# Assoc. Prof. Ir. Dr.-Ing. Mohamad Rizza bin Othman PEng CEng MIChemE Dr.-Ing. (TU Berlin) M.Eng. (UTM) B.Eng (UTM)



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h-index (Scopus): 5 | h-index (Google Scholar): 7

Citations (Scopus): 151 | Citations (Google Scholar): 262 | RG score: 15.56

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I am currently an Associate Professor at the Faculty of Chemical & Process Engineering Technology Universiti Malaysia Pahang. I received my B.Eng and M.Eng. in Chemical Engineering from Universiti Teknologi Malaysia and Dr.-Ing. at the Chair of Process Dynamics and Operation (DBtA), Technical University of Berlin, Germany. Currently I am a member of BEM and IChemE UK. I am a certified Professional Engineer (P.Eng) BEM and Chartered Engineer (C.Eng) UK. My main research interest is in the area of process systems engineering (PSE) mainly on sustainability assessment, modelling, simulation, safety analysis and multi criteria decision making. I have published more than 28 papers, participated in more than 40 conferences and 9 exhibitions and been invited to give talks by several national and international organizations and conferences. I was involved in several research & education grants amounting to more than RM 1.6 million and consulting several design projects. I collaborated with several national and multinational organizations and companies such as MPOB, AspenTech, Schlumberger, Sulzer AG, Julius Montz GmbH, BASF-Petronas Chemicals (BPC), Venator Corp, PETRONAS, National University of Singapore and Technische Universität Berlin. In 2019, I founded the Competence Centre for Smart Integration Systems in Process Industries (CC-SISPI). I have more than 15 years' experience using computer aided tools for modeling and simulation works such as Aspen Plus (Certified User), Aspen Dynamics, Symmetry, MATLAB, LaTeX and VB. I am involved in several managerial posts. Currently I am the Deputy Director for Strategic Planning and Quality UMP.

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#### **BACKGROUND**

#### PERSONAL BACKGROUND

• DOB : 24 July 1979

Family status : Married with 5 children
 Tel (h/p) : +6 019 624 1335
 Tel (off) : +6 09 549 2820

## LANGUAGE PROFICIENCY

• Bahasa Malaysia : Native language

English : FluentDeutsch (German) : Basic

#### **EDUCATION BACKGROUND**

- **Dr.-Ing.** (Process Eng.), TU Berlin, Germany. 2011. "Sustainability Assessment and Decision Making in Chemical Process Design"
- M.Eng. (Chem), UTM, Malaysia. 2005. "Development of Advisory Fault Detection and Diagnosis System using Knowledge-Based and Artificial Neural Network"
- B.Eng. (Chem), UTM, Malaysia. 2002

#### WORKING EXPERIENCE

- Assoc. Prof. FTKKP UMP. Malaysia. 2019 present
- Senior Lecturer. FKKSA UMP. Malaysia. 2011 2019
- Researcher. DBtA (Chair of Process Dynamics & Operation), TU Berlin. Germany. 2008-2011
- Lecturer. FKKSA UMP. Malaysia. 2005 2011
- Tutor. FKKSA KUKTEM. Malaysia. 2005
- Research Officer. UTM. Malaysia. 2004 2005
- Assistant Technical Consultant. AMR Environmental Sdn. Bhd. Malaysia. 2001 2002

## **WORKING POSITIONS**

- Deputy Director. Strategic Planning, Control & Quality Unit, Centre of Corporate Affairs & Quality, UMP. October 2019 - present
- Founder and Leader. Competence Centre for Smart Integration Systems in Process Industries (CC-SISPI). 2019 present
- Acting Deputy Dean (Research). FKKSA UMP. April July 2019
- Head. Academic Cluster. FKKSA UMP. 2016 Dec 2019
- Head. Process Systems Engineering Research Group. FKKSA UMP. Nov 2011 Dec 2019
- Head. German Program Initiative. FKKSA UMP. 2016 2017
- Head. Core Value Unit. FKKSA, UMP. 2011 2013
- Research Officer. UTM. 2001 2004.

#### COMMITTEE INVOLVEMENT

- Member. JK Kualiti dan Tadbir Urus (JKKTU). UMP. 2020 present
- Member. JK Perancangan Strategik dan Pengurusan Prestasi. UMP. 2019 present
- Chairman. JK Penyelidikan Fakulti. FTKKP UMP. 2019
- Member. JK Pengurusan Fakulti. FTKKP UMP. 2019
- Member. FKKSA Safety Unit. UMP. 2007

#### PERSONAL AWARDS

- UMP Excellent Employee Award 2019
- UMP Excellent Service Award 2007 & 2015

- SLAI, Malaysian Government Full Scholarship for PhD Study
- UTM-PTP Scholarship for Master Study
- JPA, Malaysian Government Full Scholarship for Undergraduate Study

## RESEARCH & EDUCATION AWARDS

- 1st place for Best Article (Science and Technology Category), Majlis Kualiti dan Inovasi UMP 2019.
- Best Paper 1st ProSES Symposium 2019
- Best Oral Presentation at 4th CONCEPT Conference 2015
- Hadiah Sanjungan for UMP Best Paper Award 2010, 2015, 2016 & 2017
- Gold medal at CITREX 2021. UMP, Malaysia
- Gold medal at CITREX 2018. UMP, Malaysia
- Gold medal at IENA 2017. Nuremberg, Germany
- Silver medal at MTE 2015, Kuala Lumpur, Malaysia
- Silver medal at CITREX 2014. UMP, Malaysia
- Bronze medal at Bangkok Int. Intellectual Property, Invention, Innovation and Tech. Exposition 2020. Bangkok, Thailand
- Bronze medal at MTE 2019. Kuala Lumpur, Malaysia
- Bronze medal at CITREX 2014. UMP, Malaysia

## COMPUTER LITERACY

Туре	Software	Competency level
Documentation software	Microsoft Office (Word, Excel, Powerpoint, Access, Visio)	Very good
Technical software	ASPEN Plus ASPEN Simulation Workbook ASPEN Dynamics MATLAB SuperDecision Symmetry Simulink MOSAIC	Very good Very good Very Good Good Good Intermediate Intermediate Intermediate
Programming	LaTeX Visual Basic SQL Python	Good Intermediate Intermediate Beginner

#### **TEACHING & LEARNING**

#### SUBJECTS TAUGHT

- Advanced Process Modelling and Simulation
- Process Control & Dynamics
- Material & Energy Balance
- Process & Plant Design
- Process Instrumentation & Control
- Process Safety & Loss Prevention
- Process Simulation and Computer Aided Design
- Computer Programming for Engineers

#### UNDERGRADUATE URP AND PD SUPERVISION

- URP students:-
  - Muhammad Taufiq bin Mazlee
  - Nur Fatin Syazwani bt Johar
  - Nazulaika Ab Rahman
  - Khadijah Husna binti Abdul Hamid
  - Widad Najihah bt Adaman
  - Mazmajulianna binti Abdull Rahman
  - Siti Nur Suhadah binti Said
  - Mohammad Firdaus bin Sahda
  - Marina binti Ismail
  - Farah Syahirah binti Yahya
  - Nurul Hafizah binti Sarimon
  - Nur Farhana binti Mhd Razaki
  - Siti Nabihah binti Abdul Latif
  - Nur Mahirah binti Hibrahim
  - Chieng Tiew Hing
  - Siti Faiznur binti Daud
  - Muhammad Hariz bin Muhammad
  - Fathin binti Idros
  - As Eleyana binti Al
  - Mohd Syakirin bin Zulkarnain

## • PD group:-

- Design of Laureth from ethylene oxide 2018
- Design of BTX production from pygas 2017
- Design of gas processing facility (collaboration with GTS PETRONAS) 2016
- Design of a chemical plant for production of ethylene oxide 2015
- Design of a chemical plant for production of methyl ester 2014
- Design of a modular mini plant for production of biodiesel from waste cooking oil 2013
- Design of a chemical plant for production of MMA 2012

## POSTGRADUATE SUPERVISION

## Post-Doctorate

No.	Name	Supervision	Year	Status
1	Dr. Hanida Abdul Aziz	Main	Mac - May 2016	Completed

#### PhD

	No.	Name	Supervision	Year	Status
	1	Norul Malakiah binti Sidek	Main	2018	On-going
Ī	2	Mohd Azimie Bin Ahmad	Со	2013	On-going

### Master

No.	Name	Supervision	Year	Status
1	Rosshila binti Idris	Main	2015-2018	Graduated

2	Umarul Imran bin Amran	Main	2015-2018	Graduated
3	Auni Hamimi binti Idris	Main	2012-2016	Graduated
4	Mohamad Zulkhairi Nordin (UTM)	Со	2013-2015	Graduated
5	Siti Aminah Zakariah (UTM)	Со	2013-2015	Graduated

## Internship and Research Assistant (RA)

No.	Name	Туре	Year	Status
1	Siti Hawa binti Mohamad Ros	RA	Jan - Mac 2016	Completed
2	Umarul Imran bin Amran	RA	Jan - August 2015	Completed
3	Mohd Fuad Abdullah	RA	Mac - August 2015	Completed
4	Markus Illner	Internship Jan - April 2014		Completed

## RESEARCH

## PROJECT SUMMARY

• Total grants (as Leader) since 2012 : 7

• Total amount (as Leader) since 2012 : RM 865,000

• Overall amount (as Member and Leader) since 2012 : RM 1,652,000

## PROJECT DETAILS

No	Project title	Involvement	Grant	RM	Period	Status
1	Competency Centre for Smart Systems Integration in Process Industries (CC-SSIPI)	Leader	MOE	350k	2019-23	On-going
2	Development of DWC pilot plant control system	Leader	UMP	32k	2016-19	On-going
3	Experimental Measurement and Numerical Investigation of Thermophysical Properties of Binary Fuel Oxygenate Mixtures to Reduce Emission from Vehicles for a Greener Environment	Member	MOE FRGS	120k	2016-19	On-going
4	Modelling Rare Earth Element Leaching and Residual Separation Systems	Member	MOE FRGS	100k	2016-19	On-going
5	Development of a reactive distillation column prototype to convert acrylic acid in the petrochemical wastewater to	Member	MOE PRGS	161k	2015-17	Completed

	valuable butyl acrylate through esterification					
6	Transfer of Vacuum Assisted Separation process Knowledge for The Improvement of Thermo-Mechanical Process Using Steam Explosion Unit for the Cellulose production From Oil Palm Frond (OPF)	Member	MOE KTP	141k	2014-16	Completed
7	Task-specific protic ionic liquids as a chelating agent for reservoir stimulator.	Member	UMP RDU	25k	2014-16	Completed
8	Cheaper and More Durable Proton Exchange Membrane.	Member	MOE LRGS	40k	2015-18	Completed
9	Control and Operability Study of Dividing Wall Column (DWC) for Separation of Fatty Alcohol/Acid in Oleochemical Industries.	Leader	MOE FRGS	128k	2014-17	Completed
10	Experimental and modeling studies of a dividing wall column used for the separation of high purity products in biodiesel production.	Leader	MOE ERGS	112k	2013-16	Completed
11	Improving The Efficiency and Energy Saving of Distillation Columns in Malaysian Chemicals Industries Using Nonlinear Model Predictive Control.	Member	MOE ERGS	132k	2013-16	Completed
12	Design and assessment of a F3 (fast, future, flexible) biodiesel plant for recycling of waste cooking oil.	Leader	UMP RDU	28k	2012-14	Completed
13	Degree++ AVEVA PDMS Operator Training for Graduate Employability (GE) Grant under MOHE. Amount (RM 195 000)	Leader	MOE	195k	2012	Completed
14	Real time gas density control based on inferential cascade	Member	МОНЕ	100k	2008-10	Completed

	MSPC systems.					
15	Development of a real-time expert system for operability study analysis on oleochemical plants. Member.	Researcher	MOHE FRGS	-	2001-04	Completed

#### **PATENT**

**1. Mohamad Rizza Othman**, Hanida Abdul Aziz and Rosshila Idris. 2016. "System and Method for Prioritizing HAZOP Analysis using Analytic Hierarchy Process (AHP)". Application submitted.

#### **PUBLICATIONS**

### **Newspaper Articles**

- 1. **M.R. Othman**. 29 October 2019. "Lestarikan pembangunan nadir bumi". Berita Harian. Ms 10. https://www.bharian.com.my/kolumnis/2019/10/622547/lestarikan-pembangunan-nadir-bumi
- **2. M.R. Othman**. 1 February 2020. "Pastikan pembangunan lestari nadir bumi". Berita Harian. http://103.53.35.21/index.php/berita-harian/pastikan-pembangunan-lestari-nadir-bumi
- **3. M.R. Othman**. 3 July 2021. "Pelan pemulihan bersasar realistik imbangi kesihatan, ekonomi". Berita Harian Online.
  - https://www.bharian.com.my/kolumnis/2021/07/834970/pelan-pemulihan-bersasar-realistik-imbangi-kesihatan-ekonomi

## **Technical Reports**

- 1. **M.R. Othman** & A.H.A. Razik. 2021. "Design Report: Senkou Mobile Incineration Unit for Clinical Waste Disposal." UMPT Consultation Report
- 2. **M.R. Othman**. 2019. "Control and Operability Study of Dividing Wall Column (DWC) for Separation of Fatty Alcohol/Acid in Oleochemical Industries." MOHE FRGS Final Report
- 3. **M.R. Othman**. 2019. "Development of a Monitoring and Control System for Operational Study of Dividing Wall Column Pilot Plant." UMP RDU Final Report
- 4. **M.R. Othman**. 2019. "Cheaper and More Durable Proton Exchange Membrane". UMP RDU Final Report
- 5. **M.R. Othman**. 2017. "DWC conceptual study and pilot plant development for improved oleochemical fractionation". CEng IChemE Technical Report
- 6. **M.R. Othman**. 2016. "Experimental and modeling studies of a dividing wall column used for the separation of high purity products in biodiesel production". MOHE ERGS Final Report
- 7. **M.R. Othman**. 2016. "Design and assessment of a F3 (fast, future, flexible) biodiesel plant for recycling of waste cooking oil". UMP RDU Final Report

### Modules / Monograph / Lecture Notes

- 1. **M.R. Othman.** 2019. "Executive Master in Oil & Gas Technology and Management Module: Sustainability in Oil & Gas Design and Operation."
- 2. **M.R. Othman.** 2019. "Executive Bachelor in Chem. Eng. Module: Introduction to Chemical Process Plant."
- 3. **M.R. Othman.** 2017. "Module on Sustainability Assessment and Decision Making in Chemical Industries."
- 4. M.R. Othman. 2013. "Thesis Formatting in LaTeX: An Introduction."

#### Book

1. Mardhiyah Mat Hussin & M.R. Othman, 2019. "Achtung, Achso, Viel Spass: Kembara German"

## **Book Chapters**

1. **M.R. Othman**, J.U. Repke & G. Wozny. 2010. "Incorporating Negative Values in AHP Using Rule-Based Scoring Methodology for Ranking of Sustainable Chemical Process Design Options". Computer Aided Chemical Engineering Book series. Vol. 28, pp. 1045-1050A.

#### **Journals**

## **2016 - 2021**

- N.M. Sidek & M.R. Othman. 2020. "Techno-economic Analysis of Heat Pumping Technology for Oleochemical Fatty Acid Fractionation". Computer Aided Chemical Engineering. Volume 48, 2020, Pages 1075-1080.
- 2. **M.R. Othman**, G.P. Rangaiah. 2020. "Performance Analysis of Dividing Wall Column Model for Oleochemical Fatty Acid Fractionation". Journal of Palm Oil Research. In Press. **IF: 1.564 (Q2)**
- 3. Ibrahim, N.H., Ibrahim, W.H.W., Mimi Sakinah, A.M., Harun, N. and **Othman, M.R.**, 2020. Sensitivity analysis of xylose production process using Aspen Plus. *MS&E*, 736(2), p.022110.
- 4. Sidek, N.M. and **Othman, M.R.**, 2019. A Review of Heat Integration System in Dividing Wall Column for Oleochemicals Separation. *Materials Today: Proceedings*, *19*, pp.1225-1231.
- 5. A. Alias & **M.R. Othman**. 2019. Temperature control of vacuum dividing wall column case study on oleochemical fatty acid fractionation. *IOP Conf. Ser.: Mater. Sci. Eng.* Vol. 702, 012020
- 6. N. M. Sidek & **M.R. Othman**. 2019. Assessment of heat pumping technology in oleochemical fatty acid fractionation. *IOP Conf. Ser.: Mater. Sci. Eng.* Vol. 702, 012012
- 7. **M.R. Othman**. 2019. Fractionation of oleochemical fatty acid using vacuum dividing wall column: a controllability analysis. *IOP Conf. Ser.: Mater. Sci. Eng.* Vol. 702, 012022
- 8. M.R. Deraman,R. A. Rasid, **M.R. Othman** & L.N.M. Suli. 2019. Co-gasification of coal and empty fruit bunch in an entrained flow gasifier: A process simulation study. *IOP Conf. Ser.: Mater. Sci. Eng.* Vol. 702, 012005
- 9. **M.R. Othman**, U.I. Amran, A. Ahmad. 2019. "Environment and Economic Assessment of Hydrogen Production from Methane and Ethanol." Journal of Energy and Safety Technology. Vol. 02(02), pp. 15-32
- 10. R. Idris, N. Harun, **M.R. Othman**. 2018. "A Port-Stream Based Equation Oriented Modelling of Complex Distillation Column: A Dividing Wall Column Case Study". Applied Chemical Engineering. 2(2). doi:10.24294/ace.v2i2.588
- 11. M.A. Ahmad, N. Ismail, **M.R. Othman**. 2017. "Dust Explosion Incidents in Malaysia for Powder Manufacturing Industries". International Journal of Academic Research in Business and Social Sciences. Vol. 7, No. 3, pp. 884-891.
- 12. U.I. Amran, A. Ahmad & M.R. Othman. 2017. "Kinetic Based Simulation of Methane Steam Reforming and Water Gas Shift for Hydrogen Production Using Aspen Plus". Chemical Engineering Transactions. Vol. 56, pp. 1681. IF: 1.03 (Q2)
- 13. U.I. Amran, A. Ahmad & **M.R. Othman**. 2017. "Life Cycle Assessment Of Hydrogen Production By Methane Steam Reforming". Australian Journal of Basic and Applied Sciences. 11(113):43-50.
- 14. R. Idris, C.T. Hing, N. Harun & **M.R. Othman**. 2017. "Development of Equation Oriented Modeling of Advanced Distillation Process Using MOSAIC: RD and DWC Case Study". Australian Journal of Basic and Applied Sciences. 11(113):30-42.
- 15. H. Abdul Aziz & **M.R. Othman**. 2017. "Application of Analytic Hierarchy Process (AHP) in Prioritizing HAZOP Analysis for Pilot Plant". Chemical Engineering Research Bulletin 19, pp 97-95.
- 16. **M.R. Othman,** R. Idris, M.H. Hassim & W.H.W. Ibrahim. 2016. "Prioritizing HAZOP analysis using analytic hierarchy process (AHP)". Clean Technologies and Environmental Policy. Vol. 8(5), pp. 1345-1360 . **IF:2.277 (Q2)**
- 17. A. Idris, G.K. Chua, **M.R Othman**. 2016. "Incorporating Potential Environmental Impact from

Water for Injection in Environmental Assessment of Monoclonal Antibody Production". Chemical Engineering Research and Design. 109, pp.430-442. **IF: 3.230 (Q1)** 

## 2007 - 2015

- 18. **M.R. Othman** & M. Illner. 2015. "Simulation and modelling of a DWC for separation of fatty acid in oleochemical industries". PERINTIS Journal. Vol. 5., No. 1, pp.34 44
- 19. **M.R. Othman**, U.I. Amran & G. P. Rangaiah. 2015. "Process Optimization of DWC for Fatty Acid Fractionation using Taguchi Methods of Experimental Design" Chemical Engineering Transactions. Vol. 45. Pg. 925-930. DOI:10.3303/CET1545155. **IF: 1.03 (Q2)**
- M.Z. Nordin, M.R. Othman & M.K.M. Abd Hamid. 2015. "Application of Sustainable Integrated Process Design and Control for Four Distillation Column Systems". Chemical Engineering Transactions. Vol. 45. Pg. 211. DOI:10.3303/CET1545036. IF: 1.03 (Q2)
- 21. M.Z. Nordin, **M.R. Othman** & M.K.M. Abd Hamid. 2015. "Integrated tool for assessing sustainability index of distillation column systems". Journal of Engineering Science and Technology 07/2015. **INDEXED (Q2)**
- 22. M.Z. Nordin, M.D. Jais, **M.R. Othman** & M.K.M. Abd Hamid. 2015. "Three-dimensional Sustainability Analysis for Integrated Process Design and Control for Separation of Benzene and Toluene Mixture. Proceedings of the International Conference on Global Sustainability and Chemical Engineering (ICGSCE). ISBN 978-981-287-505-1. Pp. 253-261.
- S.A. Zakaria, M.J. Zakaria, M.R. Othman & M.K.M. Abd Hamid. 2015. "3D Sustainability Analysis of Integrated Process Design and Control for Production of Cyclohexanone". Proceedings of the International Conference on Global Sustainability and Chemical Engineering (ICGSCE). ISBN 978-981-287-505-1. Pp. 245-252.
- 24. **M.R. Othman** & S.B. Abdullah. 2013. "AHP based academic performance scoresheet (APS) for holistic assessment of academician achievements". ISAHP 2013 Online Proceedings. ISSN 1556-8296
- 25. **M.R. Othman**, L. Hady, J.U. Repke & G. Wozny. 2012. "Introducing Sustainability Assessment and Selection (SAS) into Chemical Engineering Education". *Education for Chemical Engineers*. Vol. 7 (3), pp e118-e124. **INDEXED (Q2)**
- 26. **M.R. Othman**, J.U. Repke & G. Wozny. 2011. "Selection of Sustainable Chemical Process Design using ANP: A Biodiesel Case Study". ISAHP 2011 Online Proceedings. ISSN 1556-8296
- 27. **M.R. Othman**, J.U. Repke, G. Wozny & Y. Huang. 2010. "A Modular Approach to Sustainability Assessment and Decision Support for Chemical Process Design". *Industrial & Engineering Chemistry Research*. 49 (17), pp. 7870–7881. **IF: 3.14 (Q1)**
- 28. **M.R. Othman**, M.W. Ali & M.Z. Kamsah. 2007. "Hierarchical Diagnostic Strategy for Process Fault Detection Scheme Using Artificial Neural Network". *Jurnal Teknologi*. 46(F), pp. 11–26. **INDEXED (Q3)**

#### **CONFERENCES**

#### <u>2016 - 2021</u>

- 1. **M.R. Othman**. Advancing Oleochemical Fractionation: From Modelling Work to Pilot Plant. Beyond OPTIMIZE 21. September 2021. ORAL
- 2. N. M. Sidek & **M.R. Othman**. 2021. Process optimization of vapour recompression (VRC) column for palm kernel oil fatty (PKO) acid fractionation. 2nd ProSES Symposium. Kuantan, Malaysia. August 2021. Accepted
- 3. **M.R. Othman** & N.M. Sidek. 2021. Outlook Of Advancing Oleochemical Fractionation To Reduce Energy & Evaluate Process Economics Using Aspen Plus. OPTIMIZE 21. 18-20 May 2021. POSTER
- 4. N.M. Sidek & **M.R. Othman**. 2020. Techno-economic Analysis of Heat Pumping Technology for Oleochemical Fatty Acid Fractionation. ESCAPE 30. Milan, Italy. 24-27 May 2020. POSTER
- 5. A. Alias & M.R. Othman. 2019. Inferential Control of Dividing Wall Column for High Product

- Purity Case Study on Oleochemical Fatty Acid Fractionation. 1st ProSES Symposium. Kuantan, Malaysia. 4th September 2019. ORAL. **BEST PRESENTER AWARD**
- N. M. Sidek & M.R. Othman. 2019. Assessment of heat pumping technology in oleochemical fatty acid fractionation. 1st ProSES Symposium. Kuantan, Malaysia. 4th September 2019. ORAL. BEST PAPER AWARD
- 7. **M.R. Othman**. 2019. Fractionation of Oleochemical Fatty Acid using Vacuum Dividing Wall Column: Controllability Analysis. 1st ProSES Symposium. Kuantan, Malaysia. 4th September 2019. ORAL
- 8. M.R. Deraman,R. A. Rasid, **M.R. Othman** & L.N.M. Suli. 2019. Co-gasification of coal and empty fruit bunch in an entrained flow gasifier: A process simulation study. 1st ProSES Symposium. Kuantan, Malaysia. 4th September 2019. ORAL
- 9. N. M. Sidek & **M.R. Othman**. 2018. "A Review of Heat Integration in Dividing Wall Column for Oleochemicals Separation". International Conference on Chemical Sciences and Engineering. Bayview Hotel Melaka, 7-8 November 2018. ORAL
- R. Idris, N. Harun & M.R. Othman. 2017. "A Port-Stream Based Equation Oriented Modelling Of Complex Distillation Column: A Dividing Wall Column Case Study". 6th Conference on Emerging Energy and Process Technology 2017 (CONCEPT 2017). Johor Bahru, Malaysia. 27-28 November 2017. ORAL
- M.R. Othman. 2017. "Application of Dividing Wall Column for Improved Fractionation of Oleochemical Product – from Modelling Work to Pilot Plant". International Palm Oil Congress and Exhibition (PIPOC). 14-16 November 2017. KLCC, Kuala Lumpur, Malaysia. INVITED FOR ORAL
- 12. U.I. Amran, A. Ahmad & **M.R. Othman**. 2016. "Life Cycle Assessment Of Hydrogen Production By Methane Steam Reforming". 3rd International Conference of Chemical Engineering & Industrial Biotechnology (ICCEIB 2016). 28-30 November 2016. Melaka. Malaysia. ORAL
- R. Idris, C.T. Hing, N. Harun & M.R. Othman. 2016. "Development of Equation Oriented Modeling of Advanced Distillation Process Using MOSAIC: RD and DWC Case Study". 3rd International Conference of Chemical Engineering & Industrial Biotechnology (ICCEIB 2016). 28-30 November 2016. Melaka. Malaysia. ORAL
- 14. H. Abdul Aziz & M.R. Othman. 2016. "Application of Analytic Hierarchy Process (AHP) in Prioritizing HAZOP Analysis for Pilot Plant". 3rd International Conference of Chemical Engineering & Industrial Biotechnology (ICCEIB 2016). 28-30 November 2016. Melaka. Malaysia. ORAL
- 15. M.R. Othman. 2016. "Application of Dividing Wall Column for Improved Fractionation of Oleochemical Product". National Seminar on Palm Oil Milling, Refining, Environment and Quality (POMREQ). 29-30 November 2016. The Royale Chulan Hotel, Kuala Lumpur, Malaysia. INVITED FOR ORAL
- U.I. Amran, A. Ahmad & M.R. Othman. 2016. "Kinetic Based Simulation of Methane Steam Reforming and Water Gas Shift for Hydrogen Production using Aspen Plus". 9th. Regional Conference on Chemical Engineering (RCChE 2016). 21 – 22 November 2016. UTM Kuala Lumpur. ORAL

#### 2003 - 2015

- 17. U.I. Amran, A. Ahmad & **M.R. Othman**. 2015. "Kinetic based simulation of methane steam reforming and water gas shift for hydrogen production using Aspen Plus". 4th Conference on Emerging Energy and Process Technology (CONCEPT) 2015. 15-16 December 2015. A' Famosa Resort. Melaka. ORAL
- M.R. Othman & U.I. Amran. 2015. "Feasibility Study of Fractionating Fatty Acid using Dividing Wall Column (DWC): Modelling Approach". 4th Conference on Emerging Energy and Process Technology (CONCEPT) 2015. 15-16 December 2015. A' Famosa Resort. Melaka. ORAL. BEST PRESENTER AWARD.

- 19. R. Idris, M.H. Hassim, W.H.W. Ibrahim, **M.R. Othman**. 2015. "Systematic Prioritization of HAZOP Analysis Using Analytic Hierarchy Process (AHP)". 28th Symposium of Malaysian Chemical Engineers. 21-22 October 2015. Putrajaya, Malaysia. ORAL
- M.R. Othman, U.I. Amran, G.P. Rangaiah. 2015. "Process Optimization of a Dividing-Wall Column (DWC) for Fatty Acid Fractionation using Taguchi Methods of Experimental Design".
   18th Conference Process Integration, Modelling and Optimisation for Energy Saving and Pollution (PRES). 23-27 August 2015. Kuching, Sarawak, Malaysia. ORAL
- 21. M.Z. Nordin, **M.R. Othman**, M. K. Abd. Hamid. 2015. "Application of Sustainable Integrated Process Design and Control for Separation of Benzene Toluene p-Xylene Mixture". 18th Conference Process Integration, Modelling and Optimisation for Energy Saving and Pollution (PRES). 23-27 August 2015. Kuching, Sarawak, Malaysia. ORAL
- 22. C.T. Hing & M.R. Othman. 2014. "Web-based Modelling of Chemical Processes Using MOSAIC : A Reactive Distillation Case Study". 8th Malaysian Technical Universities Conference on Engineering & Technology (MUCET). 10-11 Nov 2014. Melaka, Malaysia. ORAL
- 23. M. Illner & M.R. Othman. 2014. "Simulation and modelling of a DWC for separation of fatty acid in oleochemical industries". 27th Symposium of Malaysian Chemical Engineers (SOMChE). 29-30 October 2014. Kuala Lumpur, Malaysia. ORAL
- 24. S.A. Zakaria, M.J. Zakaria, **M.R. Othman**, M.K.A. Hamid. 2014. "Integrated Tool for Assessing Sustainability Index of Reactor Systems". 27th Symposium of Malaysian Chemical Engineers (SOMChE). 29-30 October 2014. Kuala Lumpur, Malaysia. ORAL
- 25. M.Z. Nordin, M.D. Jais, **M.R. Othman**, M.K. A. Hamid. 2014. "Integrate Tool for Assessing Sustainability Index of Distillation Column Systems". 27th Symposium of Malaysian Chemical Engineers (SOMChE). 29-30 October 2014. Kuala Lumpur, Malaysia. ORAL
- 26. M.A. Ahmad, N. Ismail & M.R. Othman. 2014. "An Overview of Dust Explosion Incidents in Industries and Mitigation Best Practices Within Malaysia". 3rd Scientific Conference on Occupational Safety and Health (SCI-COSH). 14-17 October 2014. Johor Bahru, Malaysia. ORAL
- 27. **M.R. Othman**. 2014. "Innovative Application of Analytic Hierarchy Process (AHP) in Teaching and Learning". Teaching Excellence in Higher Education Seminar (TECHSE). 25-26 August 2014. Kuantan, Malaysia. ORAL
- 28. S.A. Zakaria, M.J. Zakaria, **M.R. Othman** & M.K.M. Abd Hamid. 2014. "3D Sustainability Analysis of Integrated Process Design and Control for Production of Cyclohexanone". International Conference on Global Sustainability and Chemical Engineering (ICGSCE). 20-22 August 2014. Kuala Lumpur, Malaysia. ORAL
- 29. M.Z. Nordin, M.D. Jais, **M.R. Othman** & M.K.M. Abd Hamid. 2014. "Three-dimensional Sustainability Analysis for Integrated Process Design and Control for Separation of Benzene and Toluene Mixture". International Conference on Global Sustainability and Chemical Engineering (ICGSCE). 20-22 August 2014. Kuala Lumpur, Malaysia. ORAL
- 30. A. Idris, G.K. Chua & **M.R. Othman**. 2014. "Environmental Impact Assessment from Energy Consumption of a Large-scale Monoclonal Antibody Production". ICIP. 16-17 August 2014. Kuantan, Malaysia. ORAL
- 31. **M.R. Othman**, S.B. Abdullah, D. Dzulkiflie & F.H. Besar. 2014. "Academician Performance Scoresheet (APS)". Mini Konvensyen KIK. 21 February 2014. UMP, Pahang. ORAL
- 32. **M.R. Othman,** R. Kanthasamy, M.Y.M. Yunus & W.H.W. Ibrahim. 2013. "Introducing priorities in assessment rubric using analytic hierarchy process (AHP)". Teaching Excellence in Higher Education Seminar. 7-8 November 2013. Kuantan, Malaysia. ORAL
- 33. **M.R. Othman,** R. Kanthasamy, M.Y.M. Yunus & W.H.W. Ibrahim. 2013. "Introducing priorities in plant design project assessment rubric using AHP". Process Systems Engineering Asia (PSE Asia). 25-27 June 2013. Kuala Lumpur, Malaysia. POSTER
- 34. **M.R. Othman** & S.B. Abdullah. 2013. "AHP based academic performance scoresheet (APS) for holistic assessment of academician achievements". International Symposium of the Analytic

- Hierarchy Process (ISAHP). 23-26 June 2013. Kuala Lumpur, Malaysia. ORAL
- 35. A.H. Idris, **M.R. Othman** & G.K Chua. 2012. "Systematic methodology for evaluating environmental impact of a biopharmaceutical production: A MABs case study". World Research & Innovation Convention on Engineering & Technology (WRICET). 3-5 December 2012. Kuala Lumpur, Malaysia. ORAL
- 36. **M.R. Othman**, L. Hady, J.U. Repke & G. Wozny. 2011. "Introducing sustainability assessment and decision making into chemical engineering education". 8th European Congress of Chemical Engineering (ECCE). 25-29 September 2011. Berlin, Germany. POSTER
- 37. **M.R. Othman**, J.U. Repke & G. Wozny. 2011. "Selection of Sustainable Chemical Process Design using ANP: A Biodiesel Case Study". International Symposium on the Analytic Hierarchy Process (ISAHP). 15-18 June 2011. Sorrento, Naples, Italy. ORAL
- 38. **M.R. Othman**, J.U. Repke & G. Wozny. 2010. "Incorporating Negative Values in AHP Using Rule-Based Scoring Methodology for Ranking of Sustainable Chemical Process Design Options". 20th European Symposium on Computer Aided Process Engineering (ESCAPE 20). 6-9 June 2010. Ischia, Naples, Italy. ORAL
- 39. **M.R. Othman**, J.U. Repke, G. Wozny & Y. Huang. 2010. "Sustainability Assessment and Decision Making for Sustainable Chemical Process Option". *2nd International Symposium on Sustainable Chemical Product & Process Engineering (ISSCPPE2)*. 9-12 May 2010. Hangzhou, China. ORAL & POSTER
- M.R. Othman, J.U. Repke, G. Wozny & Y. Huang. 2009. "A Modular Approach to Sustainability Assessment & Decision Support in Chemical Process Design". AIChE: 1st International Congress on Sustainability Science & Engineering (ICOSSE). 10-13 August 2009. Cincinnati, Ohio, USA. ORAL
- 41. **M.R. Othman** & M.W. Ali. 2007. "Transient Fault Detection and Diagnosis to Improve Sustainability in a Chemical Process Plant". *1st International Conference on Sustainable Materials (ICOSM07)*. 9-11 June 2007. Penang, Malaysia. ORAL
- 42. **M.R. Othman**, M.Y.M Yunus & M.W. Ali. 2006. "Hybrid Fault Detection and Diagnosis System for a Fatty Acid Fractionation Column as a Case Study". *International Conference on Artificial Intelligence in Engineering and Technology (ICAIET) 2006*. 22nd-24th November 2006. Sabah, Malaysia. ORAL
- 43. **M.R. Othman**, M.W. Ali & M.Z. Kamsah. 2003. "Process Fault Detection and Diagnosis Using Boolean Representation on Fatty Acid Fractionation Column". *International Conference on Chemical and Bioprocess Engineering (ICCBPE)* 2003. 27th-29th August 2003. Sabah, Malaysia. ORAL
- 44. **M.R. Othman**, M.W. Ali & M.Z. Kamsah. 2003. "Advisory Fault Diagnosis System Using Model-Based Approach". *Seminar of Malaysian Chemical Engineer (SOMChE)* 2003. 29th-30th December 2003. Penang, Malaysia. ORAL

#### **EXHIBITION**

#### 2014-2021

- M.R. Othman, Z. Jemaat, C.S. Yee, M.A. Abd Kadir, H.H. Ismail, I. Mohammad & F. Abdullah. 2021. "Intensified Equipment for Producing High Purity MTBE". CITREX. 7 April 2021. UMP, Pahang. GOLD MEDAL
- 2. **N.M. Sidek,** & M.R. Othman. 2020. "Vapour compression assisted fractionation for palm kernel oil (PKO) fatty acid". Bangkok Int. Intellectual Property, Invention, Innovation and Tech. Exposition. 2-6 February 2020. Bangkok, Thailand. **BRONZE MEDAL**
- 3. **M.R. Othman**, N. Harun, & S. Mohammad. 2019. "Dividing Wall Distillation Column (DWDC): Future Prospect for the Oleochemical Industry". MTE. 21-23 February 2019. PWTC, Kuala Lumpur, Malaysia. **BRONZE MEDAL**
- 4. **M.R. Othman**, N. Harun, W.H. Wan Ibrahim, R. Idris & U.I. Amran. 2018. "Application of DWC as a Sustainable Solution for the Malaysia Oleochemical Industry: From Modelling Work to Pilot

- Plant Development". CITREX. 7-8 February 2018. UMP, Pahang. GOLD MEDAL
- 5. N. Ismail, M.A. Ahmad & **M.R. Othman**. 2017. "Dust Explosion Database Equipped with dust Explosion Calculator". IENA. 2-5 November 2017, Nuremberg, Germany. **GOLD MEDAL**
- 6. **M.R. Othman**, S.B. Abdullah, D. Dzulkiflie & F.H. Besar. 2015. "E-APS: E Management Systems for Assessing Academician Performance". MTE. 12-14 February 2015. PWTC, Kuala Lumpur, Malaysia. **SILVER MEDAL**
- 7. **M.R. Othman**. 2014. "Innovative Application of Analytic Hierarchy Process (AHP) in Teaching and Learning". Innovative Practices in Higher Education Expo 2014 (I-PHEX 2014). 20-23 May 2014. UTM, Johor.
- 8. **M.R. Othman**, S.B. Abdullah, D. Dzulkiflie & F.H. Besar. 2014. "Academician Performance Scoresheet (APS)". CITREX. 7 March 2014. UMP, Pahang. **SILVER MEDAL**
- 9. M.A. Ahmad, N. Ismail & **M.R. Othman**. 2014. "Best practices to overcome dust explosion incidents in industry". CITREX. 7 March 2014. UMP, Pahang. **BRONZE MEDAL**

#### **PROFESSIONAL WORKS**

#### **MEMBERSHIPS**

- **Professional Engineer (Ir.)**. Board of Engineers Malaysia (BEM). Reg. no. P120747. Since 2019
- Chartered Engineer (CEng). Engineering Council UK. Reg. no. 651575. Since 2018
- Member. Institute of Chemical Engineers (IChemE). Reg. no. 99964060. Since 2018
- Member. Persatuan Saintis Muslim (PERINTIS)
- Member. Akademia IKRAM
- Graduate Member. Malaysia Board of Technologists (MBOT). Reg. no. GT20060297
- Graduate Member. Board of Engineers Malaysia (BEM) Reg. no. GE 47867

## EDITORIAL TASKS

• Associate Editor. International Journal of Advances in Applied Sciences. 2020 - now

#### **REVIEWER**

- Thesis:
  - o PhD 1
  - Masters / Dissertation 5 / 3 = 8
- Journals/Proceedings (Total manuscripts: 16):
  - Journal of Chemical Engineering and Industrial Biotechnology
  - Journal of Loss Prevention in the Process Industries
  - Journal of Energy and Safety Technology
  - Journal of CO2 Utilization
  - International Journal of Engineering Technology and Sciences
  - Clean Technologies and Environmental Policy
  - Chemical Engineering Science
  - Chemical Engineering Research & Design
  - o International Journal of Management Science & Engineering Management
  - International Journal of Chemical Engineering
  - Journal of Industrial Ecology
  - Process Safety and Environmental Protection
  - o Industrial & Engineering Chemistry Research
  - Jurnal Teknologi
  - o Frontiers of Chemical Science and Engineering
  - Journal of Separation Science

- International Journal of Artificial Intelligence
- Materials Today: Proceedings
- o IOP Conference Series: Material Science Engineering

### Book chapters:

- Multi-Objective Optimization: Developments and Prospects for Chemical Engineering. 2012.
   Edited by G.P. Rangaiah and A. Bonilla-Petriciolet.
- Advances in Process Systems Engineering. 2015. Edited by Nor Alafiza & Zarina Ab Muis.

## Conferences (Total: 17):

- o 1st ProSES Symposium. Kuantan, Malaysia. 4th September 2019
- 4th International Conference on Low Carbon Asia and Beyond, Johor Bahru, Malaysia, 24 26 October 2018
- 4th International Conference on Chemical Engineering & Industrial Biotechnology (ICCEIB),
   Kuala Lumpur, Malaysia, 1-2 August 2018
- 3rd International Conference on Chemical Engineering & Industrial Biotechnology (ICCEIB),
   Melaka, Malaysia, 28 30 November 2016
- Colloquium on Process Control (CPC), Melaka, Malaysia, 28 30 November 2016
- The 9th Regional Conference on Chemical Engineering (RCChE), Kuala Lumpur, MAlaysia,
   21 22 November 2016
- Regional Symposium On Chemical Engineering (RSCE), Bangkok, Thailand, 24 25
   September 2015
- 6th International Symposium on Process Systems Engineering (PSE Asia), Kuala Lumpur, Malaysia, 25 - 27 June 2013
- International Symposium on the Analytic Hierarchy Process (ISAHP), Kuala Lumpur, Malaysia, June 23 - 26, 2013

#### JUDGE

 International Palm Oil Congress and Exhibition (PIPOC). 14-16 November 2017. KLCC, Kuala Lumpur, Malaysia.

## CONSULTATIONS

No.	Title	Client	Year	Involvement	Status
1	Hydrogenolysis of Biomass Hydrolysates - Lignin Recovery from the Biomass Pre-treatment and Product Purification Service	PETRONAS Research Sdn. Bhd.	2021	Member	On-going
2	Project Management & Development Work for Clinical Waste Incinerator APC System	Saga Asuka Sdn. Bhd.	2021	Leader	On-going
3	Consultation For the Appeal For Revision Of The Eia Approval Conditions For Inclusion Of Mobile Incinerators For Temporary Use At Clinwaste (M) Sdn Bhd Facility At Teluk Panglima Garang, Selangor Darul Ehsan	Saga Asuka Sdn. Bhd.	2021	Leader	Completed

4	Design of an integrated pilot plant training unit.	Gadang Sdn. Bhd.	2017	Leader	Completed
5	Design of a pilot plant training unit.	Gadang Sdn. Bhd.	2017	Leader	Completed
6	Development of ATMS system	FIST, UMP	2017	Leader	Completed
7	Design of an integrated pilot plant training unit.	DeW Sdn. Bhd.	2013	Leader	Completed
8	Propose PFD and P&ID for distillation column training unit.	DeW Sdn. Bhd.	2013	Leader	Completed
9	Preparation of a business proposal for production of jasmine oil.	Kala Florist Sdn. Bhd.	2012-13	Leader	Completed
10	Development of a novel academician performance assessment.	FKKSA, UMP	2012-14	Leader	Completed
11	Development of an UMP thesis writing using LaTeX.  Develop LaTeX preamble file for UMP thesis format.	IPS, UMP	2012-13	Leader	Completed

#### MOU/MOA/NDA PROJECTS

- Leader. MOA between Aspentech-UMP. 2021
- Leader. LOI between UMP-bSURE
- Leader. LOI between UMP-MONTZ
- Leader. MOU between UMP-AVEVA
- Member. NDA (Non disclosure agreement). UMP-PERWAJA. 2012

### TRAINING/COURSE CONDUCTED

- Lead trainer. Half Day Internal Workshop on Heat Exchanger Design using Aspen Plus and Aspen EDR. 11 December 2020. UMP
- Lead trainer. Half Day Course on Aspen Plus for IEM Student Chapter. 30 November 2019.
   UMP
- Lead trainer. Half Day Course on Aspen Plus for AIChE Student Chapter. 19 October 2018.
   UMP
- **Trainer**. 2-Days course on Process Dynamic and Control for BASF-TORAY. 10-11 October 2018. UMP
- Lead trainer. 1-Day Course on Introduction to LaTeX. UMP
- Member. Degree++ BOSET Certification for Graduate Employability (GE) Grant under MOHE
- Lead organizer. Half-Day course on Process Modeling using MOSAIC. UMP
- Lead organizer. Degree++ AVEVA PDMS Operator Training for Graduate Employability (GE) Grant under MOHE
- Lead organizer. 1-Day Course on Process Modeling and Optimization. UMP
- Lead trainer. 1-Day Course on Aspen Plus for Undergraduate Students. UMP
- Lead trainer. 1-Day Course on Sustainability Assessment & Decision Making. TU Berlin

#### TRAINING/COURSES ATTENDED

Working at Height (WAH) Certification Training. NIOSH. Kemaman. 21-22 November 2016.

- i-CON Workshop. UMP. 2015
- Travel Safely by Boat/Boat Transfer & Swing Rope. TSTC. Kemaman. 2014
- Tropical Basic Offshore Safety Induction & Emergency Training with EBS. TSTC. Kemaman. 2014
- Course of Postgraduate Supervision. UMP. 2013
- Design of Experiments with Design Experts. UMP
- Documentation Workshop for Certification OHSAS 18001:1999. KUKTEM
- Emergency Response Plan. KUKTEM
- Control Industrial Major Accident Hazard Training. KUKTEM
- Incident & Accident Investigation Training. KUKTEM
- Safety & Health Committee Training. KUKTEM
- Advanced Process Control the enabler for superior performing assets. UTP
- Designing Courses for Outcome-Based Education. UTM.

#### PROFESSIONAL CERTIFICATION

- Aspen Plus Certified User. 2020
- Working at Height (WAH) Certificate. 2016
- Travel Safely by Boat/Boat Transfer & Swing Rope Certificate. 2014
- Tropical Basic Offshore Safety Induction & Emergency Training with EBS Certificate. 2014

#### INTERNATIONAL COLLABORATIONS

- Aspen Technology, Inc.
- SULZER AG
- JULIUS MONTZ GmbH
- Undergraduate research project with Department of Chemical & Biomolecular Engineering, NUS on Sustainability in Chemical Engineering Education
- DBTA, Technische Universität Berlin. Germany

## INTERNATIONAL/NATIONAL EVENT INVOLVEMENT

- Chairman. 1st ProSES Symposium, Kuantan, Malaysia, 4th September 2019
- Chairman. Malaysia Process Control Seminar (MPCS), Gambang, Malaysia, 5th December 2018
- Technical committee. 4th International Conference on Low Carbon Asia & Beyond (ICLCA 18)
- Organizing committee. 3rd International Conference on Chemical Engineering & Industrial Biotechnology (ICCEIB), Melaka, Malaysia, 28 30 November 2016
- Organizing committee. Colloquium on Process Control (CPC), Melaka, Malaysia, 28 30th November 2016
- **Scientific committee**. The 9th Regional Conference on Chemical Engineering (RCChE), Kuala Lumpur, Malaysia, 21 22nd November 2016
- **Scientific committee**. Regional Symposium On Chemical Engineering (RSCE), Bangkok, Thailand, 24 25th September 2015
- **Scientific committee**. 6th International Symposium on Process Systems Engineering (PSE Asia), Kuala Lumpur, Malaysia, 25 27th June 2013
- **Organizing committee**. International Symposium on the Analytic Hierarchy Process (ISAHP), Kuala Lumpur, Malaysia, 23 26th June 2013

## SPONSORSHIPS

- DBtA sponsorship to ECCE '11 (Berlin), ISAHP '11 (Sorrento), SCPPE2 '10 (Hangzhou), ICOSSE '09 (Cincinnati)
- UMP-TPLN sponsorship to ISAHP '11 (Sorrento), ICOSSE '09 (Cincinnati)

#### INVITED ORAL PRESENTATION

- Sharing Session: Professional Engineer Application from CEng to Ir. KK UMP. 20 Sept 2021
- System Development for Final Year Project. FTKKP UMP. 6 Sept 2021.
- Introduction to UMP LaTeX Template. IPS UMP. 7 April 2021
- Introduction to UMP LaTeX Template. IPS UMP. Okt 2020
- POPSIG IChemE Seminar. 11 January 2019
- PIPOC 2017
- POMREQ 2016
- SM Integrasi Kuantan. 8 April 2013
- Research Methodology for MOHE PhD scholars. EDC-UUM. 25-27 March 2013
- Department of Chemical & Biomolecular Engineering, NUS, 19 January 2012, Singapore
- PSEEG UMP Colloquium
- DBtA Seminar. TU Berlin. Germany
- Core value program FKKSA and JPPH

#### SOCIAL/VOLUNTARY WORK

- Member. Board of Directors Tadika Permata Hidayah. 2018 present
- Committee member. JK IKRAM Pahang. 2013 present
- Active member. IKRAM Negeri Pahang. 2013 present
- Committee member. IKRAM Akademia. 2018 2020
- Yang Dipertua. Pertubuhan IKRAM Kawasan Kuantan. 2018 2020
- Chairman. Board of Directors SRI Al-Amin Paya Besar. 2013 2018
- Pengerusi Tetap. Pertubuhan GEMA Kuantan. 2013
- Chairman. Protem Committee SRI Al-Amin Paya Besar. 2012