Table of Contents



[BIODATA 3](#_Toc88646136)

[Personal Information 3](#_Toc88646137)

[Order of Chivalry: 3](#_Toc88646138)

[Fellow of The World Academy of Science (TWAS): 3](#_Toc88646139)

[Fellow of Academy of Science Malaysia: 3](#_Toc88646140)

[Academic Qualifications: 3](#_Toc88646141)

[Professional Qualification: 3](#_Toc88646142)

[Academic Career: 4](#_Toc88646143)

[AWARDS AND RECOGNITION: 4](#_Toc88646144)

[International Awards 4](#_Toc88646145)

[List of International Awards 5](#_Toc88646146)

[National Awards 6](#_Toc88646147)

[**List of National Awards** 7](#_Toc88646148)

[UKM Awards 9](#_Toc88646149)

[Keynote and Invited Lectures 10](#_Toc88646150)

[International Keynote Lectures 10](#_Toc88646151)

[National Keynote Lectures 14](#_Toc88646152)

[Membership of International Committees 16](#_Toc88646153)

[Member of Editorial Board/Referee/Reviewer of International Journals 16](#_Toc88646154)

[External Examiner of Program/Department/Faculty, Assessor for accreditation Bodies & External Examinar of Phd & MSc Thesis 17](#_Toc88646155)

[External Examiner of Academic Program 17](#_Toc88646156)

[Member of Evaluation Panel for Board of Engineers Malaysia 17](#_Toc88646157)

[Member Evaluation Panel for National Accreditation Board 17](#_Toc88646158)

[Member Evaluation Panel for Engineering Accreditation Council 18](#_Toc88646159)

[External Examiner of Thesis 18](#_Toc88646160)

[List of PhD Thesis Examined as External Examiner 18](#_Toc88646161)

[List of MSc Thesis Examined as External Examiner 19](#_Toc88646162)

[Appointment of Adjunct/Visiting Professor and Academic Assessor/Advisor 20](#_Toc88646163)

[Appointment of Adjunct Professor 20](#_Toc88646164)

[Appointment of Visiting Professor 20](#_Toc88646165)

[Appointment of Academic Assessor/Advisor 21](#_Toc88646166)

[Appointment of Company Associate 21](#_Toc88646167)

[RESEARCH 21](#_Toc88646168)

[Fields of Research: 21](#_Toc88646169)

[List of Research Projects: 21](#_Toc88646170)

[**International Projects** 21](#_Toc88646171)

[**Company Collaboration Projects** 22](#_Toc88646172)

[**National and UKM Research Grants** 22](#_Toc88646173)

[Research Collaboration 26](#_Toc88646174)

[**International Research Collaboration** 26](#_Toc88646175)

[**National Research Collaboration** 27](#_Toc88646176)

[Intellectual Property 28](#_Toc88646177)

[**List of Patents Granted** 28](#_Toc88646178)

[**List of Filed Patents at MyIPO** 29](#_Toc88646179)

[**Trademark** 32](#_Toc88646180)

[PUBLICATION: 32](#_Toc88646181)

[H-indices and Citation Data 32](#_Toc88646182)

[Publication Summary: 32](#_Toc88646183)

[Articles in International Journals: 33](#_Toc88646184)

[Articles in Proceedings of International Conferences 58](#_Toc88646185)

[Articles in Proceedings of National Conferences 88](#_Toc88646186)

[General Articles 107](#_Toc88646187)

[Books 108](#_Toc88646188)

[International Books 108](#_Toc88646189)

[**International Research Books** 108](#_Toc88646190)

[**Chapters in International Research Books** 108](#_Toc88646191)

[**Editing of International Conference Proceedings** 109](#_Toc88646192)

[National Books 109](#_Toc88646193)

[**National Research Books** 109](#_Toc88646194)

[**Chapters in National Research Books** 109](#_Toc88646195)

[**National Text Book** 110](#_Toc88646196)

[**Translated Books** 110](#_Toc88646197)

[**Editing of International Journals** 110](#_Toc88646198)

[**Editing of National Journals** 110](#_Toc88646199)

[**Editing of National Conference Proceedings** 111](#_Toc88646200)

[TEACHING AND SUPERVISION 111](#_Toc88646201)

[Teaching 111](#_Toc88646202)

[Post-Graduate Teaching 111](#_Toc88646203)

[**Under-Graduate Teaching** 111](#_Toc88646204)

[Supervision of Doctor of Philosophy & Master of Science Students 112](#_Toc88646205)

[**Summary of Supervision of Students** 112](#_Toc88646206)

[**List of PhD Students** 112](#_Toc88646207)

[**List of MSc Students’ Thesis** 117](#_Toc88646208)

[**List of Undergraduate Students’ Thesis** 121](#_Toc88646209)

[PUBLIC SERVICE 125](#_Toc88646210)

[Administrative Appointment in UKM: 125](#_Toc88646211)

[Membership of International Academic and Professional Societies 125](#_Toc88646212)

[Leadership in International Academic and Professional Societies 126](#_Toc88646213)

[Membership in National Academic and Professional Societies 126](#_Toc88646214)

[Leadership in National Academic and Professional Societies 126](#_Toc88646215)

[Membership in National Committees 127](#_Toc88646216)

[Leadership in National Committees 127](#_Toc88646217)

[CHEMICAL ENGINEERING CONSULTING WORK 127](#_Toc88646218)

[Quantitative Risk Assessment 127](#_Toc88646219)

[Environmental Impact Assessment 132](#_Toc88646220)

[Chemical Engineering Design 132](#_Toc88646221)

A person wearing glasses

Description automatically generated with low confidenceCURRICULUM VITAE

# BIODATA

## Personal Information

**Name:**  PROF. DATO’ IR. DR. WAN RAMLI BIN WAN DAUD

**Date of Birth**: 27TH December 1955

**Designation:** Founding Director, Fuel Cell Institute UKM (2007-2013)  
Professor of Chemical Engineering (1996-2019)  
UKM-Petronas Professor of Sustainable Hydrogen Energy (2019-2021)

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## Order of Chivalry:

* + Darjah Setia Pangkuan Negeri (D.S.P.N.) which carries the title Dato’ from the Pulau Pinang State Government, Malaysia conferred on 28 August 2013.

## Fellow of The World Academy of Science (TWAS):

* + Elected Fellow of The World Academy of Science, Trieste Italy on 1 November 2021.

## Fellow of Academy of Science Malaysia:

* + Elected Fellow of Academy of Science, Malaysia on 27 April 2012.

## Academic Qualifications:

* + BEng (First Class Honours), University of Monash, Victoria, Australia in Chemical Engineering 1978
  + PhD, University of Cambridge, United Kingdom in Chemical Engineering 1984

## Professional Qualification:

* + Professional Engineer (Chemical Engineering), Board of Engineers Malaysia (Registration No.: 8561) (1996-2015)
  + Professional Engineer with Practicing Certificate (Chemical Engineering), Board of Engineers Malaysia (Registration No.: C18561) (2015-now)
  + Chartered Chemical Engineer, Institution of Chemical Engineers, United Kingdom and The Engineering Council, United Kingdom (Registration No. 564829) (2007-now)

## Academic Career:

* + Tutor, Department of Chemical Technology, Faculty of Physical and Applied Sciences, Universiti Kebangsaan Malaysia (1979-1984)
  + Lecturer, Department of Chemical & Process Engineering, Faculty of Engineering, Universiti Kebangsaan Malaysia (1984-1989)
  + Head, Department of Chemical & Process Engineering, Universiti Kebangsaan Malaysia (1984–1988)
  + Associate Professor, Department of Chemical & Process Engineering, Faculty of Engineering, Universiti Kebangsaan Malaysia (1989-1996)
  + Deputy Dean, Faculty of Engineering, Universiti Kebangsaan Malaysia (1990–1993), (1995–1998)
  + Professor of Chemical Engineering, Department of Chemical & Process Engineering, Faculty of Engineering, Universiti Kebangsaan Malaysia (1996-2019)
  + Member of Senate, Universiti Kebangsaan Malaysia (1998–2004, 2014-2020).
  + Chief Editor, Jurnal Kejuruteraan, The Journal of the Faculty of Engineering, UKM (1999–2004).
  + Coordinator, MEng (ChemicaL Engineering) by course work, Department of Chemical & Process Engineering, Faculty of Engineering, Universiti Kebangsaan Malaysia (2000-2006).
  + Founding Director, Fuel Cell Institute, Universiti Kebangsaan Malaysia (2007-2013)
  + UKM-Petronas Professor of Sustainable Hydrogen Energy, Fuel Cell Institute, Universiti Kebangsaan Malaysia (2019-2021)

# AWARDS AND RECOGNITION:

## International Awards

* Elected Fellow of The World Academy of Science, Trieste Italy on 1 November 2021.
* Listed by Clarivate Analytics in the World’s Most Influential Scientific Mind 2017, 2018, 2019, 2020 & 2021.representing the top 1 % of World scientists
* Won Highly Cited Researcher Awards 2017, 2018, 2019, 2020 & 2021 by Clarivate Analytics
* Listed by Thomson Reuters in the World’s Most Influential Scientific Mind 2015 & 2016 representing the top 1 % of World scientists.
* Won Highly Cited Researcher Awards 2015 & 2016 by Thomson Reuters
* Won Award for Excellence in Research in Drying of Agricultural Products and Outstanding Contribution to the Development of Drying Technology 2011
* Won Outstanding Contribution to the Drying Community Award 2009
* Won IChemE Highly Commended Shell Energy Award 2008
* Won 2 gold medals in Brussels 2007 and 2 gold medals in Geneva 2001 and 2005 respectivley
* Won ASEAN Energy Awards in Singapore 2007 and in Phnom Penh 2005 respectivley
* Won 2 silver medals in Brussels 2007 and 2 silver medals in Geneva 2001 and 2005
* Won 2 bronze medals ini Brussels 2007
* Won special award of Environmental Protection Society of Switzerland in 2001 dan special award of the Union of Innovators Croatia 2005.

## List of International Awards

1. Fellow of The World Academy of Science, Trieste Italy on 1 November 2021
2. The World’s Most Influential Scientific Mind 2021 by Clarivate Analytics representing the top 1 % of World scientists
3. Highly Cited Researcher Award 2021 by Clarivate Analytics
4. The World’s Most Influential Scientific Mind 2020 by Clarivate Analytics representing the top 1 % of World scientists
5. Highly Cited Researcher Award 2020 by Clarivate Analytics
6. The World’s Most Influential Scientific Mind 2019 by Clarivate Analytics representing the top 1 % of World scientists
7. Highly Cited Researcher Award 2019 by Clarivate Analytics
8. The World’s Most Influential Scientific Mind 2018 by Clarivate Analytics representing the top 1 % of World scientists.
9. Highly Cited Researcher Award 2018 by Clarivate Analytics
10. The World’s Most Influential Scientific Mind 2017 by Clarivate Analytics representing the top 1 % of World scientists.
11. Highly Cited Researcher Award 2017 by Clarivate Analytics
12. The World’s Most Influential Scientific Mind 2016 by Thomson Reuters representing the top 1 % of World scientists.
13. Highly Cited Researcher Award 2016 by Thomson Reuters
14. The World’s Most Influential Scientific Mind 2015 by Thomson Reuters representing the top 1 % of World scientists
15. Highly Cited Researcher Award 2015 by Thomson Reuters
16. Award for Excellence in Research in Drying of Agricultural Products and Outstanding Contribution to the Development of Drying Technology 2011 at The International Symposium of Processing and Drying of Foods, Vegetables and Fruits 11-12 April 2011
17. Outstanding Contribution to the Drying Community Award 2009 at the 6th Asia-Pacxific Drying Confernce (ADC 2009), 19-21 October 2009, Bangkok, Thailand
18. IChemE Highly Commended Shell Energy Award 2008 for LESTARI 5000 Innovative Fuel Cell Portable Power Generator. 29 October 2008, Hilton Metropole Hotel, NEC, Birmingham, UK.
19. Gold medal for inventing LESTARI 5000™ Fuel Cell Power Generator, World Exhibition Of Innovation, Research And New Technologies, Brussels, Belgium, 2007.
20. Gold medal for inventing Solar Wind Hybrid Hydrogen Energy Production System For Remote Islands, World Exhibition Of Innovation, Research And New Technologies, Brussels, Belgium, 2007.
21. Silver medal for inventing Solar Hydrogen Eco House, World Exhibition Of Innovation, Research And New Technologies, Brussels, Belgium, 2007
22. Silver medal for inventing Compact Pressure Swing Adsorption System for Hydrogen Purification di PEMFC System, World Exhibition Of Innovation, Research And New Technologies, Brussels, Belgium, 2007
23. Bronze medal for inventing Continuous Solar Assisted Drying System For Herbs, World Exhibition Of Innovation, Research And New Technologies, Brussels, Belgium, 2007
24. Bronze medal for inventing Multi-Functional Cu-Zn-Al/ZSM-5 Catalyst for Hydrogen Production, World Exhibition Of Innovation, Research And New Technologies, Brussels, Belgium, 2007
25. ASEAN Energy Awards for inventing Small Scale Portable Power Fuel CelI SuitabIe for Building, Special Submission Category of the Energy Efficiency and Conservation Best Practices Competition, for Energy Efficient BuiIdinp 2007.
26. Silver medal for inventing SERINDIT II: Zero Emission Vehicle, 34th Salon International Des Inventions Geneve, 2006
27. Special Award Union des Innovateurs de la Croatie for inventing SERINDIT II: Zero Emission Vehicle, 34th Salon International Des Inventions Geneve, 2006
28. Gold medal for inventing a solar dehumidification system for drying of medicinal herbs, 33rd Salon International Des Inventions Geneve, 2005
29. Silver medal for inventing catalysts for hydrogen production from methanol, 33rd Salon International Des Inventions Geneve, 2005
30. ASEAN energy award for inventing Solar Hydrogen Eco-House in Phnom Phen, Cambodia, 2005.
31. Gold medal for inventing a very efficient solar dryer, 29th Salon International Des Inventions Geneve, 2001.
32. Jury award for inventing a very efficient solar dryer, 29th Salon International Des Inventions Geneve, 2001.
33. Environmental award Swiss Society for the Protection of the Environment for inventing a very efficient solar dryer, Salon International Des Inventions Geneve 2001.
34. Best Design Prize for Universities in Victoria, Australia, Institution of Chemical Engineers, UK, Victoria Branch, 1978.
35. Shell award for best student, Monash University, 1976
36. Aluminium Council award for best student, Monash University, 1976
37. Best Student Award dalam Leaving and Matriculation Examinations 1974, Leederville Technical College, Leederville, Western Australia

## National Awards

* Won the Anugerah Tokoh Akademik Bahasa Melayu 2020.
* Won the Merdeka Award 2016 for Oustanding Scholastic Achievement in Research and Development of Fuel Cells and Hydrogen Energy in Malaysia and the region.
* Elected Fellow of Academy of Science Malaysia 2012.
* Won 1 gold medal and Best of the Best Award at PENCIPTA2013, 1 gold medal at ITEX 2010, 2 gold medals at ITEX 2009, 1 gold medal at MTE 2007, 1 gold medal at ITEX 2006, 1 gold medal at ITEX 2005, 2 gold medals at IPTA 2005 and 1 gold medal at ITEX 2000.
* Won 1 silver medal at MTE20009, 2 silver medals at MTE 2007, 1 silver medal at MTE 2006, 5 silver medal at ITEX 2005, 2 silver medals at IPTA 2005 and 1 silver medal at EXPO S&T 2004
* Won 2 bronze medals at MTE 2009, 3 bronze medals at MTE 2006, 3 bronze medals at ITEX 2005, 1 bronze medal at PencIPTA 2005, 7 bronze medals at EXPO S&T 2004 and 1 bronze medal at ITEX 2003
* Won Anugerah Saintis Cemerlang 2005, The Henry Goh award at ITEX 2000 and the MBf-Persatuan Penterjemah Malaysia Best Translated Book Award in Science & Technology for 1994 for translation of Chemical Engineering: Introduction to Design by R. K. Sinnot in 1994.

**List of National Awards**

1. The Anugerah Tokoh Akademik Bahasa Melayu 2020 kerana memartabatkan Bahasa Melayu sebagai bahasa ilmu.
2. The Merdeka Award 2016 for Oustanding Scholastic Achievement in Research and Development of Fuel Cells and Hydrogen Energy in Malaysia and the region.
3. Gold Medal and the Best of the Best Award at the PENCIPTA 2013 exhibition for inventing the Fuel Cell Hydrogen Car on 7-9 November 2013
4. Fellow of Academy of Science Malaysia on 27th April 2012
5. Gold medal for inventing Direct Methanol Fuel Cell As Hydbrid Mobile Phone Charger, 21st ITEX 2010, 14-16 May 2010.
6. Silver medal for inventing Direct Methanol Fuel Cell As Renewable Energy Power Resources For Small Portable Application, 9th malaysia technology expo 2010, 4-6 february 2010.
7. Silver medal for Inventing Electrocoagulation System For Hydrogen Production And Palm Oil Mill Effluent Treatment, 9th MTE 2010, 4-6 February 2010
8. Silver medal for inventing MEA Fabrication For Fuel Cell Using Casting Technique, 9th MTE 2010, 4-6 February 2010
9. Gold medal for inventing DMFC for hybrid handphone charger, 21st ITEX 2010, 14-16 May 2010
10. Gold medal for inventing Industrial Wastewater As A Fuel For Power Generation Using A Biological Fuel Cell, ITEX 2009.
11. Gold medal for inventing Renewable Hydrogen Production Using Waste Aluminium, ITEX 2009.
12. Silver medal for inventing μDMFC: An Alternative Power Source for Hand Phone, MTE 20009.
13. Bronze medal for inventing Prototype Microbial Fuel Cell For Power Generation, MTE 2009.
14. Bronze medal for inventing Hybrid Heat Pump Dryer, MTE 2009.
15. Gold medal for inventing Direct Methanol Fuel Cell for Portable Application,ITEX2008.
16. Pinat gangsa for inventing Integrated Photoelectrochemical Cell For Hydrogen Production From Direct Water Splitting From Light, MTE 2008
17. Gold medal for inventing LESTARI 5000TM – 5 kW Portable Fuel Cell Generator, MTE 2007.
18. Silver medal for inventing New Photocatalyst for Hydrogen Production, MTE 2007.
19. Silver medal for inventing Novel-Multi-Function Cu-Zn-Al/ZSM-5 Catalyst for Hydrogen Production, MTE 2007.
20. Silver medal for inventing Compact Pressure Swing Adsorption System for Hydrogen Purification, MTE 2006.
21. Bronze medal for inventing LESTARITM – Portable Fuel Cell Generator, MTE 2006.
22. Bronze medal for inventing Novel Multi-function Cu-Zn-Al-Zeolite Catalyst for Hydrogen Production from Methanol, MTE 2006.
23. Bronze medal for inventing Low Temperature Sn Promoted Catalyst for Hydrogen Production, MTE 2006.
24. Gold medal for inventing LESTARITM – 1 kW Portable Fuel Cell Generator, ITEX 2006.
25. Gold medal for inventing A Two Stage Cross-Flow Fluidised Bed Dryer, ITEX 2005.
26. Siver medal for inventing Serindit A Fuel Cell Powered Scooter, ITEX 2005.
27. Silver medal for inventing A Method For Producing MEA for PEM Fuel Cell, ITEX 2005.
28. Silver medal for inventing Catalysts For Hydrogen Production From Methanol, ITEX 2005.
29. Silver medal for inventing Polymer Composite Bipolar Plate for PEM Fuel Cell, ITEX 2005.
30. Silver medal for inventing Compact Pressure Swing Adsorber For Hydrogen Purification, ITEX 2005.
31. Bronze medals for inventing Membrane Reactor For Pure Hydrogen Production, ITEX 2005.
32. Bronze medals for inventing Photocatalyst For Solar Hydrogen Production, ITEX 2005.
33. Bronze medals for inventing System Design For 5 Kw PEMFC System, the ITEX 2005.
34. Gold medal for inventing Serindit II – Fuel Cell Vehicle, Pameran Penyelidikan and Pembangunan (R&D) IPTA 2005.
35. Gold medal for inventing Solar Hydrogen Eco House, Pameran Penyelidikan and Pembangunan (R&D) IPTA 2005.
36. Silver medal for inventing Low Temperature Catalyst Mo-Ni-Cu for Hydrogen Production From Methanol, Pameran Penyelidikan and Pembangunan (R&D) IPTA 2005.
37. Silver medal for inventing Novel Multi-Function Cu-Zn-Al-Zeolite Catalyst For Hydrogen Production From Methanol, Pameran Penyelidikan and Pembangunan (R&D) IPTA 2005.
38. Bronze medal for inventing Membrane Electrode Assembly Design, Pameran Penyelidikan and Pembangunan (R&D) IPTA 2005.
39. Anugerah Saintis Cemerlang (Excellent Scientist Award) 2005 oleh Menteri Pengajian Tinggi.
40. Silver medal for 1 kW Polymer Electrolyte Membrane Fuel Cell Prototype, Expo Science & Technology 2004.
41. Bronze medal for Compact Pressure Swing Adsorption System For Hydrogen Purification Dalam Polymer Membrane Fuel Cell System Cell, Expo Science & Technology 2004.
42. Bronze medal for Polymer Electrode Membrane (Pem) Electrolyzer For The Production Of Hydrogen From Solar Energy Cell, Expo Science & Technology 2004..
43. Bronze medal for Low Temperature Catalyst For Autothermal Methanol Steam Reforming To Produce Hydrogen Cell, Expo Science & Technology 2004..
44. Bronze medal for Heterogeneous Photocatalyst Precursor For Hydrogen Production Cell, Expo Science & Technology 2004.
45. Bronze medal for inventing Inovative Spraying Technique For Fabrication Of Gas,Ffusion Electrode Dalam Fuel Cell Cell, Expo Science & Technology 2004.
46. Bronze medal for Titanium Foam Bipolar Plate For Polymer Electrolyte Membrane Fuel Cell Cell, Expo Science & Technology 2004.
47. Bronze medal for Inter-Digitated Flow Field Pem Fuel Cell, Expo Science & Technology 2004.
48. Silver medal for inventing Solar Assisted Dehumidification System, ITEX 2003
49. Bronze medal for inventing A Baffled Plate Fluidised Bed Dryer, ITEX 2003.
50. Gold medal for inventing a Very Efficient Solar Dryer, ITEX 2000
51. The Henry Goh award for inventing A Very Efficient Solar Dryer, the ITEX 2000
52. MBf-Persatuan Penterjemah Malaysia Anugerha Buku Terjemahan Terbaik dalam Sains and Teknologi for 1994 for translation of Chemical Engineering: Introduction to Design by R. K. Sinnot in 1994
53. Gold medal, Institut Kimia Malaysia, for best student in Chemistry paper, Malaysian Certificate of Education Examination 1973.

## UKM Awards

1. Individual Researcher Award UKM 2009 at Majlis Anugerah Bestari UKM 2010.
2. Individual Researcher Award UKM 2005 at Majlis Anugerah Bestari UKM 2006.
3. Gold medal and Special Award for inventing Membrane Electrode Assembly Design di Ekspo Penyelidikan dan Inovasi UKM 2005.
4. Gold medal for inventing SERINDIT II– Fuel Cell Vehicle di Ekspo Penyelidikan dan Inovasi UKM 2005
5. Gold medal for inventing Reaction Kinetics of Hydrogen Production from Autothermal Steam Reforming of Methanol Using Mo-Ni-Co Catalyst di Ekspo Penyelidikan dan Inovasi UKM 2005
6. Silver medal for inventing Novel Multi-function Cu-Zn-Al-Zeolite Catalyst for Hydrogen Production from Methanol di Ekspo Penyelidikan dan Inovasi UKM 2005
7. Bronze medal for inventing Production of MembraneElectrode Assembly (MEA) forProton Exchange Membrane Fuel Cell By Using Sol-Gel Casting di Ekspo Penyelidikan dan Inovasi UKM 2005
8. Bronze medal for inventing Electrically ConductingComposite Bipolar Plates di Ekspo Penyelidikan dan Inovasi UKM 2005
9. Bronze medal for inventing Spouted Bed Dryer with Draft Tube di Ekspo Penyelidikan dan Inovasi UKM 2005
10. Publication Award UKM for articles published in 2004 at Hari Kualiti Yearan UKM 2005.
11. Excellent Service Award UKM for 2004 at Hari Kualiti Yearan, UKM 2005.
12. Publication Award UKM – Buku dalam Sains, Teknologi dan Perubatan, 2004 for the book Prinsip Reka Bentuk Proses Kimia published by the Institution of Chemical Engineers, Malaysia, 2002 at Hari Kualiti Yearan, UKM 2004.
13. Gold medal for 1 kW polymer electrolyte membrane fuel cell prototype at the Ekspo Penyelidikan UKM 2004
14. Gold medal for compact pressure swing adsorption system for CO removal at the Ekspo Penyelidikan UKM 2004
15. Silver medal for solar hydrogen eco-house at the Ekspo Penyelidikan UKM 2004
16. Silver medal for Mangkin untuk penghasilan hidrogen daripada pembentukan semula metanol di the Ekspo Penyelidikan UKM 2004
17. Bronze medal for Sintesis dan pencirian fotomangkin tris- [1-(4- methoxyphenyl)-2-(4-carboxylphenyl)-1, 2-ethylenodithiolenic-s, s’]tungsten untuk penghasilan hidrogen daripada air- di the Ekspo Penyelidikan UKM 2004
18. Bronze medal for Reaktor membran seramik –ptfe untuk penghasilan hidrogen di the Ekspo Penyelidikan UKM 2004
19. Bronze medal for PEM electrolyzer for the production of hydrogen from solar energy di the Ekspo Penyelidikan UKM 2004
20. Bronze medal for Prekursor fotomangkinheterogen untuk penghasilan hidrogen di the Ekspo Penyelidikan UKM 2004
21. Gold medal for inventing Solar Photovoltaic Hydrogen Production System Emas di Ekspo Penyelidikan Dan Inovasi UKM 2003
22. Excellent Service Award UKM for 1995 di Hari Kualiti Yearan UKM 1996.

## Keynote and Invited Lectures

* Presented 41 international keynote lectures in China, India, Indonesia, Iran, Malaysia, Philippines, Singapore and Thailand
* Presented 10 international invited lectures Iceland, Indonesia, Japan, Malaysia, Netherlands, Philippines & Russia
* Presented 11 national keynote lectures

## International Keynote Lectures

**Year 2021:**

1. Wan Ramli Wan Daud. 2021. Title not yet determined. Symposium on Fuel Cell and Hydrogen Technology 2021 (SFCHT2021), Institut Sel Fuel, UKM, 26 Oktober 2021
2. Wan Ramli Wan Daud. 2021. Outlook on Hydrogen Energy and Fuel Cell Technology in Malaysia, Fuel Cell Training Course 2021 Fuel Cell and Hydrogen Energy for Cleaner Future, Institut Sel Fuel UKM, 29 Jun 2021
3. Wan Ramli Wan Daud. 2021. Biofuel Cells – Technologies, Current Issues and Future Development Fuel Cell Training Course 2021 Fuel Cell and Hydrogen Energy for Cleaner Future. Institut Sel Fuel UKM, 29 Jun /2021
4. Wan Ramli Wan Daud. 2021. The Latest Hydrogen Energy: Trends In Malaysia, Future Outlook for Hydrogen Energy in South East Asia: Featuring Indonesia and Malaysia, New Energy and Industrial Technology Development Organization (NEDO), Japan, Jakarta, Indonesia, 22 April 2021.
5. Wan Ramli Wan Daud. 2021. Bioelectrochemical Technology for Sustainable Electricity and Hydrogen Production, Global Renewable Energy Researchers Meet Virtual, Prism Scientific Services Pty Ltd, Melbourne, Australia, 7 May 2021

**Year 2020:**

1. Wan Ramli Wan Daud. 2020. Malay Ethnotechnology and Development of Modern Malay Technology. 2nd International Conference on Malay Studies 2020 (Panel Plenari Persidangan Antarabangsa Pengajian Alam Melayu Kali Kedua), PAPAM 2020, Universiti Feng Chia, Taichung, Taiwan, R.O.C,18-19 Februari 2020.

**Year 2019:**

1. Wan Ramli Wan Daud. 2019. Hydrogen Economy In Malaysia Challenges & Roadmaps The Malaysian Hydrogen Economy Landscape, Malaysian Industry Government Group for High Technology (MIGHT)/ MIGHT Partnership Hub, Jalan Impact, Cyberjay, Malaysia, 9 April 2019
2. Wan Ramli Wan Daud. 2019. Memartabatkan Bahasa Melayu Dalam Sains&Teknologi Untuk Manfaat Negara Bangsa, Seminar Negara Bangsa Siri 2: Bahasa Melayu: Identiti Negara, Universiti Tun Hussein Onn Malaysia, Parit Raja, Johor, 7 September 2019.
3. Wan Ramli Wan Daud. 2019 Hydrogen Economy: Roadmaps, Major Challenges & Way Forward 7th International Conference on Fuel Cell & Hydrogen Technology in conjunction with Innovation in Polymer Science & Technology 2019, Badan Pengkajian dan Penerapan Teknologi, Republik Indonesia, The Stones Hotel, Legian, Bali, Indonesia, 17 October 2019.
4. Wan Ramli Wan Daud. 2019. Microbial Electrochemical Technology: Green Bioelectricity Generation, Wastewater Remediation, Hydrogen Production, Desalination and CO2 Utilization. 8th International Forum on Industrial Bioprocessing Conference (IBA-IFIBIOP 2019), Imperial Hotel, Miri,1-5 May 2019.
5. Wan Ramli Wan Daud 2019. Solar Microbial Fuel Cells: A New Emerging Microbial Fuel Cell Technology For Harvesting Solar Energy Into Electricity Using Microalgae And Cyanobacteria. Synposim of Fuel Cells and Hydrogen Technology 2019 (SFCHT2019). Bangi Resort Hotel, Bandar Baru Bangi, 17-18 April 2019.
6. Wan Ramli Wan Daud. 2019. Memartabatkan Bahasa Melayu Dalam Sains&Teknologi. Ceramah Jemputan. International Conference On Mathematics And Statistics (ICoMS-VI (2019)). The Grand Continental Hotel, Kuantan, 2 April 2019.

**Year 2018:**

1. Wan Ramli Wan Daud. Overview of Sustainable Energy in Malaysia. International Conference on the Biomass-Environment-Food-Energy-Water (BEFEW) Nexus, Bangi Putrajaya Hotel, Selangor, Malaysia, 12-13 December 2018.
2. Wan Ramli Wan Daud. Islamic Philosophy of ICT, The 7th International Conference on Information and Communication Technology for the Muslim World (ICT4M2018), 22-26 July 2018, International Islamic University Malaysia, Gombak, Selangor, Malaysia.
3. Wan Ramli Wan Daud. Biological Photovoltaic Cells: A New Emerging Microbial Fuel Cell Technology For Harvesting Solar Energy Into Electricity Using Microalgae And Cyanobacteria, The 9th International Conference on Mechanical and Manufacturing Engineering (ICME2018), 16-17 July 2018, Pulai Springs Resort, Johor, Malaysia.

**Year 2017:**

1. Wan Ramli Wan Daud. Hydrogen economy: viability and challenges, The 24th Regional Symposium on Chemical Engineering (RSCE 2017), 15–16 November 2017, Semarang, Indonesia.
2. Wan Ramli Wan Daud. Hydrogen and fuel cells: sustainable energy for the future, The 2nd International Conference on Engineering and Technology for Sustainable Development 2017, (ICET4SD 2017), 13 – 14 September 2017, Yogyakarta, Indonesia.
3. Wan Ramli Wan Daud. Microbial Fuel Cells:Simultaneous Power Generation and Wastewater Treatment, International Conference on Energy, Environment and Information System (ICENIS) 2017. 15-16 August, 2017, Semarang, Indonesia
4. Wan Ramli Wan Daud. Microbial electrolysis cells, novel hydrogen production technology: issues and challenges, the 13th International Conference on Global Sustainability and Chemical Engineering (ICGSCE 2017), 15–16 February 2017, Putrajaya, Malaysia
5. Wan Ramli Wan Daud. The blueprint of fuel cell industries in Malaysia, the 6th International Conference on Fuel Cells and Hydrogen Technology (ICFCHT 2017) 12 –13 April 2017, Putrajaya, Malaysia.

**Year 2016:**

1. Wan Ramli Wan Daud. Islam and Technology Selection. International Seminar on Islam and Green Technology, 16 November 2016, International Institute of Advanced Islamic Studies, Kuala Lumpur, Malaysia

**Year 2015:**

1. Wan Ramli Wan Daud. Microbial Fuel Cells: A Sustainable Emerging Fuel Cell Technology, The 5th International Conference on Fuel Cell & Hydrogen Technology (ICFCHT2015), 1-3 September 2015, Kuala Lumpur, Malaysia.
2. Wan Ramli Wan Daud. Carbon-Neutral Chemical Engineering. The 28th Symposium of Malaysian Chemical Engineers (SOMCHE2015), 21 – 22 October 2015. Kuala Lumpur, Malaysia

**Year 2014:**

1. Wan Ramli Wan Daud. New non-pt nanostructured electrodes & nanocomposite nafion & non-nafion proton exchange membranes for fuel cells application, The 27th Symposium of Malaysian Chemical Engineers & the 21st Regional Symposium of Chemical Engineerin, 29 – 30 October 2014. Taylor’s University, Kuala Lumpur, Malaysia
2. Wan Ramli Wan Daud. Fuel cell vehicle: the future of zero emission transportation. The 3rd IET International Conference on Clean Energy & Technology CEAT2014, 24-26 November 2014, Merdeka Palace Hotel & Suites, Kuching, Sarawak, Malaysia

**Year 2013:**

1. Wan Ramli Wan Daud Nanotechnology Applications In Hydrogen Energy & Fuel Cells, The 4th International Conference on Fuel Cell & Hydrogen Technology (ICFCHT2013), 10 October 2013, Jogjakarta, Indonesia

**Year 2012:**

1. Wan Ramli Wan Daud Bioenergy and Sustainability. The 2nd Malaysian International Conference on Trends in Biotechnology (MICTriBE 2012) 3 -4 Julai 2012, Langkawi, Kedah, Malaysia

**Year 2011:**

1. Wan Ramli Wan Daud Drying of Foods. International Conference of Chemical Engineering and Industrial Biotechnology (ICCEIB 2011) In conjunction with The 25th Symposium of Malaysian Chemical Engineers (SOMCHE2011) 30 November 2011, Kuantan, Pahang, Malaysia
2. Wan Ramli Wan Daud 2011. Clean Energy: Towards a Zero Emission and Carbon Free Future. Presented at the International Conference on Fuel Cell and Hydrogen Technology 2011 (ICFCHT2011), 22-23 November 2011, Kuala Lumpur, Malaysia.
3. Daud, W.R.W. 2010. Clean Energy for Tomorrow: Towards a Zero Emission and Carbon Free Future. Presented at International Workshop on Clean Energy, Faculty of Chemical Engineering, Babol Noshirvani University of Technology (BUT), Babol, Iran 2 May 2011.

**Year 2010:**

1. Daud, W.R.W. 2010. Hydrogen fuel cells:the ultimate clean energy technology. Presented at the 17th Regional Symposium on Chemical Engineering (RSCE2010), Queen Sirikit National Convention Center, Bangkok, Thailand, 22nd -23rd November 2010.

**Year 2009:**

1. Daud, W.R.W. 2009. Fuel cell research trends: towards zero emission energy technology. Presented at the 16th Regional Symposium of Chemical Engineering (RSCE 2009), Manila Hotel, Manila, The Philippines, December 1st - 2nd 2009.
2. Daud, W.R.W. 2009. Recent Fuel Cells R&D in Malaysia. The 2nd International Conference on Fuel Cell & Hydrogen Technology, 28 -29 October 2009, Center of Material Technology, Agency for the Assessment and Application of Technology, Jakarta, Indonesia
3. Daud, W.R.W. 2009. Palm oil mill effluent, waste or resource? waste to energy: biohydrogen & microbial fuel cells, International Conference on the Future of the Palm Oil Business, ICPOB 2009, Hilton Phuket Arcadia, Phuket, Thailand, 19-20 February 2009.

**Year 2007:**

1. Daud, W.R.W. 2007. Technology policy and research progress of fuel cell in malaysia, The 2007 Conference on Fuel Cell Technology, 7th September 2007, Center of Material Technology, Agency for the Assessment and Application of Technology, Jakarta, Indonesia.
2. Daud, W.R.W. 2007. Fluidized bed dryers – recent advances, The Third Asian Particle Technology Symposium, 3rd – 5th September 2007, Beijing, China.
3. Daud, W.R.W. 2007. National hydrogen & fuel cell development in Malaysia, Battery/Fuel Cell: Asia Market 2007, 29 - 30 May 2007, Swissôtel Merchant Court, Singapore.

**Year 2006:**

1. Daud, W.R.W. 2006. Fuel cell as energy conversion device of the future. Presented at Malaysian Scientific Society (MSA) Golden Jubilee International Symposium on Public Understanding of Science and Technology (PUSAT) 2006, June 15-17, 2006, Corus Hotel, Kuala Lumpur, Malaysia
2. Daud, W.R.W. 2006. Development of indigenous fuel cell technology: the case for Malaysia, the 2nd PETRONAS International R&D Forum, 6-7th December 2006, Kuala Lumpur, Malaysia.

**Year 2005:**

1. Daud, W.R.W. 2005. Fluidised bed dryers : recent advances, Presented at 4th Asia-Pacific Drying Conference, ADC 2005, 13 – 16 December 2005, Kolkata, India
2. Daud, W.R.W. 2005. Fuel cell development in Malaysia Prospects for the future, Presented at The International Science Congress, ISC 2005, 4 - 6 August 2005, Kuala Lumpur Malaysia.

**Year 2003:**

1. Daud, W.R.W. 2003. Novel fluidized bed technology, Presented at 3rdAsia-Pacific Drying Conference, ADC 2003, 1-3 Sep 2003, Bangkok, Thailand.

**b. International Invited Lectures**

**Year 2011**

1. Daud, W.R.W. 2011. Food Properties. The International Symposium of Processing and Drying of Foods, Vegetables and Fruits 2011 (ISPDFVF2011) on 11 April 2011 at the Kuala Lumpur Teaching Centre, The University of Nottingham, Malaysia Campus, Chulan Tower, Jalan Conlay, Kuala Lumpur, Malaysia

**Year 2010:**

1. Daud, W.R.W. 2010. Fuel Cell & Hydrogen Energy R&D in Malaysia. The International Hydrogen Energy Development Forum 2010, February 3rd-4th, 2010, Kyushu University Ito Campus, Fukuoka, Japan.

**Year 2009:**

1. Daud, W.R.W. 2009. Country report on new energy related technology and policy in Malaysia. International Symposium on Sustainable Energy and Environmental Protection 2009 (ISSEEP 2009) & 6th Sustainable Energy and Environment Forum (6th SEE Forum), 23 – 26 November, 2009, Universitas Gadjah Mada, Yogyakarta, Indonesia

**Year 2008:**

1. Daud, W.R.W. 2008. Renewable energy research in Malaysia, UKM-Sri Wijaya Joint Colloquim on Chemical Engineering, 26-28th June 2008, Universitas Sri Wijaya, Palembang, Indonesia
2. Daud, W.R.W. 2008. Biofuel cells, Presented at ASEAN COST+3: New Energy Forum for Sustainable Environment (NEFSE), Clock Tower Centennial Hall, University of Kyoto, Japan, 26-27 May 2008.
3. Daud, W.R.W. 2008. Hydrogen energy R&D and roadmap for Malaysia, Presented at the II International Forum on Hydrogen Technologies for the Developing World, in conjunction with the 9th Steering Committee Meeting of the International Partnership for Hydrogen Economy (IPHE), 22 – 23 April 2008, Presdient Hotel, Moscow, Russia organised by the Federal Agency of Science, The Russian Federation.

**Year 2006:**

1. Daud, W.R.W. 2006. Fuel cells : green power system, Presented at International Conference on Green Chemistry: Malaysian Chemical Congress (MCC 2006), 19 – 21 September 2006, Sunway Pyramid Convention Centre, Petaling Jaya, Selangor, Malaysia.
2. Daud, W.R.W. 2006. Hydrogen economy: Perspectives from Malaysia which was presented at the International Seminar on the Hydrogen Economy for Sustainable Development, 28-29 September 2006, Reykjavik, Iceland organised by the Government of Iceland and the United Nations Department of Economic and Social Affairs.Hydrogen Economy: Perspective from Malaysia presented at the International Seminar on the Hydrogen Economy for Sustainabile Development, 28 -29 September 2006, Reykjavik, Iceland.

**Year 2005:**

1. Daud, W.R.W. 2005. Hydrogen fuel cells and alternatives in the transport sector: The case for Malaysia which was presented at the United Nations University (UNU) Conference on Hydrogen Fuel Cells and Alternatives in the Transport Sector: Issues for Developing Countries, UNU-INTECH, Maastricht, Netherlands, 7-9 November 2005

**Year 2004:**

1. Daud, W.R.W. 2004. The status of renewable hydrogen economy in Malaysia which was presented at the International Conference on Renewable Hydrogen Economy 2004, in conjunction with 2004 Philippine National Energy Week jointly organised by USAID and the Government of the Philippines, 7 – 9th August 2004, Makati, Manila, Phillipines

## National Keynote Lectures

**Tahun 2021:**

1. Wan Ramli Wan Daud. 2021. Philosophy of Technology for a Sustainable Planet Earth, Webinar on Towards a New Philosophy of Science for a Sustainable Planet Earth: Islamic Perspectives, International Islamic University Malaysia, Gombak, Selangor, 22 March 2021

**Tahun 2020:**

1. Wan Ramli Wan Daud 2020. Sustainble Hydrogen Energy: Future Clean Low Carbon Energy For The Muslim World. IIT –Intellectual Discourse Series Online No. 8, International Institute of Islamic Thought & Institut Darul Ehsan, 7 May 2020
2. Wan Ramli Wan Daud. 2020. Hydrogen Economy: Roadmaps, Major Challenges & Way Forward, Symposium on Advances in Energy Research, Universiti Malaya, Kuala Lumpur, 11 Mac 2020.
3. Wan Ramli Wan Daud Kincir Air Melayu. Seminar Etnosains Melayu, Pusat Konvensyen Shah Alam (SACC), 29 Februari 2020

**Tahun 2019:**

**Year 2018:**

1. Wan Ramli Wan Daud. PRU 14 : Refleksi Dan Prospek: Bahasa Melayu Sebagai Bahasa Pengantar & Bahasa Ilmu S & T. Persidangan Khas Majlis Intisyari WADAH, 2 September 2018
2. Wan Ramli Wan Daud. Bahasa Pengantar Yang Digunakan Dalam Bidang Sains Dan Teknologi. Seminar Penyelidikan Bahasa, Dewan Bahasa dan Pustaka, Kuala Lumpur 2hb Jun 2018.

**Year 2017:**

1. Wan Ramli Wan Daud. Sains Kejuruteraan Dalam Tamadun Melayu: Dulu dan Kini. Kuliah Perdana TITAS 2017. Dewan Persidagan FST, Universiti Kebangsaan Malaysia. 30 Oktober 2017
2. Wan Ramli Wan Daud. Hydrogen: The Future of Energy. Engagement with Petronas Leaders, 22 August 2017 Petronas Research Sdn Bhd, Kajang, Malaysia.
3. Wan Ramli Wan Daud. Bahasa Melayu Sebagai Bahasa Ilmu Dalam Bidang Kejuruteraan Seminar Bahasa Melayu: Mendaulatkan Bahasa Melayu Sebagai Bahasa Ilmu 2017, 4 Mei 2017, Hotel Everly Putrajaya, Malaysia

**Year 2016:**

1. Wan Ramli Wan Daud. Menulis Sebuah Makalah Sorotan Saintifik. Bengkel Makalah Sorotan. Ceramah Jemputan. Fakulti Sains dan Teknologi, Universiti Kebangsaan Malaysia. Royal Bintang Hotel Seremben. 23-25 September 2016.
2. Wan Ramli Wan Daud. Bahasa Pengantar Yang Digunakan Dalam Bidang Sains Dan Teknologi. The Seminar Penyelidikan Bahasa 2016, 2 Jun 2016, Dewan Bahasa dan Pustaka, Kuala Lumpur, Malaysia

**Year 2015:**

1. Wan Ramli Wan Daud. Carbon-Neutral Chemical Engineering. The 28th Symposium of Malaysian Chemical Engineers (SOMCHE2015), 21 – 22 October 2015. Kuala Lumpur, Malaysia

**Year 2008:**

1. Daud, W.R.W. 2008. Renewable energy research in Malaysia, Technology Business Innovation Forum, Technology Park Malaysia, Bukit Jalil, Kuala Lumpuir, 9th July 2008.
2. Daud, W.R.W. 2008. Energy scenario for Malaysia, IChemE Technical Roadmap for 21st Centry Chemical Engineering, Sime Derby Convention Centre, Kuala Lumpur, 12th May 2008.
3. Daud, W.R.W. 2008. Fuel Cell R&D and Roadmap in Malaysia. Malaysian Chemistry Festival (MCF) 2008. PETROSAINS, Kuala Lumpur City Centre, Kuala Lumpur, Malaysia. 18 August 2008
4. Daud, W.R.W. 2008. Renewable Energy: Challenges in Malaysia. Energy Roundtable Discussion on New World Energy Order – An Inevitable Change? The 5th National Utilities Summit 2008: Plowing Through the New World Order - Towards Greener Developments, Greater Efficiency & Synergy. Nikko Hotel, Kuala Lumpur. 14 & 15 October 2008

**Year 2007:**

1. Daud, W.R.W. 2007. Of dyes and crystals: Applications of advanced materials and nanotechnology in chemical engineering, 21st Symposium of Chemical Engineer (SOMCHE2007), 12-13 December 2007, Universiti Putra Malaysia

**Year 2006:**

1. Daud, W.R.W. 2006. Fuel cells : green power system which was presented at Malaysian Chemical Congress 2006, 19 – 21 September 2006, Sunway Pyramid Convention Centre, Petaling Jaya.
2. Daud, W.R.W. 2006. Innovationand technology advancement breakthrough in fuel cell. Presented at the 20th Symposium of Chemical Engineer (SOMCHE2006), 19-21 December 2006, Universiti Teknologi MARA, Shah Alam.

**Year 2004:**

1. Daud, W.R.W. 2004. Fuel cell development in Malaysia Prospects for the future, Presented at 18th Symposium of Malaysian Chemical Engineers, SOMCHE 2004, 13 – 14 December 2004, Universiti Teknology PETRONAS (UTP), Bandar Seri Iskandar, Ipoh, Perak.

**Year 2000:**

1. Daud, W.R.W. 2000. Advances in chemical process design and optimization presented at the 14th Symposium of Malaysian Chemical Engineers, 30 – 31 October 2000, Putra Jaya, Selangor

## Membership of International Committees

* + Chairman, Institution of Chemical Engineers UK, Malaysia Board 2009.
  + Committee Member (as Malaysian Board Chairman), International Council, Institution of Chemical Engineers UK 2009.
  + Deputy Chairman, Institution of Chemical Engineers UK, Malaysia Board 2008.
  + Chairman, International Advisory Committee, 15th Regional Symposium on Chemical Engineering and the 22nd Symposium of Malaysian Chemical Engineers RSCE-SOMCHE 2008, 2-3 December 2008, Kuala Lumpur, Malaysia.
  + Committee Member, Institution of Chemical Engineers UK, Malaysia Board 2007.
  + Member, the International Advisory Committee of the Regional Symposium on Membrane Science & Technology (2004-kini).
  + Member, the International Advisory Committee of the International Workshop & Symposium on Industrial Drying (2004).
  + Member, the International Organising Committee the Asian Particle Technology Symposium (2003-kini).
  + Chairman, International Organising Committee, 2nd Asian Particle Technology Symposium (APT 2003) held on 17- 19 December 2003, Penang, Malaysia.
  + Member, the International Advisory Committee of the World Congress of Particle Technology (2002-2006).
  + Member, the International Advisory Committee of the Regional Symposium of Chemical Engineering (2002-kini)
  + Member, the International Advisory Committee the Asia-Pacific Drying Conference (2001-kini)
  + Chairman, International Advisory Committee, 2nd Asia-Oceania Drying Conference (ADC’2001) 20 – 22 August 2001 in Penang, Malaysia

## Member of Editorial Board/Referee/Reviewer of International Journals

* + Member of Editorial Board of Discover Energy, published by Springer Nature, 24 February 2021.
  + Guest Editor of Special Issue of International Journal of Hydrogen Energy (SCOPUS/ISI) Volume 44, Issue 58 pages 30511-30787 (November 2019) on the 6th International Conference on Fuel Cells and Hydrogen Technology (ICFCHT 2017), 11-13 April 2017, Putrajaya, Malaysia.
  + Guest Editor of Special Issue of International Journal of Hydrogen Energy (SCOPUS/ISI) Volume 42, Issue 14, Pages 8973-9352 (6 April 2017) on Sustainable Fuel Cell and Hydrogen Technologies: The 5th International Conference on Fuel Cell and Hydrogen Technology (ICFCHT 2015), 1-3 September 2015, Kuala Lumpur, Malaysia.
  + Guest Editor of Special Issue of International Journal of Hydrogen Energy (SCOPUS/ISI) Volume 38, Issue 22 Pages 9360-9599 (26 July 2013) for the 3rd International Conference on Fuel Cell and Hydrogen Technology (ICFCHT2011), 22-24 November 2011, Kuala Lumpur, Malaysia.
  + Member of Editorial Board of Journal of Sustainable Energy and Environment published by the Joint Graduate School on Energy and Environment (JGSEE), King Mongkut’s University of Technology Thonburi, Thailand
  + Referee/Reviewer for the following journals:
    - Drying Technology (SCOPUS/ISI)
    - Solar Energy (SCOPUS/ISI)
    - International Journal of Hydrogen Energy (SCOPUS/ISI)
    - Chemical Engineering Science (SCOPUS/ISI)
    - International Journal of Food Engineering (SCOPUS/ISI)
    - Powder Technology (SCOPUS/ISI)
    - Chemical Engineering Research & Design (SCOPUS/ISI)
    - Separation Science & Technology (SCOPUS/ISI)
    - Sains Malaysia (SCOPUS/ISI)
    - World Applied Science Journal
    - Renewable Energy (SCOPUS/ISI)

## External Examiner of Program/Department/Faculty, Assessor for accreditation Bodies & External Examinar of Phd & MSc Thesis

## External Examiner of Academic Program

|  |  |  |
| --- | --- | --- |
| University | Program | Year |
| Xiamen University Malaysia | Beng (New Energy Science & Engineering) | 2020 |
| University of Malaya | BEng (Chemical Engineering) | 2020 |
| University of Malaya | BEng (Chemical Engineering) | 2013 |
| Universiti Sain Malaysia | BSc (Environmental Technology) | 2011 |
| Universiti Tun Hussein Onn Malaysia | BEng (Plant Engineering) | 2010 |
| Universiti Teknologi MARA | BEng (Chemical Engineering) | 2005-2007 |
| Universiti Teknologi Malaysia | BEng (Chemical Engineering) | 2001 |
| Universiti Teknologi MARA | BEng (Chemical Engineering) | 1989-1991 |
| Universiti Teknologi Malaysia | BEng (Chemical Engineering) | 1988 |

## Member of Evaluation Panel for Board of Engineers Malaysia

|  |  |  |
| --- | --- | --- |
| University | Program | Year |
| Universiti Teknologi Petronas | BEng (Chemical Engineering) | 1998 |
| Universiti Malaya | BEng (Chemical Engineering) | 1995 |

## Member Evaluation Panel for National Accreditation Board

|  |  |  |
| --- | --- | --- |
| University | Program | Year |
| Taylor’s College | MEng (Chemical Engineering) | 2004 |
| Prime College | Diploma (Chemical Engineering) | 2003 |

## Member Evaluation Panel for Engineering Accreditation Council

|  |  |  |
| --- | --- | --- |
| University | Program | Year |
| Universiti Teknologi Malaysia | BEng (Gas Engineering) | 2013 |
| Taylor University Malaysia | BEng (Chemical Engineering) | 2012 |
| Universiti Teknologi Petronas | BEng (Chemical Engineering) | 2011 |
| Monash University Sunway Campus | BEng (Chemical Engineering) | 2010 |
| Universiti Malaysia Perlis | BEng (Bioprocess Engineering) | 2010 |
| Universiti Sains Malaysia | BEng (Chemical Engneering) | 2010 |

## External Examiner of Thesis

|  |  |  |  |
| --- | --- | --- | --- |
| University | Doctor of Philosophy | Master of Science | Total |
| Universiti Malaya | 0 | 1 | 1 |
| Universiti Sains Malaysia | 1 | 6 | 7 |
| Universiti Teknologi Malaysia | 3 | 3 | 6 |
| Univertsiti Putra Malaysia | 0 | 5 | 5 |
| Universiti Teknologi Petronas | 1 | 0 | 1 |
| University of Nottingham in Malaysia | 1 | 0 | 1 |
| International Islamic University Malaysia | 1 | 0 | 1 |
| Universiti Teknologi MARA | 1 | 0 | 1 |
| Universiti Malaysia Kelantan | 0 | 1 | 1 |
| Total | 8 | 16 | 24 |

## List of PhD Thesis Examined as External Examiner

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Year | University | Student | Title |
| 1. | 2019 | Universiti Putra Malaysia | Ibrahim Mohamed Fikry Mohamed | Production and characterization of coffee-like powder and brew  from palm date seeds |
| 2. | 2018 | Universiti Teknologi MARA | Abdul Hadi Bin Abdol Rahim @ Ibrahim | Computational Modelling Of Mass Transport And Dynamic Simulation Of A High Pressure Polymer Electrolyte Membrane Electrolyser |
| 3. | 2017 | University of Nottingham Malaysia Campus | Heikal Ismail | Investigating the Effect of Pre-treatment on Drying Kinetics and quality traits of Rice Noodles |
| 4. | 2015 | International Islamic University Malaysia | Nor Jannah Hassan | Integration of Quranic Perspectives in the Curricula of Natural Science in Selected Islamic Secondary Schools of Indonesia and Malaysia: A Compatrative Study |
| 5. | 2012 | Universiti Teknologi MARA | Wan Ahmad Najmi Wan Mohamed | Solid-state Thermal Analysis of Air-cooled PEMFC with Predictive Empirical Profiling |
| 6. | 2011 | International Islamic University Malaysia | Rashmi G. Walkevar | Experimental Studies and CFD Simulation on Convective Heat Transfer of CNT Nanofluids for Thermal Management |
| 7 | 2010 | Universiti Teknologi Petronas | Umesh Basanaguuda Deshanavar | Studies on Hydrocarbon Fouling on Heat Transfer Surfaces |
| 8. | 2011 | University of Nottingham in Malaysia | Ong Sze Pheng | Investigation of Engineering and Quality Properties of Salak Fruit in Heat Pump Assisted Intermittent Drying |
| 9. | 2010 | Universiti Teknologi Malaysia | Inayati | Dynamic behaviour of Fuel Cell Powertrain |
| 10. | 2007 | Universiti Teknologi Malaysia | Siva Kumar a/l Kumaresan | A Process Engineering Approach to the Standardization of Eurocomanone in Eurycoma Longifolia Water Extract |
| 11. | 2005 | Universiti Teknologi Malaysia | Chua Lee Suan | Chiral resolution of (R,S)-1-phenylethanol using immobilised lipases in batch stirred tank and recirculated packed bed reactors |
| 12. | 2002 | Universiti Sains Malaysia | Mohd. Roslee bin Othman | Modification of commercial inorganic membrane with a thin layer that have finer and more uniform pores |

## List of MSc Thesis Examined as External Examiner

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Year | University | Student | Title |
| 1. | 2017 | Universiti Putra Malaysia | Yoong Jun Hao | Effects of Polyglycerol Esters On Crystallization  Process of Palm Olein |
| 2. | 2015 | Universiti Putra Malaysia | Nurul Izzah Binti Khalid | Design of a Cleaning Test Rig and Evaluation of Fouling Deposit Removal Kinetics In a Cleaning Environment |
| 3. | 2012 | Universiti Sains Malaysia | Anis Suriani Binti Ibrahim | Application of the Monin-Obukhov Similarity Theory on Diurnal Wind Turbulence Statistics in the Urban Roughness Sublayer Using Local Scales |
| 4. | 2012 | Universiti Malaysia Kelantan | Rizki Wannahhari | The Recovery of Used Palm Cooking Oil Using Bagasse as Adsorbent |
| 5. | 2012 | Universiti Putra Malaysia | Wan Mohd.Fadli Wan Mokhtar | Empirical Modelling, Simulation and Control of Pasteurization Process with Fouling as Disturbance |
| 6. | 2009 | Universiti Putra Malaysia | Keshani, S. | Mathematical Models For Prediction Of Rheological Parameters Of Pomelo Juice |
| 7. | 2008 | Universiti Putra Malaysia | Nurul Faezawaty Jamaludin | Comparative Study on the Nutrient Retentivity and Thermal Process Capability of Ohmic Heated Pasteurizer |
| 8. | 2007 | Universiti Putra Malaysia | Rozaihan binti Razali | A study of the effect of fermentation, drying technique and added carotene oil on nutritional value of cassava |
| 9. | 2005 | Universiti Putra Malaysia | Soo Ching Yee | Dynamics and Convergence Aceleration of Rapid Pressure Swing Adsorption (RPSA |
| 10. | 2005 | Universiti Sains Malaysia | Chieng Hui Yap | Penggunaan Sel Galvanik Yang Mempunyai Berbagai Konfigurasi Untuk Menurunkan Kromium Heksavalen Dalam Air Buangan Elektrosaduran |
| 11. | 2005 | Universiti Teknologi Malaysia | Mak Weng Yee | Fault Detection and Diagnosis (FDD) Using Multivariate Statistical Process Control via Correlation Coefficients |
| 12. | 2005 | Universiti Sains Malaysia | Chua Joo Hann | Adsorption of Fatty Acids using Metal Silica Complexes from Rice Husks |
| 13. | 2005 | Universiti Teknologi malaysia | Rosiah Rohani | Preparation of proton exchange membrane by radiation-induced grafting method : Grafting of styrene onto poly(ethylene tetrafluoroethylene) copolymer films |
| 14 | 2000 | Universiti Sains Malaysia | Yiu Pang Hung | Studies using the galvanic reduction process for hexavalent chromium in wastewater |
| 15 | 1999 | Universiti Teknologi Malaysia | Lee Ting Hui | Hasil buangan nenas sebagai sumber karbon untuk penghasilan asid sitrik oleh Aspergillus sp |
| 16. | 1999 | Universiti Malaya | Abdul Basir Aziz Khan | An Epistemological Study of Malaysia’s Science and Tehcnology Policy |
| 17. | 1995 | Universiti Sains Malaysia | Gurdeep Kaur a/p Bakjsis Singh | Pengembalian Hidrometalurgi Niobium dari sati Larutan Pemelarutresapan HF:HCl Kolumbit |
| 18. | 1999 | Universiti Malaya | Abdul Basir Aziz Khan | National Science Policy |

## Appointment of Adjunct/Visiting Professor and Academic Assessor/Advisor

## Appointment of Adjunct Professor

|  |  |  |
| --- | --- | --- |
| Period | Faculty/Department | University |
| 2011-2012 | Faculty of Mechanical Engineering | Universiti Tun Hussein Malaysia |

## Appointment of Visiting Professor

|  |  |  |
| --- | --- | --- |
| Period | Faculty/Department | University |
| 27/07/ 2011 | Faculty of Mechanical Engineering | Universiti Tun Hussein Malaysia |

## Appointment of Academic Assessor/Advisor

|  |  |  |
| --- | --- | --- |
| Period | Departmenty | University |
| 2010-2012 | Centre for Graduate Studies | Universiti Industri Selangor |

## Appointment of Company Associate

|  |  |  |
| --- | --- | --- |
| Date | Associate/Advisor | Company |
| 09/2011 | Senior Associate | Malaysia Industry Group For Hight Technology (MIGHT |

# RESEARCH

## Fields of Research:

* Fuel cell technology: composite and inorganic electrolyte membranes, nanocatalyst electrodes, membrane electrode assemblies, stack and cell design and prototyping, fuel cell system design, solid oxide fuel cell, direct methanol fuel cell, microbial fuel cell
* Hydrogen energy: Nano-catalyst for autothermal steam reforming of alcohols, biohydrogen, solar hydrogen, photoelectrochemical cell
* Drying engineering: drum drying of starch slurries, fluidised bed and spouted bed drying of particulate materials, superheated steam drying of fibres, selective drying of multi-component solvents, drying kinetics and solar drying of agricultural crops and medicinal herbs
* Extraction: solvent extraction of antioxidants from spices and herbs, supercritical fluid extraction: thermodynamics and mass transfer of supercritical fluids and supercritical fluid extractions of anti-oxidants and essential oils from herbs
* Food properties: rheology of food material
* Design of membrane separation modules and adsorbers
* Process system engineering: process synthesis and optimization of chemical and biochemical processes including proton exchange membrane fuel cell systems
* Particle technology: flow properties of powders and fluidisation;
* History and philosophy of science and technology: Malay technology

## List of Research Projects:

**International Projects**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No. | Project Code | Project Titke | Role | Total grant (MYR) | Project period | Source of fund |
| 1 | RA-2018-001 | Understanding biomass value chains and the environment-food-energy-water nexus in Malaysia through whole-systems analysis and optimisation (BEFEW) | Project Leader | 126,200.00 | 15/05/2017 14/09/2019 | Newton Fund Engineering & Physical Science Research Council UK. |

**Company Collaboration Projects**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No. | Project Code | Project Titke | Role | Total grant (MYR) | Project period | Source of fund |
| 1. |  | Sustainable Hydrogen Energy Production Projects | Chair Professor | 8,490,000 | 11/7/2019-10/7/2024 | Petronas Research Sdn Bhd |
| 2. | RA-2019-001 | Design and Fabrication of Bipolar Plate For Electrolyzer | Co-researcher | 1,342,000 | 15/7/2019-5/7/2021 (extended 15/2/2022) | Petronas Research Sdn Bhd |
| 3, | RA-2019-002 | Coating and Treatment of Plate for Electrolyzer | Co-researcher | 892,000 | 15/7/2019- 30/7/2021 (Extended 30/01/2022) | Petronas Research Sdn Bhd |
| 4. | RA-2019-003 | Design and Development of Balance of Plant (BOP) for Electrolyzer | Co-researcher | 1,459,333 | 15/7/2019 - 15/11/2021 | Petronas Research Sdn Bhd |
| 5. | RA-2020-002 | Electrolyzer Stack Assembly for Demo Plant Scale | Co-researcher | 701,302 | 1/4/2020 - 31/12/2021 | Petronas Research Sdn Bhd |
| 6. | RA-2020-003 | Development of Fuel Cell Hydrogen Buggy | Co-researcher | 615,387 | 1/9/2020 - 31/8/2021 | Petronas Research Sdn Bhd |
| 7. | RA-2015-002 | Design, Fabrication, Testing and Commissioning of 2000L/hourWater Electrolyzer System | Project Leader | 450,000.00 | 6/5/2015 31/12/2018 | Reniaga Sabah Sdn. Bhd. |

**National and UKM Research Grants**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| No. | Project Code | Project Titke | Role | Total grant (MYR) | Project period | Source of fund |
| 1. | KP/2020/UKM-UKM/3/1 | Developmet of Hydrogen Fuel Cell System for Vehicles | Co-researcher | 150,000 | 1/1/2021-31/12/2022 | Konsortium Kecemerlangan Penyelidikan (KKP), |
| 2. | FRGS/1/2019/STG01/UKM/02/2 | Synergistic Effect of Novel Two-Dimensional Porous Ti3C2Tx (MXene) Support and Non-Noble Fe-N-C Electrocatalyst on Oxygen Reduction Reaction for Clean Energy Generation | Co-researcher | 100,000 | 1/9/2019- 31/5/2022 | Fundamental Research Grant Scheme (FRGS) |
| 3. | FRGS/1/2019/STG01/UKM/03/1 | Ni@Mesostructured Silica Nanoparticle (MSN) Core-Shell Catalyst for Methane Decomposition to Hydrogen and Filamentous Carbon | Co-researcher | 59,000 | 01/09/2019 - 31/05/2022 | Fundamental Research Grant Scheme (FRGS) |
| 4.. | FRGS/1/2019/TK02/UKM/02/4 | Diffusion of molecules at the interface of catalyst surface and 3D Reticulated Nickel foam for 5-HMF biofuel production from biomass wastes | Co-researcher | 103,700 | 01/09/2019-31/05/2022 | Fundamental Research Grant Scheme (FRGS) |
| 5. | DPK-2020-009 | Kajian Pengangkutan Jisim dan Prestasi Sel Elektrolisis | Co-researcher | 50,000 | 01/10/2020 - 15/05/2022 | Dana Padanan Kolaborasi (DPK) |
| 6. | GGPM-2019-028 | Improvement of (Bio)electrochemical reduction of carbon dioxide to foate using microbial electrosynthesis cell | Co-researcher | 33,500 | 31/03/2022 - 01/10/2019 | Geran Galakan Penyelidik Muda (GGPM)  UKM |
| 7. | INOVASI-2019-002 | High Pressure PEM Electrolyzer Prototyping (HP-PEMEL) | Co-researcher | 100,000 | 15/9/2019-14/9/2021 | Dana Inovasi, Pre-production |
| 8. | GP-K003081 | Ganjaran Penerbitan: Wan Ramli Bin Wan Daud |  | 16,975 | 28/7/2020-27/7/2021 | Ganjaran Penerbitan |
| 9. | FRGS/1/2018/STG01/UKM/02/15 | Proton Transport Mechanism in Novel Membrane based on Chitosan Derivative doped Titania/Ionic Liquid@Graphene Oxide | Co-researcher | 87,700 | 1/1/2019-30/09/2021 | Fundamental Research Grant Scheme (FRGS) |
| 10 | FRGS/1/2018/TK10/UKM/03/2 | Correlation of porosity in clay ceramic with silver nano-particles as surface modifier for membrane biofouling inhibitor to improve electron transfer in a cylindrical microbial fuel cell | Co-researcher | 86,000 | 1/1/2019-30/09/2021 | Fundamental Research Grant Scheme (FRGS) |
| 11. | GGPM-2018-054 | The mechanism of Pd-based alloy catalyst for glycerol oxidation reaction via molecular modelling | Co-researcher | 50,000 | 15/08/2018 - 14/08/2021 | Geran Galakan Penyelidik Muda (GGPM) |
| 12. | GUP-2018-136 | Chitosan-based Membrane filled with Funtionalized MXene Nanosheets for Proton Transport Enhancement | Co-researcher | 60,000 | 15/11/2018-14/11/2021 | Geran Universiti Penyelidikan (GUP) CRIM UKM |
| 13. | MI-2018-013 | Dana Modal Insan Development of a Novel Microbial Integrated Cell for Simultaneous Hydrogen Production, Industrial Waste Treatment and Desalination | Project Leader | 100,000.00 | 1/8/2018-31/7/2019 | CRIM UKM |
| 14. | 03-01-02-SF0985 | Enhanced Hydrogen Production From Agro-Industrial Waste Using Bio-Electrochemical System And Thermophilic Fermentation | Project Leader | 160,500 | 1/9/2013-  29/2/2016 | Sciencefund MOSTI |
| 15. | LRGS/2013/UKM/TK | Zero Emission Fuel Cell Vehicle Powered by Hydrogen | Program Leader & Project Leader | 7,000,000 | 1/7/2013-30/6/2016 | LRGS, MOE |
| 16. | FRGS/1/2013/TK05/UKM/01/1 | Functional Spray Dried Amino Acid Powders With Controlled Polymorphs And Crystallinity | Project Leader | 106,000 | 01/4/2013 -31/3/2016 | FRGS, KPT |
| 17. | DIP-2012-27 | Sustainable Hydrogen Production Using Microbial Electrolytic Fuel Cell and Photoelectrochemical Cell | Project Leader | 250,000 | 1/6/2012 – 30/5/2014 | Dana Impak Perdana, UKM |
| 18. | ERGS/1/2012/TK05/UKM/01/2 | Combined Wastewater Treatment and Power (CWTP) Using High Power Density Microbial Fuel Cell | Project Leader | 64,000 | 1/6/2012 – 1/6/2015 | FRGS, KPT |
| 19. | UKM-GUP-2011-368 | Fluid Dynamic and Product Deposition in spray dryers | Project Leader | 30,000 | 1/10/2011– 30/09/2012 | Geran  Univer siti Penyelidikan, UKM |
| 20 | UKM-AP-2011-02 | Clean Energy for Tomorrow: Towars Zero Emission and Carbon Free Future | Project Leader | 100,000 | 01/08/2011 - 31/07/2013 | Projek Arus Perdana, UKM |
| 21 | UKM-AP-TK-05-2009 | New Materials for Fuel Cells and Hydrogen | Project Leader | 730,000 | 01/07/2009  - 30/06/2011 | Projek Arus Perdana |
| 22 | UKM-GUP-TK-08-17-323 | PEM Fuel Cell Stack with Sided Fuel Inlet and Integrated Stacking Device | Project Leader | 300,000 | 01/05/2008 - 31/10/2010 | Geran  Univer siti Penyelidikan |
| 23 | 03-01-02-SF0046 | Computational fluid dynamics modelling of spray dryer with wall deposition | Project Leader | 295,000 | 01/07/2007  - 01/07/2009 | Science Fund |
| 24 | 03-01-02-SF0396 | Development of novel depositless spray dryer | Project Leader | 211,000 | 01/08/2007  - 01/08/2009 | Science Fund |
| 25. | 03-01-02-SF0405 | Development of low temperature solid oxide fuel cell electrolytes and electrodes | Project Leader | 308,720 | 01/08/2007  - 01/08/2009 | Science Fund |
| 26 | UKM-KK-02-FRGS0007-2006 | Crystallization process of pharmaceuticals and macromolecules (proteins): Understanding polymorphism and chiral separation via molecular recognition and self assembly | Project Leader | 90,000 | 01/11/2006  - 31/10/2009 | Fundamental Research Grant Scheme  (FRGS) |
| 27 | UKM-MTSF-SELFUEL-2009 | Optimization of Electricity Generation Using Microbial Fuel Cells for Wastewater Treatment | Project Leader | 20,000 | 12/10/2009  - 31/12/2010 | Malaysian Toray Science Foundation (MTSF) |
| 28 | 020202000PR0023/11 | Development of Commercially Competitive Compact 5 kW Proton Exchange Membrane Fuel Cell System | Project Leader | 30,054,764 | 2002-2007 | IRPA |
| 29 | 0202020001PR0023/11-06 | Design, simulation, fabrication and long term performance testing of a compact 5 kW proton exchange membrane fuel cell system | Project Leader | 6,455,992 | 2002-2007 | IRPA |
| 30 | 0202020006PR0023/11-11 | Development of a dye-sensitised photoelectrochemical cell for the production of hydrogen by unassisted photolysis of water | Project Leader | 2,038,332 | 2002-2007 | IRPA |
| 31 | 0802020020 | Volatile organic compounds removal technology based on thermal swing adsorption | Project Leader | 1,600,000 | 1997-2000 | IRPA |
| 32 | 0202020011 | Development of photoelectrochemical cells for hydrogen production for fuel cell use | Project Leader | 214,000 | 1999 – 2001 | IRPA |
| 33 | 0302020028 | Novel drying technologies | Project Leader | 880,000 | 1998 – 2002 | IRPA |
| 34 | 010703014 | Drying of agricultural products | Project Leader | 600,000 | 1988 – 1995 | IRPA |
| 35 | 03-01-02-SF0253 | Superheated Steam Drying of Oil Palm Frond Chips in a Vibrating Fluidized Bed Dryer | Co-Researcher | 283,000 | 2007-2009 | Science Fund |
| 36 | 0902020127 | Fluidized bed for dedusting and drying of padi | Co-Researcher | 901,000 | 1997 – 2000 | IRPA |
| 37 | 02-02-02-0001-PR-23/11- 09 | Development of an Onboard Low Temperature Autothermal Fuel Processor from Liquid Fuel | Co-Researcher | 1,606,928 | 2000 – 2007 | IRPA |
| 38 | 0202020002PR0023/11-07 | Development and long term performance testing of bipolar plates | Co-Researcher |  | 2000 – 2007 | IRPA |
| 39 | 0902020091EA234 | Enhancing product purity and yield in the extraction of herbal oils using supercritical carbon dioxide | Co-Researcher | - | 2003 – 2006 | IRPA |
| 40 | 02-02-02-0003-PR0023/11-08 | Development And Long Term Performance Testing Of Membrane Electrode Assemblies (MEA) For Proton Exchange Membrane Fuel Cell | Co-Researcher | 1,600,200 | 2000 – 2007 | IRPA |
| 41 | 02-02-02-0005-PR0023/11-10 | Development Of A Solar Photovoltaic-Electrolyser Hydrogen Production System | Co-Researcher |  | 2000 – 2007 | IRPA |
| 42 | 0902020011EA066 | Novel extraction of aqueous two-phase systems for recovery of bioproducts from fermentation broth | Co-Researcher | - | 2001 – 2005 | IRPA |
| 43 | 0202020002 | Development of a commercially competitive proton exchange membrane fuel cell | Co-Researcher | - | 1996 - 1999 | IRPA |
| 44 | 0402020039 | Development of computational fluid dynamics (CFD) analysis for flow in stirred tank reactor | Co-Researcher | - | 2000 – 2002 | IRPA |

## Research Collaboration

**International Research Collaboration**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Researcher | Institution | Field of Research | Year |
| 1. | Prof. Dr, Vijay Raghavan | Department of Bioresource Engineering, Faculty of Agricultural and Environmental Sciences, McGill University, Canada | Microwave-vacuum drying | 2008- |
| 2. | Prof. Dr. Nigel Brandon | Department of Earth Science & Engineering, Imperial College London, United Kingdom | Intermediate and low temperature anode, electrolyte and cathode for solid oxide fuel cells | 2007- |
| 3. | Prof. Dr. Byong Hong Kim | Korea Institute of Science & Technology (KIST), Seoul, South Korea | Bioelectrochemical Technology: microbial fuel cells, Microbial electrolysis cells and Microbial desalination cells. | 2012- |
| 4. | Prof. Dr. Nobuyoshi Nakagawa | Graduate Department of Chemical Engineering, Gunma University, Kiryu, Japan | Direct alcohol fuel cells | 2007- |
| 5. | Prof. Dr, Roberts, K.J. | Institute of Particle Science and Engineering, Leeds University, United Kingdom | Control of batch crystallisation of L-Isoleucine through on-line monitoring system | 2005 – 2010 |
| 6. | Dr. Robert Driscoll | School of Chemical Engineering and Industrial Chemistry, University of New South Wales, Sydney, Australia | Fluidized bed drying of paddy | 2005 |
| 7. | Prof. Dr. Ir.Tun Teja Irawadi, Dr.Ir.Irawadi Jamaran dan Prof.Ir. Maarimi | Bogor Agricultural University, Bogor, Indonesia | Supercritical Fluid Extraction (SFE) of Sea Cucumber | 2006 - 2009 |
| 8. | Prof. Dr, Arun S. Mujumdar | Department of Mechanical and Production Engineering National University of Singapore | Industrial Drying Technology and Computational Fluid Dynamic in Dryers and in Fuel Cells | 2004 - |
| 9. | Assoc. Prof. Dr. Eric Bigerson | Department of Chemical and Biomolecular Engineering, National University of Singapore | Computational Fluid Dynamic in Fuel Cell | 2004 - |

**National Research Collaboration**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Researcher | Institution | Field of Research | Year |
| 1. | Pn. Nurul Fitriah Nasir | Faculty of Mechanical Engineering, Unoiversiti Tun Husseion Onn Malaysia | Modeling and optimization of continuous and batch biodisel processes using homogenouns and heterogeneous catalysts | 2010- |
| 2. | Assoc. Prof. Dr. Dominic Foo | Department of Chemical Engineering, Faculty of Engineering, University of Nottingham Malaysia Campus | Process system engineering of fuel cells | 2009 |
| 3. | Assoc. Prof. Dr. Law Chung Lim, | Department of Chemical Engineering, Faculty of Engineering, University of Nottingham Malaysia Campus | Fluidized bed drying of padi, spray drying and two stage heat pump drying of fruits | 2006 – |
| 4. | Assoc. Prof. Dr. Noornizar Anuar | Faculty of Chemical Engineering Universiti Teknologi MARA | Control of batch crystallisation of L-Isoleucine through on-line monitoring system | 2005 – |
| 5. | Dr. Ibnu Hajar Rukunudin, Ooi Ho Seng and Ten Seng Teik, | Malaysian Agricultural Research & Development Institute | Drying of kenaf fibers | 2002 - 2004 |
| 6. | Dr. Mohd Zamri Ibrahim | Fakulti Sains, Universiti Malaysia Terengganu | Hybrid wind-PV solar hydrogen system | 2003 – 2005 |
| 7. | Prof. Dr. Farid Ani Nasir | Faculty of Mechanical Engineering, Universiti Teknologi Malaysia | Preparation and characterization of carbon molecular sieve produced from oil palm | 2004 – 2006 |
| 8. | Pro.f Dr. Hamdani Saidi, Prof. Dr. Ahmad Fauzi Isnmail, Prof. Dr. Nor Aishah Saidina Amin dan Assoc. Prof. Dr. Ahmad Rahman Songip | Faculty of Chemical & Natural Resources Engineeirng, Prof. Md. Nor Musa, Faculty of Mechanical Engineering, Universiti Teknologi Malaysia | Development of polymer electrolyte membrane fuel cell for mobile and portable application | 1996 - |

## Intellectual Property

* Granted 8 patents by MyPO
* Granted 6 World patents
* Filed 28 patents at MyIPO
* Filed 1 trade mark at MyIPO

**List of Patents Granted**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Inventors | Invention | Date Granted | Certificate No. |
| 1. | Wan Ramli Wan Daud, Mohammad Kassim, Daik, R. & Arifin, K. | A Method of Producing a Photocatalyst | 31/3/ 2011 | MY-142900-A |
| 2. | Wan Ramli Wan Daud, Kamaruzzaman Sopian, Ja’afar Sahari, Che Hassan Che Haron, Abu Bakar Mohamad, Abd. Amir Hassan Kadhum, Mohd. Shahbudin Mastar @ Masdar, Masli Irwan Rosli, Nik Suhaimi Mat Hassan, Sitanggang, R., Majlan, E.H. & T. Husaini | Water-Cooled polymer Electrolyte Membrane Fuel  Cell Stack | 21/12/2011 | MY-145097-A |
| 3. | Yaakob, Z., Mohd Adib Ibrahim, Wan Ramli Wan Daud & Abd. Amir H. Kadhum | Cu-Zn-Al Catalyst Supported on Zeolite for hydrogen production from methanol | 15/3/ 2011 | MY-142900-A |
| 4. | Ja’afar Bin Sahari @ Shaari, Wan Ramli Wan Daud | A Method of Producing Bipolar Plate | 15/12/2011 | MY-144996-A |
| 5. | Abu Bakar Mohamad, Wan Ramli Wan Daud, Abdul Amir Hassan Kadhum, Ramli Sitanggang, Mohd Shahbudin Masdar | Innovative Membrane Electrode Assembly (MEA) Design for Proton Exchange Membrane Fuel Cell (PEMFC) | 15/8/2011 | MY-144183-A |
| 6. | Wan Ramli Wan Daud, Lorna Jefferey Minggu, Mohammad Kassim, Fadhli Hadanah | A Photocatalyst for Hydrogen Production | 29/7/2011 | MY-143950-A |
| 7. | Wan Ramli Wan Daud, Abu Bakar Mohamad, Ja’afar Bin Sahari @ Shaari, Abdul Amir Hassan Kadhum, Kamaruzzaman Sopian, Che Hassan Che Harun, Masli Irwan Rosli, Mohd Shahbudin Masdar, Edy Heriantyo Majlan, T. Hussaini, Nik Suhaimi Mat Hassan, Ramli Sitanggang | An Electrochemical Power Generator | 29/8/2011 | MY-144241-A |
| 8. | Mohammad bin Kassim, Wan Ramli Wan Daud, Lorna Jefrey Minggu, Khuzaimah Ariffin, Fadhli Hadanah | Novel Photocatalysts & Preparation Method Thereof | 13/1/2012 | MY-145222-A |

**List of World patents**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No. | Inventors | Invention | Filing date | Published date | Reference No. |
| 1. | Kamarudin Siti Kartom, Wan Daud Wan Ramli, Hasran Umi Azmah, Hashim Norhafiz | A Fuel Cell Device | 10/08/2012 | 13/06/2013 | WO2013085378 (A1) ― 2013-06-13 |
| 2. | Che Haron C H, Hassan Kadhum A A, Husaini T, Majlan E H, Mastar Masdar M S, Mohamad A B, Rosli M I, Sahari J, Sitanggang R, Sopian K, Wan Daud W R | Electrochemical power generator | 02/01/2009 | 28/05/2009 & 22/10/2009 | WO2009066999-A2 & WO2009066999-A3 |
| 3. | Jeffery Minggu L, Wan Daud W R, Yaakob Z | Catalyst for producing hydrogen for proton  exchange membrane fuel cell | 02/01/2009 | 22/05/ 2009 & 22/10/ 2009 | WO2009064170-  A2 &  WO2009064170-  A3 |
| 4. | Hassan Khadum A A, Majlan E H, Mohammad A B, Mohammad A W, Takriff M S, Wan Daud W R | Compact pressure swing adsorption system  for purifying hydrogen gas | 02/01/2009 | 22/05/ 2009 & 22/10/ 2009 | WO2009064169-A2 & WO2009064169-A3 |
| 5. | Daik R, Kassim M, Rahman F H, Wan Daud W R | Novel metal complex used as photocatalyst for production of hydrogen in photochemical cell | 02/01/2009 | 04/06/2009 & 17/09/2009 | WO2009070000-A2; & WO2009070000-A3. |
| 6. | Abu Bakar M H, Hassan Kadhum A A, Mohamad A B, Sitanggang R, Wan Daud W R | Impregnation of platinum on activated  carbon, e.g. as catalyst in phosphoric-acid  fuel cell | 02/01/2009 | 07/05/2009 &  22/10/2009 | WO2009057992-A2 & WO2009057992-A3. |

**List of Filed Patents at MyIPO**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Inventors | Invention | Filing date | Reference No. |
| 1. | Wan Ramli Wan Daud, Kamaruzzaman Sopian, Ja’afar Sahari, Che Hassan Che Haron, Abu Bakar Mohamad, Abd. Amir Hassan Kadhum, Mohd. Shahbudin Mastar @ Masdar, Masli Irwan Rosli, Nik Suhaimi Mat Hassan, Sitanggang, R., Majlan, E.H. & T. Husaini 2009 | A Fuel Cell Stack System For Vehicle Power Generation | 10/07/2009 | PI20092917 |
| 2. | Wan Ramli Wan Daud, Kamaruzzaman Sopian, Ja’afar Sahari, Che Hassan Che Haron, Abu Bakar Mohamad, Abd. Amir Hassan Kadhum, Mohd. Shahbudin Mastar @ Masdar, Masli Irwan Rosli, Nik Suhaimi Mat Hassan, Sitanggang, R., Majlan, E.H. & T. Husaini | Innovative 5kW Polymer Electrolyte Membrane Water-cooled Fuel Cell Stack | 08/06/2009 | PI20093256. |
| 3. | Abu Bakar Mohamad, Abd. Amir Hassan Kadhum, Wan Ramli Wan Daud, Mimi Hani Abu Bakar & Sitanggang, R. | Ink Formulation Design Method | 20/08/2009 | PI20093454. |
| 4. | Mohammad Kassim, Daik, R., Wan Ramli Wan Daud & Arifin, K. | Novel Photocatalyst and Preparation Method Thereof | 08/09/2009 | PI20093723. |
| 5. | Kamarudin, S.K., Wan Ramli bin Wan Daud, Hasran, U.A. & Ahmad, M.M. | MesraUIKM: Passive Direct Methanol Fuel Cell for Portable Application | 06/03/2009 | PI20092260. |
| 6. | Kamarudin, S.K., Wan Ramli Wan Daud, Hasran, U.A. & Basri, S. | MsfUKM: Design Advisor Tool for Direct methanol fuel Cell-DMFC | 07/10/2009 | PI20092910. |
| 7. | Kamarudin, S.K., Wan Ramli bin Wan Dau, Hasran, U.A. & Hashim, N. | SFIONUKM: Passive Micro Direct Methanol Fuel Cell | 22/06/2009 | PI20092617. |
| 8. | Wan Ramli Wan Daud, Abdul Wahab Mohammad, Yaakob, Z. & T. Husaini | An Integrated Membrane Reactor System for Hydrogen Gas Production | 13/06/2008 | PI20082106 |
| 9. | Wan Ramli Wan Daud, Mohammad Kassim, Daik, R. & Arifin, K. | A Method of Producing a Photocatalyst | 14/07/2008 | PI20082601 |
| 10. | Wan Ramli Wan Daud, Kamaruzzaman bin Sopian, Ja’afar Sahar, Che Hassan Che Haron, Abu Bakar Mohamad, Abd. Amir Hassan Kadhum, Mohd. Shahbudin Mastar @ Masdar, Masli Irwan Rosli, Majlan, E.H., Husaini & Sitanggang, R. | An Air-Cooled Electrochemical Power Generator (LESTARI 1000) | 18/07/2008 | PI20082673 |
| 11. | Wan Ramli Wan Daud, Mohammad Kassim, Daik, R. & Rahman, F.H. | A Method of Synthesizing a Photocatalyst for Hydrogen Production | 18/11/2008 | PI20084656 |
| 12. | Wan Ramli Wan Daud, Kamaruzzaman Sopian, Ja’afar Sahari, Che Hassan Che Haron, Abu Bakar Mohamad, Abd. Amir Hassan Kadhum, Mohd. Shahbudin Mastar @ Masdar, Masli Irwan Rosli, Herianto Majlan, T. Husaini & Sitanggang, R. | Polymer Electrolyte Membrane Fuel Cell Stack with Open Cathode | 03/11/2008 | PI20084371 |
| 13. | Ja’afar Sahari, Wan Ramli Wan Daud, Norhamidi Muhamad & Dedikarni Panuh | A Method of Producing Bipolar Plate |  | PI20083067 |
| 14. | Ja’afar Sahari, Wan Ramli Wan Daud, Norhamidi Muhamad & Dedikarni Panuh | Polymer Composite Bipolar Plate |  | PI20085127 |
| 15. | Yaakob, Z., Wan Ramli Wan Daud M. Rosli Yosfiah & Jamalaiah Jahim | Mo-Ni-Cu Catalyst on gamma Al2O3 Support for hydrogen production from methanol | 4/03/2008 | PI20080488 |
| 16. | Yaakob, Z., Mohd Adib Ibrahim, Wan Ramli Wan Daud & Abd. Amir H. Kadhum | Cu-Zn-Al Catalyst Supported on Zeolite for hydrogen production from methanol | 4/08/2008 | PI20080487 |
| 17. | Mohammad Kassim, Wan Ramli Wan Daud, Daik, R. & Rahman, F.H. | A Method of Synthesizing a Photocatalyst for Hydrogen Production | 18/11/2008 | PI20084656 |
| 18. | Wan Ramli Wan Daud, Abu Bakar Muhammad, Abdul Amir Hassan Kadhum, Jaafar Sahari, Kamaruzzaman Sopian, Masli Irwan Rosli & Shahbudin Mastar @ Masdar | An Electrochemical Power Generator (LESTARI) | 21/12/2007 | PI20072055 |
| 19. | Wan Ramli Wan Daud, Mohamad, A.B., Abdul Amir Hassan Kadhum, Yaakob, Z., Takriff, M.S. & Majlan, E.H. | Compact pressure swing adsorber for hydrogen purification (CPSA) | 16/11/2007 | PI20072029 |
| 20. | Wan Ramli Wan Daud, Mohammad Kassim, Mohamad, A.B., Abdul Amir Hassan Kadhum, Arifin, K. & Lorna Minggu | A photocatalyst for solar hydrogen production | 28/11/2007 | PI20072119. |
| 21. | Yaakob, Z., Wan Ramli Wan Daud & Lorna Minggu | Cu-Zn-Al Catalysts Promoted With Palladium For Hydrogen Production From Methanol | 16/11/2007 | PI20072030. |
| 22. | Abu Bakar Mohamad, Abdul Amir Hasan Kadhum, Wan Ramli Wan Daud, Mimi Abu Bakar & Sitanggang, R. | Process for Making Catalyst by Impregnation of Platinum of Activated Carbon | 2/11/2007 | PI20071902. |
| 23. | Abu Bakar Mohamad, Abdul Amir Hasan Kadhum, Wan Ramli Wan Daud & Sitanggang, R. | Innovative Membrane Electrode Assembly (MEA) Design for Proton Exchange Membrane Fuel Cell (PEMFC) | 19/12/2007 | PI20072279. |
| 24. | Yaakob, Z., Wan Ramli Wan Daud & Mohd Sabri Mahmud | Cu-Zn-Al Catalyst Promoted with Vanadium for hydrogen production from methanol |  | PI20072270 |
| 25. | Kamaruzzaman Sopian, Wan Ramli Wan Daud & Mohd. Zamri Ibrahim | Hydrogen Production Method (PV wind hydrogen production system) | 13/11/2007 | PI20071969 |
| 26. | Kamaruzzaman Sopian & Wan Ramli Wan Daud | A method for producing hydrogen and a system for supplying same to a building and/ or the like (Solar hydrogen eco-house) | 13/11/2007 | PI20071970 |
| 27. | Kamaruzzaman Sopian, Wan Ramli Wan Daud & Mohd. Zamri Ibrahim | Polymer Electrolyte Membrane (PEM) electrolyzer for the production of hydrogen from solar energy | 13/11/2007 | PI20071971 |
| 28 | Abu Bakar Mohammed (Project Leader),Wan Ramli bin Wan Daud,Abd. Amir  Hassan Kadhum, Mahreni Akhmad.  . | Self Humidified Nanocomposite Membrane Of  Nafion-Sio2-Pwa | 9 August 2010. | PI 201003752 |

**Trademark**

1. SERINDIT (07019005)

# PUBLICATION:

## H-indices and Citation Data

ISI WOS Publon Researcher ID: B-3635-2013 on 16 Feb 2022.

* Number of Indexed Articles WOS: 368
* H-Index ISI WOS (1995-2021) : 55
* Total citations ISI WOS (1995-2021): 11,401

SCOPUS Author ID: 35547717400 on 16 Feb 2022

* Number of Indexed Articles SCOPUS: 379
* H-Index SCOPUS (1995-2021): 59
* Total citations SCOPUS (1995-2021): 12,538

GOOGLE SCHOLAR on 16 Feb 2022.

* Number of Indexed Articles GOOGLE: 557
* H-Index GOOGLE SCHOLAR (1995-2021): 68
* Total citations GOOGLE SCHOLAR (1995-2021): 17,954

## Publication Summary:

Published 1049 articles:

* Published 414 articles in international journals,
* Published 401 articles in international conference proceedings
* Published 235 articles in national conference proceedings
* Published 2 international research books
* Published 6 chapters in international research books
* Edited 6 international conference proceedings
* Edited 8 journal issues as Chief Editor of Jurnal Kejuruteraan and Jurnal Kejuruteraan Kimia.
* Guest edited 3 Special Issues of International Journal of Hydrogen Energy
* Published 2 national books
* Published 5 chapters in national research books
* Translated 2 books

## Articles in International Journals:

**Year 2021:**

1. Daud, S.M., Abu Bakar, M.H., Wan Daud, W.R., Kim, B.H., Md Jahim, J., Muchtar, A., Somalu, M.R., Lee, P.H. & Abdul, P.M. 2021. Improvement of microbial fuel cell performance using novel kaolin earthenware membrane coated with a polybenzimidazole layer. Energy Science and Engineering (under publication).
2. Wong, C.Y., Wong, W.Y., Loh, K.S., Khalid, M., Daud, W.R.W., Lim, K.L. & Walvekar, R. 2021. Enhancement in hydrolytic stability and proton conductivity of optimised chitosan/sulfonated poly (vinyl alcohol) composite membrane with inorganic fillers. International Journal of Energy Research:1-17.
3. Jafary, T., Yeneneh, A.M., Daud, W.R.W., Al-Attar, M.S.S., Al-Masani, R.K.M., Rupani, P.F. 2021. Taxonomic classification of sulphate-reducing bacteria communities attached to biocathode in hydrogen-producing microbial electrolysis cell. Int. J. Environ. Sci. Technol.: 1-10.
4. Wan Ramli bin Wan Daud 2019. Kincir air Malayonesia: satu kajian awal Kesturi 29 (1 & 2): 97-120 (Terbit 2021).
5. Ahmad Junaidi, N.H., Wong, W.Y., Loh, K.S., Rahman, S., Daud, W.R.W. 2021. A comprehensive review of MXenes as catalyst supports for the oxygen reduction reaction in fuel cells. International Journal of Energy Research (Article in Press).
6. Lim, B.H., Majlan, E.H., Tajuddin, A., Husaini, T., Daud, W.R.W., Mohd Radzuan, N.A., Haque, M.A. 2021. Comparison of catalyst-coated membranes and catalyst-coated substrate for PEMFC membrane electrode assembly: A review. Chinese Journal of Chemical Engineering 33:1-16.
7. Nasir, M.F., Daud, W.R.W., Mohamed, M.A., Mamat, M.H., Abdullah, S. & Mahmood, M.R. 2021. Physicochemical Properties of Surface Modified ZnFe2O4 Nanocomposite Incorporated with Bio-templated Kapok Fiber for Photoelectrochemical Application. Surface and Interface Analysis 53(7):637-649.
8. Salehmin, M.N.I., Nasir, M.F., Mohamed, M.A., Rosman, N.N., Moridon, S.N.F., Minggu, L.J. & Daud, W.R.W. 2021. Reduced graphene oxide as protective material on cuprous oxide nanowire; the challenges and proposal for improvement in photoelectrochemical application. Surface and Coatings Technology, 127127.
9. Salehmin, M.N.I., Lim, S.S., Satar, I. & Daud, W.R.W. 2021. Pushing microbial desalination cells towards field application: Prevailing challenges, potential mitigation strategies, and future prospects. Science of The Total Environment, 759:143485.
10. Rubinsin, N.J., Daud, W.R.W., Kamarudin, S.K., Masdar, M.S., Rosli, M.J., Samsatli, S., Tapia, J.F.D., Karim Ghani, W.A.W.W., Hasan, A. & Lim, K.L. 2021. Modelling and optimisation of oil palm biomass value chains and the environment–food–energy–water nexus in peninsular Malaysia. Biomass and Bioenergy 144, 105912.
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2. Daud, W.R.W., Talib, M.Z.M., Daud, N.M. & Husein, M.Z. 1993. Modelling Forest Growth in Equatorial Virgin Forest, Persiandgan Ekologi Malaysia ke-2: Ecotourism in Malaysia "Prospects and Potential Impact", 6th - 7th September 1993, Shagri-La Hotel, Kuala Lumpur, 159 - 168.
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5. Daud, W.R.W., Ahmad, A. & Lee, H.T. 1993. A Langrangian Oil Spill Model with Monte Carlo and Markov Chain Wind Simulation, 9th. Symposium of Malaysian Chemical Engineers, 6th - 7th July 1993,Universiti Kebangsana Malaysia.
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**Year 1992:**

1. Daud, W.R.W., Zain, S.M., Yatim, B. & Ibrahim, T.M.A.S.T. 1992. Pembudayaan Sains and Teknologi dalam Masyarakat Melayu Menjelang Year 2020 (Culturisation of Science in Malay Society in the Year 2020), Kongres Cendekiawan Melayu III, 3 - 5 Disember 1992, Institut Teknologi MARA, Dewan Bahasa and Pustaka, Kuala Lumpur, ms. 98 - 102.
2. Sopian, K., Othman, M.Y. & Daud, W.R.W.. 1992. Solar Drying System for Agricultural Produce, Kolokium ke-4 Fakulti Kejuruteraan UKM, 17 - 19 Ogos 1992, Kuantan, ms. 88 - 97.
3. Ahmad, R., Daud, W.R.W., Abdullah, N., Fisal, Z. & Mohamad, A.B.. 1992. Perolehan Semula Unsur-unsur Nadir dari Selut Sisa Lombong Timah di Malaysia (Recovery of Rare Earths from Tin Mining Waste in Malaysia), 1992. Kolokium ke-4 Fakulti Kejuruteraan UKM, 17 - 19 Ogos 1992, Kuantan, ms. 98 - 102.
4. Rahman, R.A., Suwandi, M.S., Yusoff, M.F., Daud, W.R.W., Salihon, J., Fisal, Z., Mohamad, A.B., Abdullah, N. & Mohammad, A.W. 1992. Pendidikan and Penyelidikan Kejuruteraan Kimia and Proses dalam Menghadapi Cabaran 2020 (Chemical Engineering Education & Research Facing the 2020 Challenge), Kolokium ke-4 Fakulti Kejuruteraan UKM, 17 - 19 Ogos 1992, Kuantan, ms. 7 - 24.

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2. Daud, W.R.W., Ibrahim, M.H., Talib, M.Z.M., 1991, Penyelidikan Pengeringan di UKM : Masalah and Cabaran(Drying Research at UKM: Problems & Challenges), Kolokium Ke-3 Fakulti Kejuruteraan UKM, Pulau Pangkor, Perak, 16 - 17 Jun 1991.
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**Year 1990:**

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2. Daud, W.R.W., Jabar, J., Sharif, J. & Rahman, S.A. 1990, Data Kesimbangan Torium and Uranium Daripada Sisa Perlombongan Timah di dalam Sistem Air-Kerosin-TBP Berasid*,* (Equilibrium Data of Thorium & Uranium from Tin Mining Wastes in Acidic Water-Kerosine-TBP System), Proc. Sixth Symposium Malaysian Chemical Engineers, June 4th - June 5th 1990, Universiti Teknologi Malaysia, Kuala Lumpur, pp. FUN-1 - FUN-9.

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2. Daud, W.R.W. 1989, Thermal Dynamics of a Drum Dryer, Second National Conference of Thermal Engineering and Science, August 15th - August 16th 1989, Putra World Trade Centre, Kuala Lumpur, pp. 52 - 60.
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2. Daud, W.R.W., 1988, Theoretical Investigation on the Conductive Drying of Thin Films of Starch Gel, Prosiding Seminar Kejuruteraan Terma Kebangsaan, pp. 226-253, 4-6 April 1988, PJ Hilton, Malaysia.
3. Daud, W.R.W., 1988, Pendekatan Modul Berjujukan Untuk Penyediaan Rajahalir Proses Berkomputer Mudah Bahagian I Imbangan Jisim, (Sequential Modular Approach to Computerised Simple Process Flowsheeting), Prosiding Seminar Sains Komputer Kebangsaan II mengenai Inovasi Komputer di Malaysia, pp. 14-1 - 14-23, 6-7 April 1988, Universiti Kebangsaan Malaysia.
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**Year 1986:**

1. Daud, W.R.W. 1986, Theories of Drying - A Review, Proc. Second Symposium of Malaysian Chemical Engineers, pp. 18-49, 24-25 June 1986, Universiti Kebangsaan Malaysia.

## General Articles

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2. Daud, W.R.W. 1993. Pemikiran sains al-Biruni (al-Biruni's Scientific Thought), ASASAINS, 1/93, ms. 3 - 19
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4. Daud, W.R.W. 1993. Falsafah Sains al-Biruni (al-Biruni's Philosophy of Science), dalam Othman, M.Y. et al. (peny.), Siri Wacana Sejarah and Falsafah Sains (Discourse on History and Philosophy Siries), Vol. 2, Dewan Bahasa and Pustaka, Kuala Lumpur, ms. 39 - 55.

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1. Daud, W.R.W. 1992, Sejarah Perkembangan Teknologi dalam Tamadun Islam (History of Technology Development in Islamic Civilisation), ASASAINS, 1/92, 1992, pp.1-15

**Year 1990:**

1. Daud, W.R.W. 1990, Islamic Technology : A Preliminary Study, MAAS Journal of Islamic Science, Vol. 6, No. 1, pp. 79 - 85.
2. Daud, W.R.W., Yusof, K.M., Basri, H., Ali, Y. & Jumari, K. 1990, Sejarah and Falsafah Sains and Teknologi: Kepentingannya dalam Kurikulum Kejuteraan Prasiswazah (History & Philosophy of Science & Technology: Its Impostance in the Undergraduate Engineering Curriculum), Kolokium Kedua Fakulti Kejurteraan Universiti Kebangsaan Malaysia, March 13th - March 15th 1990, Port Dickson, Negeri Sembilan, pp. 1 - 14.

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## Books

## International Books

**International Research Books**

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2. Woo, M.W., Mujumdar, A.S. & Daud, W.R.W. 2010. Spray Drying: Operation, Deposition & CFD Modelling. Saarbrücken, Germany: VDM Publishing House.

**Chapters in International Research Books**

1. Swee Su Lim, Byung Hong Kim, Da Li, Yujie Feng, Wan Ramli Wan Daud, Keith Scott and Eileen Hao Yu. 2019. Effects of applied potential and reactants to hydrogen-producing biocathode in a microbial electrolysis cell dlm microbial synthesis in Andrea Schievano, Deepak Pant and Sebastià Puig (Editors) Gas-Fermentation and Bioelectroconversion of CO2 and other Gaseous Streams: Frontiers Research Topics, Lausanne, Switzerland: Frontiers Media SA, pp. 75-93.
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3. Chung Lim Law, Wan Ramli Wan Daud & Arun S. Mujumdar. 2014. Emerging Drying Technologies for Agricultural Products. In Introduction to Advanced Food Process Engineering, J.K. Sahu (ed.). Boca Raton: CRC Press, pp. 31-77.
4. Mahreni, Mohamad, A.B., Kadhum, A.A.H. & Daud, W.R.W., 2011. Nanocomposite Electrolyte for PEMFC Application. Dalam Reddy, B. (Penye.). Advances in Nanocomposites - Synthesis, Characterization and Industrial Applications. Rijeka Croatia: Itech - Open Access Publisher pp. 263-288. <http://www.intechopen.com/source/pdfs/15408/InTech-Nanocomposite_electrolyte_for_pemfc_application.pdf>
5. Woo, M.W., Mujumdar, A.S. & Daud, W.R.W.. 2010. CFD Simulation of Spray Dryers. Di dalam Woo, M.W., Mujumdar, A.S. & Daud, W.R.W. (Peny.) Spray Drying Technology, Volume 1, E-book, <URL:http://serve.me.nus.edu.sg/arun/file/Publications/books/Spray%20Drying%20Technology.pdf> pada 7 January 2011
6. Daud, W.R.W. 2006. Drum dryers. Di dalam Mujumdar, A. S. (Peny.) Handbook of Industrial Drying. Boca Raton: CRC Press. pp. 203 – 233.

**Editing of International Conference Proceedings**

1. Daud, W.R.W. (Chief Editor), Takriff, M.S., Mohammad, A.W., Mohamad, A.B., Talib, M.Z.M., Tasirin, S.M., Abdullah, A.R.S., Md Jahim, J., Anuar, N., Markom, M. & Shuhaida Harun (Editors). Proceedings of the 15th Regional Symposium on Chemical Engineering and the 22nd Symposium of Malaysian Chemical Engineers RSCE-SOMCHE 2008, 2-3 December 2008, Kuala Lumpur, Malaysia, 2 Vol. 2000 pp.
2. Daud, W.R.W. (Chief Editor), Takriff, M.S., Tasirin, S.M., Abdullah, E.C., Ariffin, A.K., Mohammad, A.W., Muchtar, A., Abdullah, S., Chuah Teong Guan, Anuar, N. & Noorhisham Tan Kifli (Editors). 2003. Proceedings of the 2nd Asian Particle Technology Symposium (APT2003), 17-19 Dec 2003, Penang, Malaysia, 2 Vol., 1217 pp.
3. Daud, W.R.W. (Chief Editor), Rashid, A.K.A, Hamdan, A.R., Majlis, B.Y., Haron, C.H.C., Yusoff, K.M., Sopian, K., Jumari, K., Mahadi, N.M., Rahman, R.A., Saari, S., Ahmad, S. & Abdullah, S. (Editors). 2003. Proceedings of the 3rd International Conference on Advances in Strategic Technologies, Renaissance Hotel, Kuala Lumpur, Malaysia, 12 – 14 August 2003, 2 Vol., 1814 pp.
4. Daud, W.R.W. (Chief Editor), Sopian, K., Tasirin, S.M., Yatim, B., Othman, M.Y. & Rukunudin, I.H. (Editors) 2001. ADC 2001 : High Quality Product through Efficient and Environmental Friendly Drying Technology, Proceedings of the 2nd Asian-Oceania Drying Conference, 20 – 22 August 2001, Golden Sands Resort, Batu Feringhi, Pulau Pinang, Malaysia, 758 pp.
5. Daud, W.R.W. (Chief Editor), Shamsuddin, A.H., Rahman, R.A., Sembok, T.M.T., Sahari, J., Taha, M.R., Sopian, K., Mohamed, R., Shukur, R.A., Rashid, Z.A.A., Haron, C.H.C., & Abdullah, S. (Editors) 2000. ICAST 2000, The Proceeding of the 2nd International Conference on Strategic Technologies, 2 Vol., 1814 pp.

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2. Daud, W.R.W., 1992, Penyampaian Pneumatik, Kuala Lumpur: Dewan Bahasa and Pustaka, 158 pp.

**Chapters in National Research Books**

1. Daud, W.R.W. 2009. Sejarah Perkembangan Teknologi Melayu: Satu Kajian Awal. Dalam Othman, M.Y. (Penyelaras) 2009. Wacana Sejarah dan Falsafah Sains: Sains dan Masyarakat. Kuala Lumpur: Dewan Bahasa & Pustaka, pp.14-53.
2. Daud, W.R.W. 2009. Falsafah Sains Al-Biruni. Dalam Othman, M.Y. (Penyelaras) 2009. Wacana Sejarah dan Falsafah Sains: Sains dan Masyarakat. Kuala Lumpur: Dewan Bahasa & Pustaka, pp.172-185.
3. Daud, W.R.W. 2009. Teknologi dan Pembangunan. Dalam Othman, M.Y. (Penyelaras) 2009. Wacana Sejarah dan Falsafah Sains: Sains dan Masyarakat. Kuala Lumpur: Dewan Bahasa & Pustaka, pp.541-547.
4. Daud, W.R.W. 1993. Sejarah Teknologi Melayu dalam Aziz Deraman (peny.), Tamadun Islam di Alam Melayu, Kuala Lumpur: Dewan Bahasa and Pustaka.
5. Daud, W.R.W. 1993. Falsafah Sains al-Biruni. Dalam Othman, M.Y. (peny.), Siri Wacana Sejarah and Falsafah Sains, Vol. 2, Kuala Lumpur: Dewan Bahasa and Pustaka, pp. 39-55.

**National Text Book**

1. Daud, W.R.W. 2002. Prinsip Reka Bentuk Proses Kimia, Bandar Baru Bangi: Institusi Jurutera Kimia Malaysia, 322 pp.

**Translated Books**

1. Daud, W.R.W. (Translator) 1991. Pengenalan kepada Kendalian Pengeringan Secara Industri, Kuala Lumpur: Dewan Bahasa and Pustaka, 1991, translated from Keey, R. B. 1979. Introduction to Industrial Drying Operations, Oxford: Pergamom Press, 352 pp.
2. Daud, W.R.W., Salihon, J., Hamid, K.H.K., Abdullah, N. & Rahman, R.A. (Translators) 1994. Kejuruteraan Kimia : Rekabentuk, Vol. 6, Kuala Lumpur: Dewan Bahasa and Pustaka translated from Coulson, J. M. & Richardson, J. F. 1983, Chemical Engineering : Design, Vol. 6, Oxford: Pergamon Press, 971 pp..

**Editing of International Journals**

1. Daud, W.R.W. (Guest Editor) Special Issue of International Journal of Hydrogen Energy (SCOPUS/ISI) Volume 44, Issue 58 pages 30511-30787 (November 2019) on the 6th International Conference on Fuel Cells and Hydrogen Technology (ICFCHT 2017), 11-13 April 2017, Putrajaya, Malaysia.
2. Daud, W.R.W. (Guest Editor) Special Issue of International Journal of Hydrogen Energy (SCOPUS/ISI) Volume 42, Issue 14, Pages 8973-9352 (6 April 2017) on Sustainable Fuel Cell and Hydrogen Technologies: The 5th International Conference on Fuel Cell and Hydrogen Technology (ICFCHT 2015), 1-3 September 2015, Kuala Lumpur, Malaysia.
3. Daud, W.R.W. (Guest Editor) Special Issue of International Journal of Hydrogen Energy (SCOPUS/ISI) Volume 38, Issue 22 Pages 9360-9599 (26 July 2013) for the 3rd International Conference on Fuel Cell and Hydrogen Technology (ICFCHT2011), 22-24 November 2011, Kuala Lumpur, Malaysia.

**Editing of National Journals**

1. Daud, W.R.W. (Chief Editor), Othman, M., Ali, M.A.M., Mohamed, A., Fauzi, M., Taha, M.R., Sahari, J., Zain, F.M., Abdullah, N. & Muhamad, N. 1999. Jurnal Kejuruteraan, Vol. 11(1), 80 pp.
2. Daud, W.R.W. (Chief Editor), Othman, M., Ali, M.A.M., Mohamed, A., Fauzi, M., Taha, M.R., Sahari, J., Zain, F.M., Abdullah, N. & Muhamad, N. 1999. Jurnal Kejuruteraan, Jld 11(2), 101 pp.
3. Daud, W.R.W. (Chief Editor), Othman, M., Ali, M.A.M., Mohamed, A., Fauzi, M., Taha, M.R., Sahari, J., Zain, F.M., Abdullah, N. & Muhamad, N. 2000. Jurnal Kejuruteraan, Vol. 12, 116 pp.
4. Daud, W.R.W. (Chief Editor), Othman, M., Ali, M.A.M., Mohamed, A., Fauzi, M., Taha, M.R., Sahari, J., Zain, F.M., Abdullah, N. & Muhamad, N. 2001. Jurnal Kejuruteraan, Vol. 13, 125 pp.
5. Daud, W.R.W. (Chief Editor), Othman, M., Ali, M.A.M., Mohamed, A., Fauzi, M., Taha, M.R., Sahari, J., Zain, F.M., Abdullah, N. & Muhamad, N. 2002. Jurnal Kejuruteraan, Vol. 14, 107 pp.
6. Daud, W.R.W. (Chief Editor), Darus, Z.M., Mohammad, A.W., Haron, C.H.C., Ismail, A., Samad, S.A., Abdullah, S., Rashid, Z.A.A., Rahmat, R.A.A., Anuar, N. & Ismail, H.. 2003 Jurnal Kejuruteraan, Vol. 15, 105 pp.
7. Daud, W.R.W. (Chief Editor), Darus, Z.M., Mohammad, A.W., Haron, C.H.C., Ismail, A., Samad, S.A., Abdullah, S., Rashid, Z.A.A., Rahmat, R.A.A., Anuar, N. & Ismail, H.. 2004. Jurnal Kejuruteraan, Vol. 16, 103 pp.
8. Daud, W.R.W. (Chief Editor), Saidi, H., Masitah Hassan, Tow, T.T., Rahman, R.A., Aziz, R.A.. 2003. Jurnal Jurutera Kimia Malaysia. Vol.. 3. 105 pp.

**Editing of National Conference Proceedings**

1. Daud, W.R.W. (Chief Editor) & Sopian, K. (Editor), Kemajuan dalam Penyelidikan & Pengenmbangan Sel Bahan Api Malaysia (Advances in Malaysian Fuel Cell Research & Development), Admiral Cove, Port Dickson, 27 – 30 June 2003, 306 pp.
2. Daud, W.R.W. (Chief Editor), Mohammad, A.W., Tasirin, S.M. & Takriff, M.S. (Editors) 2000. SOMChE 2000, The Proceedings of the 14th Symposium of Malaysian Chemical Engineers, 743 pp.

# TEACHING AND SUPERVISION

## Teaching

## Post-Graduate Teaching

**Courses Taught**

* Air Pollution Chemistry, Dispersion & Control (2012-)
* Computer Aided Chemical Process Design (2002-)
* Energy and the Environment (2000-)
* Air Pollutant Chemistry and Dispersion (1999-)
* Air Pollution Control (1999-)

**Under-Graduate Teaching**

**Courses Taught**:

* Transport Phenomena I & II (2007-2008)
* Separation Processes (2006-2007)
* Food Engineering (1999-)
* Chemical Process Principles (1999-)
* Technology and Civilization (1990-2006)
* Process Plant Design (1986-2006)

## Supervision of Doctor of Philosophy & Master of Science Students

**Summary of Supervision of Students**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Degree | Supervisor | Graduated | Ongoing | Withdrawn | Total | Overall Total |
| PhD | Main | 36 | 8 | 15 | 59 | 91 |
| Co | 20 | 12 | - | 32 |
| MSc | Main | 28 | 1 | 11 | 40 | 71 |
| Co | 21 | 10 | - | 31 |
| Total Post-Graduate Students Supervised | | 105 | 31 | 26 | 162 | 162 |
| Total Under-Graduate Students Supervised | | 116 | - | - | - | 116 |

**List of PhD Students**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| No. | Period | Student | Title of Thesis | Supervisory role | Status of student |
| 1 | 2018- | Azim Fitri Bin Zainul Abidin | Mangkin Terbitan Daripada Rangka Zeolitik Imidazolat Bagi Tindak Balas Penurunan Oksigen Dalam Aplikasi PEM Sel Fuel | Member of Supervisory Committee | Ongoing |
| 2 | 2017- | Ahmad Zubair Bin Yahaya | The Influence Of Real Tars Produed From Biomass Gasification On The Performance Of Nickel-Based Anodes | Member of Supervisory Committee | Ongoing |
| 3 | 2016- | I Gusti Ayu Arwati | Pengembangan inhibitor nanopartikel untuk aplikasi stack sel fuel | Member of Supervisory Committee | Ongoing |
| 4 | 2016- | Tan Pey Fang | Pengenalan dan Pengajaran Teknologi Pelepasan Sifar (Sel Fuel) di Sekolah-Sekolah Selaras Dengan Matlamat Kewarganegaraan Alam Sekitar KBKK dan Stem Pendidikan Malaysia | Chairman of Supervisory Committee | Ongoing |
| 5 | 2016- | Resa Taruna Suhada |  | Member of Supervisory Committee | Ongoing |
| 6 | 2016- | Nur Fadhilah Binti Abdul Jalil | Pendekatan Pendidkan STEM Berdasarkan Teknologi Sel Fuel Melalui Kaedah Mobile Games untuk Peringkat Menengah Rendah di Sarawak | Member of Supervisory Committee | Ongoing |
| 7 | 2016- | Shahrul Azman Bin Zainal Abidin | Process Optimization | Main supervisor | Ongoing |
| 8 | 2016- | Ros Emilia Binti Rosli Selfuel | Reka Bentuk dan Pengembangan Sistem Sel Fuel PEM Bersuhu Tinggi | Ahli J/K Penyeliaan | Ongoing |
| 9 | 2016- | Siti Najibah Abd Rahman Selfuel | Reka Bentuk dan Pembangunan Penjana Kuasa Mudah Alih Sel Bahan Api | Ahli J/K Penyeliaan | Ongoing |
| 10 | 2016- | Raba'atun Adawiyah Shamsuddin Selfuel | Corrosion of Heat Treated Stainless Steel For Use As Base of Biocathode in Microbial Electrolysis Cell | Pengerusi J/K Penyeliaan | Ongoing |
| 11 | 2015-2018 | Ibdal Satar | Sel mikrobial elektrolisis | Main Supervisor | Finished |
| 12 | 2014- | Siti Mariam Bt. Daud  Selfuel | Earthen Ware And Ceramic Membrane As A Separator In Microbial Fuel Cell | Chairman of Graduate Committee | Ongoing |
| 13 | 2014- | Nur Fawwaz Binti Asri | Kajian Keberaliran Elektrik Plat Dwikutub Logam Untuk PEMFC Di Dalam Aplikasi Automotif | Member of Graduate Committee | Ongoing |
| 14 | 2014- | Masniza Binti Mohamed @ Mahmood | Ekstraksi dan Penentuan Orthosiphon stamineus(OS) menggunakan hidropenyulingan yang dibantu Kesan Ohm | Main Supervisor | Ongoing |
| 15 | 2014- | Lee Pak Hoe | Membran Penukar Proton Berasaskan Ko-polimer Berasaskan Polibenzimidaksole (Spbi) Bagi Aplikasi Sel Fuel For Fuel Cell Applications | Member of Graduate Committee | Ongoing |
| 16 | 2013- | Syahir Bin Samsuddin | Sistem Kawalan bagi Kenderaan Sel Fuel | Member of Graduate Committee | Ongoing |
| 17 | 2013- | Nasrin Binti Sulaiman | Sistem Pengurusan Tenaga bagi Kenderaan Sel Fuel | Member of Graduate Committee | Ongoing |
| 18 | 2013-2017 | Lim Bee Huah | Reka Bentuk, Simulasi, Pembikinan dan Penilaian Prestasi Stel Sel Fuel membran penukar proton 5 kW | Member of Graduate Committee | Finished |
| 19 | 2013- | Nurhazira Azly Binti Minhat | Sel Fuel Mikrobial | Chairman of Graduate Committee | Withdrawn |
| 20 | 2013-2018 | Tahereh Jafari | A Novel Technology for Hydrogen Production From Organics Matters in a Microbial Electrolysis Cell (MEC) | Main Supervisor | Finished |
| 21 | 2013-2018 | Suhaila Binti Abdullah | Peningkatan Pembelahan Molekul Air Fotoelektrokimia Dengan Pewarna Semulajadi Daripada Buah Naga | Member of Graduate Committee | Finished |
| 22 | 2013-2016 | Fathie Binti Ahmad Zakil | Kajian Dinamik Sel Fuel Langsung Metanol | Co-Supervisor | Unknown |
| 23 | 2012-2016 | Liew Kien Ben | Manganese oxide-carbon nanotubes nanocomposite as catalyst for oxygen reduction and POME treatment in microbial Fuel Cell | Chairman of Graduate Committee | Finished |
| 24 | 2013-2016 | Shiva Sadeghi Louyeh | Synthesis And Characterization Of Metal Coated Carbon Nanofiber For Hydrogen Storage | Co-Supervisor | Finished |
| 25 | 2012- | Najua Delaila Binti Tumin | Kawalan Poliform Dan Penghabluran Asid Amino Dalam Pengering Sembur Skala Perintis | Main Supervisor | Withdrawn |
| 26 | 2012- | Toh Shaw Yong | Sintesis dan Pencirian Elektromangkin Berasaskan Grafena Baru bagi Aplikasi Sel Fuel Metanol Langsung | Co-Supervisor | Ongoing |
| 27 | 2012-2016 | Leong Jun Xing | Novel nano-composite speek membrane in microbial fuel cell for waste water treatment and continuous power generation | Chairman of Graduate Committee | Finished |
| 28 | 2012-2018 | Haslina Binti Ahmad | Elektrod hibrid untuk sel fuel metanol dengan bantuan cahaya | Member of Graduate Committee | Finished |
| 29 | 2011-2017 | Mohd Nashriq B. Nasharudin | Analisis of microfluidic fuel cells - modeling & simulation. | Co-Supervisor | Finished |
| 30 | 2011-2017 | Nabila Binti A. Karim | Mankin Cobalt Ftalodianina/karbon-Tungsten Pksida Nanowayar (W18O49) Untuk Katol Sel Fuel Metanol Langsung (DMFC) | Co-Supervisor | Finished |
| 31 | 2011- | Norhafiz Bin Hashim | Rekabentuk, fabrikasi dan pengoptimuman sel fuel metanol langsung | Co-Supervisor | Ongoing |
| 32 | 2011-2016 | Azlyana Binti Ismail | Permodelan dan Pengoptimum Sel Fuel Metanol Langsung untuk Pembangunan Rangkaian Sel | Co-Supervisor | Finished |
| 33 | 2011- | Dang Sri Ayu Binti Abdul Halim | Biofilem dalam anod sel fuel mikrobial | Main Supervisor | Withdrawn |
| 34 | 2010-2016 | Azran Bin Mohd Zainoodin | Lapisan Berliang Nanogentian Karbonuntuk Sokongan Elektrod Anod Dalam Sel Fuel Metanol Langsung Pasif | Member of Graduate Committee | Finished |
| 35 | 2010 – 2013 | Wong Wai Yin | Sintesis dan Pencirian Nanotiub Karbon Terdop Nitrogen Sebagai Mangkin Katod untuk Aplikasi Sel Fuel | Main Supervisor | Finished |
| 36 | 2010 -2013 | Thiam Hui San | Membran Nanokomposit Nafion/SiO2-Pd untuk Aplikasi Sel Fuel Metanol Langsung | Main Supervisor | Finished |
| 37 | 2010-2015 | Sahriah Binti Basri | Pembangunan Mangkin Berstuktur Nano Untuk Sel Fuel Metanol Langsung | Co-Supervisor | Finished |
| 38 | 2010-2014 | Dedi Rohendi | Pembangunan Himpunan Elektrod Membran Ketumpatan Arus Tinggi untuk PEMFC Mudah Alih | Co-Supervisor | Finished |
| 39 | 2010-2015 | Nurul Fitriah Binti Nasir | Pemodelan dan Pengoptimuman Proses Biodiesel Selanjar dan Sesekumpul Menggunakan Mangkin Homogen dan Heterogen | Main Supervisor | Finished |
| 40 | 2009 -2013 | Mulyazmi | Pengembangan Metodologi Reka Bentuk Proses Sistem Sel Fuel Membran Penukaran Proton Untuk Pencapaian Prestasi Optimum | Main Supervisor | Finished |
| 41 | 2009 - 2014 | Erni Misran | Pemodelan dan Simulasi Pemindahan Air Di Sepanjang Alur Aliran Gas Sel Fuel Membran Penukar Proton | Main Supervisor | Finished |
| 42 | 2009 - 2014 | Asma M Husin Milad | Photocurrent Enhancement of Titania Nanotubular Arrays By Doped and Hetero Nanocomposite With Non Metal and Metal Oxide For Photoelectrochemical Water Splitting | Main Supervisor | Finished |
| 43 | 2009– 2009 | Majid Talebi Esfandarani | Photoelectrochemical cell for hydrogen production | Main Supervisor | Withdrawn |
| 44 | 2009 -2013 | Samaneh Keshani | Deposition of Sugar, Fat and Protein-Rich Food Materials in Pilot Scale Spray Drye | Main Supervisor | Finished |
| 45 | 2009 -2010 | Soo Chan Wai | Producing hydogen gas from salt water through radiofrequency | Co-Supervisor | Withdrawn |
| 46 | 2008 – 2012 | Nader Mokhtarian Mohammad Sadegh | Microbial Fuel Cells Development for Detection of Electrochemical Potential and Low Voltage Electricity | Main Supervisor | Finished |
| 47 | 2008-2009 | Mohd Shaiful Ramze Bin Endut | Crystallization Process of Pharmaceuticals and Macromolecules (Protein) | Main Supervisor | Withdrawn |
| 48 | 2008 – 2012 | Ifa Puspasari | Hydrodynamic and Drying Characteristics of Oil Palm Frond Particles in An Agitated Fluidized Bed Dryer | Main Supervisor | Finished |
| 49 | 2008 - 2013 | Dedikarni Bin Panuh | Penyediaan dan Pencirian Sel Butang Tunggal Elektrolit Dwi Lapisan Sm0.2Ce0.8I1.90(SDC)/Y0.25Bi0.75O1.5(YSB) Bagi Sel Fuel Oksida Pepejal Bersuhu Sederhana dan Rendah | Co-Supervisor | Finished |
| 50 | 2008 -2012 | Khuzaimah Arifin | Kompleks Dwilogam Rutenium - Tungsten Sebagai Bahan Pemeka Pewarna Bagi Sel Fotoelektrokimia Pembelahan Molekul Air. | Co-Supervisor | Finished |
| 51 | 2008 – 2010 | Fadhli Hadana Rahman | Fotoelektral Untuk Penghasilan Hidrogen | Co-Supervisor | Withdrawn |
| 52 | 2008 -2012 | Jarot Raharjo | Sintesis dan Pencirian Elektrolit Ce0.8Sm0.2O2-δ(Li/Na)2CO3 Dengan Kaedah Pensinteran Tanda Tekanan Untuk Sel Fuel Oksida Pepejal Bersuhu Sederhana. | Main Supervisor | Finished |
| 53 | 2006- 2010 | Mustafa I Fadhel | Studies on a Solar Assisted Chemical Heat Pump Dryer | Co-Supervisor | Finished |
| 54 | 2006- 2010 | Mohammad Ahmad Najib Batiha | Modelling The Environmental Fate and Impact of Non-Volatile Organic Agro-Chemicals | Co-Supervisor | Finished |
| 55 | 2006– 2009 | Mariam Firdhaus Binti Mad Nordin | Microwave-Assisted Drying of Pitaya (Hylocereus) Slices | Main Supervisor | Finished |
| 56 | 2006- 2009 | Woo Meng Wai | Product Deposit Reduction in Spray Dryers | Main Supervisor | Finished |
| 57 | 2006 – 2014 | Umi Azmah Asran | Pembangunan Sel Fuel etanol Langsung (DMFC) Mikro dengan Teknologi Sistem Mikro-Elektro-Mekanikal (MEMS) | Main Supervisor | Finished |
| 58 | 2006-2012 | Lorna Binti Jeffery Minggu | Pembelahan Air Fotoelektrokimia dengan Semikonduktor Oksida Logam dalam Sistem Fotoreaktor | Main Supervisor | Finished |
| 59 | 2004- 2010 | Mahreni Akhmad | Sintesis dan Penggunaan Membran Komposit Sebagai Elekrolit Sel Fuel Membran Penukar Proton | Co-Supervisor | Finished |
| 60 | 2004- 2007 | Yusri bin Yusup | Struktur Lapisan Permukaan Atmosfera di Kawasan Perinudtrian Khatulistiwa | Main Supervisor | Finished |
| 61 | 2004- 2008 | Rosnah Bt Shamsudin | Sifat-Sifat Fizikal-Kimia, Terma, Mekanikal dan Reologi *Ananas Comosus l* (Varieti Josaphine) | Main Supervisor | Finished |
| 62 | 2004-2010 | Tjukup Marnoto | Reka Bentuk, Operasi Dan Kawalan Untuk Sistem Tenaga Hidrogen Suria Tersambung Grid | Main Supervisor | Finished |
| 63 | 2004 – 2012 | Nornizar Bt Anuar | Behaviour of Aqeous Solution, Crystallisation and Characterisation of L-isoleucine. | Main Supervisor | Finished |
| 64 | 2004– 2009 | Shahnaz Mansouri Jajaei | Extraction of Essential Oils From Herbs using Supercricital Fluid Method | Main Supervisor | Finished |
| 65 | 2004– 2009 | Soraya Hosseini | Synthesis of Proton Conductive Membrane Using Cesium Dipjosphate Nanoparticles for the Fabrication of Membrane Eelctrode Assembly for Fuel Cells | Co-Supervisor | Finished |
| 66 | 2002 - 2005 | Ramli Sitanggang | Pembuatan Himpunan Elektrod Membran Sel Bahan Api Menggunakan Kaedah Semburan | Co-Supervisor | Finished |
| 67 | 2002– 2003 | Haider O Mahmood Al-Mahdi | Optimization of MEA Coating Process By Screen Printing | Main Supervisor | Withdrawn |
| 68 | 2002- 2010 | T.Husaini | Membran Reaktor Penghasilan Gas Hidrogen. | Main Supervisor | Finished |
| 69 | 2002- 2005 | Siti Kartom Bt Kamarudin | Sintesis Proses dan Reka Bentuk Optimum Untuk Rangkaian Reaktor-Pemisah Menggunakan Kaedah Algoritma | Main Supervisor | Finished |
| 70 | 2002- 2005 | M. Rusli Yosfiah | Model Kinetik dan Pengoptimuman Penghasilan Gas Hidrogen Daripada Metanol dengan Menggunakan Mangkin Ni, Cu, Mo/Gamma Al2O3 | Main Supervisor | Finished |
| 71 | 2001- 2004 | Muhammad Yahya | Sistem Penyahlembapan Terbantu Suria untuk Herba Perubatan | Co-Supervisor | Finished |
| 72 | 2002 – 2007 | Edy Herianto | Penulenan Gas Hidrogen Menggunakan Sistem Jerapan Buaian Tekanan Terpadat Untuk Sel Bahn Api | Main Supervisor | Finished |
| 73 | 1999- 2003 | Bambang Trisakti | Pengeringan Terpilih Serbuk | Main Supervisor | Withdrawn |
| 74 | 1999- 2003 | Rosdanelli Hasibuan | Pengeringan Gentian Tandan Kosong Kelapa Sawit Menggunakan Sistem Pengerigan Telus Stim Panas Lampau | Main Supervisor | Finished |
| 75 | 1999– 2002 | Yeoh Hak Koon | Kajian Fotoelektrod Tersensitasi Pewarna Untuk Pengeluaran Hidrogen Melalui Fotoelektrolisis-tidak-terbantu Air | Main Supervisor | Withdrawn |
| 76 | 1999- 2003 | Law Chung Lim | Pembendaliran: Hidrodinamik dan Penggunaannya dalam Proses Pengeringan | Main Supervisor | Finished |
| 77 | 1998- 2002 | Muhammad Turmuzi | Pembuatan Karbon Teraktif dan Karbon Penapis Molekul daripada Tempurung Buah Keras | Main Supervisor | Finished |
| 78 | 1998- 2002 | Taslim | Fenomena Pengangkutan Aliran Berayun dalam Turus Bersesekat | Co-Supervisor | Finished |
| 79 | 1997- 2001 | Ye Lwin @ Mohammed Husein | Characterization of Cu-Al Hydrotalcite-Derived Mixed Oxide for Hydrogen Productionby Steam-Methanol Reforming | Main Supervisor | Finished |
| 80 | 1997- 2000 | Supranto | Reka Bentuk dan Penilaian Sistem Pengeringan Terbantu Suria Dua Laluan dengan Media Berliang | Main Supervisor | Finished |
| 81 | 1997-2002 | Widayanti | Fenomena Pengelutan Zarah dari Turus Lapisan Terbendalir | Co-Supervisor | Finished |
| 82 | 1997-1998 | Gunarto | Pemodelan Matematik Sistem Penjerapan Buaian Suhu | Main Supervisor | Withdrawn |
| 83 | 1996- 2002 | Meor Zainal Bin Meor Talib | Pemodelan dan Simulasi untuk Sel Bahan Api bermembran Elektrolit Polimer | Main Supervisor | Finished |
| 84 | 1996- 2001 | Tin Mar Kyi | Drying with Chemical Reaction in Cocoa Bean Drying | Main Supervisor | Finished |
| 85 | 1996-1996 | Muhammad Niazul Haque Sarker | Design of Proton Exchange Membrane Fuel Cell Stack | Main Supervisor | Withdrawn |
| 86 | 1996-1996 | Khaled El-Alem | Heat Transfer in Proton Exchange Membrane Fuel Cell | Main Supervisor | Withdrawn |
| 87 | 1996-1996 | Abdul Salam Uheida | Novel Gas Diffusion Electrode for Proton Exchange Membrane Fuel Cell | Main Supervisor | Withdrawn |
| 88 | 1995-1999 | Sunny Iyuke Esayegbemu | Pressure Swing Adsorption of Hydrogen | Main Supervisor | Finished |
| 89 | 1992-1996 | Sam Myint | Extraction of Eugenol from clove | Main Supervisor | Finished |
| 90 | 1989-1994 | Mahamad Hakimi Ibrahim | Drying of Oil Palm Kernels | Main Supervisor | Finished |
| 91 | 1988-1990 | Ibrahim Shouib | Numerical Simulation of a Rotating Boiler | Main Supervisor | Withdrawn |

**List of MSc Students’ Thesis**

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| --- | --- | --- | --- | --- | --- |
| No. | Period | Student | Title of Thesis | Supervisory role | Status of student |
| 1 | 2017- | Wong Chun Yik | Preparation and Characterization of Chitosan/Sulfonate d Poly(vinyl alcohol)/Choline Chloride-Urea Deep Eutectic Solvent Blend Composite as Polymer Electrolyte Membrane | Member of Supervisory Committee | Ongoing |
| 2 | 2017- | Nowilin James Rubinsin | Modelling and Optimization of Biomass Value Chains and The Environment-Food-Energy- Water Nexus in Malaysia | Member of Supervisory Committee | Ongoing |
| 3 | 2016- | Siti Farah Nadiah Binti Rusli | Graphite Fiber Brush and Stainless Steel as Biocathodes for an Improved Performance in Microbial Fuel Cell | Member of Supervisory Committee | Ongoing |
| 4 | 2016- | Yusra Nadzirah Binti Yusoff | Self-humidified polybenzimidazole/ sulfonated propylsilane graphene oxide composite membrane for high temperature polymer electrolyte membrane fuel cell | Member of Supervisory Committee | Ongoing |
| 5 | 2016 | Ahmad Tajuddin Bin Abdullah | Sel Fuel Membran Penukaran Proton (Pemfc) Sistem Penyejukan Air | Member of Graduate Committee | Ongoing |
| 6 | 2016 | Shuaiba Binti Samad | Mangkin DMFC | Co-Supervisor | Ongoing |
| 7 | 2015 | Mohd Azri Ahmad | Stainless steel electrode for MFC | Main Supervisor | Ongoing |
| 8 | 2014- | Siti Mariam Bt. Daud  Selfuel | Screening Of Earthen Ware And Ceramic Membrane As A Separator In Microbial Fuel Cell | Chairman of Graduate Committee | Converted to PhD |
| 9 | 2014- | Nurul I`Zzati Binti Baharul Wafi | Development Of Lithium Ion Phosphate Battery Based On Immobilization Of Lithium Iron Phosphate Into Poly(2-Hydroxylethyl Methacrylate) As A Gel Electrolyte | Co-Supervisor | Ongoing |
| 10 | 2014- | Badrullzamin Bin Mohd Yassin | Mengkuang Composite for car bodies | Co-Supervisor | Ongoing |
| 11 | 2014-2017 | Azim Fitri Bin Zainul Abidin | Penyediaan dan Prestasi Mangkin Katod Kobalt/Nitrogen Terdop Karbon Xerogeluntuk PEMFC | Co-Supervisor | Finished |
| 12 | 2013-2016 | Mohd Azwan Bin Husin | Keliatan Patah Antara Laminar Mod II Pada Komposit Laminat Hibrid Anyaman GentianMengkuang / Sutera  Pembetulan Te | Member of Graduate Committee | Finished |
| 13 | 2013- | Muhamad Norfais Bin Faisal | Converter And Control Design For Fuel Cell Hybrid Electric Vehicle Application | Co-Supervisor | Ongoing |
| 14 | 2013- | Joy Liew Wei Yi | Membran Polimer Elektrolit Berasaskan K-Karagenan dan K-Karageenan Terfosforil Untuk Aplikasi Sel Fuel | Co-Supervisor | Ongoing |
| 15 | 2013-2017 | Soo Li Ting | Sintesis dan Pencirian Mangkin Grafin Terdop Nitrogen dan Argentum untuk Tindak Balas Penurunan Oksigen | Member of Graduate Committee | Finished |
| 16 | 2013-2017 | Norsyaidatul Binti Ibrahim | Penghasilan Elektrik Daripada Biojisim Menggunakan Sel Foto-Elektrokimia (PEC): Etanol dan Ammonia | Member of Graduate Committee | Finished |
| 17 | 2013-2016 | Siti Nur Hidayah Binti Jaafar | Peningkatan Pembelahan Molekul Air Fotoelektrokimia bagi Fotoelektrod TiO2 Dengan Pewarna Semula Jadi Daripada Kulit Buah Naga | Member of Graduate Committee | Finished |
| 18 | 2012-2013 | Mumtazah Atiqah Binti Hassan | Development of sensor in DMFC | Chairman of Graduate Committee | Converted to PhD |
| 19 | 2012-2013 | Leong Jun Xing | Novel nano-composite speek membrane in microbial fuel cell for waste water treatment and continuous power generation | Main Supervisor | Converted to PhD |
| 20 | 2012-2013 | Liew Kien Ben | Manganese oxide-carbon nanotubes nanocomposite as catalyst for oxygen reduction and POME treatment in microbial Fuel Cell | Main Supervisor | Converted to PhD |
| 21 | 2011-2015 | Mohd Zul Fadli Kamaruddin | Pembangunan Tangki Simpanan Pasif untuk Sel Fuel Metanol Langsung Pasif | Main Supervisor | Finished |
| 22 | 2010 -2015 | Siti Afiqah Binti Abd Hamid | Reka Bentuk Dan Pembangunan Sistem Pengurusan Kuasa Hibrid Pemfc, Superkapasitor Dan Bateri Untuk Aplikasi Kenderaan | Main Supervisor | Finished |
| 23 | 2010 -2014 | Ros Emilia Binti Rosli | Pembangunan Sistem Kawalan Hidrogen untuk Stek PEMFC | Co-Supervisor | Finished |
| 24 | 2009 – 2012 | Miftah Kurniawan | Kesan Tekanan Pemasangan Stek Terhadap Prestasi Sel Fuel Membrane Penukaran Proton. | Co-Supervisor | Finished |
| 25 | 2008 - 2009 | Sahriah Binti Basri | Pembangunan Peranti Reka Bentuk Untuk Sel Fuel Metanol Langsung | Co-Supervisor | Withdrawn |
| 26 | 2008 – 2010 | Mismisuraya Bt Meor Ahmad | Pembangunan Sel Fuel Metanol Langsung Untuk Kegunaan Mudah Alih | Co-Supervisor | Finished |
| 27 | 2008 - 2010 | Muhammad Shahid | Simulation of Complete Fuel Cell Systems | Main Supervisor | Finished |
| 28 | 2008 - 2010 | Norhafiz B Hashim | Rekabentuk Dan Fabrikasi Sel Fuel Mikro Metanol Langsung. | Co-Supervisor | Finished |
| 29 | 2008 – 2011 | Lim Swee Su | Pengoptimuman Penghasilan Kuasa elektrik Dari Sel Fuel Mikrob (SFM) Berasaskan Kultur Campuran Dan Kultur Tunggal. | Co-Supervisor | Finished |
| 30 | 2008-2010 | Haslina Binti Ahmad | Membran Hibrid Nafion/Polibenzimidazol /Zirkonium Fosfat untuk Aplikasi SFML | Co-Supervisor | Withdrawn |
| 31 | 2008 – 2010 | Achmad Fauzie | Pembangunan Sel Fuel Metanol Langsung Sebagai Pengecas Telefon Mudah Alih. | Main Supervisor | Finished |
| 32 | 2008 – 2010 | Nanda Sastaviana | Solid oxide fuel cell (SOFC) | Co-Supervisor | Withdrawn |
| 33 | 2007 - 2009 | Noorashrina Binti A Hamid | Pembangunan Katod La1-xSrxCo0.2Fe0.8O3(LSCF) Bagi Sel Fuel Oksida Pejal Bersuhu Sederhana (IT-SOFC) | Main Supervisor | Finished |
| 34 | 2004 – 2005 | Wong Kuek Keong | CFD simulation of separtion | Main Supervisor | Finished |
| 35 | 2004 - 2007 | Shuhaida Binti Harun | Pembanhunan Sistem Penasihat Reka Bentuk Untuk Reka Bentuk Konsep Loji dan Proses Kimia | Co-Supervisor | Finished |
| 36 | 2003 – 2005 | Nor Roslina Binti Rosli | Pengekstrakan Minyak Serai Wangi (Cympogonna Nardus) Secara Pengekstrakan Bendalir Lampau Genting | Co-Supervisor | Finished |
| 37 | 2003 - 2006 | Khuzaimah Arifin | Sintesis Organik, Pencirian dan Kestabilan Foto Kompleks Tris(Diotelena) Tunsten | Co-Supervisor | Finished |
| 38 | 2003-2006 | Fadhli Hadana Rahman | Sintesis Takorganik Kompleks Tris(Diotelena) Tunsten Sebagai Ftomangkin Bagi Fotolisis Air | Co-Supervisor | Finished |
| 39 | 2003-2006 | Navriani Harahap | Kesan Tekanan Dalam Pengoptimuman Suhu Ke Atas Pembikinan Himpunan Elektrod Membran | Main Supervisor | Finished |
| 40 | 2002 - 2004 | Zahiruddin Bin Mohamed | Kesan Suhu Tinggi ke Atas Hidrodinamik Pembendaliran dan Pengirigan Zarah Dalam Lapisan Terbendalir | Main Supervisor | Finished |
| 41 | 2002 - 2005 | Elradi Adam Musa | Heat Transfer in Proton Exchange Membrane Fuel Cell | Main Supervisor | Finished |
| 42 | 2002 - 2004 | Azman Yazid | Reka Bentuk Konsep Sistem Sel Bahan Api Eelektrolit Polimer dengan Modul Membran Seramik Menggunakan Perisisan Simulasi Proses HYSYS | Main Supervisor | Finished |
| 43 | 2002 - 2004 | Loke Yan Kai | Reka Bentuk Sistem Sel Bahan Api Jenis Membran Elekrolit Polimer Dengan Perisisan Simulasi HYSYS | Co-Supervisor | Finished |
| 44 | 2002 - 2004 | Masli Irwan Bin Rosli | Prestasi Sel Bahan Api Membran Pertukaran Proton - Pemilihan Reka Bentuk Plat Laluan | Main Supervisor | Finished |
| 45 | 2002 - 2004 | Mimi Hani Binti Abu Bakar | Proses Penyediaan Mangkin Platinum di atas Substrat Karbon Teraktif Tempatan Menggunakan Teknik Isitepu | Main Supervisor | Finished |
| 46 | 2002 - 2003 | Mohd Shahbudin Bin Mastar @Masdar | Pembangunan Model Matematik dan Kajian Parameter Sel Bahan Api Membran Elektrolit Polimer | Co-Supervisor | Finished |
| 47 | 2002 - 2004 | Nik Suhaimi Bin Mat Hassan | Pembangunan Model Matematik bagi Pemindahan Jisim Air dalam Sel Bahan Api Membran Elektrolit Polimer | Main Supervisor | Withdrawn |
| 48 | 2002 - 2004 | Mustafa I Fadhil | Solar Hydrogen Production System | Co-Supervisor | Finished |
| 49 | 2002 – 2005 | Vickneswaran S/O M.Veloo | Optimization of Batch Drilling Fluids/Mud Mixing Plant | Main Supervisor | Finished |
| 50 | 2002 - 2004 | Souiyah Miloud | Performance of Proton Exchange Membrane Fuel Cell with Interdigitated Flowfield | Co-Supervisor | Finished |
| 51 | 2002 - 2004 | Ng Pin Pin | Pengerigan Padi dalam Lapisan Terpancut | Co-Supervisor | Finished |
| 52 | 2001 - 2004 | Lorna Binti Jeffery Minggu | Penghasilan Hidrogen Daripada Pembentukan Semula Metanol | Main Supervisor | Finished |
| 53 | 2001 - 2003 | Mohd Sabri Bin Mahmud | Penyediaan dan Pencirian Mangkin Cu-Zn-V-Al Dalam Pembentukan Semula Autoterma Metanol | Main Supervisor | Withdrawn |
| 54 | 2000 - 2002 | Mohd Nahar Bin Othman | Pemusnahan Benzena (Bahan Organik Mudah Meruap) Menggunakan Kaedah Alur Elektron | Main Supervisor | Finished |
| 55 | 2000 – 2002 | Abdol Salam Bin Ns Mohd Sariff | Pengoptimuman Proses Loji Pemprosesan Gas | Main Supervisor | Finished |
| 56 | 1999-2002 | Eman Noori Ali | Sampling and Analysis of Volatile Organic Compounds in Ambient Air in Malaysia | Main Supervisor | Finished |
| 57 | 1999 - 2002 | T.Husaini | Penyampelan dan Analisa Statistik Sebatian Organik Meruap di Kawasan Lembah Kelang | Co-Supervisor | Finished |
| 58 | 1999 - 2001 | Islina Binti Kamaruzaman | Keseimbangan Jerapan Alkana-alkana Berberat Molekul Rendah Ke Atas Karbon Teraktif dan Penapis-Penapis Molekul | Main Supervisor | Finished |
| 59 | 1998 - 2000 | Law Chung Lim | Pengiringan Bagi Zarah Halus Dari Pengelut Terbendalir Sesekumpul | Main Supervisor | Finished |
| 60 | 1999 - 2002 | Norliza Binti Abd Rahman | Penalaan Pengawal Lazim PID ke Atas Menara Penyulingan Dengan Kaedah Logik Kabur | Main Supervisor | Finished |
| 61 | 1998 - 2000 | Edy Herianto | Penjerapan Sebatian Organik Mudah Meruap Menggunakan Sistem Jerapan Buaiaan Terma | Main Supervisor | Finished |
| 62 | 1998 - 2000 | Chebbi Rachid | Fabrication of Low Platinum Loading Elektrode for Proton Exchange Membrane Fuel Cell System | Main Supervisor | Withdrawn |
| 63 | 1998 - 2000 | Ma'an Fahmi Rashid Al Khatib | Surface Modification of Activated Carbon by Impregnation with SnCl2.H2O for for Purification of H2/CO Gas Mixture | Co-Supervisor | Finished |
| 64 | 1997-1997 | Loo Yong Eng | Pencirian Elektrodialiser | Main Supervisor | Finished |
| 65 | 1997-2000 | Monsurah Begum | Preparation and Characterisation of Cu-Al Catalysts for Steam-Methanol Reforming Reaction | Main Supervisor | Withdrawn |
| 66 | 1996-1998 | Fathi Abdul Aziz Messaud | Characterisation of Asahi Membrane using X-ray Photoelectron Spectroscopy | Main Supervisor | Finished |
| 67 | 1996-1996 | Ahmad Sadik Hassan | Electrode Catalyst for Methanol Conversion to Hydrogen | Main Supervisor | Finished |
| 68 | 1995-1997 | Muhammad Hazza Rasheed | Characterization of Solid Polymer Electrolytic Membrane Nafion117 by X-Ray Photoelectron Spectsrocopy | Main Supervisor | Finished |
| 69 | 1993-1996 | Muhammad Niazul Haque Sarker | Drying Characteristics of Paddy | Main Supervisor | Finished |
| 70 | 1990-1994 | Meor Zainal Bin Meor Talib | Ciri-ciri Pengeringan Biji Koko | Main Supervisor | Finished |
| 71 | 1986-1987 | Zakaria Omar | Pengeringan Biji Sawit | Main Supervisor | Withdrawn |

**List of Undergraduate Students’ Thesis**

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| --- | --- | --- | --- |
| No. | Year | Name | Title |
| 1 | 2018 | Teoh Min Wei | Sel Biofotovolta bagi Menghasilkan Tenaga Elektrik dari Tenaga Suria dengan Menggunakan Cyanobakteria |
| 2 | 2018 | Muhammad Syazwan Bin Sharani | Sel Biofotovolta bagi Menghasilkan Tenaga Elektrik Daripada Tenaga Suria dengan Menggunakan Mikroalga |
| 3 | 2017 | Afiqah binti Azman | Pengoptimuman Loji Biopenapisan (Biorefinery) bagi Penghasilan Biohidrogen Menggunakan Bakteria di dalam Media Fermentasi |
| 4 | 2017 | Nur Anis Farhanah binti Hashim | Pengoptimuman Loji Biopenapisan bagi Penghasilan Asid Organik |
| 5 | 2017 | Raman A/L Karuppiah | Permodelan dan Kawalan Reaktor Tangki Pengaduk Berterusan Menggunakan Rangkaian Neural |
| 6 | 2016 | Norsyafika Binti Hassim | Permodelan Dan Simulasi Mikrobial Sel Fuel Untuk Penghasilan Kuasa Elektrik |
| 7 | 2016 | Nur Amera Binti Mohamad Bakri | Permodelan dan simulasi sel mikrobil elektrolisis |
| 8 | 2015 | Ying Ying Ch’ng | Sintesis membrane komposit baru bagi kegunaan sel fuel |
| 9 | 2015 | Fatimah Azzahra | Sintesis membrane komposit baru bagi kegunaan sel fuel |
| 10 | 2014 | Nurul Nadia Nga | Penyediaan, Pencirian Dan Pengujian Fotoelektrod Bagi Bateri Boleh Cas Semula |
| 11 | 2014 | Noor Zaiyan Misyan | Tindak balas fotokatalisis efluen kilang minyak sawit (POME) bagi penghasilan hidrogen hijau |
| 12 | 2013 | Tan Eng Lee | Membran polimer elektrolit berasaskan blok kopolimer untuk aplikasi sel fuel. |
| 13 | 2013 | Dahiyah Binti Mohd Fadzillah | Komposit membran asid pepejal untuk sel fuel bersuhu perantaraan |
| 14 | 2012 | Mohd Kamaruzzaman Bin Mat Daud | Penganggaran Pekali Serapan Air yang Boleh-ubah daripada Data Kadar Pengeringan |
| 15 | 2012 | Normalayati Binti Mahmad Raseh | Keterpilihan dan Ruang Pecapaian Metil Ester dan Gliserol dalam Tindak Balas Trans-Esterifikasi Pelbagai Minyak Makan danTak Boleh Dimakan bagi Menghasilkan Biodiesel |
| 16 | 2011 | Norbaini Binti Bahtiar | Penentuan Saiz (Luas Permukaan) Membran dan Masa Proses bagi Modul Osmosis Terbalik Beraliran Silang yang Berkitar Semula |
| 17 | 2011 | Mohamad Zulhairi Bin Ibrahim | Pemodelan dan Simulasi Rangkaian Kuasa Kereta Bugi Golf yang Dipacu Sel Fuel |
| 18 | 2010 | Lee Seet Yee | Pemerangkapan Karbon Menggunakan Penjerapan Ke Atas Kapur |
| 19 | 2010 | Farhan Bin Mohd Pozi | Simulasi Aliran dalam Sel Fuel menggunakan CFD |
| 20 | 2008 | Ong Hee Hwee | Pengeringan Cip Gentian Pelepah Sawit dengan Pengering Lapisan Terbendalir Bergetar |
| 21 | 2008 | Mary Khoo | Pelembap Udara Membran bagi Sistem Sel bahan Api |
| 22 | 2007 | Awis bin Zakaria | Permodelan dan Simulasi loji Proses Kimia |
| 23 | 2007 | Yeap Kim Gaik | Pengeringan Sumber Ekstraksi The |
| 24 | 2007 | Chua Ynyen A | Ekstraksi Lampau Genting Likopena daripada Pulpa Jambu Batu Merah Buangan |
| 25 | 2006 | Wong Wai San | Pengeringan Buah Jambu Kampuchea (psidium guajava) dalam Kebuk Pengeringan |
| 26 | 2006 | Ong Chin Hooi | Pengeringan Stim Gentian Kenaf |
| 27 | 2006 | The Shu Yi | Pengeringan Hirisan Buah Mangga dalam Kebuk Pengeringan |
| 28 | 2005 | Awis Bin Zakaria | Pemodelan dan Simulasi Dinamik Loji Proses |
| 29 | 2005 | Fara Fazreena Binti Zulkifli | Penghasilan Zarah Nano Dengan Menggunakan Proses Anti Pelarut Supergenting |
| 30 | 2005 | Chin Sui Kem | Pengeringan Berbagai Herba |
| 31 | 2005 | YeoThian Soon | Pengeringan Cili dengan Lapisan Terpancut |
| 32 | 2005 | Khoo Boon Ken | Alat Nauta Mixer sebagai Alat Penggalak Aliran |
| 33 | 2004 | Mohd Fadzly Bin Ariffin | Penghasilan komputer untuk penghasilan bentuk modul membran ultraturasan dan osmosis terbalik |
| 34 | 2004 | Zarirah Binti Mohamad Yusof | Pengeringan ekstrak herba Andrographis |
| 35 | 2004 | Chan Chee Wai | Pengeringan Herba Andrographis |
| 36 | 2003 | Aliza Binti Surip | Pemodelan dan penyelakuan pengangkutan jisim dan haba utk biji koko menggunakan pendekatan multi fizik |
| 37 | 2003 | Naimatul Fitriyah Binti Mohamad | Pengeringan Produk Tanah liat |
| 38 | 2003 | Norhaslina Binti Mohd Sidek | Susuk suhu pepejal suhubebuli kering suhu bebuli basah kelembapan udara dan kandungan lembapan pepejal di dalam pengeringan lapisan terbendalir aliran silang |
| 39 | 2003 | Eng Kok Hoe | Pengeringan Sembur Susu Soya |
| 40 | 2003 | Low Ee Mee | Kembangan sistem pemisahan H2/CO2 dengan membran paladium |
| 41 | 2002 | Shafiza Binti Zakaria | Reka Bentuk Konsep Sistem Sel Bahanapi |
| 42 | 2002 | Zarin B Zid | Proses Pembentukan Zarah Gelatin dan Pengeringannya |
| 43 | 2002 | Cheah Hui Ming | Pengeringan Beras Pulut Di dalam Turus Terbendalir Bagi Aplikasi Industri |
| 44 | 2002 | Farmasuhaini Binti Mohd | Pengeringan Stim Beras |
| 45 | 2002 | Mohd Asmawi Syahrulnizam Bin Mohd | Pengeringan Beberapa Bahan Berkabohidrat |
| 46 | 2002 | Mohd Shohib Bin Talib | Pengoptimuman Proses Ssesekumpul |
| 47 | 2002 | Cheah Hui Ming | Pengeringan Beras Pulut |
| 48 | 2001 | Mohd Asmawi Syahrulnizam B Mohd | Pengeringan Gelatin |
| 49 | 2001 | Nik Suhaimi Bin Mat Hassan | Pengoptimuman Proses Sesekumpu |
| 50 | 2001 | Pasilatun Adawiyah Binti Ismail | Pengeringan Stim Padi |
| 51 | 2000 | Tan Kok Han | Reologi Larutan Bergelatin |
| 52 | 2000 | Yap Mee Foong | Penjadualan Kawalan Proses Sesekumpul Dua Peringkat |
| 53 | 2000 | Zahiruddin B Mohamed | Penghasilan Karbon Teraktif daripada Tempurung Kelapa Sawit dengan Tindak Balas Kimia untuk Menjerap Gas Hidroklorik |
| 54 | 1999 | Chan Chiaw Fang | Reka Bentuk Ringkas Penjerap |
| 55 | 1999 | Kew See Shin | Pengoptimuman Proses Sesekumpul |
| 56 | 1999 | Ahmad Firdaus Bin Mat Taib | Reologi Makanan |
| 57 | 1998 | Azlan Kahalil | Pencirian dan Penoperasian Turus Penyulingan |
| 58 | 1998 | Yong Hong Sin | Simulasi Aliran dalam Stek Sel Bahan Api |
| 59 | 1998 | Hazrein A. Hamid | Kajian Aliran Elektrolit di dalam Reruang untuk Sistem Penghasilan Hidrogen Secara Hidrogen Suria |
| 60 | 1998 | Khor Min Che | Pentauliahan loji Pandu Ekstraksi |
| 61 | 1998 | Werry Lipi | Kesan Peratusan Zarah Haluske Atas Kebolehaliran Bahan |
| 62 | 1998 | Nor Farhana Mohd Aris | Pengeringan Buah-Buahan Tempatan |
| 63 | 1998 | Maizura Ibrahim | Penghasilan Hidrogen Daripada Metanol: Pencirian Mangkin Kuprum/Aluminium (III) dengan Penggalak Zn |
| 64 | 1998 | Seet Elaine | Perisian Analisis Risiko dalam Loji Pemprosesan Kimia |
| 65 | 1998 | Chan Chee Wei | Rekabentuk Sel Elektrodialisis |
| 66 | 1998 | Tee Yeow Fong | Pemncirian Mangkin Kuprum/Aluminium dengan Penggalak Mn dan Ch untuk Tindakbalas Penguraian Metanol |
| 67 | 1997 | Rafezal Mohd Said | Pemilihan Pengekstrak Multi-komponen |
| 68 | 1997 | Azzuddin | Simulasi Pengeringan dengan Tindak balas Kimia |
| 69 | 1996 | Yusnizam Yusof | Pemodelan Sel Bahan Api Polimer Pejal |
| 70 | 1996 | Wan Suriati | Membran Sel Bahan Api Polimer Pejal Baru |
| 71 | 1996 | Wong Kuek Keong | Pemodelan Pengeringan Lapisan Dalam Padi |
| 72 | 1996 | Nazri Ahmad | Simulasi Aliran Kucar-Kacir |
| 73 | 1996 | Enjang al Lanting | Ekstraksi Kucar Kacir |
| 74 | 1995 | Pang Tuck Seng | Simulasi Pemisahan Membran Gas dalam Gentian Berkelonsong |
| 75 | 1995 | Rosnah | Lokus Alah Padi pada Kandungan Lembapan Berlainan |
| 76 | 1995 | Nordin Zakaria | Penghasilan Karbon daripada Tempurung Kelapa |
| 77 | 1995 | Tan Chey Ling | Simulasi Dinamik Loji Ekstraksi Zirconium |
| 78 | 1994 | Sivakumar Subramaniam | Reka bentuk Sistem Pembentuk Semula Stim |
| 79 | 1993 | Liew Siew Loon | Kembangan Pembentuk Semula untuk Menghasilkan Hidrogen drpd Gas Asli & Stim |
| 80 | 1993 | Chong Loong How | Lokus Alah Biji Koko pada Kandungan Lembapan Berlainan |
| 81 | 1993 | Amiruddin Abd. Hamid | Pengering Koko Lapisan Bergetar |
| 82 | 1993 | Cheah Chee Mun | Luahan Hidrokarbon MultiKomponen Bertekanan Atas Takat Didih |
| 83 | 1993 | Samah Che Lamin | Kembangan Motor Roket Berbahan Dorong Pepejal |
| 84 | 1992 | Mohd. Shihabuddin b. Ismail | Penentuan Faktor Pandangan bagi Satu Objek Kecil Terhadap Satu Nyalaan Kebakaraan |
| 85 | 1992 | Azhar Ahmad | Simulasi Tumpahan Minyak |
| 86 | 1992 | Norleha bt. Mohd. Yusuff | Rekabentuk Sistem Penyampaian Pneumatik dengan Komputer |
| 87 | 1992 | Zuraimi b. Othman | Penyelesaian Masalah Pindah Haba daripada Paip Minyak Mentah Dasar Laut Menggunakan Kaedah Berangka |
| 88 | 1992 | Rohana Ahmad | Ekstraksi Yterrium |
| 89 | 1992 | Liza bt. Jaafar | Kesan Pengeringan Terhadap Tindakbalas `Browning' Koko |
| 90 | 1992 | Lee Hong Tein | Simulasi Monte Carlo Model Tumpahan Minyak dalam Lautan |
| 91 | 1992 | Mohd. Zainuddin b. Mohd. Zainal | Rekabentuk Turus Ekstraksi Zirkonium |
| 92 | 1992 | Farok b. Maasom | Pengeringan Terbendalir Arang Batu Malaysia |
| 93 | 1991 | Halimahton bt. Baharum | Penskalaan Naik Penghasilan Kitin daripada Kulit Udang |
| 94 | 1991 | Badariah bt. Manab | Penskalaan Naik Penghasilan Bromelin dari Batang Nenas |
| 95 | 1991 | Ropandi b. Mamat | Pengekstrakan Torium dengan Turus Ekstraksi Terpadat |
| 96 | 1989 | Kamaroulzaman b. Thith | Pengoptimuman Penghasilan Bromelin daripada Batang Nenas |
| 97 | 1989 | Juriah bt. Jabar | Lengkung Keseimbangan Sistem Air-Thorium-Kerosin-TBP dan Sistem Air- Uranium-Kerosin-TBP daripada Sisa Perlombongan |
| 98 | 1989 | Md. Salleh b. Kamaruddin | Pengoptimuman Proses Penghasilan Kitin daripada Kulit Udang |
| 99 | 1989 | Bita ak Ata | Simulasi Pengering Kernel Kelapa Sawit |
| 100 | 1989 | Yusof Darus | Penggunaan AutoCad dalam Penyusunan Loji |
| 101 | 1988 | Gerard Wang Chee Shoon | Dinamik dan Kawalan Penyejat Filem Memanjat QVF |
| 102 | 1988 | Raveentiram Krishna | Rekabentuk Rig bagi Penghidrogenan Selanjar Kelapa Sawit |
| 103 | 1988 | Norsham bt. Nordin | Ciri Pengeringan Padi |
| 104 | 1988 | Wan Othman b. Wan Yahya | Simulasi Kawalan Fermentor |
| 105 | 1988 | Siti Fatimah bt. Hj. Abd. Rashid | Kinetik Pengeringan Kelapa Sawit |
| 106 | 1987 | Tajul Ariffin b. Hj. Mohd. Rais | Penghasilan Kanji Pra-Digelatin dengan Pengering Lapisan Terpancut |
| 107 | 1987 | Mut Sagai | Pengaturcaraan Rekabentuk Menara Penyulingan Berplat |
| 108 | 1987 | D. S. Krishana Rao | Pembangunan Proses Pemisahan Bromelin daripada Batang Nenas |
| 109 | 1986 | Othman Darus | Rekabentuk Proses Pengeringan Lapisan terpancut |
| 110 | 1986 | Goh Eng Hooi | Ciri-Ciri Injap Kawalan |
| 111 | 1986 | Mohd. Razi b. Mohd. Toff | Reologi Kanji Beras Digelatin pada Suhu Tinggi |
| 112 | 1986 | Suhaimi b. Said | Rekabentuk Terbantu Komputer |
| 113 | 1986 | P. Govindasamy | Pemprosesan Kitin daripada Kulit Udang |
| 114 | 1985 | Beh Kok Chuan | Penyediaan Rajahaliran Proses dengan Kaedah Komputer |
| 115 | 1985 | Ku Halim Ku Hamid | Reologi Kanji Beras Digelatin pada Suhu Rendah |
| 116 | 1985 | Zakaria Omar | Penyelesaian Berangka Persamaan Pengeringan Bahan Berliang |

# PUBLIC SERVICE

## Administrative Appointment in UKM:

* + Member of Senate, Universiti Kebangsaan Malaysia (2014-2021).
  + Director, Fuel Cell Institute, Universiti Kebangsaan Malaysia (2012-2013)
  + Director, Fuel Cell Institute, Universiti Kebangsaan Malaysia (2010-2011)
  + Founding Director, Fuel Cell Institute, Universiti Kebangsaan Malaysia (2007-2009)
  + Chief Editor, Jurnal Kejuruteraan, Journal of the Faculty of Engineering & Built Environment , UKM (1999–2004).
  + Cooordinator, Master of Engineering (Chemical Engineering) (2000-2006).
  + Member of Senate, Universiti Kebangsaan Malaysia (1998–2004).
  + Deputy Dean, Faculty of Engineering, Universiti Kebangsaan Malaysia (1990–1993), (1995–1998)
  + Head, Department of Chemical & Process Engineering, Faculty of Engineering, Universiti Kebangsaan Malaysia (1984–1988)

## Membership of International Academic and Professional Societies

* + Member, American Chemical Society, Membership no. 30086954 (2009-lapsed)
  + Fellow, Institution of Chemical Engineers, United Kingdom, Membership no. 249300 (2007-).
  + Chartered Chemical Engineer at the Institution of Chemical Engineers, United Kingdom and The Engineering Council UK (Registration No: 564829) (2007-)
  + Associate Member, Institution of Chemical Engineers, Membership no. 249300 (1999-2006)
  + Fellow Islamic Academy, United Kingdom (1984-)

## Leadership in International Academic and Professional Societies

* + Ex-Officio Immediate Past Chairman,Institution of Chemical Engineers, Malaysia Board 2010.
  + Chairman, Institution of Chemical Engineers, Malaysia Board 2009.
  + Deputy Chairman, Institution of Chemical Engineers, Malaysia Board 2008.
  + Chairman, International Advisory Committee, 15th Regional Symposium on Chemical Engineering and the 22nd Symposium of Malaysian Chemical Engineers RSCE-SOMCHE 2008, 2-3 December 2008, Kuala Lumpur, Malaysia.
  + Chairman, International Organising Committee, 2nd Asian Particle Technology Symposium (APT 2003) held on 17- 19 December 2003, Penang, Malaysia.
  + Chairman, International Advisory Committee, 2nd Asia-Oceania Drying Conference (ADC’2001) 20 – 22 August 2001 in Penang, Malaysia

## Membership in National Academic and Professional Societies

* + Member of Malaysian Association of Hydrogen Energy (2018-)
  + Fellow of the Academy of Science Malaysia (2012-)
  + Professional Engineer with Practice Certificate (Chemical Engineering), Board of Engineers Malaysia, Registration No. C18561 (2015-)
  + Professional Engineer (Chemical Engineering), Board of Engineers Malaysia, Registration No. 8561 (1996-2015)
  + Member, Institution of Engineers Malaysia, Member No. 07766 (1996-2006)
  + Founding Member, Institusi Jurutera Kimia Malaysia (1985-2006) (Malaysia Branch of the Institution of Chemical Engineers)
  + Member, Akademi Sains Islam Malaysia (1986-).

## Leadership in National Academic and Professional Societies

* + Founding President Malaysian Association of Hydrogen Energy (2018-)
  + President, Akademi Sains Islam Malaysia (2004-2010).
  + Deputy President, Institusi Jurutera Kimia Malaysia (2004-2006).
  + Chief Editor, Jurnal Jurutera Kimia Malaysia, jurnal the Institution of Chemical Engineers Malaysia (2000–2006).
  + General Secretary, Akademi Sains Islam Malaysia (1997–2004)
  + Committee Member, Akademi Sains Islam Malaysia (1995–1996)
  + Member of Council, Institusi Jurutera Kimia Malaysia (1993-2004)
  + General Secretary, Akademi Sains Islam Malaysia (1991–1995)
  + Committee Member, Akademi Sains Islam Malaysia (1986-1991) (1995–1996)

## Membership in National Committees

* + Member, Examination & Qualification Committee, Board of Engineers Malaysia (2010-2012).
  + Member, Examination & Qualification Committee, Board of Engineers Malaysia (2009-2010).
  + Member of Evaluation Panel for the Engineering Accreditation Council, Board of Engineers Malaysia (2009-)
  + Member, Steering Committee on Hydrogen, Solar Energy and Fuel Cells, Ministry of Energy, Water and Communication Malaysia (2003-2005).
  + Assessor for Chemical Engineering Programs, Board of Engineers Malaysia (2000-2007)
  + Member Technical committee evaluating research and development project proposals on energy at the Ministry of Science, Technology and Enmvironment Malaysia (1996-2000)
  + Member of Panel of Judges for the Intel’s Science and Engineering Fair Malaysia Section 2000.
  + Member Panel of Judges for the PETRONAS Inventor’s Award (1992–1998).

## Leadership in National Committees

* + Chairman, Subcommittee on Fuel Cells, Ministry of Energy, Water and Communication Malaysia, (2003-2005).
  + Chairman of Technical Committee evaluating project proposals on fuel cells under the Industrial Grant Scheme, Ministry of Science, Technology and Enmvironment Malaysia (1998)

# CHEMICAL ENGINEERING CONSULTING WORK

* Completed 55 chemical engineering consulting work on Quantitaive Risk Assessment of on-shore and off-shore oil and gas production installations, gas processing plants, gas pipelines, petrochemical plants, power stations and rail transport.
* Completed 6 environmental impact assessment of manufacturing plants, power stations and petrochemical plants.
* Completed 1 chemical engineering design project for extraction of waste heat from transformer coolers.

## Quantitative Risk Assessment

1. Daud, W.R.W. 2021 Investigation of Diesel Hydro Treater Explosion. UniPeq UKM, Bahagian Kejuruteraan Forensik, Jabatan Keselamatan dan Kesihatan Pekerja, Kementerian Sumber Manusia.
2. Fisal, Z., Mohammad, A.B., Takriff, M.S., Daud, W.R.W. 2004. Environmental Impact Assessment : Guideline for Quantitative Risk Assessment for Department of Environment, Kementerian Sains, Teknologi & Inovasi.
3. Mohammad, A.B., Takriff, M.S., Fisal, Z., Daud, W.R.W. 2001. Environmental Impact Assessment: (Risk and Hazard Assessment) of Multiproduct Re-routing project, PS pipeline Sdn Bhd and Kumpulan Juruteknik Sdn Bhd.
4. Mohammad, A.B., Takriff, M.S., Fisal, Z., Daud, W.R.W. 2001. Environmental Impact Assessment: (Risk and Hazard Assessment) for the proposed Port Dickson lateral Pipeline, Petronas Gas Sdn. Bhd.
5. Mohammad, A.B., Takriff, M.S., Fisal, Z., Daud, W.R.W. 2001. Quantitative Risk and Hazard Assesment Study for Ethane Extraction Improvement Project of the Gas Processing Plant-4 in Kerteh, Terengganu, Petronas.
6. Fisal, Z., Mohammad, A.B., Takriff, M.S. dan Daud, W.R.W., 2000. Quantitative Risk and Hazard Assesment Study for Ethane Pipeline, Kerteh, Terengganu, Petronas.
7. Fisal, Z., Mohammad, A.B., Takriff, M.S. dan Daud, W.R.W., 2000. Quantitative Risk and Hazard Assesment Study for Tronoh Lateral Pipeleine Tronoh, Perak, Petronas.
8. Fisal, Z., Mohammad, A.B., Takriff, M.S. dan Daud, W.R.W., 2000. Quantitative Risk and Hazard Assesment Study for Propane-Butane Looping Pipeline, Petronas.
9. Fisal, Z., Mohammad, A.B., Takriff, M.S. dan Daud, W.R.W., 2000. Quantitative Risk and Hazard Assesment Study for Trans Thailand Malaysia Pipelines Pulau Pinang dan Kedah, Petronas.
10. Fisal, Z., Mohammad, A.B., Takriff, M.S. dan Daud, W.R.W., 2000. Supplementary Quantitative Risk and Hazard Assesment Study for Kerteh Centralised Tankage Facility Project at Kerteh, Terengganu, Petronas.
11. Mustafa, M.M., Fisal, Z., Rahman, R.A., Mohammad, A.B., Takriff, M.S. dan Daud, W.R.W., 2000. Environmental Impact Assesment including Quantitative Risk and Hazard Analysis of Drumming, Warehousing and Tank Truck Cleaning Facilitiea, in Kertih, Terengganu, and Kertih Terminals Snd. Bhd.
12. Fisal, Z., Mohammad, A.B., Takriff, M.S. dan Daud, W.R.W., 1999 Risk and Hazard Assessment of the Bulk Depot in Seberang Perai, Penang, Petronas Dagangan Sdn. Bhd.
13. Fisal, Z., Mohammad, A.B., Takriff, M.S. dan Daud, W.R.W., 1999 Environmental Impact Assessment: (Risk and Hazard Assessment) for the proposed LPG Bottling Plant, Petronas Dagangan Sdn Bhd.
14. Fisal, Z., Mohammad, A.B., Takriff, M.S. dan Daud, W.R.W., 1998 Risk and Hazard Assessment) for the proposed olefin derivatives, Optimal Sdn Bhd
15. Fisal, Z., Mohammad, A.B., Takriff, M.S. dan Daud, W.R.W., 1998 Risk and Hazard Assessment for the proposed Propane Dehydrogenation plant, Kuantan, Pahang, Petronas.
16. Fisal, Z., Mohammad, A.B., Takriff, M.S. dan Daud, W.R.W., 1998 Risk and Hazard Assessment for the proposed Ammonia plant, Kerteh, Terengganu, Petronas
17. Fisal, Z., Mohammad, A.B., Takriff, M.S. dan Daud, W.R.W., 1998 Risk and Hazard Assessment for the proposed Syngas Plant, Kerteh, Terengganu, Petronas
18. Fisal, Z., Mohammad, A.B., Takriff, M.S. dan Daud, W.R.W., 1998 Risk and Hazard Assessment for the proposed PGU Loop II pipeline, Petronas Gas Sdn Bhd.
19. Fisal, Z., Mohammad, A.B., Takriff, M.S. dan Daud, W.R.W., 1997 Risk and Hazard Assessment for the proposed MLNG 3 Plant, Bintulu Sarawak, MLNG Sdn Bhd
20. Fisal, Z., Daud, W.R.W., Takriff, M.S., and Tasirin, S.M.. 1998 Quantitative Risk and Hazard Analysis of Johor Port, Pasir Gudang, Johor, dan Johor Port Authority.
21. Fisal, Z., Daud, W.R.W., Takriff, M.S., and Tasirin, S.M.. 1997. Quantitative Risk and Hazard Analysis of the Proposed BASF OXO Plant in Gebeng, Pahang dan BASF (Malaysia) Bhd.
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23. Fisal, Z., Daud, W.R.W., Takriff, M.S., and Tasirin, S.M., 1997 Quantitative Risk and Hazard Analysis of the Proposed Second Ethylene Plant in Kerteh, Terengganu, dan Petronas.
24. Fisal, Z., Daud, W.R.W., Takriff, M.S., and Tasirin, S.M., 1997 Quantitative Risk and Hazard Analysis of the Proposed Central Tank Facilities in Kerteh, Terengganu, dan Petronas
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30. Fisal, Z., Daud, W.R.W., Talib, M.Z.M., Abu Bakar Mohamad, Mohd. Fauzi Jani, Yaakob, Z. 1996 Quantitative Risk and Hazard Analysis of the Proposed VCM/PVC Plant in Kerteh, Terengganu, for Petronas & Land & General Berhad.
31. Fisal, Z., Daud, W.R.W., Talib, M.Z.M., Mohd. Fauzi Jani, Tasirin, S.M. 1996 Quantitative Risk and Hazard Analysis of the Proposed Kerteh Refinery II in Kerteh, Terengganu, for Petronas Penapisan (Terengganu) Sdn Bhd.
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