

## PROF DATO' IR. DR. ABDUL WAHAB MOHAMMAD



Professor  
Chemical and Water Desalination Engineering  
Programme  
Department of Mechanical and Nuclear Engineering  
College of Engineering  
University of Sharjah  
Sharjah, 27272, United Arab Emirates

Co-Chief Editor, Journal of Water Process Engineering  
(Elsevier)

Tel: +971 547551724 (mobile)

Home  
page:

[https://scholar.google.com/my/citations?hl=en&user=m5rZ0sAAAAJ&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.com/my/citations?hl=en&user=m5rZ0sAAAAJ&view_op=list_works&sortby=pubdate)

Email: [drawm@ukm.edu.my](mailto:drawm@ukm.edu.my) / [awm.ukm@gmail.com](mailto:awm.ukm@gmail.com)

H-index: 61 (Google Scholar), 55 (Scopus)

### EDUCATIONAL QUALIFICATIONS

University of Wales Swansea, United Kingdom (Jan. 1995- May 1998)

PhD in Chemical Engineering

*Thesis:* Predictive Models for Nanofiltration Membrane Processes

Purdue University, Indiana, USA (Sept 1989- May 1991)

MSc in Chemical Engineering, May 1991

*Thesis:* Pressure Drop Correlations and Scale-Up with Compressible Packings

Lehigh University, Bethlehem, Pennsylvania, USA (Jan. 1986- June 1989)

BSc in Chemical Engineering, Cum Laude, June 1989

### PROFESSIONAL QUALIFICATIONS

Registered Professional Engineer (PEng) with Board of Engineers Malaysia (11460)

Chartered Engineer (CEng) with the Engineering Council UK (564819)

Corporate Member, Institution of Engineers Malaysia (M 21917)

Fellow, Institution of Chemical Engineers (IChemE) (99911244)

Fellow, Academy Science Malaysia (ASM)

## **HONOURS/AWARDS**

### Major Awards/Honours

Darjah Dato' Setia DiRaja Kedah (D.S.D.K) 2013  
Malaysia's Research Star Award (Hot Review) 2019  
Malaysia's Research Star Award (Hot Review) 2018  
Malaysia Toray Science Foundation (MTSF) Science Award (2015)  
Fellow, Academy of Science Malaysia (ASM) 2014  
Top Research Scientist Malaysia (TRSM) 2013  
Prince Sultan International Prize for Water – Category: Innovative Methods and Systems in Desalination (2008)  
Promotion from Professor VK7 to VK5 (Special Case) (2011)  
Chief Co-Editor, Journal of Water Process Engineering (JWPE) Elsevier, 2014 – present  
Top 2% Scientist in the World

### Other Awards/Honours

UKM, Bitara Award on Publication (2019)  
1<sup>st</sup> Runner Up, Top Glove Industrial Collaboration Grant Competition (2019)  
Gold Medal, 30th International Invention, Innovation & Technology Exhibition (ITEX 2019) for the invention "Multifunctional Silver-Graphene Sand Composite from Waste Cooking Oil Feedstock for Water and Wastewater Treatment"  
Gold Medal, Invention, Innovation & Design Exposition (IIDEX 2018) for the invention "Enhanced Antimicrobial And Anti biofouling Membrane Bioreactor For Domestic Wastewater Treatment"  
Bronze Medal, Malaysia Technology Expo (MTE 2013) for the invention "Innovative Process for Fractionating Value-Added Products from Coconut Milk: Towards Sustainable Coconut Industry".  
UKM 20-year Service Award (2011)  
Silver Medal, BioInno Award 2010, BioMalaysia 2010 for invention "Novel Intensified Process for Production of Gelatine and Hydrolyzed Collagen from Agricultural Resources"  
Performance Certificate "Outstanding Performance" for Consultancy Project awarded by Petronas Gas Berhad (2010)  
UNSW Visiting Research Fellow (2008-2011)  
UKM Citra Award (2009)  
UKM Excellent Service Award (2007, 2009)  
UKM Research Award (2007)  
UKM Research Award – Individual (Certificate) (2006)  
Research Fellowship, Middle East Desalination Research Center (MEDRC) (2003 and 2005)  
Silver Medal, International Invention, Innovation, Industrial Design & Technology Exhibition (ITEX 2005)  
Young Researcher Award UKM (2003)  
Best Paper Award (Co-author), Energy: International Conference on Advances in Strategic Technologies (ICAST) (2003)

Gold Medal, 31<sup>st</sup> Salon International Inventions Geneva 2003 for the Invention  
“Optimized Nanofilters for Water and Wastewater Treatment”  
Marquis Who’s Who in Science and Engineering 7<sup>th</sup> Edition (2003)  
Silver Medal, Ekspo Sains dan Teknologi Kebangsaan 2002  
Bronze Medal, International Invention, Innovation, Industrial Design & Technology  
Exhibition (ITEX 2002) for the Invention “Optimized Nanofilters for Water and  
Wastewater Treatment”  
Purdue University Graduate Research Scholarship 1989 - 1991  
Tau Beta Pi, National Honorary Engineering Society (USA)  
Dean’s List  
Scholarship, Program American Top University, Public Service Dept. Malaysia 1985 -  
1989

### **CAREER HISTORY**

<i>Sept 2022 – Present</i>	Professor, University of Sharjah UAE (Secondment from UKM)
<i>March 2011 – Aug 2022</i>	Professor VK5 (Membrane and Separation Technologies), Dept. of Chemical and Process Engineering, UKM
<i>May 2019 – May 2022</i>	Deputy Vice Chancellor (Research and Innovation), UKM
<i>Jan 2020 – July 2022</i>	Chairman, UKMTech Sdn Bhd (Technology transfer company of UKM)
<i>Aug 2005 – March 2011</i>	Professor VK7 (Membrane and Separation Technologies), Dept. of Chemical and Process Engineering, UKM
<i>March 2018 – July 2018</i>	Senior Research Director, Qatar Energy and Environment Research Institute (QEERI) (Secondment)
<i>May 2014 – March 2018</i>	Dean, Faculty of Engineering and Built Environment UKM
<i>Jan 2014 – Present</i>	Chief Co-Editor, Journal of Water Process Engineering (JWPE) Elsevier (a Q1 Journal)
<i>May 2014 – March 2018</i>	Senate Member, as a Dean of the Faculty of Engineering and Built Environment
<i>Oct 2012 – May 2014</i>	Head, Centre for Sustainable Process Technology (CESPRO)
<i>May 2012-April 2014</i>	Member, Board of Director, Universiti Kebangsaan Malaysia (Representing Senate)
<i>March 2012-April 2014</i>	Senate Member, Elected to represent Faculty of Engineering and Built Environment
<i>Jan 2012 – Dec 2012</i>	Chairman, Institution of Chemical Engineers IChemE (Malaysia Branch)
<i>Jan 2011 – Dec 2011</i>	Deputy Chairman, Institution of Chemical Engineers IChemE (Malaysia Branch)
<i>Aug 2009 – Dec 2010</i>	Director, Industry Liaison Office UKM
<i>Feb 2008 – Aug 2009</i>	Deputy Dean (Undergraduate, Alumni and Community Relations)

<i>Aug 2005 – Feb 2008</i>	Director, Advanced Engineering Centre, Faculty of Engineering UKM cum Deputy Dean (Research and Innovation)
<i>June 2003 – July 2005</i>	Head of Department, Dept. of Chemical and Process Engineering, UKM
<i>April 2001 – May 2003</i>	Industrial Training Coordinator, Faculty of Engineering, UKM
<i>Jan 2000 – Aug 2005</i>	Associate Prof, Dept. of Chemical and Process Engineering, UKM
<i>June 1991 – Present</i>	Consultant with UKM Pakarunding Sdn. Bhd.
<i>June 1991 – Dec 1999</i>	Lecturer, Dept. of Chemical and Process Engineering, UKM
<i>July 1989 - May 1991</i>	Tutor, Dept. of Chemical and Process Engineering, UKM and Research Assistant, School of Chemical Engineering, Purdue University, USA
<i>May 1988 - Dec 1988</i>	Undergraduate Research Assistant, Environmental Engineering Laboratory, Department of Civil Engineering, Lehigh University, USA

#### **AREAS OF RESEARCH INTEREST**

My main research interest is on the development and application of membrane technology (UF, NF, RO, FO) for various applications in desalination and water/wastewater treatment. Recent focus has been on the integrated aspect of the membrane process engineering including the understanding on how membrane fouling and other processing challenges could be minimized through proper integration/hybridization with efficient pre-treatment methods. Novel development in these areas could also be achieved through utilization of nanomaterials that would enhance the properties of membranes, adsorbents, and catalyst/photocatalysts for advanced oxidation.

##### *Specific Areas of interest:*

- Nanofiltration and other Membranes Development and Characterisation
- Applications of membranes in water and wastewater treatment, food and biotechnology industries
- Integration of membrane technology with other Separation Technology
- Water and wastewater treatment including circular economy approach
- Utilisation of nanotechnology in development of new and innovative membranes, photocatalyst and adsorbents

#### **ACADEMIC/PROFESSIONAL SUPERVISION**

Supervision of:

- 35 PhD students with 33 already graduated.

- Co-supervision of 4 PhD students in UKM, Universiti Malaysia Terengganu and University of Nottingham UK.
- Supervision of 21 MSc and MEng students in their research projects.
- At the undergraduate level, more than 100 students have been supervised in their final year research projects and design projects.

## **TAUGHT COURSES**

Separation Processes I and II, Advanced Separation Processes, Membrane Science and Technology, Advanced Distillation, Engineering Economics, Project Management, Risk and Hazard Assessment

## **PROFESSIONAL/SOCIETY MEMBERSHIP**

Chairman (2012), Deputy Chairman (2011), Treasurer (2010) of IChemE Malaysia  
Co-opted Member, IChemE International Council (2012)  
Fellow Member, Institution of Chemical Engineers (IChemE) UK  
Member, Society for Environmental Auditors Malaysia (SEAM)  
Member, European Desalination Society  
Former Member of European Membrane Society and American Institute of Chemical Engineers  
Life Member, Old Putera Association (OPA)- Ex-student Society for Royal Military College, Sungei Besi (LMA 390).

## **RESEARCH PROJECTS INVOLVEMENT**

### **International Grant**

1. Fluidized Graphene Oxide-Multifunctional Nano-Adsorbents Reactor as Pretreatment Process prior Membrane Filtration Unit for Water Treatment and Wastewater Reclamation. NPRP 10-0127-170270 Qatar National Research Fund, US\$ 598,675.00 USD. Awarded 2017. **(Principal Investigator)**
2. Towards Water Sustainability in the Malaysian Agriculture Industry: Water Reclamation and Nutrient Recovery from Palm Oil Mill Biogas Reactor Effluent using an integrated Forward Osmosis Process, IC160133, GBP 117,011 The Royal Society International Collaboration Awards for Research Professors **(Principal Investigator – Joint Awards with Prof Nidal Hilal, Swansea University UK)**
3. Development and surface interaction study of Low-Fouling Nanofiltration Membranes for Desalination. NPRP-5-1425-2-607, Qatar National Research Fund, US\$968,236.86. Awarded 2012. **(Lead Principal Investigator)**
4. Development of Novel Approach to the Prediction of Nanofiltration Membranes Performance Using Advanced Atomic Force Microscopy (AFM), US\$ 263,630 from Middle East Desalination Research Centre, Oman (Member) (2003 – 2006) **(Principal Investigator)**

### **National Grant (Competitive Large Grants)**

1. LRGS Grants LRGS/2013/UKM-UKM/PT: Future Biorefineries: Unlocking the Potential of Fine Chemicals and Value Added Byproducts, funded by Ministry of Education (MOE) for 6.75 million (2014-2017), Role:Head of Programme
2. Development of Modular, Automated, and Process-Intensified Gelatine (Water Soluble Protein) Pilot Plant for the World Halal Market, RM 3.6 million, Technofund TF0206A084 (2007 – 2013) Role: Head of Research Project

#### **Industry Grant (Competitive Small Grants from industries)**

3. Research Study on Effective and Economic Disinfection Technology, PKT 1/2016, Indahwater Konsortium, RM 134,390 (2016-2017), Head
4. THRUST 6 : Water Recycle and Reuse, Research Grant from Sime Darby Research for the Zero-Waste Technology Chair, RM 524,000 (2014-2017), Head
5. Development of A Pre-Treatment System of the RO Membrane using Serially Connected Two-Stage Fiber Filters to reuse STP Ffluent, PKT 3/2012, Indahwater Konsortium, RM 161,260 (2012-2014), Head
6. Development of Hard-Gel Capsule Based on Mannan Gums Including the Galactomannans and the Glucomannans Industri (Konyaku Sdn Bhd)(PKT 2/2009)

#### **National and University Grant (Competitive Small Grants)**

7. Green Pre-Treatment System for Solid Recovery in Aquaculture Effluent, LRGS/2018/USM-UKM/EWS/01, LRGS Funding, Ministry of Higher Education, RM 975,690.00 (2019-2022), Group member.
8. Development of a Compact Integrated Solution System for Sustainable Wastewater Reclamation from Malaysian Industries, KK-2019-001, MRUN Research Grant, RM 450,000.00 (2019-2021), Head
9. Green synthesis of multifunctional silver-graphene-silica composite from waste cooking oil feedstock for wastewater treatment, DIP-2018-023, Dana Impak Perdana (UKM), RM 100,000 (2018-2020), Head
10. Development of Fluidized Graphene Oxide-Multifunctional Nano-Adsorbents Reactor for Water Treatment and Wastewater Reclamation, MI-2017-002, RM 100,000 (2018-2020) Head
11. Graphene Sand Composite (GSC) using Palm Oil Mill Effluent as Carbon Source: Characterization and Adsorptive Performance, FRGS/1/2015/TK02/UKM/01/1, FRGS, MOHE, RM 90,000 (2015-2017), Head
12. Advanced Integrated Separation Technologies for Downstream Processing of Sugar-based Products and Fine Chemical Precursors, LRGS/2013/UKM-UKM/PT/03, LRGS, MOHE, RM 1,398,000 (2014-2017) Head
13. New Generation Thin-Film Composite Nanofiltration Membrane By Incorporation Of Functionalized Nanoparticles For Ground And Brackish Water Treatment Application, 03-01-02-SF0863, Sciencefund, MOSTI, RM 237,000, (2012-2014) Head
14. Development of Sustainable Process In Palm Oil Mill, Dana Impak Perdana, DIP-2012-01, UKM, RM 393,000 (2012-2014), Head

15. Pembangunan Sistem Biofilm-membrane untk rawatan sisa air buangan kilang kelapa sawit (Palm Oil Mill Effluent, POME), PHI-2012-05, KTP Grant, RM 133,000 (2012-2014), Head
16. Water re-use using Membrane Technology for Palm Oil Mill effluent Secondary Treatment, INDUSTRI-2011-010 (RM 50,000) (2011-2012) Head
17. Application, Performance Evaluation and Optimization of Membrane System in Chemical Process Industry (Project 3), PKT 1/2012 (RM 135,000) Head
18. Nanoparticle-Based Membranes and Membranes Reactor for Water and Wastewater Treatment, UKM-GUP-2011-033 (RM 30,000) (2011-2012) Head
19. Novel Separation Methods In Biodiesel Production Using Solvent Stable Nanofilters Technology, 03-01-02-SF0054 (RM 160,000) (2008-2010) Head
20. Development of Low-Fouling Nanofiltration Membrane System for Fractionation of Amino Acids from protein hydrolysates, 02-01-02-SF0529 (RM 200,000) (2009-2011) Head
21. Nanofraction of coconut milk for production of value-added bioproduct, 05-01-02-SF1021 (RM 200,000) (2010-2012) Head
22. Development of Hard-Gel Capsule Based on Mannan Gums Including the Galactomannans and the Glucomannans Industri (Konyaku Sdn Bhd)(PKT 2/2009)
23. Development of Low-Fouling Ultrafiltration Membranes for Recovery of Proteins Dana RU UKM-GUP-KPB-08-32-129 (RM 200,000) (2010-2012) Head
24. Studies on the characteristics and mechanism of reaction/separation system within a membrane reactor for biodiesel production FRGS – KPT UKM-KK-02-FRGS0002-2006 (2008-2010) Head
25. Study on Mechanism of fouling and rejection during Membrane Filtration of Glycerin-Rich Solution and their Effects on Optimum Process FRGS – KPT UKM-KK-03-FRGS0115-2010 (2010-2012) Head
26. Development of Modular, Automated, and Process-Intensified Gelatine (Water Soluble Protein) Pilot Plant for the World Halal Market, RM 3.6 million, Technofund TF0206A084 (2007 – Present) Head
27. Novel Separation Methods In Biodiesel Production Using Solvent Stable Nanofilters Technology, RM 160,000 Science Fund 03-01-02-SF0054 (2006 – present) (Head)
28. Development of Hybrid Organic-Inorganic Nanofilters for Recovery of Biological Products, RM 217,000 IRPA 09-02-02-0070-EA197 (Head) (2002 – 2005)
29. Development of Commercially-Competitive Polymeric Nanofiltration Membranes for Water Treatment Applications, RM 148,000 IRPA 09-02-02-0067 (Head) (1999 – 2002)
30. Development of Innovative Drying Technology, RM 863,392 IRPA Kod 03-02-02-0028 (Member) (2000 – 2004)
31. Synthesis and Characterisation of Chitosan Membranes for Gas Separation, UKM Grant FK005/98 RM9750 (Head) (1998 – 1999)

**PLENARY/KEYNOTE/INVITED TALKS**

1. **Abdul Wahab Mohammad**, Keynote Speaker, Integrated/Hybrid Technologies for Wastewater Treatment and Resource Recovery, INTERNATIONAL CONFERENCE ON BIOPROCESS FOR SUSTAINABLE ENVIRONMENT AND ENERGY), 20-22 JUNE 2022, Organized by Biotechnology and Medical Engineering, NIT Rourkela, India
2. **Abdul Wahab Mohammad**, Invited Speaker, Seawater Reverse Osmosis Desalination: Recent Advances and Challenges, Seminar, Chemical and Desalination Engineering Programme, Department of Mechanical and Nuclear Engineering, University of Sharjah, UAE 7th March 2022
3. **Abdul Wahab Mohammad**, Keynote Speaker, Nanomaterials for Enhancement of Membranes Performance, 1st International Conference on Energy Materials (ICEM 2021), 5-8th Nov 2021, Xiamen University Malaysia
4. **Abdul Wahab Mohammad**, Invited Speaker, Research and Commercialization: Why and How, 1st Webinar Program Global Engagement Grant (GEG) UII-UKM 2021, Saturday, October 16th, 2021
5. **Abdul Wahab Mohammad**, Plenary Speaker, Renewable Energy Roadmap for Malaysia: A case study with Bionergy from Biomass, 1st International Conference on Water, Energy & Climate Change WECC 2021, Virtual Venue: University of Sharjah, UAE, 25th – 28th of October 2021
6. **Abdul Wahab Mohammad**, Invited Panel, World Universities Summit 2021 – O.P. Jindal Global University, “Responsible Research: Harnessing Knowledge Resources for Creating Tangible Social Impact” , 22-July-2021 link: [https://www.youtube.com/watch?v=ecnfNzm0vwc&list=PL\\_7V\\_ZbBe0voQcYU\\_SvZ\\_HVLvg3dCeoALu&index=17](https://www.youtube.com/watch?v=ecnfNzm0vwc&list=PL_7V_ZbBe0voQcYU_SvZ_HVLvg3dCeoALu&index=17)
7. **Abdul Wahab Mohammad**, Plenary Speaker, Water Reuse and Recycling: Issues and Challenges for Membrane Technology, 32nd Symposium of Malaysian Chemical Engineers (SOMChE2021) 15-16 July 2021, Organized by: IChemE Malaysia and Swinburne University of Technology, Kuching, Sarawak
8. **Abdul Wahab Mohammad**, Keynote Speaker, Natural Coagulants and and Its Effectiveness in integrated Coagulation-Membrane Processes, SYMPOSIUM ON ADVANCED COAGULATION-ADSORPTION PROCESSES (ACAD2021), Organized by The Faculty of Engineering, Universiti Malaysia Sabah (UMS), 23-24 Jun 2021 (online)
9. **Abdul Wahab Mohammad**, Invited Speaker, Water Reclamation using Membranes: Issues and Challenges, Membranes and Water Security Workshop 2021, Organized by: IRC Membranes and water security, King Fahd University of Petroleum and Minerals 24-25th May 2021 (online)
10. **Abdul Wahab Mohammad**, Invited Speaker, Physical-Chemical Treatment of Water and Wastewater: Point of view from water reuse and recycle using membranes, UKM ENGINEERING WEBINAR SERIES 2021, Universiti Kebangsaan Malaysia (online), 3-5th May 2021



11. **Abdul Wahab Mohammad, Invited Panel Speaker**, Webinar Predatory Publishing: An Irritant or A Threat to Scholarly Outputs? March 11 2021, Organized by Ministry of Higher Education Malaysia Link:  
<https://www.facebook.com/MOHEOfficial/videos/724352241533418>
12. **Abdul Wahab Mohammad, Keynote Speaker**, Integrated/Hybrid Technologies for Water and Wastewater Treatment, INTERNATIONAL CONFERENCE ON CIVIL AND ENVIRONMENTAL ENGINEERING 2020 (CENVIRON2020), 18th November 2020, Organized by Universiti Malaysia Perlis. (online)
13. **Abdul Wahab Mohammad, Panelist**, Managing Partnerships in Academia and Industry, Clarivate South and South East Asia Innovation Forum 2020 on November 18 & 19, 2020. (online)
14. **Abdul Wahab Mohammad, Invited Speaker**, Trend and Advances in Water Reclamation Innovations, Malaysia International Water Convention 2019 (MIWC 2019), MITEC Kuala Lumpur, 1-2 October 2019.
15. **Abdul Wahab Mohammad, Invited Speaker**, Forecasting Research Trends using Elsevier Data and Reference Solutions, Elsevier SEA –E-books Forum, Singapore, 12-13 September 2019.
16. **Abdul Wahab Mohammad, Plenary Speaker**, INTEGRATED MEMBRANE TECHNOLOGY FOR WATER RECYCLING AND REUSE IN MALAYSIA: ISSUES AND CHALLENGES, International Conference on Ocean, Engineering Technology and Environmental Sustainability (iOCEANS 2019), Universiti Malaysia Terengganu, 5-6 August 2019.
17. **Abdul Wahab Mohammad, Plenary Speaker**, Applications of Membrane Technology for Palm Oil Industry: Issues and Challenges, The 12th Conference of the Aseanian Membrane Society (AMS 12), Jeju Island, 2-5 July 2019.
18. **Abdul Wahab Mohammad, Invited Speaker**, Future Biorefineries: Unlocking the Potential of Fine Chemicals and Value Added Byproducts, International Seminar on Biomass and Biorefinery Industry 2018, Bangi, 2-3 October 2018
19. **Abdul Wahab Mohammad, Invited Speaker**, INTEGRATED MEMBRANE PROCESS FOR WASTEWATER TREATMENT AND REUSE, 2018 Forum on Ecological Civilization of the University Alliance of Belt & Road, Lanzhou, China, 23-25 September 2018
20. **Abdul Wahab Mohammad, Keynote Speaker**, Nanomaterials in water and wastewater treatment: Performance and Impact, 5th IET International Conference on Clean Energy and Technology (CEAT 2018)\* and the \*4th International Conference on Global Sustainability & Chemical Engineering (ICGSCE 2018), Kuala Lumpur, 5-6 September 2018
21. **Abdul Wahab Mohammad, Invited Speaker**, Nanotechnology: Potential Applications in Water Industry, UTP Nanotechnology Workshop, 12-13 October 2017, MIMOS Bukit Jalil.
22. **Abdul Wahab Mohammad, Invited Speaker**, WATER RECYCLING AND REUSE IN MALAYSIA: ISSUES AND CHALLENGES, Urban Environmental Accords (UEA) Melaka Summit 2017, 7-9 September 2017

23. **Abdul Wahab Mohammad**, Keynote Speaker, Integrated Zero-Waste Solution for Palm Oil Mill Effluent Treatment: A Case Study for Green Technology, Regional Postgraduate Conference on Environmentally Sustainable Technology, RCET2017, 16-17 October 2017, Skudai, Malaysia
24. **Abdul Wahab Mohammad**, Keynote Speaker, Research & Development at the Faculty of Engineering and Built Environment, UKM, Seminar Nasional Teknik 2017, Mewujudkan Kemandirian Energi Nasional melalui Pengembangan Teknologi “New and Renewable Technology”, 17 September 2017, Sekolah Tinggi Dumai, Dumai, Indonesia
25. **Abdul Wahab Mohammad**, Plenary Speaker, Functionalization of Graphene Oxide in Novel Membranes, National Congress on Membrane Technology (NATCOM 2016), Pulau Spring Resort, 24-25 August 2016.
26. **Abdul Wahab Mohammad**, Invited Speaker, The Need for Strong University-Industry Collaboration towards Meeting the Washington Accord Expectation for Graduates Outcomes, Pre AGM Talk Organized by Engineering Education Technical Division, Institution of Engineers Malaysia, 6th August 2016
27. **Abdul Wahab Mohammad**, Invited Speaker, Biorefinery – Sustainable solution for energy, environment and economic growth? Workshop on Bioenergy, Biorefinery and Bioeconomy: Promoting innovation, multidisciplinary collaboration and sustainability, Organized by University of Nottingham Malaysia, Kuala Lumpur, 30th May – 3rd June 2016
28. **Abdul Wahab Mohammad**, Keynote Speaker, Utilization of Graphene/Graphene Oxide in Novel Adsorbents and Membranes, 28th Symposium of Malaysian Chemical Engineers 2015 (SOMChE 2015) 21-22 October 2015
29. **Abdul Wahab Mohammad**, Keynote Speaker, Biorefinery – Opportunities for Sustainable energy, environment and economic growth, International Symposium on Applied Chemistry (ISAC), Bandung 5-7 October 2015
30. **Abdul Wahab Mohammad**, Keynote Speaker, Biorefinery – Sustainable solution for energy, environment and economic growth?, International Conference on Environment (ICENV 2015), Penang 18-19 August 2015
31. **Abdul Wahab Mohammad**, Keynote Speaker, Sustainable Clean Water for the Future, World Water Day 2015: Water and Sustainable Development, Dammam University, Dammam, Saudi Arabia, 16 March 2015
32. **Abdul Wahab Mohammad**, Invited Speaker, Nanoparticle Incorporated Membranes for Water Treatment and Desalination, 3rd Saudi International Nanotechnology Conference and workshops (SINC 2014), 1-3 December 2014 | RiyadhSINC 2014
33. **Abdul Wahab Mohammad**, Keynote Speaker, Alternative water resources: The role of membrane technology, 27th Symposium of Malaysian Chemical Engineers (SOMChE 2014) cum 21st Regional Symposium on Chemical Engineering (RSCE 2014), 29-30 October 2013, Taylor’s University, Kuala Lumpur.
34. **Abdul Wahab Mohammad**, Keynote Speaker, Integrated membrane technology for water recycling and reuse in Malaysia: Issues and Challenges, International

Symposium on Green & Sustainable Technology (ISGST2014) 30th September to 3rd October 2014, UTAR Kampar Campus, Perak, Malaysia.

35. **Abdul Wahab Mohammad**, Keynote Speaker, Workshop on Progress in Wastewater Treatment and Reuse, Kota Kinabalu Sabah, 19-20 December 2013.
36. **Abdul Wahab Mohammad**, Keynote Speaker, Nanofiltration Membranes for Desalination and Water Treatment: Towards “Perfect” Membranes, 1st International Conference on Desalination using Membrane Technology, 7-10 April 2013 Mélia Sitges Hotel Congress Centr, Sitges Spain
37. **Abdul Wahab Mohammad**, Plenary Speaker, Integrated/Hybrid Membrane System for Sustainable Water Treatment: Issues and Challenges, International Conference of Chemical Engineering and Industrial Biotechnology ICCEIB 2013, 28-29 August 2013, Kuantan.
38. **Abdul Wahab Mohammad**, Plenary Speaker, Nanofiltration Membranes: From Fundamental towards Environmental Applications, 7th International Conference on Energy and Development, Environment and Biomedicine (EDEB '13), Harvard Inn, Harvard, Jan 30-Feb 1<sup>st</sup> 2013.
39. **Abdul Wahab Mohammad**, Invited Speaker, Membrane and Water Recycling, 2<sup>nd</sup> Technical Seminar on Effective Sewerage Treatment in Malaysia: Sharing of Research, Innovation and Creativity in Malaysia, 5-6 December 2012, Kuala Lumpur.
40. **Abdul Wahab Mohammad**, Keynote Speaker, Nanotechnology Approach in Water Treatment, 1st International Conference on Engineering & Built Environment (ICEBE 2012)“ 06 – 07 November 2012, Hotel Residence Inn, Universiti Tenaga Nasional (UNITEN), Kajang, Selangor D.E.
41. **Abdul Wahab Mohammad**, Keynote Speaker, Nanomembranes: From Fundamentals towards Innovation, 26th Symposium of Malaysian Chemical Engineers (SOMChE-2012) in conjunction with 4th International Conference on Chemical and Bioprocess Engineering (ICCBPE-2012) Kota Kinabalu, 21 November 2012.
42. **Abdul Wahab Mohammad**, Invited Speaker, Innovative Methods for Production of Hydrolysed Collagen from Agricultural Resources, MARDI Seminar on Food for Wellness: Trendsetter for Modern Lifestyle, Melaka 6-7 Mac 2012.
43. **Abdul Wahab Mohammad**, Invited Speaker, Nanotechnology: Potential Applications in Water Industry, 1<sup>st</sup> International Workshop Al-Amoudi Water Chair, King Saud University, June 14<sup>th</sup>, 2011
44. **Abdul Wahab Mohammad**, Keynote Speaker, MEMBRANES – Nanoscale Separation from fundamental towards innovation, Engineering Post-graduate Conference EPC 2010, 27-28 Sept, Bangi (2010)
45. **Abdul Wahab Mohammad**, Invited Speaker, Pengembangan Teknologi Kimia untuk Pengolahan Sumber Daya Alam Indonesia, Seminar Nasional Teknik Kimia “Kejuangan”, 26 Jan 2010, Jogjakarta, Indonesia (2010)
46. Invited Chairman, Session – Applying Nanotechnology in Water Desalination, Water Desalination Conference in the Arab Countries, Arwadex (2010), 11-14 April 2010, Riyadh, Arab Saudi.
47. **Abdul Wahab Mohammad**, Invited Speaker, SISTEM PENILAIAN KEMAHIRAN GENERIK (SPKG): PENGALAMAN DARI PERSPEKTIF FAKULTI, Kertas Jemputan, Kongres Pengajaran dan Pembelajaran 2009, 14-16 Disember, Langkawi (2009)

48. **Abdul Wahab Mohammad**, Invited Speaker, “Treatment and Resource Recovery using Membranes”, Water Futures: Academia and Industry Forum, 29 Sept 2009, Kuala Lumpur (2009)
49. **Abdul Wahab Mohammad**, Invited Speaker, MEMBRANES – Nanoscale Separation from fundamental to applications, Faculty of Engineering, Monash University Malaysia (2009)
50. **Abdul Wahab Mohammad**, Keynote Speaker, NANOFILTRATION MEMBRANES IN DESALINATION – FROM FUNDAMENTAL TO APPLICATIONS, Keynote Presentation at The 3rd International Conference on Water Resources and Arid Environments, 17-18 Nov, Riyadh (2008)
51. **Abdul Wahab Mohammad**, Keynote Speaker, Pendidikan Berasaskan Hasil: Melihat Semula Peranan Pensyarah dan Jabatan, Seminar Pengajaran dan Pembelajaran Peka-Melaka, 26 Dis 2007 (2007)
52. **Abdul Wahab Mohammad**, Invited Speaker, Tenaga Keterbaharuan, Seminar Efisiensi Energi dan Potensi Pemanfaatan Sumber Energi Alternatif, Universiti Kebangsaan Malaysia, Bangi, 27 Dis 2007.
53. **Abdul Wahab Mohammad**, Hassan Basri, Mohd Marzuki Mustafa, *Invited Speaker*, Quality Assurance And Accreditation Of Engineering Curricula In Malaysia: A Comparison With The QA Policies In The EU, Invited Presentation at UKM-AsiaLink Seminar 2007, University of Parma, Parma Feb 2007.

#### **PATENT FILING**

<b>No</b>	<b>Title</b>	<b>Filing Information</b>	<b>Granted Information</b>	<b>Inventors</b>
1	A Method of Manufacturing Super Adsorbent and The Super Adsorbent Obtained Thereof	PI 2015001379 (Filed 26 May 2015).	Granted on 17/12/2019 Patent No: MY-172993-A	Abdul Wahab Mohammad, Ebrahim Mahmoudi, Nurul Salwa Hamzah, Teow Yeit Haan
2	A METHOD OF PRODUCING COCONUT PROTEIN POWDER	PI 2011700073, (Filed 17 May 2011).	Granted on: 30/11/2016 Patent No: MY-158873-A	Abdul Wahab Mohammad, Ng Chin Ying
3	A SYSTEM FOR CLARIFYING INDUSTRIAL EFFLUENT (Integrated CO2 Sequestration and Phycoremediation system)	Filed 26/03/2015 PI 2015000763	Granted: 16/08/2020 MY-176549-A	Mohd Sobri Takriff, Abdul Wahab Mohammad, Mohd Tusirin Nor
4	A Method of Producing	11/09/2012	Granted on:	Abdul Wahab

	Hydrolyzed Collagen	PI 2012700628	28/12/2021 MY-188743-A	Mohammad, Mazrul Ramzi Mokhtar, Abdul Ghani Kumar, Norhazwani Suhimi
5	AN INTEGRATED MEMBRANE REACTOR SYSTEM FOR HYDROGEN GAS PRODUCTION (CERAMIC ON PTFE MEMBRANE REACTOR FOR HYDROGEN PRODUCTION)	13/06/2008 PI20082106	Granted on: 30/08/2016 MY-158081-A	Wan Ramli Wan Daud, Zahira Yaakob, Abdul Wahab Mohammad, Teuku Husaini
6	COMPACT PRESSURE SWING ADSORPTION SYSTEM FOR HYDROGEN PURIFICATION	16/11/2007 PI20072029	Granted on: 23/10/2019 MY-171684-A	Wan Ramli Wan Daud, Abu Bakar Mohamad, Abdul Wahab Mohammad, Teuku Husaini

## **PUBLICATIONS/WRITINGS**

### **Books**

1. **Abdul Wahab Mohammad** and Ang Wei Lun, Integrated and Hybrid Process Technology for Water and Wastewater Treatment, Elsevier, 9780128230312 <https://www.sciencedirect.com/book/9780128230312/integrated-and-hybrid-process-technology-for-water-and-wastewater-treatment>
2. Ho Kah Chun, Teow Yeit Haan, **Abdul Wahab Mohammad**, AGRO-INDUSTRIAL WASTEWATER : TREATMENT USING ACTIVE ANTIFOULING CARBON NANO-MEMBRANE, Publisher: Penerbit UKM (2020), ISBN 978-967-251-068-0
3. Teow Yeit Haan, Noorini Ilzzati Mohamad Mazuki, **Abdul Wahab Mohammad**, CHOOSING DISINFECTION ALTERNATIVES FOR BIO-EFFLUENT TREATMENT: A SUMMARY OF EXISTING AND EMERGING TECHNOLOGIES, Publisher: Penerbit UKM (2020) ISBN 978-967-251-027-7
4. Siti Nur Hatika Abu Bakar, Hassimi Abu Hassan & **Abdul Wahab Mohammad**, (2019) Pengurusan Sisa Kilang Sawit, Publisher: Penerbit UKM (2019) ISBN 978-967-412-994-1
5. Mohd. Syuhaimi Ab. Rahman, **Abdul Wahab Mohamad** & Mohd Jailani Mohd Nor, Inovasi Pengurusan Akademik Dalam Program Kejuruteraan, Publisher: Penerbit Fakulti Kejuruteraan dan Alam Bina UKM (2019) ISBN 978-967-412-929-3
6. Mohd. Syuhaimi Ab. Rahman, Ahmad Kamal Arifin Mohd Ikhsan & **Abdul Wahab Mohamad**, (2018) Pemantapan Pengurusan Akademik, Publisher: Penerbit UKM (2018) ISBN 978-967-412-517-2

7. Mohd Jailani Mohd Nor, Mohd. Syuhaimi Ab. Rahman & **Abdul Wahab Mohamad** &, Motivasi Penerbitan untuk Pensyarah Muda, Publisher: Penerbit Universiti Teknikal Malaysia Melaka (2018) ISBN 978-967-2145-11-0
8. Mohd Zaidi Omar, Azami Zaharim, **Abdul Wahab Mohammad**, Kemahiran Kebolehgajian Graduan Kejuruteraan, Publishr: Penerbit UKM (2014), ISBN 978-867-412-258-4
9. **Abdul Wahab Mohammad**, Membran Nanopenurasan: Daripada Fundamental ke Arah Inovasi, Professor Inaugural Lecture Series, Publisher UKM ISBN 978-967-942-955-8 (2011)

### **Chapter in Books**

1. Wei Lun Ang and **Abdul Wahab Mohammad**, Chapter 1 - Integrated and hybrid process technology, in Integrated and Hybrid Process Technology for Water and Wastewater Treatment, Edited by: A.W. Mohammad and W.L. Ang, Elsevier, ISBN:9780128230312
2. Wei Lun Ang and **Abdul Wahab Mohammad**, Chapter 2 - Design approach and sustainability of advanced integrated treatment in Integrated and Hybrid Process Technology for Water and Wastewater Treatment, Edited by: A.W. Mohammad and W.L. Ang, Elsevier, ISBN:9780128230312
3. Yeit Haan Teow, Jing Yao Sum, Kah Chun Ho, **Abdul Wahab Mohammad**, Chapter 3: Principles of nanofiltration membrane processes, in Osmosis Engineering, Edited by N. Hilal, A.F. Ismail, M. Khayet and D. Johnson, Elsevier, UK (ISBN: 978-0-12-821016-1)
4. Wei Lun Ang, **Abdul Wahab Mohammad**, Chapter 4: Recent development in nanofiltration process applications, in Osmosis Engineering, Edited by N. Hilal, A.F. Ismail, M. Khayet and D. Johnson, Elsevier, UK (ISBN: 978-0-12-821016-1)
5. **AW Mohammad**, YH Teow, KC Ho, NA Rosnan, (2019) Recent Developments in Nanofiltration for Food Applications, in Nanomaterials for Food Applications, Elsevier, 101-120
6. **AW Mohammad**, YH Teow, WC Chong, KC Ho, (2019) Hybrid Processes: Membrane Bioreactor, in Membrane Separation Principles and Applications, Elsevier, 401-470
7. W.L. Ang, **A.W. Mohammad**, Mathematical modeling of membrane operations for water treatment in Advances in Membrane Technologies for Water Treatment.<http://dx.doi.org/10.1016/B978-1-78242-121-4.00012-5> (2015)
8. Ching Yin Ng, **Abdul Wahab Mohammad** & Law Yong Ng, Fractionating the value-added products from skimmed coconut milk using membrane separation technique, in A.F. Ismail and T. Matsuura, Membrane Technology for Water and Wastewater Treatment, Energy and Environment, CRC Press, ISBN 9781138029019 (2015)
9. Law Yong Ng and **Abdul Wahab Mohammad**, Innovative Methods to Improve Nanofiltration Performance through Membrane Fabrication and Surface Modification Using Various Types of Polyelectrolytes, in Membrane Fabrication, ed. Hilal et al, Taylor and Francis. (2015)

10. R. Othman, **A. W. Mohammad**, M. Ismail, and J. Salimon, Selectivity of Polymeric Solvent Resistant Nanofiltration Membranes for Biodiesel Separation, in A.F. Ismail and T. Matsuura, Sustainable Membrane Technology for Energy, Water, and Environment, 1<sup>st</sup> Edition, John Wiley & Sons, Inc. (2012).
11. Law Yong Ng, **Abdul Wahab Mohammad**, and Nidal Hilal, Modifications of Polymeric Membranes by Incorporating Metal/Metal Oxide Nanoparticles, in N. Hilal & M. Khayet (Eds), Membrane Modification: Technology and Applications, John Wiley & Sons, Inc. (2012).
12. W. R. Bowen, N. Hilal, M. Jain, R.W. Lovitt, **Abdul Wahab Mohammad**, A.O. Sharif, P.M. Williams and C.J. Wright, 1999. Ab Initio prediction of the performance of membrane separation processes, in Comprehensive Chemical Kinetics, Vol. 37: Applications of kinetic modelling, Ed. R.G. Compton, Elsevier, The Netherlands p523-541. ISBN 978-0-444-50164-6
13. A. Linggawati, **A.Wahab Mohammad**, Z. Ghazali, 2009. Physical, thermal and mechanical properties of polymeric membranes modified by radiation, Ed: S.G. Pandalai, Recent Res. Devel. APpl. Pol. Sci, 4: 311-329 ISBN 978-81-308-0347-0.
14. **A.Wahab Mohammad**. 2011. The MBR Book Chapter 1: Key Drivers by Country: Malaysia, dalam The MBR Book, 2<sup>nd</sup> Edition, Ed: Simon Judd, Elsevier, 9781843395188.
15. **Abdul Wahab Mohammad**, Mohd Tusirin Hj Mohd Nor, Nur Haiqal Rawlins Abdullah & Siti Azura Abd Rahim, 2010. Pembelajaran Menerusi Jaringan Industri, dalam Pengalaman Pembelajaran di UKM, Ed. Salleh Amat et al., Pusat pembangunan Akademik UKM, ISBN 978-967-5048-99-9.
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#### ***Recent List of Journal papers***

1. Nizam, N.U.M., Hanafiah, M.M., Mahmoudi, E., **Mohammad, A.W.**, Oyekanmi, A.A. (2022), Effective adsorptive removal of dyes and heavy metal using graphene oxide based Pre-treated with NaOH / H<sub>2</sub>SO<sub>4</sub> rubber seed shells synthetic graphite Precursor: Equilibrium Isotherm, kinetics and thermodynamic studies, Separation and Purification Technology, 2022, 289, 120730
2. Razman, K.K., Hanafiah, M.M., **Mohammad, A.W.** (2022) An overview of LCA applied to various membrane technologies: Progress, challenges, and harmonization, Environmental Technology and Innovation, 27, 102803
3. Sajid, M., Asif, M., Baig, N., KAbeer, M. Ihsanullah, I., **Mohammad, A.W.** (2022) Carbon nanotubes-based adsorbents: Properties, functionalization, interaction mechanisms, and applications in water purification, Journal of Water Process Engineering, 47, 102815
4. Balakrishnan, T., Ang, W.L., Mahmoudi, E., **Mohammad, A.W.**, Sambudi, N.S. (2022) Formation mechanism and application potential of carbon dots synthesized from palm

- kernel shell via microwave assisted method, *Carbon Resources Conversion*, 5(2), pp. 150–166
5. Ewis, D., Ba-Abbad, M.M., Benamor, A., Mahmud, N., Nasser, M. El-Naas, M., **Mohammad, A.W.**, (2022) Adsorption of 4-Nitrophenol onto Iron Oxide Bentonite Nanocomposite: Process Optimization, Kinetics, Isotherms and Mechanism, *International Journal of Environmental Research*, 16(2), 23
  6. Ba-Abbad, M.M., Benamour, A., Ewis, D., **Mohammad, A.W.**, Mahmoudi, E. , (2022) Synthesis of Fe<sub>3</sub>O<sub>4</sub> Nanoparticles with Different Shapes Through a Co-Precipitation Method and Their Application, *JOM*, 2022
  7. Ba-Abbad, M.M., Chai, P.V., Benamour, A., Ewis, D. **Mohammad, A.W.**, Mahmoudi, E., (2022) Optimizing and control of effective synthesise parameters for Fe<sub>3</sub>O<sub>4</sub> nanoparticles using response surface methodology, *Chemical Papers*, 2022
  8. Yatim, N.I., Hamzah, S., Alias, M., Ali, N., Ariffin, M.M. **Mohammad, A.W.**, (2022) ENHANCING TRYPSIN RECOVERY USING POLYMER-BASED AFFINITY ULTRAFILTRATION MEMBRANE: EFFECTS OF ELUTION pH AND DISPLACING SALTS | Meningkatkan Perolehan Tripsin menggunakan Membran Afiniti Ultrafiltrasi berasaskan Polimer: Kesan pH Pengelutuan dan Penggantian Garam, *Malaysian Journal of Analytical Sciences*, 26(1), pp. 16–28
  9. NNR Ahmad, WL Ang, YH Teow, **AW Mohammad**, N Hilal (2022), Nanofiltration membrane processes for water recycling, reuse and product recovery within various industries: A review, *Journal of Water Process Engineering* 45, 102478
  10. SNHA Bakar, HA Hasan, **AW Mohammad**, SRS Abdullah, MH Muhamadv (2022), Interactions between operating parameters of moving bed biofilm reactors in treating palm oil mill effluent, *Process Safety and Environmental Protection* 158, 567-575
  11. KK Razman, MM Hanafiah, **AW Mohammad**, AW Lun (2022), Life Cycle Assessment of an Integrated Membrane Treatment System of Anaerobic-Treated Palm Oil Mill Effluent (POME), *Membranes* 12 (2), 246
  12. Nur Syahirah Suhaim, Norherdawati Kasim, Ebrahim Mahmoudi, Intan Juliana Shamsudin, **Abdul Wahab Mohammad**, Fathiah Mohamed Zuki, Nor Laili-Azua Jamari (2022), Rejection Mechanism of Ionic Solute Removal by Nanofiltration Membranes: An Overview, *Nanomaterials* 12 (3), 437
  13. Hong, C.-H., Ahmad, N.N.R., Leo, C.P., Ahmad, A.L., **Mohammad, A.W.** Progress in polyvinyl alcohol membranes with facilitated transport properties for carbon capture, *Journal of Environmental Chemical Engineering*, 2021, 9(6), 106783
  14. Khoshnam M.,Farahbakhsh, Zargar M., **A.W. Mohammad**, Benamor A., Ang W.L.,Mahmoudi E.,  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>/graphene oxide powder and thin film nanocomposites as peculiar photocatalysts for dye removal from wastewater, *Scientific Reports*, 2021, 11(1), 20378



15. Suhaimi A., Mahmoudi E., Latif R., Siow K.S., Zaid M.H.M., **Mohammad A.W.**, Mohd Razip Wee M.F. , Superhydrophilic organosilicon plasma modification on PES membrane for organic dyes filtration, *Journal of Water Process Engineering*, 2021, 44, 102352
16. Ahmad, N.N.R., Leo, C.P., **Mohammad, A.W.**, Enhancement on the CO<sub>2</sub> separation performance of mixed matrix membrane using ionic liquid, *Materials Letters*, 2021, 304, 130736
17. NNR Ahmad, WL Ang, CP Leo, **AW Mohammad**, N Hilal (2021), Current advances in membrane technologies for saline wastewater treatment: A comprehensive review, *Desalination* 517, 115170
18. R Abdul Wahid, WL Ang, **AW Mohammad**, DJ Johnson, N Hilal, (2021) Evaluating Fertilizer-Drawn Forward Osmosis Performance in Treating Anaerobic Palm Oil Mill Effluent, *Membranes* 11 (8), 566
19. NK Zaman, R Rohani, II Yusoff, **AW Mohammad**, AAI Luthfi, SA Bakar (2021), Performance optimization of diamine cross-linked mixed matrix membrane for high value organic acid recovery, *Journal of Membrane Science*, 119543
20. YH Teow, MT Chong, KC Ho, **AW Mohammad**, (2021) Comparative environmental impact evaluation using life cycle assessment approach: a case study of integrated membrane-filtration system for the treatment of aerobically aerobically-digested palm oil mill effluent, *Sustainable Environment Research* 31 (1), 1-14
21. Muhammad Tariq Khan, Izaz Ali Shah, Ihsanullah Ihsanullah, Mu Naushad, Sharafat Ali, Syed Hassan Ali Shah, **Abdul Wahab Mohammad** (2021) Hospital wastewater as a source of environmental contamination: An overview of management practices, environmental risks, and treatment processes, *Journal of Water Process Engineering* 41, 101990
22. S.A Ismail, WL Ang, **AW Mohammad** (2021) Electro-Fenton technology for wastewater treatment: A bibliometric analysis of current research trends, future perspectives and energy consumption analysis, *Journal of Water Process Engineering* 40, 101952
23. U Abd Rani, LY Ng, CY Ng, E Mahmoudi, YS Ng, **AW Mohammad** (2021) Sustainable production of nitrogen-doped carbon quantum dots for photocatalytic degradation of methylene blue and malachite green, *Journal of Water Process Engineering* 40, 10181
24. S Azizkhani, SA Hussain, N Abdullah, MHS Ismail, **AW Mohammad** (2021) Synthesis and application of functionalized Graphene oxide-silica with chitosan for removal of Cd (II) from aqueous solution, *Journal of Environmental Health Science and Engineering*, 1-12
25. NNR Ahmad, CP Leo, **AW Mohammad**, N Shaari, WL Ang (2021) Recent progress in the development of ionic liquid-based mixed matrix membrane for CO<sub>2</sub> separation: A review, *International Journal of Energy Research*, 45(7), pp. 9800–9830
26. Nafis Mahmud, Abdelbaki Benamor, Mustafa S Nasser, Muneer M Ba-Abbad, Muftah H El-Naas, **Abdul Wahab Mohammad** (2021) Effective Heterogeneous Fenton-Like

- degradation of Malachite Green Dye Using the Core-Shell Fe<sub>3</sub>O<sub>4</sub>@SiO<sub>2</sub> Nano-Catalyst, *ChemistrySelect* 6 (4), 865-875
27. Ho, K.C., Teow, Y.H., Sum, J.Y., Ng, Z.J., **Mohammad, A.W.** (2021) Water pathways through the ages: Integrated laundry wastewater treatment for pollution prevention, *Science of the Total Environment*, 760, 143966
  28. Ho, K.C., Teoh, Y.X., Teow, Y.H., **Mohammad, A.W.** (2021) Life cycle assessment (LCA) of electrically-enhanced POME filtration: Environmental impacts of conductive-membrane formulation and process operating parameters, *Journal of Environmental Management*, 277, 111434
  29. Nizam, N.U.M., Hanafiah, M.M., Mahmoudi, E., Halim, A.A., **Mohammad, A.W.** (2021) The removal of anionic and cationic dyes from an aqueous solution using biomass-based activated carbon, *Scientific Reports*, 2021, 11(1), 8623
  30. Suhaimi, A., Mahmoudi, E., Siow, K.S., **Mohammad, A.W.**, Mohd Razip Wee, M.F. (2021) Nitrogen incorporation by plasma polymerization of heptylamine on PES membrane for removal of anionic dye (Congo red), *International Journal of Environmental Science and Technology*, 2021, 18(6), pp. 1443–1452
  31. Heng, Z.W., Tan, Y.Y., Chong, W.C., Mahmoudi, E., **Mohammad, A.W.**, Teoh, H.C., Sim, L.C., Koo, C.H. (2021), Preparation of a novel polysulfone membrane by incorporated with carbon dots grafted silica from rice husk for dye removal, *Journal of Water Process Engineering*, 40, 101805
  32. Chua, S.F., Nouri, A., Ang, W.L., Mahmoudi, E., **Mohammad, A.W.**, Benamor, A., Ba-Abbad, M (2021) The emergence of multifunctional adsorbents and their role in environmental remediation, *Journal of Environmental Chemical Engineering*, 9(1), 104793
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44. Gan, J.Y., Chong, W.C., Sim, L.C., Koo, C.H. Pang, Y.L., Mahmoudi, E., **Mohammad, A.W.** (2020), Novel carbon quantum dots/silver blended polysulfone membrane with improved properties and enhanced performance in tartrazine dye removal, *Membranes*, 2020, 10(8), pp. 1–21, 175
45. Ang, W.L., **Mohammad, A.W.** (2020) State of the art and sustainability of natural coagulants in water and wastewater treatment, *Journal of Cleaner Production*, 2020, 262, 121267
46. Singh, T., Atieh, M.A., Al-Ansari, T., **Mohammad, A.W.**, McKay, G. (2020) The role of nanofluids and renewable energy in the development of sustainable desalination systems: A review, *Water (Switzerland)*, 2020, 12(7), 2002
47. Ng, C.Y., Khoo, L.H., Ng, L.Y., Ong, C.B., Mahmoudi, E. Rohani, R., **Mohammad, A.W.** (2020) Novel polyethersulfone-cellulose composite thin film using sustainable empty

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48. Haan, T.Y., **Mohammad, A.W.**, Chun, H.K., Alrajabi, M.M.H. (2020) Nualgi nano biotechnology approach to remediate eco-symbiosis for the conservation of catchment lake, *International Journal of Nanoelectronics and Materials*, 2020, 13(Special Issue ISSTE2019), pp. 247–254
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  51. Zaman, N.K., Rohani, R., **Mohammad, A.W.**, Isloor, A.M., Jahim, J.M. (2020), Investigation of succinic acid recovery from aqueous solution and fermentation broth using polyimide nanofiltration membrane, *Journal of Environmental Chemical Engineering*, 8(2), 101895
  52. Mahmoudi, E., Ng, L.Y., Ang, W.L., Teow, Y.H., **Mohammad, A.W.**, Improving membrane bioreactor performance through the synergistic effect of silver-decorated graphene oxide in composite membranes, (2020) *Journal of Water Process Engineering*, 34, art. no. 101169, .DOI: 10.1016/j.jwpe.2020.101169
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  57. Koe, W.S., Chong, W.C., Pang, Y.L., Koo, C.H., Ebrahim, M., **Mohammad, A.W.** Novel nitrogen and sulphur co-doped carbon quantum dots/titanium oxide photocatalytic membrane for in-situ degradation and removal of pharmaceutical compound (2020) *Journal of Water Process Engineering*, 33, art. no. 101068, .DOI: 10.1016/j.jwpe.2019.101068

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### **ACADEMIC REFEREE/ APPOINTMENTS**

1. Chairman, Majlis Penerbitan Buku Ilmiah Malaysia (MAPIM) 2019-2022
2. Panel Member, Steering Committee on Research Funding for Ministry of Education (2018-2019)
3. Chairman, International Conference on Sustainable Water Processing (Elsevier), Sitges, September 2016
4. Panel Member, Selection of Top Research Scientist Malaysia (TRSM) 2016 under the Academy of Science Malaysia
5. Panel Member, Selection of Young Researcher Award under Malaysian Ministry of Science, Technology and Innovation (MOSTI) 2016
6. Panel Member, Shortlisting of Mahathir Award Winner 2015 under the Academy of Science Malaysia
7. 2014-2016 – Panel member, Technofund Overseeing committee, TF0513F229; PILOT PRODUCTION OF HALAL COLLAGEN FROM FISH SCALE
8. 2014 – Co-editor, Journal of Water Process Engineering (Elsevier) launched in 2014.
9. 2012 – Guest Editor, Desalination Journal (Elsevier) on the topic: *Nanofiltration Membranes – Fundamentals and Innovative Applications*
10. Editorial Board Member (Past and present):
  - a. *Case Study for Chemical Engineering (Elsevier)*
  - b. *Desalination (Elsevier)*
  - c. *Journal of Applied Membrane Science and Technology (Penerbit UTM)*
  - d. *Fuel (Hindawi)*
  - e. *World Applied Science Journal (IDOSI)*
  - f. *Middle East Journal of Scientific Research (IDOSI)*
  - g. *European Journal of Applied Sciences (IDOSI)*
11. Scientific Reviewer for Grant Application:
  - a. Innovation and Technology Commission (ITC), Hong Kong (2020)
  - b. NWO Wetsus Partnership Programme, The Netherlands (2020)
  - c. Portuguese Foundation for Science and Technology (FCT) (2012)

- d. Scientific Research Support Fund, Ministry of Higher Education and Scientific Research, The Hashemite Kingdom of Jordan (2010)
  - e. King Fahd University of Petroleum & Minerals
  - f. Qatar National Research Fund (QNRF)
12. Chairman, Symposium D, Nanotechnology in Agriculture, Energy & Environment di Nanotech Malaysia 2009
  13. Member, National Scientific Committee, The 7th International Conference on Membrane Science and Technology (MST 2009)
  14. Member of National Advisory Board, 5th International Conference on Environment (ICENV 2010)
  15. Member of National Advisory Board, 5th International Conference on Environment (ICENV 2008)
  16. Member, National Advisory Committee, World Engineering Congress (WEC 2010)
  17. Member, National Advisory Committee, 2nd International Conference on Biotechnology Engineering (ICBioE'11) – 2011
  18. Regional Author, Asia Pacific Nanotechnology Forum News (2003 – 2004)
  19. MEDRC Visiting Research Fellow, School of Chemical, Mining and Environmental Engineering, University of Nottingham, UK. (2003, 2005)
  20. Panel review for research grant proposal for the Faculty of Engineering, King Fahd University of Petroleum & Minerals (2006)
  21. Referee for 32 international journals such as
    - *Journal of Membrane Science (Elsevier)*
    - *Separation and purification Technology (Elsevier)*
    - *Chemical Engineering Journal (Elsevier)*
    - *Desalination (Elsevier)*
    - *Bioresource Technology (Elsevier)*
    - *Journal of Applied Polymer Science (Wiley)*
    - *Journal of Hazardous Materials (Elsevier)*
    - *Journal of Chromatography B (Elsevier)*
    - *Journal of the Science and Food Agriculture (Wiley)*
    - *International Journal of Greenhouse Gas Control (Elsevier)*
    - *Industrial & Engineering Chemistry Research (ACS)*
    - *Environmental Science and Technology (ACS)*
    - *World Applied Science Journal*
    - *Chemical Engineering Research and Design (IChemE)*
    - *Journal of Environmental Management (Elsevier)*
    - *Catalysis Communications (Elsevier)*
    - *Journal of Non-Crystalline Solids (Elsevier)*
    - *Journal of the American Ceramic Society.*
    - *Journal of Colloid and Interface Science (Elsevier)*
    - *Physica B (Elsevier)*

- *International Journal of Applied Ceramic Technology*
- *Bioprocess and Biosystems Engineering*
- *Environmental Engineering Science*
- *Coloration Technology*
- *Chemical Engineering Science (Elsevier)*
- *Journal of Food Engineering (Elsevier)*
- *Separation Science and Technology (wiley)*
- *European Polymer Journal (Elsevier)*
- *Asia Pacific Chemical Engineering Journal*
- *Jurnal Teknologi UTM (Penerbit UTM)*
- *Chemical Product and Process Modeling*
- *Fuel Processing Technology (Elsevier)*
- *Journal of Cleaner Production*
- *Separation and Purification Reviews*

22. Appointed as External Assessor/Advisory Board for Chemical Engineering Programme at:

- a. Swinburne University Sarawak Malaysia (2015)
- b. Manipal University Malaysia (2015-2016)
- c. Sohar University, Oman (2014)
- d. Taylor's University (2012 - 2016)
- e. Universiti Malaysia Pahang (2013)
- f. University Kuala Lumpur (2014-2015)
- g. Universiti Tun Hussein Onn (2014-2018)
- h. TATI University College (2016)
- i. Monash University Malaysia (2017) (External Assessor)
- j. University of Nottingham Malaysia (2018)(External Assessor)
- k. Xiamen University Malaysia (2021) (External Examiner)
- l. Herriot-Watt University Malaysia (2022) (External Examiner)

23. Appointed as External Examiner for MPhil/Msc/PhD Thesis at:

- a. University of Nottingham, United Kingdom (2003, 2005),
- b. University of Witwatersrand, South Africa (2009),
- c. Universiti Teknologi Malaysia,
- d. Universiti Putra Malaysia,
- e. Universiti Sains Malaysia
- f. Universiti Malaya
- g. International Islamic University Malaysia
- h. Universiti Teknologi Petronas
- i. Universiti Malaysia Sabah
- j. Universiti Malaysia Terengganu

24. Head and Panel Member for Engineering Accreditation Board of Engineers Malaysia (2004 – present) at the following universities:

- Universiti Tuanku Abdul Rahman (UTAR) (2009, 2019)
  - Universiti Malaysia Sabah (2004, 2010, 2017)
  - Universiti Teknologi Mara (2004)
  - Universiti Malaya (2004, 2015)
  - Universiti Putra Malaysia (2004)
  - Kolej Universiti Kejuruteraan dan Teknologi Malaysia (2006)
  - Universiti Sains Malaysia (2006)
  - Terengganu Advanced Technical Institute (2006)
  - Universiti Teknologi Petronas (2007 & 2010)
  - University of Nottingham Malaysia (2009)
  - Universiti Islam Antarabangsa (2009)
  - Universiti Teknologi Malaysia (2009)
  - Universiti Malaysia Perlis (2009)
  - Universiti Malaya (2015)
  - Universiti Teknologi MARA (2016)
  - SEGI University (2017)
25. Appointed as a Consultant to the Local Project Implementation Unit (LPIU) DUE-Project Universitas Riau, Indonesia (2002).
  26. Appointed as Instructor for Course on Synthetic Membrane Characterization at Department of Physical Chemistry, Universitas Riau, Indonesia (2002).
  27. Member, D-SETARA Committee for Engineering (2011-2012)
  28. Member, Engineering Accreditation Council (EAC) (2005 – 2007)
  29. Member, Board of Studies, Universiti Malaysia Perlis (2007 – present)
  30. Member, Board of Studies, Universiti Malaysia Pahangs (2007 – present)
  31. Appointed as Head Evaluation Panel for Accreditation by Board of Engineers Malaysia (2004 – present)
  32. Appointed as Member of Technical Committee (Petrochemical) Majlis Amanah Rakyat Malaysia (MARA) to advise MARA on the establishment of Malaysian Institute of Chemical Engineering Technology (MICET).
  33. Appointed as Member of Technical Committee for assessing the Detailed EIA Report for several projects by Dept. of Environment, Malaysia.
  34. Organising Committee Member. Asian Particle Technology Conference 2003.
  35. Organising Committee Member, Regional Symposium of Chemical Engineers (RSCE 2002).
  36. Secretary, Organizing Committee, Symposium of Malaysia Chemical Engineers (SOMChE 2003).
  37. Panel Judge, Invention, Research and Innovation Exhibition (PRPI) 2008 dan 2009, Universiti Putra Malaysia
  38. Panel Judge, Inventions, Innovations and Designs Competition, UiTM Shah Alam (IID 2009)
  39. Member, Halloids Scientific Advisory Board (2010)
  40. Panel Interviewer, Program Ijazah Luar Negara (PILN), Jabatan Perkhidmatan Awam (April 2009)



41. Book Manuscript Reviewer, Graphical Solutions in Unit Operations, Penerbit Universiti Sains Malaysia (2007)
42. Book Manuscript Reviewer, Membrane Modification: Technology and Applications, Taylor and Francis (2010)
43. Reviewer, Anugerah Makalah Jurnal Terbaik, Anugerah MAPIM 2009, Majlis Penerbitan Ilmiah Malaysia (2009)

### **University Level**

44. Chairman, Revision for Assessment System for UKM Academic Staff (2019-2020)
45. Chairman, Task Force on Setting Up of the 4<sup>th</sup> IR Institute (2019-2020)
46. Chairman, Screening Promotion Committee of Academic Staff (2019-2020)
47. Chairman, Faculty of Engineering Council of Professor (2018-2019)
48. Chairman, Committee on Accreditation and Quality UKM (2014-2015)
49. Senate Members representing Faculty of Engineering and Built Environment (2010-2014)
50. Peer Review Panel for promotion of UKM Professors to Grade A and B.
51. Interview Panel for UKM Professors and Associate Professors promotion.
52. Member, UKM Study-Leave Committee, 2012-2014.
53. Member, Citation Leap Committee (2010 – present)
54. Head, Engineering Research Cluster under the Research University Grouping (2007).
55. Member, Advanced Materials and Manufacturing Research Focus Group (2007)
56. Member, Review Committee for UKM Strategic Plan (2004 – 2006)
57. Student Design Award, Department of Chemical and Process Engineering (1998-2002). Responsible for the *Separation Processes* section.
58. Appointed as internal examiner for Master and PhD Theses at Universiti Kebangsaan Malaysia (3 Theses).
59. Industrial Training Coordinator, Faculty of Engineering.
60. Secretary, Organizing Committee, International Conference on Advances in Strategic Technologies (ICAST 2003).
61. Ketua Kelompok, Kejuruteraan Bahan Termaju, Nic Nanoteknologi dan Bahan Termaju (2007-kini)
62. Ketua Kumpulan Skala Naik dan Pemprosesan Hiliran, Nic Bioteknologi (2008-kini)
63. Ahli Jawatankuasa Induk MQF (2008)
64. Ahli JK Kecil Projek “Transformasi ke Arah Universiti Penyelidikan Unggul: Projek 6: Lonjakan Sebutan”, lantikan 18 Jun 2009.
65. Ahli, Jawatankuasa Kecil Anugerah Penyelidikan dan Inovasi (2008)
66. Ahli, Jawatankuasa Kerja Perkembangan Pendidikan Kejuruteraan, Majlis Jemaah Dekan Kejuruteraan Malaysia (MCED)
67. Ahli JK Kecil Projek “Transformasi ke Arah Universiti Penyelidikan Unggul: Projek 3: Bahasa Melayu”, lantikan 4 Mac 2009.

68. Ahli JK Kecil Projek “Transformasi ke Arah Universiti Penyelidikan Unggul: Projek 7: Penandaarasan Kelas Dunia”, lantikan 9 Feb 2009.
69. Panel, Pembangunan Modul PTK 3&4, Penulisan Makalah Jurnal Berwasit (2009)
70. Panel, Pembangunan Modul PTK 6, Penilai dan Mengakreditasi Program Akademik (2009)
71. Panel, Pembangunan Modul PTK 3&4, Penyediaan dan Penulisan Cadangan Penyelidikan (2009)
72. Ahli, Jawatankuasa Semakan Pelan Strategik UKM (2004-2006)

#### **APPOINTMENT RELATED TO HIGHER EDUCATION/QUALITY ISSUES**

1. Chairperson, Sub-Committee on Engineering Technology Accreditation (ETAC) Manual, Board of Engineers Malaysia (2015-2016)
2. Member, D-Setara (Engineering) Committee under the Malaysian Qualification Agency (MQA). (2011-2014)
3. Observer, Canadian Engineering Accreditation Board, Accreditation visit to Dalhousie University, Halifax Canada (October 2007)
4. Member, Engineering Accreditation Council (EAC) Lembaga Jurutera Malaysia (2005 – 2007)
5. Member, Sub-Committee Member, Engineering Accreditation Manual for Board of Engineers Malaysia (2004 – 2006)
6. Invited speakers for Outcome Based Education (OBE) in various seminar/workshops organized by Board of Engineers Malaysia (BEM) and local universities (2004 – present)
7. Chairman, Committee for Key Performance Indicators (KPI), Faculty of Engineering UKM
8. Member, Committee for Revision of the UKM Strategic Plan 2020 (2004 – 2005)

#### **PUBLICATION/PRESENTATION RELATED TO QUALITY MANAGEMENT**

1. Engineering Programme Accreditation Manual Ver. 3 (2005), Revise Version (2007)
2. Pelan Strategik UKM – Perspektif 2006-2010
3. *Programme Assessment and Evaluation*, presented at the Outcome Based Education (OBE) Workshops (2005, 2006) organised by various engineering faculties in Malaysia.
4. *Preparing Document for Engineering Accreditation*, presented at the Outcome Based Education (OBE) Workshops organised by Board of Engineers Malaysia (2006,2007)
5. *How to Publish in High Impact Journals*, presented at the Workshop for Quality Publication (2008-2011)
6. *Preparing Inaugural Lecture*, presented at the Workshop for Inaugural Lectures Preparation (2011-2012)

7. *Research Output*, presented at the Workshop for Young Lecturers Training (2008-2011)
8. *Research Outcomes and Consequence*, presented at the Penilaian Tahap Kecekapan (PTK 6) Workshop in UKM (2005-2010)
9. *Research Management*, presented at the Post-Graduate Students Workshop, Faculty of Engineering UKM (2005-2011).
10. *Opportunities for Research Grants*, presented at the Quantitative Research Workshop organised by Pusat Pengembangan Akademik (PPA) UKM (2007).
11. *Ciri-ciri Penyelidik Cemerlang*, presented at the Young Lecturers Workshop organised by Pusat Pengembangan Akademik (PPA) UKM (2003).
12. Professional Interview Part 1: Significant issues facing Malaysia to meet the challenge of globalization and the emergence of the IT age, *Jurutera*, March: 15 (2002).

### **SHORT COURSES/SEMINARS/WORKSHOP**

Have attended more than 50 short courses/seminars/conference/workshop in Malaysia and overseas. Among them:

#### *Related to Quality Issues:*

Lembaga Jurutera Malaysia: Bengkel Manual Akreditasi Kejuruteraan (2005)  
Engineering Accreditation Council: Evaluators' workshop (2004)  
Bengkel Fakulti ABET (2004)  
Bengkel Penstrukturian Dalaman UKM (2004)  
Advanced EMS Audit Workshop-Lead Auditor Program (2003)  
Bengkel ISO14000 untuk Agensi Awam-Bahagian II, Kuala Lumpur (2003)  
Bengkel ISO14000: Sistem Pengurusan Alam Sekitar (Bhg 1), Kuala Lumpur (2002)

#### *Related to Research Areas:*

The 1st International Conference on Desalination and Environment: A Water Summit, Abu Dhabi, 29 Oct-2<sup>nd</sup> Nov 2011.  
1<sup>st</sup> International Workshop Al-Amoudi Water Chair, King Saud University, June 14<sup>th</sup>, 2011  
Water Desalination Conference in the Arab Countries, Arwadex (2010), 11-14 April 2010, Riyadh, Arab Saudi.  
International Congress on Membrane and Membrane Processes (ICOM 2005), Seoul, Korea (2005)  
2nd Regional Symposium on Membrane Science and Technology, Johor Bahru (2004)  
EuroMED 2004: Desalination Strategies for Mediterranean Countries, Marrakech, Morocco (2004)  
International R & D Forum On Oil, Gas and Petrochemicals, Kuala Lumpur (2004)  
17th Symposium of Malaysian Chemical Engineers 2003, Copthorne Orchids Hotel, Pulau Pinang (2003)  
2nd Asian Particle Technology Conference, Batu Feringgi, Pulau Pinang (2003)  
3rd International Conference on Advances in Strategic Technologies 2003 Kuala Lumpur (2003)