

MOHD IZHWAN BIN MUHAMAD

B. Eng. (UPM), M. Sc (UPM), MIEEE, MIAENG

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Research Interests/Specialization/Consultation:

1. Electrical Power Engineering - Renewable Energy, Energy Efficiency and Power Quality.
2. Performing a preliminary planning, preparation of electrical internal design concepts and cost estimation for building.
3. Developing the detail design of electrical building services and able to justify the design with calculations and other design basis and to check detailing drawings.
4. Development of Laboratory Manuals for Electrical and Electronic Engineering Programme.
5. ISO 9001-Quality Management System (QMS), ISO 14001-Environmental Management System (EMS), ISO 17025-Testing & Calibration Laboratory Accreditation, 5S-The Quality Environment Practices System - Development, Implementation and Internal Auditing for Higher Education Institute.
6. Softskills Teaching & Learning for Undergraduate Student.
7. Student Centred Learning (SCL).
8. Outcome Based Education (OBE).
9. Motivational Training for Youths and Students.

Professional Affiliation:

1. **Registered Electrical Graduate Engineer** (51840A) with Board of Engineers Malaysia (BEM)
2. **Member** (41594866) of the Institute of Electrical and Electronics Engineers, Inc. USA (IEEE).
3. **Member** of IEEE Power and Energy Society Malaysia Chapter.
4. **Member** (130074) of International Association of Engineers, Hong Kong.

Professional Qualifications:

1. **ISO 9001 QMS Lead Auditor** from RABQSA and IRCA
2. **ISO 9001:2008 QMS Lead Auditor** from SIRIM
3. **Certificate of Level 1 TRIZ Practitioner** from The Malaysian TRIQ Innovation Association & The International TRIQ Association (MATRIZ)

Academic Qualifications:

1. Enrolled in Doctor of Philosophy (Ph.D) program with research title “Estimation of CO_x Budget and Energy Feasibility of Commercial Energy Crops and Oil Palm Wastes Applied into a Suitable Gasifier-Generator System for Dendro Power Generation Plant” at University Putra Malaysia, started February 2017, expected completed in year 2020.
2. Master of Science (Electrical Power Engineering) in University Putra Malaysia, with research entitled “Sizing of Biomass and Solar Photovoltaic Hybrid Renewable Energy System for Tropicale Climate.” 2016
3. B. Eng in Electrical & Electronic Engineering, Universiti Putra Malaysia, Serdang, Selangor, 2007
4. Dip. Eng in Electronic Communication, Polytechnic of Sultan Abdul Halim Muadzam Shah, Jitra, Kedah, 2002
5. Cert. Eng in Electronic Communication, Polytechnic of Johor Bahru, Pasir Gudang, Johor, 2001.

Education:

- Tertiary: 2003-2006 Universiti Putra Malaysia, Serdang, Selangor.
2001-2002 Politeknik Sultan Abdul Halim Muadzam Shah, Jitra, Kedah.
1999-2001 Politeknik Johor Bahru, Pasir Gudang, Johor.
- Secondary: 1994-1998 Sek. Men. Keb Datuk Menteri, Ayer Hitam, Johor.
- Primary: 1992-1993 Sek. Keb Kem Tentera, Sandakan, Sabah.
1988-1991 Sek. Keb Angkatan Tentera, Johor Bahru, Johor.

Research :

- **Research Member**, for Geran Putra – Isu Semasa UPM 2018 project titled “Electrical and Structural Aspects of Building Safety in UPM”, 1 Mei 2018 – 1 Nov 2018 **(On-Going)**
- **Research Member**, for Exploratory Research Grant Scheme (ERGS) project titled “Assessment of Hybrid Classification Technique in Power Quality Analysis for Renewable Energy Systems”, Project No: ERGS/1-2013/5527141, 1 Jun 2013 – 31 Mei 2016 **(Completed)**
- **Research Member**, for Research University Grant Scheme (RUGS) project titled “Design and Development of Integrated Flexible Dual Power Filters for Reduction of Harmonics”, Project No: 05-03-10-0965RU, Jun 2010 – Jun 2012. **(Completed)**
- **Research Assistant**, for Japan Science and Technology Agency (JST) and Kyoto University Global COE Program project titled “Feasibility Study on Renewable Energy Potential in Asia”, Nov 2011 - March 2012. **(Completed)**
- **Research Assistant**, for E-ScienceFund (MOSTI) project titled “Design and Development of a prototype Variable Frequency Heating Unit for Beverages”, Project No: 03-01-04-SF0566, Dec 2006-Nov 2008. **(Joined from Dec 2006 to Sept 2007) (Completed)**

Consultation :

- **Consultant**, for Uva Provincial Council, Sri Lanka with project titled: “An International Training Program on Modern Trend in Road Sector Planning and Project Management”, October 2017.
- **Consultant**, for University of Moratuwa, Sri Lanka with project titled: “An International Training Program on Study of Technical Education Innovations for Developing Nations”, December 2016.
- **Consultant**, for Ceylon Electricity Board, Sri Lanka, with project titled: “An International Training Program on Modern Trends in Internal Control & Environment of Financial Management through Information Technology for Utility Organizations.” September 2016.
- **Consultant**, for Universiti Pertahanan Nasional Malaysia (UPNM) with project titled “*Penggunaan Makmal Voltan Tinggi dan Aktiviti Pengajaran Makmal*”, 18 – 19 May 2015.
- **Consultant**, for Universiti Pertahanan Nasional Malaysia (UPNM) with project titled “*Penggunaan Makmal Voltan Tinggi dan Aktiviti Pengajaran Makmal*”, 3 – 4 June 2014.
- **Consultant**, for UAT Air Conditioning Sdn. Bhd with project titled “KL Sentral – Preliminary Harmonics Study”, 19 December 2011 – 18 September 2012.

Publications :

Local Conference Proceeding:

- **Mohd Izhwan Muhamad**, Mohd Amran Mohd Radzi, Hashim Hizam, Noor Izzri Abd Wahab, *Optimal Design of Grid-Connected Hybrid Renewable Energy System Based on Biomass and Solar Energy*, The 7th International Conference on Sustainable Agriculture For Food, Energy and Industry In Regional and Global Context (ICSAFEI), 25-27 August 2015, Kuala Lumpur, Malaysia.
- **Mohd Izhwan Muhamad**, Mohd Amran Mohd Radzi, Hashim Hizam, Noor Izzri Abd Wahab, Mohd Fuad Mahmood, *Optimal Design of Hybrid Renewable Energy Systems Based on Solar and Biomass for Halal Products Research Institute, UPM*, 2014 IEEE Innovative Smart Grid Technologies(ISGT) Asia Conference, 20-23 May 2014, Kuala Lumpur, Malaysia. Cited in SCOPUS and IEEE Xplore.
- **Mohd Izhwan Muhamad**, Norman Mariun, Mohd Amran Mohd Radzi, *The Effects of Power Quality to the Industries*, The 5th Student Conference on Research and Development - IEEE_SCOReD 2007, 11-12 December 2007, Bangi, Malaysia. Cited in SCOPUS and IEEE Xplore.

Publications :

Project Reports:

- Mohd Amran Mohd Radzi, **Mohd Izhwan Muhamad**, *Chapter 2: Country Report on Renewable Energy Potential in Malaysia*, Feasibility Study on Renewable Energy Potential in Asia, Under the Special Project Formation Investigation (Young Researcher Team Feasibility Studies) for Science and Technology Research Partnership for Sustainable Development (SATREPS), Sustainable Energy and Environment Forum (SEE Forum), Kyoto University Global COE Program, Energy Science in the Age of Global Warming.

Conference/Journal Reviewer :

Conferences Paper Reviewer:

- 2018 IEEE PES Innovative Smart Grid Technologies (ISGT) Europe Conference, October 21-25, 2018, Sarajevo, Bosnia and Herzegovina.
- 2018 5th International Conference on Electrical Engineering, Computer Science and Informatics (EECSI) October 16-18, 2018, Malang, Indonesia.
- 2018 International Conference and Workshop on Telecommunication, Computing Electronics and Control (ICW-TELKOMNIKA) September 18-21, 2018, Yogyakarta, Indonesia.
- 2017 International Conference on Energy Conservation and Efficiency (ICECE), November 22-23, 2017, Lahore, Pakistan.
- 2017 International Conference on Composite Materials & Renewable Energy Applications (ICCMREA) February 16-17, 2017, London, United Kingdom.
- 2016 International Conference on Control, Electronics, Renewable Energy and Communications (ICCEREC) September 13-15, 2016, Bandung, Indonesia.
- 2015 IEEE PES Asia-Pacific Power and Energy Engineering Conference (APPEEC) November 15-18, 2015, Brisbane, Australia.
- 2014 IEEE International Conference on Power and Energy (PECon) December 1-3, 2014, Kuching, Sarawak, Malaysia.
- 2014 IEEE PES Innovative Smart Grid Technologies (ISGT) Asia Conference, May 20-23, 2014, Kuala Lumpur, Malaysia.

Teaching Experiences :

- **Lab Demonstrator**, EEE 3100 Electrical & Electronic Technology (for non EE students), UPM
- **Lab Demonstrator**, EEE 3902 Electrical & Electronic Laboratory I, UPM
- **Lab Demonstrator**, EEE 3904 Electrical Power Engineering Laboratory, UPM
- **Lab Demonstrator**, EEE 3907 Power System and Machine Laboratory, UPM
- **Tutor**, EEE 3101 Principles of Electrical and Electronics, UPM

Awards:

Excellent Service Award

- Universiti Putra Malaysia **Excellent Service Award** 2017
- Universiti Putra Malaysia **Excellent Service Award** 2016
- Universiti Putra Malaysia **Excellent Service Award** 2013
- Universiti Putra Malaysia **Excellent Service Award** 2012
- Universiti Putra Malaysia **Excellent Service Award** 2011
- Universiti Putra Malaysia **Excellent Service Award** 2008

Exhibition Award

- Silver Medal, PRPI 2007, UPM** Ohmic Heated Pasteurizer (Hishamuddin Jamaludin, Norman Mariun, Hashim Hizam, Nurul Faezawaty Jamaludin, ***Mohd Izhwan Muhamad***)

Management, Profesional, Academic and Other Relevant Appointments:

- April 2018 to now
Coordinator of Credited Co-Curriculum Courses (Academic and Rubric)
Co-Curriculum and Student Development Centre (PKPP), UPM.
- Sept 2016 to now
Special Facilitator (Credited Co-Curriculum Courses),
Co-Curriculum and Student Development Centre (PKPP), UPM.
- Mac 2015 to now
Science Officer (C44),
Department of Electrical & Electronics Engineering,
Faculty of Engineering, UPM
- April 2008 to Feb 2015
Science Officer (C41),
Department of Electrical & Electronics Engineering,
Faculty of Engineering, UPM
- June 2014 to now
Deputy Quality Manager
MS ISO/IEC 17025, Faculty of Engineering, UPM
- Sept 2013 – now
Committee Member,
Faculty Calibration Committee, Faculty of Engineering, UPM
- April 2014 – now
Committee Member,
UPM Cleanroom Committee, Faculty of Engineering, UPM
- June 2009 to May 2012
Deputy Head II,
Quality Assurance Unit, Faculty of Engineering, UPM
- 1 May 2010 to 30 Apr 2012
Researcher,
Housing Research Centre, Faculty of Engineering, UPM
- Oct 2007 to March 2008
Electrical Consultant Engineer,
Emzex Consulting Engineers, Kajang, Selangor.
- Jan 2007 to Sept 2007
Research Assistant,
Department of Electrical & Electronics Engineering,
Faculty of Engineering, UPM
- Dec 2005 to May 2007
Lab Demonstrator for Undergraduate Lab Course,
Department of Electrical & Electronics Engineering,
Faculty of Engineering, UPM
- Jan 2003 to May 2003
Technician 1(Auto Insert Machine Programmer),
- Jun 2001 to Nov 2001
Technician 2(Auto Insert SMT Production),
Sharp Manufacturing Corporation (M) Sdn. Bhd.
Sri Gading, Batu Pahat, Johor.

Administrative Duties:

- **ISO 9001 Quality Management System (QMS) Lead Auditor/Auditor**
 - Lead Auditor for Faculty of Food Sciences and Technology (2018)
 - Lead Auditor for Faculty of Environmental Studies (2017)
 - Lead Auditor for Infocomm Development Centre (IDEC) and Division of Student Affairs and Alumni (2016)
 - Lead Auditor for Institute of Advanced Technology and Institute of Bioscience (2015)
 - Lead Auditor for Faculty of Medicine & Health Sciences (2014)
 - Lead Auditor for Faculty of Agriculture & Food Sciences, UPM Bintulu Campus (2013)
 - Lead Auditor for Kolej Mohamad Rashid (2012)
 - Lead Auditor for Faculty of Veterinary Medicine (2011)

- **ISO 14001 Environmental Management System (EMS) Lead Auditor/Auditor**
 - Lead Auditor for Faculty of Medicine & Health Sciences (2018)
 - Lead Auditor for Faculty of Science (2017)
 - Lead Auditor for Faculty of Medicine & Health Sciences (2016)
 - Head of Internal Auditor for Internal Audit of EMS UPM (2015)
 - Lead Auditor for Faculty of Agriculture & Food Sciences, UPM Bintulu Campus (2013)

- **ISO/IEC 17025 Testing/Calibration Laboratory Accreditation Lead Auditor**
 - Lead Auditor for Institute of Advanced Technology (2017)
 - Lead Auditor for Institute of Halal Products Research (2016)
 - Lead Auditor for Institute of Bioscience (2015)
 - Lead Auditor for Faculty of Food Sciences and Technology (2015)
 - Lead Auditor for Faculty of Medicine & Health Sciences (2015)
 - Lead Auditor for Faculty of Science (2014)
 - Lead Auditor for Faculty of Engineering (2013)

- **Quality Officer**, Department of Electrical & Electronic Engineering, Faculty of Engineering, UPM (1 March 2009 – 2 May 2012)

- **Internal Auditor** 1/2010 for ISO 9001:2008, Faculty of Engineering, UPM (Jun 2010)

- **Internal Auditor** for Postgraduate Studies Scope ISO 9001:2008 Internal Audit, UPM (28 Sept 2009)

- **Internal Auditor** for Research & Commercialization Development Scope ISO 9001:2008 Internal Audit, UPM (19 Ogos 2009)

- **Internal Auditor** 1/2009 for ISO 9001:2008, Faculty of Engineering, UPM (Jun 2009)

Conference/Seminar/Workshop/Short-courses/Speakers/Organising Committee

- **Speaker**, talk on Laboratory Management Practices, Strengthening Laboratory Management Program for Sri Lanka's University, University Community Transformation Centre, UPM, 28 – 29 Jun 2018.
- **Guest Speaker**, Softskills Development for Electrical & Electronic Engineers, All Pakistan Power and Energy Symposium (APPEs) October 2016, UET Lahore, Pakistan.
- **Technical Program Chair** of 2nd IEEE Power and Energy Society (PES) Student Congress 2016 organised by IEEE PES Malaysia Chapter, 14 – 17 August 2016.
- **Speaker**, talk on Cleanroom Safety and Hazards, for One Day Cleanroom Training Program, Faculty of Engineering, UPM, 19 July 2016.
- **Publication Chair and Technical Program Member Committee** of 2014 IEEE International Conference on Power and Energy (PECon) organised by IEEE PES Malaysia Chapter and IEEE PELS Malaysia Chapter, 1-3 Dec 2014
- **Registration Chair and Technical Program Member Committee** of 2014 IEEE Innovative Smart Grid Technologies (ISGT Asia) organised by IEEE PES Malaysia Chapter, 20 – 23 May 2014.
- **Speaker**, *Kursus Pemantapan Juruaudit Dalaman PTJ*, Faculty of Medicine & Health Sciences, 18 April 2014.
- **Speaker**, *Kursus Pemantapan Juruaudit Dalaman PTJ*, UPM Bintulu, 2 March 2013.
- **Member** of Organising Committee of 2009 IEEE Student Conference on Research & Development (SCORED 2009) organised by IEEE UPM Student Branch collaborated with IEEE CAS and IEEE ED Society, November 2009.
- **Member** of Organising Committee of Technical Course – Principles of Industrial Wiring organised by Department of Electrical & Electronic Engineering, Faculty of Engineering, UPM, 25th May 2008.
- **Speaker**, *Kursus Pemantapan Organisasi Majlis Tertinggi Mahasiswa Kolej 17*, Melaka, 2007.

Committee Services

- **Head of Facilitator** for transition process of Environmental Management System (EMS) from ISO 14001:2004 to ISO 14001:2015, Universiti Putra Malaysia, 2018
- **Facilitator** for transition process of Laboratory Accreditation ISO/IEC 17025:2005 to ISO/IEC 17025:2017, Universiti Putra Malaysia, 2018
- **Panel Member**, UPM Evaluation of Laboratory Equipment for Maintenance Budget Allocation Committee, TNCPI Office UPM (2017 - now)
- **Panel Member**, UPM Evaluation of Laboratory Equipment for Calibration Budget Allocation Committee, TNCPI Office UPM (2016 - now)
- **Committee Member**, UPM Cleanroom Committee, UPM (2015 - now)
- **Department's Employee Representative**, OSH Committee, Faculty of Engineering, UPM (2013 - now)
- **Department's Representative**, Calibration Committee, Faculty of Engineering, UPM (2013 - now)
- **Department's Representative**, Utility Saving Committee, Faculty of Engineering, UPM (2017 - now)
- **Executive Committee** of IEEE Power and Energy Society Malaysia Chapter (2012-2015)
- **KEE's Zone Head**, 5S Committee, Faculty of Engineering, UPM (17 Jun 2009 – now)
- **Committee Member**, Program Inovasi & Apresiasi (PIA), Faculty of Engineering, 2017
- **Committee Member**, Hari Q, Faculty of Engineering (4 Ogos 2009)
- **Committee Member**, Faculty Website Committee (3 Nov 2008 – 2012)

Other Responsibilities:

- **Fellow**, Kolej ke-10 (June 2009 – Feb 2012)
- **Fellow**, Kolej ke-17 (Apr 2008 – May 2009)
- **Facilitator**, Putra Success Programme, 17 Sept 2017, CEISED, UPM.
- **Facilitator**, Kursus Starting School ke 12, 25 Sept 2016, CEISED, UPM.
- **Facilitator**, Kursus Starting School ke 11, 13 Sept 2015, CEISED, UPM.
- **Facilitator**, Kursus Starting School ke 10, 28 Sept 2014, CEISED, UPM.
- **Facilitator**, Kursus Starting School ke 9, 22 Sept 2013, CEISED, UPM.
- **Facilitator**, Kursus Starting School ke 8, 30 Sept 2012, CEISED, UPM.
- **Facilitator**, Kursus Starting School ke 7, 2 Okt 2011, CEISED, UPM.
- **Facilitator**, Kursus Starting School ke 5, 18 Julai 2010, Pusat Kokurikulum, UPM.
- **Facilitator**, Kursus Starting School ke 3, 12 Julai 2008, Pusat Kokurikulum, UPM.
- **Facilitator**, Kursus Kokurikulum Berkredit (QKK2101 – Baktisiswa) Semester II Sesi 2015-2016, CEISED, UPM
- **Facilitator**, Kursus Kokurikulum Berkredit (QKK2101 – Baktisiswa) Semester I Sesi 2015-2016, CEISED, UPM
- **Facilitator**, Kursus Kokurikulum Berkredit (QKK2101 – Baktisiswa) Semester II Sesi 2014-2015, CEISED, UPM
- **Facilitator**, Kursus Kokurikulum Berkredit (QKK2101 – Baktisiswa) Semester II Sesi 2011-2012, CEISED, UPM.
- **Facilitator**, Kursus Kokurikulum Berkredit (QKK2101 – Baktisiswa) Semester I Sesi 2011-2012, CEISED, UPM.
- **Facilitator**, Kursus Kokurikulum Berkredit (QKK2101 – Baktisiswa) Semester II Sesi 2010-2011, Pusat Kokurikulum, UPM.
- **Facilitator**, Kursus Kokurikulum Berkredit (QKK2101 – Baktisiswa) Semester I Sesi 2010-2011, Pusat Kokurikulum, UPM.
- **Facilitator**, Kursus Kokurikulum Berkredit (QKK2101 – Baktisiswa) Semester II Sesi 2009-2010, Pusat Kokurikulum, UPM.
- **Facilitator**, Kursus Kokurikulum Berkredit (QKK2101 – Baktisiswa) Semester I Sesi 2009-2010, Pusat Kokurikulum, UPM.

References :

Prof. Ir. Dr. Mohd Zainal Abidin Ab Kadir, SMIEEE

Department of Electrical and Electronics Engineering,
Faculty of Engineering,
University Putra Malaysia.

Assoc. Prof. Dr. Mohd Amran Mohd Radzi , MIEEE

Head,
Department of Electrical and Electronics Engineering,
Faculty of Engineering,
University Putra Malaysia.

Mrs. Noorizai Binti Mohd. Noor

Head of Quality Assurance,
Quality Assurance Division,
Universiti Putra Malaysia,

Mrs Mastura Zakaria

Managing Director,
Emzex (M&E) Consulting Engineers,
B-02-12, Jalan Sri Kenari 12,
Taman Sri Kenari,
43000 Kajang, Selangor.