehicles Progress Monitoring Report, Mac 2004.
46. **Ishak Aris**, Development of a pager system to be interfaced with an immobilizer system for motorcycles and heavy vehicles Progress Monitoring Report, June 2004.
47. **Ishak Aris**, Development of a pager system to be interfaced with an immobilizer system for motorcycles and heavy vehicles Progress Monitoring Report, Sept. 2004.
48. **Ishak Aris**, Laporan Akhir Penilaian Pringkat Standard Minimum – Diploma in Elektrical & Electronic Eng. – Universiti Industri Selangor, Lembaga Akreditasi Negara, 31 Jan 2004.
49. **Ishak Aris**, Laporan Akhir – Projek “Development of fuzzy logic based position estimation in three-phase brushless permanent magnet motors(02-03-02-0013F)” 20 Jan 2004.
50. **Ishak Aris**, Laporan Akhir – Projek “Development of e-diabetes monitoring system (02-03-02-0018S)” 20 Jan 2004.
51. **Ishak Aris**, Final Examination Report, Chairman of the Examination Committee, MSc Thesis, “Simulation of Three-phase Induction Motor Control Using Fuzzy Logic Controller”, Omar Said Algayash Bennanes, UPM, 4 Feb 2004.
52. **Ishak Aris**, End of the Project Report, Chairman of the Technical Panel for Industrial Research Grant Scheme (Project: Development of Electronic Sensorless Closed Loop Temperature Controller, 2004) Bukit Mertajam, P. Pinang, Ministry of Science, Technology and Environment, 25 March 2004.
53. **Ishak Bin Aris**, Internal Examiner MSc Thesis Report, “Protection of Short Transmission Lines Using Microprocessor-based distance relay”, Hussain Fadhil Mohammed Ali, 12 March 2004.
54. **Ishak Bin Aris**, Internal Examiner MSc Thesis Report, “Study of Electrode Material Degradation Rate of Alkali Metal Energy Converter With Solar Thermal Heat”, Siew Choo Soon, 2004.
55. **Ishak Bin Aris**, Internal Examiner MSc Thesis Report, “Harmonic Analysis and Mitigation Using Passive Filter”, Hashbullishman bin Hashim, 2004.
56. **Ishak Bin Aris**, Internal Examiner MSc Thesis Report, “Evaluating the potential of palm oil as a liquid dielectric fluid in high voltage applications”, Umar Usman Abdullah, 2004.
57. **Ishak Bin Aris**, External Examiner MSc Thesis Report, “Design of real-time software for mobile robot using object-oriented methodology”, Zulkifli bin Husin, Universiti Teknologi Malaysia, 2004.
58. **Ishak Bin Aris**, External Examiner MSc Thesis Report, “Human robot interface on bluetooth enabled mobile robot via portable device”, Yeong Che Fai, Universiti Teknologi Malaysia, 2004.
59. **Ishak Bin Aris**, External Examiner MSc Thesis Report, “Rekabentuk perkakasan system pengawal untuk robot dalam air”, Zainah binti Md. Zain, Universiti Sains Malaysia, 2004.
60. **Ishak Bin Aris**, Laporan Penilaian Pra-Lawatan Panel Penilai – Penilaian Dokumentasi (Awal) Perakuan Akreditasi (Diploma Kejuruteraan Elektrik (Kuasa)) – L&G-Twintech Institute of Technology, Lembaga Akreditasi Negara, 29 March 2004.

61. **Ishak Bin Aris**, Laporan Penilaian Kelulusan Pengendalian Kursus Pengajian – (Diploma Teknologi Kejuruteraan (Peralatan Elektrik dan Pemasangan) – Universiti Kuala Lumpur, Lembaga Akreditasi Negara, 5 April 2004.
62. **Ishak Bin Aris**, Laporan Penilaian Pra-Lawatan Panel Penilai – Penilaian Dokumentasi (Awal) Perakuan Akreditasi (Diploma Teknologi Elektronik (Industri)) – Kolej Negeri, Lembaga Akreditasi Negara, 3 June 2004.
63. **Ishak Bin Aris**, Laporan Penilaian Panel Penilai – Penilaian Dokumentasi (Akhir) Perakuan Akreditasi (Diploma Teknologi Elektronik (Industri)) – Kolej Negeri, Lembaga Akreditasi Negara, 1 Ogos 2004.
64. **Ishak Aris**, Laporan Penilaian Panel Penilai – Penilaian Dokumentasi Kelulusan (Diploma Elektrik dan Elektronik) – UCSI, Lembaga Akreditasi Negara, 14 Ogos 2004.
65. **Ishak Aris**, Laporan Penilaian Pra-Lawatan Panel Penilai – Penilaian Dokumentasi (Awal) Perakuan Akreditasi (MSc in Electrical and Electronics – Universiti Teknologi Petronas, Lembaga Akreditasi Negara , 30 Oktober 2004.
66. **Ishak Aris**, Laporan Penilaian Panel Penilai – Penilaian Peringkat Kelulusan (Diploma in Electrical and Electronics – Kolej Prime, Lembaga Akreditasi Negara, 2 November 2004.
67. **Ishak Aris**, Laporan Penilaian Panel Penilai – Penilaian Peringkat Kelulusan (Diploma in Electronic Engineering – Multimedia Universiti, Melaka, Lembaga Akreditasi Negara, 28 November 2004.
68. **Ishak Aris**, Laporan Penilaian Panel Penilai – Penilaian Peringkat Kelulusan (Diploma in Electrical and Electronic Engineering – Institut Teknologi RIFA, Taiping, Lembaga Akreditasi Negara, 1 December 2004.
69. **Ishak Aris**, Laporan Penilaian Pra-Lawatan Panel Penilai – Peringkat Standard Minimum (Diploma Kejuruteraan Elektrikal dan Elektronik), Universiti Industri Selangor, Lembaga Akreditasi Negara, 2. 12. 2004.
70. **Ishak Aris**, Laporan Akhir Penilaian Panel Penilai – Peringkat Standard Minimum (Diploma Kejuruteraan Elektrikal dan Elektronik), Universiti Industri Selangor, Lembaga Akreditasi Negara, 14. 1. 2005.
71. **Ishak Aris**, Laporan Akhir Penilaian Panel Penilai – Penilaian Dokumentasi (Awal) Perakuan Akreditasi (MSc in Electrical and Electronics – Universiti Teknologi Petronas, LAN, 6. 1. 2005.
72. **Ishak Aris**, Laporan sebelum lawatan penilaian panel penilai peringkat akreditasi, MEng (Hons) Electrical and Electronic Engineering (A 1052), The University of Nottingham, Malaysia Campus, LAN, 21. 7. 2005.
73. **Ishak Aris**, Laporan sebelum lawatan penilaian panel penilai peringkat akreditasi, MEng (Hons) Electronic Engineering (A 1052), The University of Nottingham, Malaysia Campus, LAN, 21. 7. 2005.
74. **Ishak Aris**, Laporan sebelum lawatan penilaian panel penilai peringkat akreditasi, BTEC HND in Electrical and Electronics Eng. (A 1310), Institut Teknologi Pertama, LAN, 6. 8. 2005.

75. **Ishak Aris**, Laporan akhir penilaian panel penilai peringkat akreditasi, BTEC HND in Electrical and Electronics Eng. (A 1310), Institut Teknologi Pertama, LAN, 30. 8. 2005.
76. **Ishak Aris**, Laporan akhir penilaian panel penilai peringkat akreditasi, B Eng (Hons) in Electronics & Computing (A 1314), KBU International College, Petaling Jaya, LAN, 4. 9. 2005.
77. **Ishak Aris**, Laporan sebelum lawatan penilaian panel penilai peringkat akreditasi, Diploma Kejuruteraan Elektrik dan Elektronik. (A 1381), Universiti Industri Selangor, LAN, 25. 10. 2005.
78. **Ishak Aris**, Laporan akhir penilaian panel penilai peringkat akreditasi, Diploma Kejuruteraan Elektrik dan Elektronik. (A 1381), Universiti Industri Selangor, LAN, 17. 11. 2005.
79. **Ishak Aris**, Laporan Penilaian Panel Penilai Peringkat Kelulusan, Diploma Electrical Engineering (KA6848), Kolej Universiti Teknologi Antarabangsa Twintech, LAN, 16. 12. 2005.
80. **Ishak Aris**, Laporan Sebelum Lawatan Penilaian Panel Penilai Peringkat Akreditasi, Diploma Elektrik dan Elektronik (A1386), Kolej TAFE, Seremban, LAN, 26. 12. 2005.
81. **Ishak Aris**, Laporan Akhir Penilaian Panel Penilai Peringkat Akreditasi, Diploma Elektrik dan Elektronik (A1386), Kolej TAFE, Seremban, LAN, 17-18. 1. 2006.
82. **Ishak Aris**, Laporan Sebelum Lawatan Penilaian Panel Penilai Peringkat Akreditasi, Diploma Teknologi Kejuruteraan (Peralatan Elektrik dan Pemasangan) (A1482), Universiti Kuala Lumpur: MFI, LAN, 28. 2. 2006.
83. **Ishak Aris**, Laporan Sebelum Lawatan Penilaian Panel Penilai Peringkat Akreditasi, Master of Electrical Engineering (A1187), Universiti Tenaga Nasional, LAN, 6. 3. 2006.
84. **Ishak Aris**, Laporan Akhir Penilaian Panel Penilai Peringkat Akreditasi, Master of Electrical Engineering (A1187), Universiti Tenaga Nasional, LAN, 6. 5. 2006.
85. **Ishak Aris**, Laporan Akhir Penilaian Panel Penilai Peringkat Akreditasi, Diploma Teknologi Kejuruteraan (Peralatan Elektrik dan Pemasangan) (A1482), Universiti Kuala Lumpur: MFI, LAN, 10. 5. 2006.
86. **Ishak Aris**, Laporan Peringkat Kelulusan Penilaian Panel Penilai, Bachelor of Technology in Electronics (KA7214), Kolej Universiti Terbuka Wawasan, Pulau Pinang, LAN, 11. 5. 2006.
87. **Ishak Aris**, Laporan Akhir Penilaian Panel Penilai Peringkat Akreditasi, Ijazah Teknologi Kejuruteraan Elektrikal (A14832), Universiti Kuala Lumpur: BMI, LAN, 12. 5. 2006.
88. **Ishak Aris**, Laporan Akhir Penilaian Panel Penilai Peringkat Akreditasi, Ijazah Teknologi Kejuruteraan Elektronik (A1433), Universiti Kuala Lumpur: BMI, LAN, 12. 5. 2006.
89. **Ishak Aris**, Laporan Sebelum Lawatan Penilaian Panel Penilai Peringkat Akreditasi. Diploma Kejuruteraan Elektrik dan Elektronik (A1605), Kolej Selatan, LAN, 28. 5. 2006
90. **Ishak Aris**, Final Evaluation Report on Accreditation of Diploma in Industrial Technology and Education (A5257), Kolej Teknologi dan Profesional Indera Kayangan, Perlis, National Accreditation Board, 3rd August 2007.

91. **Ishak Aris**, Initial Evaluation Report (Before visit) on Accreditation of Certificate of Electrical and Electronic Engineering (A5348), Pusat Teknologi dan Pengurusan Lanjutan, Seremban, National Accreditation Board , 10 July 2007.
92. **Ishak Aris**, Final Evaluation Report on Accreditation of Diploma in Electrical and Electronics Engineering (A5808), Kolej Segi, Subang Jaya, , National Accreditation Board, 29 May 2007.
93. **Ishak Aris**, Final Evaluation Report on Accreditation of Diploma in Electrical and Electronics Engineering (A1605). Kolej Selatan, Skudai, Johor, National Accreditation Board, 29 May 2007.
94. **Ishak Aris**, Laporan Penilaian Akhir Menyeluruh Pengerusi Panel Penilai, Sijil Kejuruteraan Elektrik dan Elektronik (A5348), Pusat Teknologi dan Pengurusan Lanjutan, Seremban, 10 Julai 2007.
95. **Ishak Aris**, Laporan Penilaian Akhir Menyeluruh Pengerusi Panel Penilai, Diploma Teknologi Industri dan Pendidikan (A5257), Kolej Teknologi dan Profesional Indera Kayangan, 3 Ogos, 2007.
96. **Ishak Aris**, Laporan Penilaian Semakan Pengerusi Panel Berdasarkan Maklumbalas IPTS (KA7807), Diploma in Embedded System, Institut Mc Orange, 20 September 2007.
97. **Ishak Aris**, Laporan Pemeriksaan Kursus Diploma in Electrical and Electronic Engineering (A0639), Institut Megatech, 20 September 2007.
98. **Ishak Aris**, Laporan Penilaian Semakan Pengerusi Panel Berdasarkan Maklumbalas IPTS (A1605), Kolej Selatan, Diploma in Electrical and Electronics, 20 September 2007.
99. **Ishak Aris**, Laporan Penilaian Pengerusi Panel, Doktor Falsafah Teknologi Kejuruteraan (Elektrikal / Elektronik) (Penyelidikan) Sepenuh Masa & Separuh Masa (KA8504), Universiti Kuala Lumpur, 10 Oktober 2007.
100. **Ishak Aris**, Laporan akhir Penilaian Panel Penilai Peringkat Akreditasi. Diploma of Electrical and Electronic Engineering in Technical Japanese (A6455), Universiti Industri Selangor, Malaysian Qualification Agency, 21 Dec 2007.

N.6 Books

1. Experiments on Circuit Theory.
(In progress)
2. Experiments on Electrical Machines
(In progress)
3. Ishak Aris “Programmable and Portable Painting Robot for Houses and Buildings”, in Research and Development Excellence from Malaysian Universities Universiti Teknologi Malaysia, 2007.

Patents :

Granted

1. A robot for handling hazardous chemicals,
MY-128276-A – granted 31 Jan. 2007
Dr. Ishak Aris, Jenny Teh Cheng Choo and Johnny Koh Siaw Paw
2. A portable lightning detector system using programmable logic controller,
(MY-135780-A) – Malaysia, granted 30 June 2008.
Dr. Ishak Aris and Goh Hong Keong
3. An Apparatus for Treating Building Surfaces and the Like
MY127806-A – granted 29 Dec 2006.
Dr. Ishak Aris and A. K. M. Parvez Iqbal

Pending

4. Method for Controlling Multiple-injection of Gaseous Fuel in a Direct Injection Engine.
(PI20054808)
Dr. Ishak Aris, Khairul Nizam Zainudin, Nik Anis Alina Nik Othman and Mohd Khair hassan
5. Radio Frequency Coaxial Resonant Cavity for Compressed Natural Gas Ignition
(PI20055351)
Dr. Norman Mariun, Dr. Nasrullah Khan, Liyth Ahmed Nissirat and **Dr. Ishak Aris**
6. A Multi-Beam Optical Scanning Device
(PI20081849)
Ishak bin Aris and Koh Siaw Paw

Awards & Recognitions :

Academic Awards

1. Dean's Commendation List Fall 1985 (George Washington University).
2. Dean's Commendation List Spring 1986 (George Washington University).
3. Dean's Commendation List Fall 1986 (George Washington University).
4. Dean's Honor List Spring 1987 (George Washington University).
5. Dean's Honor List Fall 1987 (George Washington University).
6. Dean's Honor List Spring 1988 (George Washington University).

Research Awards

1. Excellent Researcher Award, UPM 2007: Patent Incentive Award.
2. SAE International Member Service Award, 2008.
3. Appriation Certificate from UPM for exhibiting a product in the main gallery in PRPI08.

4. Bronze Medal Award of Merit, INPEX 2008, June 11- 14, 2008, Pittsburgh, PA USA.
Project: Electronic Control Unit (ECU) for Compressed natural Gas Direct Injection (CNGDI) Vehicle.
Ishak Aris, M.K. Hassan, Senan Mahmud Abdullah, Roslina Mohd Sidek, K. N. Zainuddin and N. A. Alina.
5. Gold Medal, Malaysia Technology Expo 2008, 21 – 23 February 2008, PWTC Kuala Lumpur.
Project: Electronic Control Unit (ECU) for Compressed natural Gas Direct Injection (CNGDI) Vehicle.
Ishak Aris, M.K. Hassan, Senan Mahmud Abdullah, Roslina Mohd Sidek, K. N. Zainuddin and N. A. Alina.
6. Gold Medal, International Exhibition of Ideas-Inventions-New Products (IENA) 2007, Nuremberg, Germany, 1st – 4th November, 2007.
Project: Software system for detecting defective symbols on micro chip with adjustable readability level.
Ishak Aris, Zainab Hasan, Maaspaliza Azri, M. K. Hassan, A. C. Harith and Shamsuddin Mohd Amin.
7. Silver Medal, International Exhibition of Ideas-Inventions-New Products (IENA) 2007, Nuremberg, Germany, 1st – 4th November, 2007.
Project: Wire rope sensor.
Dr. Eng. M. Norhisam, H. Noor Hasmiza, H. Ezril, N. Wei Shin, N. mariun, **I. Aris**, Y. Hirama
8. Qualified for the final round at the World Cup of Computer Implemented Inventions, China, 2008.
Project: Software system for detecting defective symbols on micro chip with adjustable readability level.
Ishak Aris, Zainab Hasan, Maaspaliza Azri, M. K. Hassan, A. C. Harith and Shamsuddin Mohd Amin
9. Gold Medal, Invention & New Product Exposition 2007, INPEX 2007, Category of Automotive, Pittsburgh, USA, 6th – 9th June 2007.
Project: The method and optimazation of Ignition system parameters inside CNGDI Engine.
Norman mariun, Azimah Omar, Nasrulah Khan, **Ishak Aris**
10. Gold Medal, 18th International Invention, innovation & Technology Exhibition, ITEX 2007, Kuala Lumpur, Malaysia, 18th – 20th May 2007.
Project: Software system for detecting defective symbols on micro chip with adjustable readability level.
Ishak Aris, Zainab Hasan, Maaspaliza Azri, M. K. Hassan, A. C. Harith and Shamsuddin Mohd Amin.
11. Special Award (Moscow Award, Russia), 18th International Invention, innovation & Technology Exhibition, ITEX 2007, Kuala Lumpur, Malaysia, 18th – 20th May 2007.
Project: Software system for detecting defective symbols on micro chip with adjustable readability level.
Ishak Aris, Zainab Hasan, Maaspaliza Azri, M. K. Hassan, A. C. Harith and Shamsuddin Mohd Amin
12. Bronze Medal, 18th International Invention, innovation & Technology Exhibition, ITEX 2007, Kuala Lumpur, Malaysia, 18th – 20th May 2007.
Project: Animated Robotic Language for Children
Ishak Aris and Ho Teng Hoong.
13. Silver Medal, Malaysia Technology Expo 2007, 29-31 March 2007, Kuala Lumpur.
Project: Test Method & Optimization of Ignition System Parameters Inside CNGDI Engine.
Norman Mariun, Nasrullah Khan, **Ishak Aris** and Azimah Omar

14. Silver medal, Pertandingan Pameran Reka Cipta, Penyelidikan dan Inovasi UPM 2007, 27-
Pertandingan Pameran Reka Cipta, Penyelidikan dan Inovasi UPM 2007, 27- 9 November 2007.
Project: OBD II Driver Information System with MMC Expandable Memory Capability.
Ishak Aris, Mohamad Fauzi Zakaria, Senan Mahmud Abdullah and Roslina Mohd Sidek.
15. Silver medal, Pertandingan Pameran Reka Cipta, Penyelidikan dan Inovasi UPM 2007, 27-
Pertandingan Pameran Reka Cipta, Penyelidikan dan Inovasi UPM 2007, 27- 9 November 2007.
Project: New Electronic Control Unit Control Strategy for CNGDI Vehicle.
Ishak Aris, M. K. Hassan, Senan Mahmud Abdullah and Roslina Mohd Sidek, K. N. Zainuddin and N.
A. Alina.
16. Excellent Researcher Award 2005 Universiti Putra Malaysia
17. Special award from the Association of Polish Inventor, Poland, 55th World Exhibition of Innovation,
research and new Technology 2006 (Eureka-Innova 06), Brussels, Belgium, 23-27 Nov. 2006.
Project: Compressed Natural Gas Direct Injection Passenger Vehicle.
Project Head (ECU)
18. Gold Medal with mention, 55th World Exhibition of Innovation, research and new Technology 2006
(Eureka-Innova 06), Brussels, Belgium, 23-27 Nov. 2006.
Project: Compressed Natural Gas Direct Injection Passenger Vehicle.
Project Head (ECU).
19. Henry Goh Award for Environmental Innovation (Renewable Energy), 17th. International Invention,
Innovation, Industrial design and Technology Exhibition (ITEX06), 19-21 May 2006.
Project: Compressed Natural Gas Direct Injection Vehicle.
20. Gold Medal, 17th. International Invention, Innovation, Industrial design and Technology Exhibition
(ITEX06), 19-21 May 2006.
Project: Compressed Natural Gas Direct Injection Vehicle.
21. Bronze medal, Research, Innovation & Commercialization Exhibition, Faculty of Engineering,
Universiti Putra Malaysia, 16-17 March 2006.
Project: Software System for Detecting Defective Symbols on Micro Chip with Adjustable Readability
Level
22. Bronze medal, Research, Innovation & Commercialization Exhibition, Faculty of Engineering,
Universiti Putra Malaysia, 16-17 March 2006.
Project: Evaporative (Misting Fans) Cooling System for Tropical Greenhouse in Malaysia.
23. Silver medal, Research, Innovation & Commercialization Exhibition, Faculty of Engineering, Universiti
Putra Malaysia, 16-17 March 2006.
Project: High-voltage Ignition Circuit for Compressed Natural Gas-Direct Injection (CNG-DI) Engine.
24. Silver medal, Research, Innovation & Commercialization Exhibition, Universiti Putra Malaysia, 22-24
August 2006.
Project: High-voltage Ignition Circuit for Compressed Natural Gas-Direct Injection (CNG-DI) Engine.

25. Silver medal, Research, Innovation & Commercialization Exhibition, Universiti Putra Malaysia, 22-24 August 2006.
Project: Animated Robotic Language for Children.
26. Bronze medal, Research, Innovation & Commercialization Exhibition, Universiti Putra Malaysia, 22-24 August 2006.
Project: . Software System for Detecting Defective Symbols on Micro Chip with Adjustable Readability Level.
27. Silver medal, International Invention, Innovation, Industrial Design & Technology Competition 2005 (ITEX 2005).
Project: GSM-based vehicle immobiliser and security system.
28. Excellent Scientist Award of the Ministry of Higher Learning Malaysia, 2005.
29. Bronze medal, IPTA R & D Expo 2005. PWTC, 30 Sept – 2 Oct. 2005.
Project: Programmable and Portable Painting Robot for Houses and Buildings.
30. Silver medal , “Research and Innovation Universiti Putra Malaysia 2005”,
Project: GSM-based vehicle immobiliser and security system.
31. Bronze medal, “Research and Innovation Universiti Putra Malaysia 2005”,
Project: Power System Protection Simulator and Expert System Software.
32. Bronze medal, “Research and Innovation Universiti Putra Malaysia 2005”,
Project: Knowledge-based Power Electronics CAD Tool.
33. Bronze medal, “Research and Innovation Universiti Putra Malaysia 2005”,
Project: Development of a Hybrid Photovoltaic System for Tropical Greenhouse Cooling.
34. Bronze medal, 33rd International Exhibition of Inventions, New Techniques and Products of Geneva, 6th – 10th April 2005.
Project: Programmable and Portable Painting Robot for Houses and Buildings.
35. Universiti Putra Malaysia’s Excellent Service, 2004.
36. Excellent Scientist Award of the Ministry of Higher Learning, Malaysia, 2004.
37. Gold medal, Invention & New Product Exposition 2004, INPEX 2004, Category of Industrial Equipment, Pittsburgh, USA, 12th – 15th May 2004.
Project: Robolab
38. Bronze medal, Invention & New Product Exposition 2004, INPEX 2004, Category of Science, Pittsburgh, USA, 12th – 15th May 2004.
Project: Robolab
39. Bronze medal, International Invention, Innovation, Industrial Design & Technology Competition 2004 (ITEX 2004).
Project: Painting Machine for Houses and Buildings.
40. Silver medal, “Research and Innovation Universiti Putra Malaysia 2003”
Project: Automatic House Painting Machine”, 8 – 10 July 2003.

41. Universiti Putra Malaysia's Excellent Service Award, 2003.
42. Universiti Putra Malaysia's Excellent Service, 2002.
43. Vice Chancellor Fellowship Award 2002 (Excellent in Research).
44. Special award from the Ministry of Rescue Services of Russia in 30th International Exhibition of Inventions, New Techniques and Products of Geneva, 1st – 5th May 2002.
Project: A portable fibre optic base lightning detection system.
45. Silver medal in 30th International Exhibition of Inventions, New Techniques and Products of Geneva, 1st – 5th May 2002.
Project: A portable fibre optic base lightning detection system.
46. Universiti Putra Malaysia's Excellent Service Award 2002.
47. Dean Special Award 2002.
48. Robotic Design Contest, 2nd May 2002, Sirim, Shah Alam, 5th place.
49. Bronze Medal, International Invention, Innovation, Industrial Design & Technology Competition 2002 (ITEX 2002), 29 – 31 March 2002.
Project: A portable fibre optic base lightning detection system.
50. Best Exhibition Booth, 4th Place, in Exhibition on Innovation and Quality of the Ministry of Education Malaysia, 2002.
51. Universiti Putra Malaysia's Excellent Service Award 2001.
52. Excellent Research Award Universiti Putra Malaysia 2000/2001, 2nd October 2001.
53. Innovation Award for Public Services Department of Malaysia 2001
Project: Robolab: Auto-Laboratory Process and Testing Machine.
54. Silver Medal, Expo Science and Technology 2001 – Invention & Innovation Competition – 30 June – 3 July 2001, PWTC, K. Lumpur.
Project: ISVS Robotoy
55. Bronze Medal, Expo Science and Technology 2001 – Invention & Innovation Competition – 30 June – 3 July 2001, PWTC, K. Lumpur.
Project: Robolab II
56. Gold Medal, International Invention, Innovation, Industrial Design & Technology Competition 2000 (ITEX 2000), 27 – 30 September 2000.
Project: Robolab.
57. First Place in the best booth category, Universiti Putra Malaysia Convocation Exhibition, 19 – 23 Julai 2000.
Project: Self Guided Vehicle and Automatic Lighter packaging System.

58. Consolation price (RM300) in Universiti Putra Malaysia Innovation and Research 2000 Award. (8 – 10 April 2000)
Project: RF-based Car Pager System.
59. Consolation price (RM300) in Universiti Putra Malaysia Innovation and Research 2000 Award. (8 – 10 April 2000)
Project: Transformation of an Old PC-486 to an Autonomous Guided Vehicle Using Recycle Components.

Teaching Award

1. The most caring lecturer; voted by final year students of B.Eng in Electrical and Electronic Engineering Students 2004/2005.
2. Faculty of Engineering Excellent Teaching Award 2007