



Prof Ir Ts Dr. Sharifah Rafidah Wan Alwi

(Researcher ID: J-7358-2012, Scopus ID: 13608087500, Google Scholar ID: H4uPoAAAAJ)

P.B.S., B. Eng. (UMIST, UK), Ph.D. (UTM), FASc, PEng (Reg No. C114696), MIEM (Membership No: 70301), CEng (Reg No. 581292), MICHemE (Membership no: 99881107), ACS Member (Membership no: 30180270), MIWA (UK) (Membership no: 00943115), BEM (Membership no: 50089A), Registered Electrical Energy Manager (PTE-0055-2013), Certified Energy Manager Trainer (LT-MY-007-1901)

Biography

Prof Ir Ts Dr Sharifah Rafidah Wan Alwi, FASc, CEng, MICHemE, MIEM, is a Professor in the Faculty of Chemical and Energy Engineering, Universiti Teknologi Malaysia. She specialises in process systems engineering with emphasis on resource conservation. She previously helmed as the Director of Process Systems Engineering Centre (PROSPECT) from Feb 2011 to 2021. Sharifah has been extensively involved in 80 research projects (worth RM7.54Million), 17 industrial based projects for various companies and government agencies and has trained engineers from more than 200 companies in the field of sustainable engineering design and management. She has more than 250 publications with a H-index of 38 (Scopus). The 2014 Elsevier's Scival Spotlight has ranked her in the ninth place among the list of global experts under the competency of "heat exchangers, retrofitting and design" and in the fifth place under the competency of "optimisation, cost and water".

Dr Sharifah is currently the **Associate Editor** for Journal of Cleaner Production (Q1), **Editorial Board** member for Applied Thermal Engineering Journal (Q1), International Journal of Higher Education and Sustainability and Journal of Heat and Mass Transfer Research. She is also **International Member** of European Committee for the Use of Computers in Chemical Engineering Education (EURECHA). She has been serving as the **Guest Editor** for Journal of Cleaner Production, Asia-Pacific Journal of Chemical Engineering (Q4) and PERINTIS e-Journal. She is a frequent reviewer for 16 international journals and has been appointed as international scientific and technical committee for several international conferences.

Dr Sharifah has filed 12 patents (3 patents granted, 2 utility innovation granted), 28 copyrights and developed 7 software products. Her team have **established a UTM Spin-off company called Optimal Systems Engineering Sdn Bhd (OPTIMISE)**, where she serves as one of the Board of Directors to commercialise not only their products but also ideas and know-how.

Sharifah received her PhD at the age of 26 from Universiti Teknologi Malaysia (UTM), making her one of the two youngest PhD holders in Malaysia at that time. She was awarded the **Maal Hijrah 2008 (New Year of 2008) Award** – Glorious Achievement by the Sarawak state government and the Excellent Service Award by UTM. Her PhD work on water minimisation has won the 2008 **Prince Sultan Abdul Aziz International Water Award**, Urban Water Demand Management Category. She has won numerous international and national awards since then such as **Green Talents 2009** award from the Federal Ministry of Research Germany, Top 5 shortlisted candidates for **Global IChemE Young Engineer Award 2009**, **IChemE Highly Commended Sir Frederick Warner Prize 2011**, **ASEAN Young Scientist and Technologist Award (AYSTA 2014)**, **PhosAgro/UNESCO/IUPAC Research Grant** in Green Chemistry 2014, **National Young Scientist Award 2015**, **Most Exalted Order of the Star of Sarawak 2015** – Officer Rank (P.B.S.), Honorable Mention and Runner-up for **ASEAN-US Science Prize for Women 2016** in Energy Sustainability, **Malaysia Research Star Award 2016, 2018 and 2019**, **Top Research Scientists Malaysia 2018**, **Sarawak State Special Recognition - International Women Award 2021**. She was listed as **Asian Scientist 100** in 2017 and **Asia's Rising Scientists** in 2020, **8 Women Scientists from Asia You Should Know** in 2021, and **Women Wunderkinds** in 2022 by AsianScientist.com. Due to her various contributions globally and locally, she was promoted as Professor in 2016 at the age of 34 years old by Universiti Teknologi Malaysia.

She has served as the **Chair for the Science Leadership Working Group** under **Young Scientist Network, Academy of Sciences Malaysia (YSN-ASM)** and for **Malaysia IChemE Young Engineer Group (YEG)**. She is a member of Persatuan Saintis Muslim Malaysia (PERINTIS). She is a certified **ASEAN Energy Management Scheme (AEMAS) Energy Manager trainer and a Registered Electrical Energy Manager under Malaysia Energy Commission**. She chaired the 1st Global Process Systems and Safety Conference (PSSE2016) and co-chaired the **18th International Conference Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction (PRES 2015)**, a cleaner energy main stream international conference which has been organised in Europe and North America since 1998.

PERSONAL DETAILS

Name : Sharifah Rafidah **Wan Alwi**

Gender : Female

Date of Birth : 10 October 1981

Nationality : Malaysia

Marital Status : Married

Address: Faculty of Chemical and Energy Engineering, Universiti Teknologi
Malaysia, 81310 UTM Johor Bahru, Johor, Malaysia.

Tel : (Mobile) : +6019-8683085

E-mail : syarifah@utm.my

Website : <http://people.utm.my/shasha>

ID Staff : 9484

Expertise : Process systems engineering, pinch analysis, optimisation,
resource minimisation, energy and water management

ACADEMIC QUALIFICATIONS

NO	LEVEL OF EDUCATION	COURSE	UNIVERSITY	STARTING DATE	ENDING DATE
1	PhD	Chemical Engineering	Universiti Teknologi Malaysia	2004	2007
2	B.Eng.	Chemical Engineering	University of Manchester, United Kingdom (Previously known as UMIST)	2000	2003
3	Diploma in International Baccalaureate	Engineering	MARA College Banting	1998	2000

AWARD AND HONORS RECEIVED

Research Awards

NO	AWARD/HONORS	LEVEL (FACULTY /UTM /NATIONAL /INTERNATIONAL)	YEAR
1	Top 2% in the World In Their Respective Fields. Category: Career Long and Citation Impact in Single Year 2021. By Standord University.	International	2022
2	Women Wunderkinds , Asian Scientist Magazine, https://www.asianscientist.com/2022/02/features/women-wunderkinds-women-and-girls-in-science/	International	2022
3	Top 2% in the World In Their Respective Fields. Category: Citation Impact in Single Year 2020. By Standord University.	International	2021
4	#Goals: 8 Women Scientists From Asia You Should Know , Asian Scientist, Asian Scientist Magazine (8 March 2021). https://www.asianscientist.com/2021/03/features/women-scientist-asia-2021-international-womens-day/?fbclid=IwAR2XuO7Ow7qIqtqxQJEd_BBNWHTL1pnN3AoZwY56ehHtjbOr4EcQRISL5hk	International	2021
5	Gold Award & International Award of Merit , Waste2Wealth – Malaysia's Waste Trading Website, Internaional Innovation Awards 2021, Malaysia Technology Expo (MTE 2021), in conjunction with The Malaysia-Croatia Technology Exchange 2021, Online.	International	2021
6	Gold Award , Smart Energy Demand Analysis and Reduction (SEDAR), Internaional Innovation Awards 2021, Malaysia Technology Expo (MTE 2021), Online.	International	2021
7	Award of Merit , TrigenSite – A Software to Optimise Industrial Energy Across Multiple Sites, The 19 th International Expo on Inventions and Innovations, Malaysia Technology Expo (MTE 2020), World Trade Centre Kuala Lumpur.	International	2020
8	Gold Award , TrigenSite – A Software to Optimise Industrial Energy Across Multiple Sites, The 19 th International Expo on Inventions and Innovations, Malaysia Technology Expo (MTE 2020), World Trade Centre Kuala Lumpur.	International	2020
9	The Best Award , TrigenSite – A Software to Optimise Industrial Energy Across Multiple Sites, The 19 th International Expo on Inventions and Innovations, Malaysia Technology Expo (MTE 2020), World Trade Centre Kuala Lumpur.	International	2020
10	The Top Twenty Active Delegate Award 2020, 23 rd Conference on Process Integration, Modelling and Optimisation for Energy saving and Pollution Reduction, Xi'an, China (online)	International	2020
11	"Asia's Rising Scientist" , Asian Scientist, Asian Scientist Magazine. https://www.asianscientist.com/2020/04/features/asias-rising-scientists-sharifah-wan-alwi/	International	2020
12	Silver Award, HIRECS – Heat Integration Software for Retrofit, Controllability and Safety, PECIPTA 2019, Universiti Tun Hussein Onn Malaysia.	International	2019
13	Bronze Medal Medal, Optimal Site Water, Malaysia Technology Expo (MTE 2018), PWTC Kuala Lumpur.	International	2018
14	"Asian Scientist 100", 2017 Edition , by Asian Scientist Magazine. https://www.asianscientist.com/as100-2017/	International	2017
15	ASEAN-US Science Prize for Women 2016 in Sustainable Energy Research, Honorable Mention and Runner-Up, 9 th ASEAN Ministerial Meeting on Science & Technology, Siem Reap, Cambodia.	International	2016

NO	AWARD/HONORS	LEVEL (FACULTY /UTM /NATIONAL /INTERNATIONAL)	YEAR
16	Silver Medal, Optimal Site © - A Software for Optimal Total Site Utility System Design, International Conference and Exposition on Inventions by Institutions of Higher Learning (PECIPTA) 2015, Kuala Lumpur Convention Center.	International	2015
17	Highly Cited Paper – Top 1% of the academic field of engineering based on a highly cited threshold for the field and publication year. September/October 2015; March/April 2015. Web of Science, Thomson Reuters. “Chew, K. H., Klemes, J., Wan Alwi, S. R. And Manan, Z. A. (2013). <i>Industrial Implementation Issues of Total Site Heat Integration. Applied Thermal Engineering</i> , 61: 17-25. Impact factor: 3.043 (Q1).”	International	2015
18	Highly Cited Paper – Top 1% of the academic field of engineering based on a highly cited threshold for the field and publication year. Web of Science, Thomson Reuters. “Lim, J. S., Manan, Z. A., Wan Alwi, S. R. And Hashim, H. (2012). <i>A review on utilisation of biomass from rice industry as a source of renewable energy. Renewable and Sustainable Energy Reviews</i> . 16: 3084– 3094. Doi:10.1016/j.rser.2012.02.051. Impact factor: 5.51 (Q1).”	International	2015
19	Top 1% of the academic field of engineering based on a highly cited threshold for the field and publication year. Web of Science, Thomson Reuters. “Lim, J. S., Manan, Z. A., Wan Alwi, S. R. And Hashim, H. (2012). <i>A review on utilisation of biomass from rice industry as a source of renewable energy. Renewable and Sustainable Energy Reviews</i> . 16: 3084– 3094. Doi:10.1016/j.rser.2012.02.051. Impact factor: 5.51 (Q1).”	International	2015
20	Best Poster Award, Sustainable Development of Energy, Water and Environment Systems (SDEWES) 2015 Conference, Dubrovnic, Croatia.	International	2015
21	Sponsored to attend GYSS-One North (Global Young Scientist Summit), Singapore, Organised by National Research Foundation (NRF), Singapore.	International	2015
22	ASEAN Young Scientist and Technologist Award (AYSTA) 2014 , Bogor, Indonesia.	International	2014
23	PhosAgro/UNESCO/IUPAC Research Grant in Green Chemistry 2014 , Moscow, Rusia.	International	2014
24	Bronze Medal, “How to Get Yourself Employed (HTGYE)”, Category G: Special Academic Support Programme, Innovative Practices in Higher Education Expo 2014 (I-PHEX 2014).	International	2014
25	Gold Medal , Optimal Power – Software for Optimal Hybrid Power System, 24 th International Invention, Innovation & Technology Exhibition (ITEX 2013), Kuala Lumpur Convention Centre.	International	2013
26	Best paper award, Sustainable Development of Energy, Water and Environment Systems (SDEWES) 2013 Conference, Dubrovnic, Croatia.	International	2013
27	ASEAN Energy Award 2012 – Large Building Category, UTM – A One Stop Centre for Sustainable Energy Management, ASEAN Centre for Energy (ACE), Phnom Peh, Cambodia (Member).	International	2012
28	Sir Frederick Warner Prize 2011 , Highly Commended. IchemE UK, Presented during SOMCHE.	International	2011
29	IchemE Young Engineer Award 2009 , Shortlisted as Top 5 potential, UK	International	2009
30	Green Talents 2009 , Federal Ministry of Education and Research Germany.	International	2009
31	Awarded “TREE –Transfer Renewable Energy & Efficiency” scholarship for Grid Connected Photovoltaic Training in Berlin, Germany, Renewables Academy AG (RENAC) on behalf of Ministry of Environment, Nature Conservation and Reactor Safety Germany.	International	2009
31	Awarded full sponsorship for International Training and Research Program for Sustainable Environment and Renewable Energy in Taipei, Taiwan, National Taiwan University. Programme funded by Department of International Programs of National Science Council, ROC.	International	2008
32	Prince Sultan bin Abdulaziz International Prize for Water (PSIPW) 2008 , Arab Saudi – Water Category (For my PhD work)	International	2008
33	Supervisor, Semifinalist, Southeast Asia & Taiwan Universities (SATU) Summit on Industry-Academia Collaboration and Business Plan Competition at the International Level 2007.	International	2007
34	Gold Medal , IPTA Expo on Research & Development 2005 – <i>Matrix: A Computer Software for Maximising Energy and Water Efficiency in Industry and</i>	International	2005

NO	AWARD/HONORS	LEVEL (FACULTY /UTM /NATIONAL /INTERNATIONAL)	YEAR
	<i>UrbanSectors</i> . (The exhibition has now been branded as PEIPTA (International Exposition of Research and Inventions of Institutions of Higher Learning), Ministry of Higher Education.		
35	Silver Medal, Water MATRIX – A Computer Software for Water and Energy Reductions in Industry and Public Buildings, EXPO Science, Technology & Innovation 2004, Ministry of Science and Technology.	International	2004
36	Personaliti Buku, Sarawak Women in Innovation and Technology 2024, Jabatan Wanita dan Keluarga Sarawak	National	2024
37	PERINTIS Publication Award 2022, “A numerical technique for Total Site Sensitivity Analysis, Applied Thermal Engineering (2012), 40, 397-408. Persatuan Saintis Muslim Malaysia (PERINTIS).	National	2022
39	Special Recognition, International Women Award 2021 , Sarawak State (17 March 2021, Wisma Bapa Malaysia, Kuching, Sarawak)	National	2021
40	Highly Recommended, IChemE Malaysia Awards 2021 – Sustainability Category. Trigeneration and Industrial Energy Exchange Across Multiple Sites (TRIGENSITE).	National	2021
41	PERINTIS Publication Award 2021, Persatuan Saintis Muslim Malaysia (PERINTIS), 17 April 2021	National	2021
42	Malaysia Research Star Award 2019 – International Collaboration Category , Minister of Education Malaysia in collaboration with Elsevier and Clarivate Analytics, Zenith Hotel, Kuala Lumpur.	National	2019
43	Top Research Scientists Award 2018 , Academy of Sciences Malaysia, Sunway Putra Hotel, Kuala Lumpur.	National	2018
44	Malaysia Research Star Award 2018 – Young Researcher Category , Minister of Education Malaysia in collaboration with Elsevier, Sama-sama Hotel, Kuala Lumpur	National	2018
45	Excellent Publication Award 2018, “Industrial Implementation Issues of Total Site Heat Integration, Applied Thermal Engineering, 2013, 61(1): 17-25”. Persatuan Saintis Muslim Malaysia (PERINTIS).	National	2018
46	Excellent Publication Award 2017, “A Process Integration Targeting Method for Hybrid Power Systems, Energy, 44(1), 6-10. Persatuan Saintis Muslim Malaysia (PERINTIS).	National	2017
47	Malaysia’s Rising Star Award – Young Researcher Category , Putrajaya.	National	2016
48	Winner, Superb Teraju, 2016 , eSmart – Energy management system with certification. Won commercialisation grant worth RM500,000 (USD120,000).	National	2016
49	Winner, Platcom, 2015, eSmart – Online smart meter. Won commercialisation grant worth RM300,000 (USD75,000).	National	2015
50	Most Exalted Order of the Star of Sarawak – Officer (P.B.S.) @ in Malay: Darjah Yang Amat Mulia Bintang Sarawak. Pingat ‘Pegawai Bintang Sarawak’. Sarawak State Award.	National	2015
51	National Young Scientist Award by Ministry of Science, Technology and Innovation (MOSTI), Malaysia, Majlis Inovasi Negara, Kuala Lumpur Convention Centre	National	2015
52	AEMAS Energy Management Gold Standard – 3 Star, Awarded to Universiti Teknologi Malaysia. (Member), Malaysia Green Technology Corporation.	National	2014
53	Supervisor. Winner, Waste CO ₂ to Wealth, Carbon Conundrum: Unravelling the Enigma, National Chemical Engineering Symposium (NACES) 2013 Technical Plant Design Student Competition. UiTM, Pulau Pinang.	National	2013
54	AEMAS Energy Management Gold Standard – 2 Star, Awarded to Universiti Teknologi Malaysia. (Member), Malaysia Green Technology Corporation.	National	2013
55	Young Scientist Network- Akademi Sains Malaysia.	National	2012
56	AEMAS Energy Management Gold Standard – 1 Star, Awarded to Universiti Teknologi Malaysia (Member), Malaysia Green Technology Corporation.	National	2011
57	Maal Hijrah Award – Outstanding Achievement Category , 1429H/2008M – Sarawak State Level.	National	2008
58	Supervisor, Top 3 winner, Southeast Asia & Taiwan Universities (SATU) Business Plan Competition at the National Level 2007.	National	2007
59	National Champion for Business Plan Competition 2006 , Multimedia Development Corporation Sdn Bhd.	National	2006

NO	AWARD/HONORS	LEVEL (FACULTY /UTM /NATIONAL /INTERNATIONAL)	YEAR
60	Champion, UTM-MARA-MDC Business Plan Competition 2005.	National	2005
61	Anugerah Tokoh Penyelidik, 2021, Majlis Citra Karisma	Universiti	2022
62	Anugerah Penerbitan 2021, Majlis Citra Karisma	Universiti	2022
63	Silver Medal, Waste 2 Wealth – Malaysia's Waste Trading Website, 22 nd Industrial Art and Technology Exhibition (INATEX) 2020, UTM JB.	University	2020
64	Anugerah Penulis Dalam Jurnal Berindeks Kategori Pusat Kecemerlangan (COE), Majlis Citra Karisma – Anugerah Kecemerlangan dan Penghargaan UTM 2020	University	2020
65	Bronze Medal, TrigenSite – A Software to Optimise Industrial Energy Across Multiple Sites, 21 st Industrial Art and Technology Exhibition (INATEX) 2019, Dewan Sultan Iskandar, UTM JB.	University	2019
66	Anugerah Penulis Dalam Jurnal Berindeks Kategori Pusat Kecemerlangan (COE), Citra Karisma Majlis Anugerah Kecemerlangan dan Penghargaan UTM 2019	University	2019
67	Special Jury Award (Industrial Category) and Gold Medal , HiRECS – Heat Integration for Retrofit, Contollability and Safety, 20 th Industrial Art and Technology Exhibition (INATEX) 2018, Dewan Sultan Iskandar, UTM JB.	University	2018
68	Anugerah Penerbitan – Penulis dalam Jurnal Berindeks 2018 – Kategori Pusat Kecemerlangan (COE), Majlis Citra Karisma 2018, UTM.	University	2018
69	Silver Medal, Optimal Site Water, 19 th Industrial Art and Technology Exhibition (INATEX) 2017, Dewan Sultan Iskandar, UTM JB.	University	2017
70	Bronze Medal, Reactive Solvent Design for Chemical Absorption Process, 18 th Industrial Art and Technology Exhibition (INATEX) 2016, Dewan Sultan Iskandar, UTM JB.	University	2016
71	Excellent Service Award 2015, Universiti Teknologi Malaysia, Majlis Citra Karisma.	University	2015
72	Silver Medal, Nano Fruitysop-Fruit Peel Nano Adsorbent For Wastewater Heavy Metal Removal, INATEX 2015, Dewan Sultan Iskandar, UTM.	University	2015
73	Silver Medal, Nano Fruitysop-Fruit Peel Nano Adsorbent For Wastewater Heavy Metal Removal, INATEX 2015, Dewan Sultan Iskandar, UTM.	University	2015
74	Bronze Medal, e-Phyto – Software for designing solvent formulation for enriched herb extract, INATEX 2015, Dewan Sultan Iskandar, UTM.	University	2015
75	Jury Award and Gold Medal , Optimal Site © - A Software for Optimal Total Site Utility System Design, 16 th Industrial Art And Technology Exhibition (INATEX 2014), Dewan Sultan Iskandar (DSI), UTM.	University	2014
76	Gold Medal , Optimal Power – Software for Optimal Hybrid Power System, 14 th Industrial Art and Technology Exhibition (INATEX 2012), Dewan Sultan Iskandar, UTM.	University	2012
77	Bronze Medal, A holistic cost effective minimum water network. 13 th Industrial Art and Technology Exhibition (INATEX 2011). Dewan Sultan Iskandar, UTM.	University	2011
78	Excellent Service Award 2010, Universiti Teknologi Malaysia, Majlis Citra Karisma.	University	2011
79	Finalist, Research Award: UTM Outstanding Researcher Award 2010, Majlis Citra Karisma.	University	2011
80	Excellent Service Award, 2006 – Kategori Cuti Belajar, Universiti Teknologi Malaysia, Majlis Citra Karisma	University	2007
81	Sijil Perkhidmatan Cemerlang 2022, Process Systems Engineering Centre (PROSPECT)	Research Centre	2023
82	Anugerah Pengiktirafan Antarabangsa 2022, Process Systems Engineering Centre (PROSPECT)	Research Centre	2023
83	Anugerah Penerbitan 2022, Process Systems Engineering Centre (PROSPECT)	Research Centre	2023
84	Anugerah Inovasi 2022, Process Systems Engineering Centre (PROSPECT)	Research Centre	2023
85	Anugerah Perkhidmatan Cemerlang 2021, Fakulti Kejuruteraan Kimia dan Tenaga	Faculty	2022
86	Anugerah Perkhidmatan Cemerlang 2021, Research Institute for Sustainable Environment	Institute	2022
87	Anugerah Penerbitan 2021, Research Institute for Sustainable Environment	Institute	2022

NO	AWARD/HONORS	LEVEL (FACULTY /UTM /NATIONAL /INTERNATIONAL)	YEAR
88	Anugerah Khas Keunggulan Terbilang 2021, Research Institute for Sustainable Environment	Institute	2022
89	Anugerah Inovasi 2021, Research Institute for Sustainable Environment	Institute	2022
90	Anugerah Perkhidmatan Cemerlang, Majlis Anugerah Kecemerlangan Staf RISE 2017.	Institute	2018
91	Anugerah Penerbitan, Majlis Anugerah Kecemerlangan Staf RISE 2017.	Institute	2018
92	Anugerah Pusat Penyelidikan Terbaik (Section H – Resources), Majlis Anugerah Kecemerlangan Staf RISE 2017.	Institute	2018
93	Anugerah Pusat Penyelidikan Terbaik (MyRA & HiCOE), Majlis Anugerah Kecemerlangan Staf RISE 2017.	Institute	2018
94	Anugerah Sitasi Tertinggi, Majlis Anugerah Kecemerlangan Staf RISE 2017.	Institute	2018
95	Special Dean Award – Taskforce Committee IDB, Anugerah Kecemerlangan Staf, Fakulti Kejuruteraan Kimia dan Tenaga 2017.	Faculty	2018
96	Anugerah Penerbitan – Penulis dalam Quartile Q1/Q2, Majlis Anugerah Kecemerlangan Staf RISE 2016.	Institute	2017
97	Anugerah Penerbitan – H-index, Majlis Anugerah Kecemerlangan Staf RISE 2016.	Institute	2017
98	Anugerah Keterlibatan Industri dan Khidmat Masyarakat (Staf Akademik), Majlis Anugerah Kecemerlangan Staf RISE 2016.	Institute	2017
99	Anugerah Penerbitan – Penulis dalam Jurnal Berindeks, Majlis Anugerah Kecemerlangan Staf RISE 2016.	Institute	2017
100	Anugerah Penyelidikan – Peringkat Nasional, Majlis Anugerah Kecemerlangan Staf RISE 2016.	Institute	2017
101	Anugerah Perkhidmatan Cemerlang, Majlis Anugerah Kecemerlangan Staf RISE 2016.	Institute	2017

Teaching Awards

NO	AWARD	LEVEL (FACULTY /UTM /NATIONAL /INTERNATIONAL)	YEAR
1	UKCGE Recognised Research Supervisor 2024, UK Council Graduate Education.	International	2024
2	Gold, NALI Exhibition & Competition, VERBUND-NERS – Innovative Capstone Chemical Engineering Project Module to Create Verbund Plant Designers.	National	2022
3	Finalist NALI Award 2021, New Academia Learning Innovation (NALI), The Plant Designers 4.0: Integrating Resources and Design Towards A More Efficient and Sustainable Future.	National	2021
4	Third Place. Special Award by Malaysia Minister of Education, Curriculum Design and Innovative Presentation (Anugerah Khas YB Menteri Pendidikan Malaysia, Rekabentuk Kurikulum & Penyampaian Invoatif Tahun 2018) (AKRI 2018).	National	2018
5	Award of Excellence, Active Blended Learning Course in Sem 1 – 2023/2024, Course SETK-4153-02 Plant Design. UTM CDEX.	University	2023
6	Award of Excellence, Active Blended Learning Course in Sem 1 – 2022/2023, Course SETK-4153-02 Plant Design. UTM CDEX.	University	2022
7	Award of Excellence, Active Blended Learning Course in Sem 1 – 2022/2023, Course SETK-4153-03 Plant Design. UTM CDEX.	University	2022
8	Certificate of Appreciation. University-Industry Exchange (UNIX) Programme 2022. Faculty of Chemical and Energy Engineering.	University	2022
9	Award of Excellent, Active Blended Learning Course in Sem 2 – 2020/2021, Course MKKE2143-01 Energy Integration and Resource Conservation. UTM Academic Leadership (UTMLead).	University	2021
10	Award of Excellent, Active Blended Learning Course in Sem 2 – 2020/2021, Course MKKE2143-02 Energy Integration and Resource Conservation. UTM Academic Leadership (UTMLead).	University	2021

NO	AWARD	LEVEL (FACULTY /UTM /NATIONAL /INTERNATIONAL)	YEAR
11	Award of Excellent, Active Blended Learning Course in Sem 2 – 2020/2021, Course SKTK4834-01 Plant Design Project. UTM Academic Leadership (UTMLead).	University	2021
12	Award of Excellent, Active Blended Learning Course in Sem 1 – 2020/2021, Course SKTK4153-02 Rekabentuk Loji (Plant Design). UTM Academic Leadership (UTMLead).	University	2020
13	Award of Excellent, Active Blended Learning Course in Sem 1 – 2020/2021, Course SKTK4153-03 Rekabentuk Loji (Plant Design). UTM Academic Leadership (UTMLead).	University	2020
14	Award of Excellence, Active Blended Learning Course in Sem 1 – 2019/2020, Course MKKE1113-01 Pengurusan Mekanikal Dan Tenaga Elektrik (Mechanical And Electrical Energy Management). UTM Academic Leadership (UTMLead).	University	2019
15	Award of Excellence, Active Blended Learning Course in Sem 1 – 2019/2020, Course MKKE1113-02 Pengurusan Mekanikal Dan Tenaga Elektrik (Mechanical And Electrical Energy Management). UTM Academic Leadership (UTMLead).	University	2019
16	Award of Excellent, Active Blended Learning Course in Sem 2 – 2019/2020, Course MKKE2143-01 Integrasi Tenaga Dan Pemuliharaan Sumber (Energy Integration And Resource Conservation). UTM Academic Leadership (UTMLead).	University	2019
17	Award of Excellent, Active Blended Learning Course in Sem 1 – 2019/2020, Course SKKC4143-02 Rekabentuk Loji (Plant Design). UTM Academic Leadership (UTMLead).	University	2019
18	Award of Excellent, Active Blended Learning Course in Sem 2 – 2018/2019, Course MKKE2143-01 Energy Integration and Resource Conservation. UTM Academic Leadership (UTMLead).	University	2018
19	Award of Excellent, Active Blended Learning Course in Sem 1 – 2018/2019, Course SKKC4143-01 Plant Design. UTM Academic Leadership (UTMLead).	University	2018
20	Award of Excellent, Active Blended Learning Course in Sem 2 – 2016/2017, Course SKKK4153-03 Plant Design. UTM Academic Leadership (UTMLead).	University	2016
21	Award of Excellent, Active Blended Learning Course in Sem 2 – 2016/2017, Course MKKE1113-01 Mechanical and Electrical Energy Management. UTM Academic Leadership (UTMLead).	University	2016
22	Award of Excellent, Active Blended Learning Course in Sem 1 – 2015/2016, Course SKKK4153-03 Plant Design. UTM Academic Leadership (UTMLead).	University	2015
23	Excellence Award – Most active teacher in using blended learning technique. (<i>Anugerah Kecemerlangan – Pengajar Paling Aktif menggunakan Kaedah Pembelajaran Teradun</i>), Course SKKK4153-03 Plant Design, Sem 201420151. UTM Academic Leadership (UTMLead).	University	2015

Media Appearance

NO	HONOR	LEVEL (FACULTY /UTM /NATIONAL /INTERNATIONAL)	YEAR
1	Interviewed by TVS in Sejahtera Asia talk show on 'Kejayaan Anak Sarawak Dalam Bidang STEM'	National	2021
2	Interviewed by Astro Awani (TV Talkshow) in 'Sudut Pandang' talk show on ASEAN Young Scientist and Technologist Award and UNESCO/IUPAC/PhosAgro Green Chemistry Grant.	National	2014
3	Interviewed by RTM 1 in 'Selamat Pagi Malaysia' TV talk show on ASEAN Young Scientist and Technologist Award and UNESCO/IUPAC/PhosAgro Green Chemistry Grant.	National	2014
4	Interviewed by Berita Harian newspaper in Family Section on achievement as a young scientist, mother and wife	National	2014

5	Interviewed by Astro Awani (TV Talkshow) in 'Sudut Pandang' talk show on Green Talent.	National	2009
6	Interviewed by Kosmo! Newspaper regarding fraud PhD degree.	National	2009

PROFESSIONAL MEMBERSHIP / QUALIFICATIONS / RECOGNITION

NO	NAME OF PROFESIONAL MEMBERSHIP	LEVEL (FACULTY /UTM /NATIONAL /INTERNATIONAL)	ROLE	YEAR
1	UK Engineering Council, Reg No. 581292	International	Chartered Engineer	May 2010 – current.
2	International Water Association, Membership no: 00943115	International	Member	2006 – 2014
3	American Chemical Society (ACS), Membership no: 30180270	International	Member	2011 – 2012
4	Institute of Chemical Engineering (IchemE), Membership no: 99881107	International	Member	March 2010- current
5	Institute of Chemical Engineering (IchemE), Membership no: 99881107	International	Associate Member	2008 - March 2010
6	Fellow, Academy of Science Malaysia	National	Fellow	2024-Current
7	Young Scientists Network, Academy of Sciences Malaysia (YSN-ASM)	National	Member	1 Jan 2019 – 31 Dec 2021
8	Lembaga Teknologis Malaysia, Membership No: PT20080019	National	Professional Technologist	6 Aug 2020 – 5 Aug 2021
9	Akademi Profesor Malaysia, Membership No: MAPM0175	National	Member	7 Feb 2020 – current
10	Lembaga Teknologis Malaysia, Membership No: GT19120348	National	Graduate Technologist	19 Dec 2019 – 5 Aug 2020
11	The Institution of Engineers, Malaysia (IEM), Membership No: 70301	National	Member	19 Apr 2014 - current
12	Suruhanjaya Tenaga, Membership No: PTE-0055-2013	National	Registered Electrical Energy Manager (REEM)	Nov 2013 – current
13	Board of Engineers Malaysia, Membership No: C114696	National	Practicing Professional Engineer	Dec 2010 – current
14	Board of Engineers Malaysia, Membership No: C114696	National	Graduate member	Dec 2010 – current
15	ASEAN Energy Management Gold Standard Scheme (AEMAS)	National	Certified Energy Manager Trainer	2009 – current

ADMINISTRATIVE EXPERIENCE

NO	POSITION	STARTING DATE	ENDING DATE	DEPARTMENT
1	Director	15 February 2019	14 February 2021	Process Systems Engineering Centre (PROSPECT)
2	Director	15 February 2019	14 February 2019	Process Systems Engineering Centre (PROSPECT)
3	Director	15 February 2015	14 February 2017	Process Systems Engineering Centre (PROSPECT)
4	Director	1 September 2013	31 August 2015	Process Systems Engineering Centre (PROSPECT)
5	Director	15 February 2011	31 August 2013	Process Systems Engineering Centre (PROSPECT)

WORKING EXPERIENCE

NO	POSITION	STARTING DATE	ENDING DATE	DEPARTMENT/ORGANISATION
1	Professor	6 Mac 2016	Current	Universiti Teknologi Malaysia
2	Associate Professor	2 July 2012	5 Mac 2016	Universiti Teknologi Malaysia
3	Senior Lecturer	6 Mac 2007	1 July 2012	Universiti Teknologi Malaysia
4	Tutor	10 June 2004	5 Mac 2007	Universiti Teknologi Malaysia
5	Research Assistant	2003	2004	Universiti Teknologi Malaysia

CONSULTANCY EXPERIENCE

NO	NAME OF CONSULTANCY	ROLE	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
1	Detailed Energy Audit For MPKU Building	Project head	23,300	2019	2019	1563
2	Development Of Technical And Non-Technical Parameters Of Renewable Energy And Energy Efficiency In Malaysia	Consultant	10,000	2018	2018	1387
3	Pinch Analysis Retrofit Utility Conservation	Consultant	85,000	2016	2016	1067
4	Energy Monitoring System Installation At Hospital Kuala Lumpur	Consultant	332,768	2015	2015	990
5	Design Gap Analysis For Fractionation & Distillation Plants Works Of Evyap Sabun Malaysia Sdn Bhd.	Consultant	34,847	October 2014	Mac 2015	865
6	HAZOP Analysis For Evyap Sabun Palm Oil Refinery	Consultant	146,750	Aug 2013	Jan 2014	754
7	Retrofit Of Middle Distillate Refinery Plant For Utility	Consultant	95,000	June 2012	Nov 2012	671

NO	NAME OF CONSULTANCY	ROLE	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
	Conservation Using Pinch Analysis					
8	Detailed Design Of Heat Recovery System And Fuel Switching For Pantai Medivest Sdn Bhd (PMSB) Incinerator Plant (Phase 2)	Consultant	44,000	October 2008	January 2009	63678
9	Improvement Of Heat Recovery System And Fuel Switching For Pantai Medivest Sdn Bhd (PMSB) Incinerator Plant (Phase 1)	Consultant	56,000	August 2008	October 2008	63678
10	Design Of Cogeneration System For Rice Mill	Consultant	70,000	2 Jun 2008	30 August 2008	69627
11	Development Of A Hazard And Operability Studies (HAZOP) Programme For Biomass-Based Power Generation System For Palm Oil Mills	Consultant	57,000	Dec 2006	Mar 2007	425
12	Retrofit For Energy Efficiency Improvement	Consultant	55,000	April 2006	Jun 2006	63662
13	Utm-Mimos Water Minimisation Project	Consultant	17,000	Oct 2005	Jan 2006	63645
14	Design Of A Solvent Recovery System	Consultant	20,000	2004	2005	63602
		Total	1,046,665			

FACULTY APPOINTMENT COMMITTEE

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
1	Task Force, ASEAN-JAPAN Energy Efficiency Partnership (AJEEP) Certification, Faculty of Engineering.	Chair	1 Jan 2019	Ongoing
2	Sub-group, Future Ready Educators (FREE) Programme, Faculty of Engineering	Head	1 May 2019	30 Apr 2021
3	Design Project Course (SKTK4834) Sem II, Sesi 2020/2021	Head of Coordinator	1 Mac 2021	31 July 2021
4	Majlis Anugerah Kecemerlangan Staf RISE 2016 dan Jamuan Raya 2017, Research Institute for Sustainable Development (RISE).	Co-chair	20 July 2017	20 July 2017
5	Task Force "Sustainability Conference and Workshop", 2016, Research Institute of Sustainable Environment (RISE).	Deputy Chair	20 June 2016	20 Dec 2016

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
6	Faculty Module: 'How To Get Yourself Employed' (HTGYE)	Coordinator	1 Dec 2011	30 Nov 2013
7	Meng (Chemical) Programme	Coordinator	3 Jan 2011	31 Dec 2013
8	Fche Professional Membership Development, Fche Global Branding Project.	Chair	1 Feb 2011	1 Feb 2013
9	Task Force International Course Energy Management	Co-chair	1 Sept 2009	31 Aug 2011
10	Meng (Chemical) by Taught Course and Research	Coordinator	1 Sept 2009	31 Aug 2011
11	Consultancy and Training Manager, PROSPECT (2009-2011)	Consultancy and Training Manager	2009	2011
12	Webmaster Postgraduate Unit, FKKKSA.	Webmaster	1 Jan 2009	31 Dec 2010
13	Webmaster Postgraduate Studies	Webmaster	1 Jan 2008	31 Dec 2010
14	Postgraduate Programme for Chemical Engineering Department	Coordinator	15 April 2007	14 April 2009
15	Sports and Recreational Bureau, Committee of Staff Welfare and Recreation (JAKRIS), FKKKSA	Head	18 May 2007	17 May 2009
16	Chemical Engineering Carnival Website, FKKKSA	Head	1 Aug 2007	3 April 2008
17	Get Chartered Workshop 2020, School of Chemical and Energy Engineering	Facilitator	26 Aug 2020	26 Aug 2020
18	Mentor Program FE Gold 3, Faculty of Engineering	Mentor	31 Aug 2020	31 Aug 2021
19	Undergraduate Research Project 1, Session 2019/2020	Advisor	4 Feb 2020	4 May 2020
20	Batch Year 1 Semester 1 Sesi 2020/2021, School of Chemical and Energy Engineering	Academic Advisor	12 Oct 2020	Ongoing
21	Industrial Training Sem III Sesi 2019/2020, School of Chemical and Energy Engineering	Supervisor	19 July 2020	9 Oct 2020
22	Non-Disclosure Agreement (NDA) & Memorandum Persefahaman (MOU) antara UTM dan MGTC	Committee Member	15 Mar 2019	14 Mar 2023
23	Programme of Professional Qualifications Development (UTM Pro-Q)	Committee Member	7 Feb 2019	30 June 2021
24	Industrial Training Sem III Sesi 2018/2019, Faculty of Chemical and Energy Engineering.	Supervisor	10 Jun 2019	30 Oct 2019
25	Industrial Training Sem III Sesi 2018/2019, Faculty of Chemical and Energy Engineering.	Supervisor	10 June 2019	30 Aug 2019
26	Final Exam 2018/2019, Sem 1, School of Chemical Engineering (SKKC 4123)	Evaluation Panel	27 Nov 2019	29 Nov 2019
27	Plant Design Interim Presentation Schedule 1718-2	Evaluation Panel	1 Jan 2018	31 Dec 2018
28	Master Project 1 (MKKE 1315) Proposal Defense – Session 1718-2	Evaluation Panel	1 Jan 2018	31 Dec 2018
29	Industrial Training Sem III Sesi 2017/2018, Faculty of Chemical and Energy Engineering.	Supervisor	23 July 2018	30 Aug 2018
30	Ahli Jawatankuasa Penerbitan Fakulti Kejuruteraan Kimia dan Tenaga.	Committee Member	1 Oct 2017	30 Sept 2019
31	Ahli Jawatankuasa Penyelidikan dan Inovasi Fakulti Kejuruteraan Kimia dan Tenaga.	Committee Member	1 Oct 2017	30 Sept 2019
32	Ahli Jawatankuasa Pelestarian Fakulti Kejuruteraan Kimia dan Tenaga.	Committee Member	16 Feb 2017	31 Dec 2019

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
33	Taskforce AJK IDB, Faculty of Chemical and Energy Engineering	Taskforce Committee	1 Jan 2017	31 Dec 2017
34	Industrial Training Sem III Sesi 2016/2017, Faculty of Chemical and Energy Engineering.	Supervisor	29 July 2017	30 Aug 2017
35	Industrial Training Sem III Sesi 2015/2016, Faculty of Chemical and Energy Engineering.	Supervisor	8 Aug 2016	31 Aug 2016
36	Sustainability Committee Faculty and PROSPECT, Green Lab Competition.	Committee Member	1 Feb 2015	31 Dec 2015
37	Task Force Penyediaan Dokumen Audit Engineering Accreditation Council (EAC), Fche	Taskforce Committee	1 Jan 2015	31 Dec 2015
38	Industry-Linkages (IL) Fche Global Plan 2015.	Team Member	1 Jan 2015	31 Dec 2015
39	Fche Green Lab Audit Competition, Faculty of Chemical Engineering	Jury	2 Dec 2014	4 Dec 2014
40	PROSPECT Marketing Task Force, PROSPECT.	Committee Member	May 2014	April 2015
41	Evaluator of PROSPECT Postgraduate Seminar.	Evaluation Panel	May 2014	April 2015
42	Industrial Training Sem III Sesi 2012/2013, Faculty of Chemical Engineering.	Supervisor	29 July 2013	30 Aug 2013
43	UTM-Maldives Summer School: Advances Research Skills 2012, Faculty of Chemical Engineering.	Committee Member & Facilitator	26 Nov 2012	7 Dec 2012
44	EAC Document Preparation 2012, Faculty of Chemical Engineering.	Committee Member	25 May 2012	30 Dec 2012
45	Industrial Training Sem III Sesi 2011/2012, Faculty of Chemical Engineering.	Supervisor	24 July 2012	7 Sept 2012
46	Spin-off Company, Fche Global Branding Project.	Committee Member	1 Feb 2011	1 Feb 2013
47	Academic Advisor Batch 2011/2012.	Academic Advisor	2011	2014
48	Preparation of Evaluation Form for Mixed Mode Master Programmes.	Taskforce Committee	31 Mar 2010	31 Mar 2011
49	Adhoc MQA Audit Document Preparation – Fche Postgraduate Programmes.	Committee Member	1 Oct 2010	30 Nov 2010
50	Preparation of Graduate Handbook 2010/11.	Taskforce Committee	31 Mar 2010	31 May 2010
51	Postgraduate Academic Quality.	Committee Member	15 Oct 2009	14 Oct 2011
52	Postgraduate Studies in Chemical Engineering Department.	Committee Member	1 Oct 2009	30 Sept 2011
53	Faculty Website Committee.	Committee Member	1 July 2009	30 Jun 2011
54	Evaluation Panel for FKKKSA Final Exam.	Evaluation Panel	19 Oct 2009	18 Oct 2011
55	FKKKSA Annual Report Book 2009.	Taskforce Committee	1 Jan 2009	31 Dec 2009

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
56	Committee Postgraduate Studies FKKKSA.	Committee Member	1 Oct 2008	30 Sept 2010
57	Committee Postgraduate Studies FKKKSA.	Committee Member	18 June 2007	31 Aug 2008
58	Website Committee of Chemical Engineering Department, FKKKSA.	Committee Member	1 Feb 2007	31 Dec 2009
59	External Linkages for Chemical Engineering Department	Taskforce Committee	1 April 2007	31 Dec 2008
60	Academic Advisor batch 2007/2008.	Academic Advisor	2007	2010
61	Food Unit Committee, Year One Academic Enhancement Programme.	Committee Member	28 Aug 2004	28 Sept 2004

UNIVERSITY APPOINTMENT COMMITTEE

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
1	Jawatankuasa Pemantauan UTM Research & Innovation Blueprint	Head, Committee Member	1 April 2021	31 Mac 2023
2	Jerayawara Blueprint Penyelidikan dan Inovasi 2025	Secretariat	6 June 2021	16 June 2021
3	Program Growing Talent Development, Pusat Kepimpinan Akademik UTM (UTMLead)	Mentor	3 Mac 2021	2 Mac 2022
4	Process Systems Engineering Centre (PROSPECT), Research Institute for Sustainable Environment (RISE)	Research Fellow	11 May 2021	10 May 2024
5	PTJ Procurement Process Under DVCI, Deputy Vice Chancellor of Research and Innovation Office	Chair	1 Nov 2020	30 Oct 2022
6	Task Force AEMAS 3-Star Re-Certification, Asset Development Office UTM	Head	1 Nov 2018	Ongoing
7	Tangkak District, Institute Inovasi Strategik Johor (IISJ).	District Liason Officer	2016	2018
8	Research Champion other International Grants (Exclude Japan, EU Horizon 2020 and Middle East Countries), Deputy Vice Chancellor of Research and Innovation Office.	Research Champion	1 June 2016	31 May 2018
9	Transforming UTM Centre of Excellence (COE) to high impact, Research and Innovation under UTM Global Plan 2012-2020.	Head	Mar 2011	Aug 2011
10	PTJ Energy Manager. Asset Development Office UTM.	PTJ Energy Manager	18 Mac 2011	18 Mac 2019
11	Micro-Credentials Universiti Teknologi Malaysia, Deputy Vice Chancellor of Academic Office	Committee Member	1 July 2020	30 June 2022
12	Majlis Profesor Universiti Teknologi Malaysia, Vice Chancellor Office	Committee Member	1 Feb 2020	31Jan 2022

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
13	Formation of plagiarism case management procedures, Vice Chancellor Office	Task Force Member	1 Mar 2020	30 June 2020
14	Knowledge Transfer Program-Research Innovation Grant (UTM-KTP-RIG) Year 2020/2021	Evaluation Panel	26 Nov 2020	31 Dec 2020
15	MYRGS 1.0: Performance Evaluation of Agile solar Roof Tile Smart HVAC Technology, Research Management Centre	Evaluation Panel	26 Oct 2020	26 Oct 2020
16	Love Our River Campaign Competition (LORC 2019)	Judge	18 Dec 2019	18 Dec 2019
17	Jawatankuasa Kerja Envision 2025, UTM	Committee Member	11 Mac 2019	31 Dec 2020
18	National Chemical Engineering Symposium 2019 (NACES 2019) Programme	Advisor	1 July 2019	6 July 2019
19	M4E (Mentoring For Excellence), UTMLead	Mentor	12 Feb 2019	31 Dec 2019
20	Manuscript: "Towards a Sustainable & Resource Efficient Plant: Practical Implementation on Rice Industry". UTM Penerbit.	Internal Evaluator	20 Nov 2019	30 Nov 2019
21	GUP Grant Tier 2 2019/1 Niche Area Resource Sustainability	Technical Evaluator	1 Jan 2019	31 Dec 2019
22	Proposal Skim Geran Penyelidikan Kementerian Pendidikan Tinggi 2018	Evaluation Panel	1 Jan 2018	31 Dec 2018
23	Program Mentor Mentee Kelayakan Professional, UTMLead	Mentor	5 Mar 2018	31 Dec 2018
24	Collaborative Research Grant (CRG)	Evaluation Committee	1 Jan 2018	30 Dec 2018
25	Process Systems Engineering Centre (PROSPECT), Research Institute for Sustainable Environment.	Research Fellow	11 May 2018	10 May 2021
26	Majlis Profesor Universiti Teknologi Malaysia, Vice Chancellor Office	Committee Member	1 Feb 2018	31 Jan 2020
27	"UTM EM Showcase: Smart Online Power Metering" Project, Deputy Vice Chancellor of Development Office.	Committee Member	1 Apr 2016	1 Apr 2018
28	Niche Field Technical Committee – Conservation and preservation. Johor-UTM Institute of Strategic Innovation.	Committee Member	1 Mac 2016	30 Nov 2016
29	Johor Sustainable and Low Carbon School Exhibition 2016, Centre for Engineering Education, UTM.	Judge	20 Feb 2016	20 Feb 2016
30	Iskandar Malaysia Sustainable and Low Carbon School Exhibition 2015, Centre for Engineering Education, UTM.	Judge	7 Feb 2015	7 Feb 2015
31	Development of <i>Sekolah Agama Universiti Teknologi Malaysia</i> (SAUTM).	Member	Dec 2014	Dec 2016
32	Research, Development and Commercialization (RDC Committee), Deputy Vice Chancellor of Research and Innovation Office.	Committee Member	8 Oct 2014	8 Oct 2016
33	Selection and Appointment of Visiting Researchers (Publication).	Committee Member	26 Mar 2013	26 Mar 2014
34	Main Committee for Research Universities Audit Preparation, Deputy Vice Chancellor of Research and Innovation Office.	Committee Member	3 Apr 2012	2 Apr 2014

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
35	Member of University Management Group, Registrar Office UTM	Committee Member	11 Oct 2011	11 Oct 2018
36	Task Force Committee for Publication of 'How to Get Yourself Employed (HTGYE)' Book	Task Force Committee	Aug 2013	Feb 2021
37	Working Committee for UTMOST Imagination 2012, Deputy Vice Chancellor of Research and Innovation Office.	Committee Member	29 Mar 2012	1 Apr 2012
38	Key Focus Area (KFA) – Research and Innovation under UTM Global Plan 2012-2020.	Committee Member	30 April 2012	30 April 2014
39	Sustainability Summer Course UTM-DTU	Committee Member	2008	2010

NATIONAL APPOINTMENT COMMITTEE

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
1	Editorial Advisory Board Member, Journal of Process and Safety Technology (JEST)	Editorial Advisory Board Member	1 Jan 2024	31 Dec 2025
2	Jawatankuasa Penilaian Dana Penyelidikan Kementerian Pengajian Tinggi (DP KPT) Tahun 2021-2022, Ministry of Higher Education Malaysia	Head of Domain	1 Jan 2021	31 Dec 2022
3	Projek Dana Penyelidikan dan Pembangan (R&D), Ministry of Science, Technology and Innovation (MOSTI)	Expert Panel	1 Jan 2021	31 Dec 2023
4	SIRIM's Resource Efficiency and Industrial Symbiosis Opportunity Assessment (REISO) Programme under the Technology-Enabled Support for the Development of Ecoindustrial Park – Intervention and Digitalisation (MY-EIP) Project, SIRIM Berhad (2 projects)	Lead Assesor	1 October 2022	29 Feb 2023
5	SIRIM's Resource Efficiency and Industrial Symbiosis Opportunity Assessment (REISO) Programme under the Technology-Enabled Support for the Development of Ecoindustrial Park – Intervention and Digitalisation (MY-EIP) Project, SIRIM Berhad (1 project)	Lead Assesor	30 July 2021	31 Sept 2021
6	YSN-ASM Chrysalis Award 2021, Young Scientist Network, Academy of Sciences Malaysia	Chair	19 Feb 2021	31 Dec 2021
7	YSN-ASM Science Leadership Working Group 2021, Young Scientist Network, Academy of Sciences Malaysia	Chair	1 Jan 2021	31 Dec 2021
8	YSN-ASM Science Leadership Working Group 2020, Young Scientist Network, Academy of Sciences Malaysia	Head of Evaluation Committee	1 Jan 2020	9 Jan 2021
9	Convention on Promotion of Energy Sustainability Best Practices (COPE-BEST 2021), Optimal Systems Engineering, 28-29 July 2021	Co-Chair	1 Jan 2021	31 Aug 2021

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
10	Master of Engineering in Energy and Environment Programme, Faculty of Engineering, Universiti Malaysia Sarawak	External Moderator	1 April 2021	31 Mac 2022
11	YSN-ASM Chrysalis Award 2020	Chief Judge	1 Jan 2021	9 Jan 2021
12	Science Communication Unit, National Science Challenge (NSC 2018) for Semi-Final Level, YSN-ASM.	Head	2018	2018
13	Young Engineers Group, Institute of Chemical Engineers Malaysia	Chair	23 May 2016	22 May 2017
14	Young Engineer Group, IChemE Malaysia.	Deputy Chairman	2014	2015
15	e-PERINTIS Journal. 'Science for Sustainability' Special Issue 2011.	Guest Editor	2011	2011
16	Member of Content Committee, 2020 Virtual National Science Challenge (VSNC), YSN-ASM – 9 July – 9 Nov 2020	Committee Member	9 July 2020	9 Nov 2020
17	Stakeholders Consultation Meeting on Policy Analysis For Eco-Industrial Park Development, Ministry of International Trade and Industry (MITI), SIRIM Berhad and Institute of Strategic and International Studies (ISIS) Malaysia – 11 Nov 2020	Advisor	11 Nov 2020	11 Nov 2020
18	Associate Professor Promotion External Grade DS54, Universiti Malaysia Pahang – 31 Jan 2020	External Evaluator	31 Jan 2020	31 Jan 2020
19	Proposal Scheme Grant under Ministry of Education	Evaluation Panel	14 Sept 2020	14 Sept 2020
20	Associate Professor Promotion External Grade DS54, Universiti Tun Hussein Onn Malaysia – 17 Feb 2020	External Evaluator	17 Feb 2020	17 Feb 2020
21	Online Chemical Engineering Challenge, Institution of Chemical Engineers, UTM Student Chapter – 19 Dec 2020	Judge	19 Dec 2020	19 Dec 2020
22	Research Budget under Ministry of Education 2019	Evaluation Committee	18 Apr 2019	31 Dec 2019
23	Seminar on Malaysian Skills Certificate (SKM) and Energy Efficiency Information Day, Malaysia Green Tech Corporation	Committee Member	25 Nov 2019	25 Nov 2019
24	The Revision of the Energy Manager Training Course Modules: Workshop For Examinations Questions, Malaysia GreenTech Corporation	Panel Expert	1 Apr 2019	2 Apr 2019
25	Preliminary Screening of Transdisciplinary Research Grant Scheme (TRGS) and Long-Term Research Grant Scheme (LRGS) Phase 1/2019, Ministry of Education	Committee Member	13 May 2019	13 May 2019
26	Research Grant under Ministry of Education	Evaluation Committee	3 Oct 2019	31 Dec 2019
27	ASEAN Energy Management Gold Standard Energy Manager Training Course Module Review, Malaysia Green Tech Corporation	Reviewer Member	13 Feb 2019	15 Feb 2019
28	Focus Group Discussion 'Exploring The Feasibility Of Innovative Financing And Investment Platform And Business Models To Realize The Potential Of Renewable Energy And Energy Efficiency In Malaysia', Ministry of Energy and Natural Resources	Facilitator	16 Apr 2018	16 Apr 2018
29	Direction of Research Budget, Ministry of Higher Education, No 2 Year 2018	Committee Member	14 Sept 2018	14 Sept 2018
30	Enactment of Energy Efficiency Conservation Act (Electrical and Thermal), Ministry of Energy and Natural Resources	Committee Member	6 Apr 2018	31 Dec 2018

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
31	'Professor with Society' Programme at Segamat, Majlis Professor Negara	Committee Member	28 Mac 2018	30 Mac 2018
32	Inaugural Merdeka Meetings 2017, Academy of Science Malaysia, Southern Chapter.	Committee Member	16 Dec 2018	16 Dec 2018
33	Ad-Hoc Committee Members for Silicon Valley Sharing Session in National Science Challenge (NSC 2018) at Semi-Final Level, YSN-ASM.	Committee Member	2018	2018
34	Grant to Tackle 3-MPCD and GE, Ministry of Plantation Industries and Commodities	Committee Member	8 May 2017	31 Dec 2017
35	National Science Challenge (NSC) – Johor State Level, YSN-ASM	Judge	11 May 2016	11 May 2016
36	YSN-ASM Young Investigator Award & Speaker, YSN-ASM Meet and Greet Session, 9 th Regional Conference on Chemical Engineering, YSN-ASM	Judge	21 Nov 2016	22 Nov 2016
37	Industrial Advisory Panel for Program of Chemical Engineering at the Faculty of Engineering, Universiti Malaysia Sarawak (UNIMAS)	Advisory Panel	1 Sept 2015	31 Aug 2016
38	Sustainable Consumption & Production, Malaysia Economic Planning Unit- 2015-2016.	Technical Advisor	2015	2016
39	3rd Postgraduate Colloquium for Environmental Research 2015 (POCER 2015) – 9 Sep – 31 Dec 2014.	Scientific Committee	9 Sep 2014	31 Dec 2014
40	The International Conference on Mathematics, Engineering and Industrial Applications (ICoMEIA 2014)	Member	28 May 2014	30 May 2014
41	Energy Management Gold Standard Development (EMGS) Internal Auditor Training Development, Malaysia Green Tech Corporation (MGTC), 2014	Technical Advisor	2014	2014
42	Development of Malaysia Green Growth Strategy Paperwork, Unit Perancang Ekonomi, Jabatan Perdana Menteri, 2014.	Technical Advisor	2014	2014
43	Postgraduate Colloquium for Environmental Research 2013 (POCER 2013)	Scientific Committee	28 June 2013	29 June 2013
44	International Conference of Process Systems Engineering (PSE) Asia 2013, KL.	Executive Committee	2013	2013
45	Cogeneration Feasibility Study for Clinical Incineration Plant, AMR Sdn Bhd, 2013-2014.	Technical Advisor	2013	2014
46	Regional Conference in Engineering Education (RCEE) & Research in Higher Education (Rhed), 14-15 April 2012, Seremban.	Scientific Committee	14 April 2012	15 April 2012
47	International Conference in Modelling, Simulation and Optimisation (ICMSAO), 19-21 April 2011, Kuala Lumpur.	Committee Member	19 April 2011	21 April 2011
48	Energy minimisation using pinch analysis, PERTAMINA, Indonesia, 2011.	Technical Advisor	2011	2012
49	Designing water recycling and rainwater harvesting system, Green Mosque, Masjid Nong Chik, Mudra Tropika, 2011-2012.	Technical Advisor	2011	2012
50	Regional Conference in Engineering Education (RCEE) & Research in Higher Education (Rhed), 7-9 June 2010, Hotel Grand Magherita, Kuching, Sarawak.	Committee Member	7 June 2010	9 June 2010
51	Energy Manager Training Course III, Malaysia Green Tech Corporation (MGTC)	Technical Advisor	2 Aug 2010	5 Aug 2010
52	'Training for Master Trainer – Project Oriented Problem Based Learning (PoPBL)', Akademi Kepimpinan Pengajian Tinggi (AKEPT), Kementerian Pengajian Tinggi, 23- 24 October 2010.	Technical Advisor	23 Oct 2010	24 Oct 2010

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
53	Baseline Study on Renewable Energy Awards in Malaysia, Malaysia Green Tech Corporation (MGTC),	Technical Advisor	1 Nov 2008	31 Dec 2008
54	International, Research and Education Committee Member, Malaysian Water Association (International, Research and Education), 2007-2009.	Committee Member	2007	2009
55	MIEEIP Energy Conservation Features Programme, Malaysia Green Tech Corporation (MGTC), 2006.	Technical Advisor	2006	2006

INTERNATIONAL APPOINTMENT COMMITTEE

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
1	Conference Process Integration, Modeling and Optimization for Energy Saving and Pollution Reduction (PRES 2020), 17-21 August 2020, Virtual (Organised by Xi'an Jiatong University, China).	Vice President	17 Aug 2020	21 Aug 2020
2	Journal Cleaner Production (ISI Q1), Elsevier 1 Jan 2016 – 31 Dec 2021, United Kingdom	Associate Editor	1 Jan 2016	31 Dec 2021
3	18 th Conference Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction (PRES 2015), 23-27 August 2015, Kuching, Sarawak, Malaysia.	Co-chair	23 Aug 2015	27 Aug 2015
4	The 1 st Global Process Systems and Safety Engineering Conference (PSSE 2016), 26-27 January 2016, Kuala Lumpur, Malaysia.	Chair	26 Jan 2016	27 Jan 2016
5	Special Issue of PRES 2015 for Chemical Engineering Transactions. Volume 25, 2015. AIDIC Publication, Italy, ISBN 978-88-95608-36-5; ISSN 2283-9216.	Guest Editor	2015	2015
6	Special Issue of PSE Asia 2013 for Journal of Cleaner Production, Elsevier.	Guest Editor	2013	2014
7	Special Topic of Asia-Pacific Journal of Chemical Engineering, Volume 6, Issue 5, 2011.	Guest Editor	2009	2011
8	The 6 th Virtual Conference Of Low Carbon On Asia & Beyond (ICLCA) 1 – 2 Sept 2020, Shanghai, China	International Technical Committee	1 Sept 2020	2 Sept 2020
9	5 th International Conference On Low Carbon Asia & Beyond (ICLCA 2019) 15 Oct 2019 – 17 Oct 2019, Ho Chi Minh City, Vietnam	International Technical Committee	15 Oct 2019	17 Oct 2019
10	Sustainable Process Integration Laboratory (SPIL) Scientific Conference, 6-7 Dec 2017, Brno, Czech Republic.	International Scientific Committee	6 Dec 2017	7 Dec 2017
11	Journal of Heat and Mass Transfer Research	Editorial Board	2024	Ongoing
12	Applied Thermal Engineering Journal, Elsevier, ISI Journal, Q1.	Editorial Board	2013	Ongoing
13	International Journal of Higher Education and Sustainability. Inderscience Publishers. http://www.inderscience.com/ijhes	Editorial Board	2017	Ongoing
14	European Symposium on Computer Aided Process Engineering (ESCAPE 26), June 12-15 2016, Portoroz, Slovenia.	International Scientific Committee	12 June 2016	15 June 2016
15	The 9 th AUN/SEED-Net Regional Conference on Chemical Engineering (RCChE 2016), 1 Sept 2016, Kuala Lumpur.	Technical Committee Member	2016	2016

NO	NAME OF COMMITTEE	ROLE	STARTING DATE	ENDING DATE
16	18 th PRES 2015 – Conference Process Integration, Modelling & Optimisation for Energy Saving and Pollution Reduction, 22-27 Aug 2015, Kuching, Sarawak.	Proceedings Leading Editor	22 Aug 2015	27 Aug 2015
17	Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES 2015), 27 Sept to 3 Oct 2015, Dubrovnic, Croatia.	Scientific Advisory Board	27 Sept 2015	3 Oct 2015
18	International Water Association (IWA) Task Force for Basins of the Future Programme 'Optimising Water Infrastructure and Technology across the Water, Energy and Food Nexus 28 Apr – 31 Dec 2014, Netherlands	Task Force Member	28 April 2014	31 Dec 2014
19	Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES 2014), 19 Aug -31 Dec 2014, Dubrovnic, Croatia.	Scientific Advisory Board	19 Aug 2014	31 Dec 2014
20	16th Conference Process Integration, Modeling and Optimization for Energy Saving and Pollution Reduction (PRES 2014), 23 Aug – 27 Aug 2014, Prague	International Scientific Committee	23 Aug 2014	27 Aug 2014
21	European Symposium on Computer Aided Process Engineering (ESCAPE 24), 15 June – 18 June 2014, Budapest, Hungary	International Scientific Committee	15 June 2014	18 June 2014
22	The International Conference on Mathematics, Engineering and Industrial Applications (ICoMEIA 2014), 28-30 May 2014, The Gurney Resort and Residences Penang	Programme Committee	28 May 2014	30 May 2014
23	2nd Postgraduate Colloquium for Environmental Research 2013 (POCER) 28 June – 29 June 2013, Nottingham University	Scientific Committee	28 June 2013	29 June 2013
24	16th Conference Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction (PRES) 2013, 29 Sept – 2 Oct 2013, Rhodes Greece	International Scientific Committee	29 Sept 2013	2 Oct 2013
25	15 th Conference Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction (PRES) 2012, Prague, Czech Republic.	International Scientific Committee	2012	2012
26	Asian Representative, European Committee For The Use Of Computers In Chemical Engineering Education (EURECHA), European Federation of Chemical Engineering (EFCE), 2011 to current	Committee Member	2011	Ongoing

SELECTED ACTIVITIES / WORKSHOPS / SEMINARS / COURSES

RESOURCE PERSON FOR SHORT COURSES

NO	ROLE	SHORT COURSE TITLE	STARTING DATE	ENDING DATE
1	Trainer	Energy Manager Training Course (EMTC) and AEMAS Energy Management Course (AEMC) 2021, Malaysia Green Technology and Climate Change Centre (MGTC)	1 Jan 2021	31 Dec 2021
2	Trainer	Thermal Energy Recovery Technologist – Level 2: Advanced, Optimal Systems Engineering – Penjana HRDF GIG Programme	14 Mar 2021	15 Mar 2021
3	Trainer	Thermal Energy Recovery Technologist – Level 1: User, Optimal Systems Engineering – Penjana HRDF GIG Programme	28 Feb 2021	2 Mar 2021
4	AEMAS Certified Trainer	ASEAN Centre for Energy & Malaysia Green Tech Corporation	1 Jan 2019	31 Dec 2020
5	Trainer	Online Training: Maximising Thermal Energy Efficiency And Cost Savings Via Pinch Analysis	16 Nov 2020	18 Nov 2020
6	Committee	Webinar: Sustainable Energy Management – During Covid-19 And Beyond	21 May 2020	21 May 2020
7	Committee	Webinar: Achieve Energy Efficiency Multiple Bottom Line	2 July 2020	2 July 2020
8	Committee	Webinar: Confront Impacts Of Covid-19 On Organisations With SEM	21 May 2020	21 May 2020
9	Trainer	Pinch Analysis Training. Petronas MTBE	7 Aug 2019	9 Aug 2019
10	Trainer	AEMAS Energy Manager Training Course (EMTC) 2019, Malaysia Green Tech Corporation.	1 Jan 2019	31 Dec 2019
11	Trainer	AEMAS Energy Manager Training Course (EMTC) 2018, Malaysia Green Tech Corporation.	1 Jan 2018	31 Dec 2018
12	Trainer	AEMAS Energy Manager Training Course (EMTC) 2017, Malaysia Green Tech Corporation.	1 Jan 2017	31 Dec 2017
13	Trainer	AEMAS Energy Manager Training Course (EMTC) 2016, Malaysia Green Tech Corporation.	1 Jan 2016	31 Dec 2016
14	Trainer	AEMAS Energy Manager Training Course (EMTC) 2015, Malaysia Green Tech Corporation.	1 Jan 2015	31 Dec 2015
15	Trainer	AEMAS Energy Manager Training Course (EMTC) 2014, Malaysia Green Tech Corporation.	1 Jan 2014	31 Dec 2014

NO	ROLE	SHORT COURSE TITLE	STARTING DATE	ENDING DATE
16	Organising Committee	In-House Training: Energy Audit Mechanical, Kulim, Kedah	15 Nov 2014	15 Dec 2014
17	Organising Committee	A-Two Days Course on Energy Audit on Mechanical Equipment, UTM KL	15 Sept 2014	16 Oct 2014
18	Organising Committee	ASEAN Energy Manager Certification Scheme, KSL Resort, Johor	21 Oct 2014	21 Nov 2014
19	Trainer	A 3 days Workshop in Maximising Energy and Utility Cost Savings and Minimising Emissions in Process Industry Using Pinch Analysis, UTM KL	12 April 2011	14 April 2011
20	Secretariat	Sustainable Chemical Product and Process Design, UTM KL	17 April 2011	18 April 2011
21	Trainer	A 3 days Workshop in Maximising Energy and Utility Cost Savings and Minimising Emissions in Process Industry Using Pinch Analysis, UTM KL	30 March 2010	1 April 2010
22	Secretariat	Optimisation Techniques and Tools on Green Energy Technology Workshop, UTM KL	22 Feb 2010	24 Feb 2010
23	Trainer	Training of Trainers for 'How to get yourself employed' Module, Dewan Spices, Hotel Mahkota, Melaka, <i>Organised by Office of Undergraduate Studies.</i>	15 July 2009	17 July 2009
24	Trainer	A Holistic Approach for Energy Management, UTM KL.	29 June 2009	1 July 2009
25	Trainer	A 3 days Workshop in Maximising Energy and Utility Cost Savings and Minimising Emissions in Process Industry Using Pinch Analysis, UTM KL	14 April 2009	16 April 2009
26	Trainer	Cleaner Production, Department of Environmental, Nazar Hotel, Stulang	8 October 2009	8 October 2009
27	Trainer	3-Days HAZOP Training Schedule for Biomass-Based Power Generation System for Palm Oil Mills, Marriot Hotel, Putrajaya	15 May 2007	17 May 2007
28	Facilitator	Process Simulation Modelling for Batch and Continuous Processes , UTM, Johor	23 June 2004	24 June 2004
29	Facilitator	Maximising Energy And Water Savings in Process Industry Using Pinch Analysis, UTM KL	9 Aug 2004	13 Aug 2004

SELF-DEVELOPMENT COURSES (Past 3 Years)

NO	ROLE	SHORT COURSE TITLE	STARTING DATE	ENDING DATE
1	Participant	Microcredential Development Course	26/07/20	26/07/20
2	Participant	Utmshine Webinar: Nurture And Inspire	01/07/20	01/07/20
3	Participant	Captain of Industry – Trend and Technology Journey in the New Mobility Era	18/06/20	18/06/20
4	Participant	Taklimat Khusus FE Gold 3 – Trek Geran Industri	16/06/20	16/06/20

NO	ROLE	SHORT COURSE TITLE	STARTING DATE	ENDING DATE
5	Participant	Distinguished Lecture Series – Smart Energy Society after COVID 19	15/06/20	15/06/20
6	Participant	Online Course Series For Mentor	03/06/20	03/06/20
7	Participant	Online Course Series For Mentor	03/06/20	04/06/20
8	Participant	30 Minit Bersama RMC – MyLAB : D0s and Don'ts For Winning Proposal	20/05/20	20/05/20
9	Participant	30 Minit Bersama RMC – Taklimat International Collaboration Fund (ICF)	12/05/20	12/05/20
10	Participant	Bersama Naib Canselor 2020	05/05/20	05/05/20
11	Participant	Will We Shape An Education Revolution? – Ybrs. Prof. Ir. Ts. Dr. Zainuddin Bin Abdul Manan	29/04/20	29/04/20
12	Participant	Journey To Industrial Grant	21/04/20	21/04/20
13	Participant	Persediaan Mahasiswa Dan Universiti Dalam Pengajaran Dan Pembelajaran Semasa Covid-19	21/04/20	21/04/20
14	Participant	Online Assessment	25/03/20	25/03/20
15	Participant	Bengkel Penasihat Akademik 2020 / Sesi 1	26/02/20	26/02/20
16	Participant	21 st Century Learning For Engaging Millenials, Part 1 : Effective Implementation Of Active Learning	17/02/20	18/02/20
17	Participant	Mil100 : Success Factors In R&D Leadership	03/02/20	03/02/20
18	Participant	Bengkel Implementation Of Utm Future Ready Educators Program Skt	29/01/20	29/01/20
19	Participant	Engineering Industry Innovation Day 2019	11/09/19	12/09/19
20	Participant	Kursus Kesedaran Dan Pengurusan Tenaga	28/08/19	28/08/19
21	Participant	Bengkel Penulisan Khalayak Umum	01/07/19	01/07/19
22	Participant	Bengkel Penulisan Buku Penyelidikan Fakulti Kejuruteraan Utm	26/06/19	27/06/19
23	Participant	Alr101 : The Academic Leaders – Roles, Responsibilities And Expectation	22/05/19	22/05/19
24	Participant	University – Industry Collaboration Through Industrial Training Programme	25/04/19	25/04/19
25	Participant	Program Pemerkasaan Kurikulum Abad Ke-21- Fakulti Kejuruteraan	23/04/19	23/04/19
26	Participant	Sd 103: Akept Sustainability Leadership Program	03/03/19	08/03/19
27	Participant	Empowerment Through Mentorship Forum	26/02/19	26/02/19
28	Participant	Responsible Conduct Of Research (Rcr) Workshop	28/01/19	29/01/19
29	Participant	Bengkel Penulisan Jurnal Berimpak Tinggi	14/01/19	15/01/19
30	Participant	Bengkel Taklimat Proposal Geran Antarabangsa (Aunseed)	21/11/18	21/11/18
31	Participant	Kursus Penulisan Proposal Libatsama Komuniti Berimpak	07/11/18	07/11/18
32	Participant	LEADERSHIP CAFÉ & INDIVIDUAL LEADERSHIP ADVANCEMENT PLAN (Ileap)	31/07/18	31/07/18
33	Participant	Designing And Supporting Team Based Learning (22-23 July 2018)	22/07/18	23/07/18
34	Participant	21 st CENTURY LEARNING FOR ENGAGING MILLENNIALS 18-19 JULY 2018	18/07/18	19/07/18
35	Participant	Bengkel Pembangunan Mooc	24/01/18	25/01/18

RESEARCH ACTIVITIES

SUMMARY

Grant Type	Amount, RM		Number (All)	
	Project Leader	Project Member	Project Leader	Project Member
University Grant	1,658,760	1,769,100	18	25
National Grant	515,800	1,856,134	6	20
FRGS	395,800	572,030	4	6
ERGS		46,000		1
E-sciencefund/IRPA		399,600		3
Others (Research Contract under Government Agencies)	120,000	838,504	2	9
Research Contract (Industry)	18,000	133,984	1	3
Commercialisation Grant	500,000	413,633	1	3
International Grant	93,007	583,365	1	3
Total	2,785,567	4,756,216	27	53
Total (All)	7,541,783		80	

RESEARCH GRANTS

University Grant (Project Leader)								
BIL	NAME OF GRANT	ROLE	CATEGORY OF GRANT(UTM/ OTHERS)	TYPE OF GRANT	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
1	Maximising Heat Recovery Network Under Variable Operability Conditions	Project Leader	UTM	UTM High Impact Research	130,000	01/01/20	30/06/23	Q.J13 0000.2 409.08 G86
2	UTM-TDR40.2(T1): Modelling Of Eco-Industrial Park Network Design	Project Leader	UTM	UTM Transdisciplinary Research Grant	80,000	01/12/18	31/05/22	Q.J13 0000.3 509.05 G96
3	UTM-TDR40: Eco-Industrial Park Planning and Design for enhanced Business Edge for Park Owners in Malaysia	Programme Leader	UTM	UTM Transdisciplinary Research Grant	240,000	01/12/18	31/05/22	Q.J13 0000.3 509.05 G94
4	UTM-TRG 3.5 UTM – Smart Digital Energy Campus – Energy Controller Prepaid System For Hostel	Project Leader	UTM	Translational Research @ Campus	176,200	01/08/18	31/01/21	R.J13 0000.7 709.4J 375

5	Techno-Economic Feasibility Study of an Integrated Low Carbon Industrial Site	Project Leader	UTM	Professional Development Research University	138,460	01/07/18	30/06/20	Q.J13 0000.2 1A2.0 4E44
6	Design And Optimisation Of Simultaneous Water And Energy Systems For Process Industry	Project Leader	UTM	Tier 1	50,000	01/02/18	31/01/20	Q.J13 0000.2 509.19 H34
7	Production Decision Support System For Batch Processes	Project Leader	UTM	UTM R&D Fund	20,000	01/07/16	30/09/17	R.J13 0000.7 709.4J 233
8	Ammoniacal Nitrogen Removal From Wastewater Using Activated Papaya Peel As Adsorbent	Project Leader	UTM	Tier 1	50,000	01/02/16	31/07/18	Q.J13 0000.2 509.12 H88
9	An integrated Pinch Analysis Framework for Low Carbon Industrial Site Planning	Project Leader	UTM	UTMShine	50,000	15/01/16	14/05/18	Q.J13 0000.2 409.03 G40
10	A new framework for designing optimal heat exchanger network considering inherent safety and operability aspects	Project Leader	UTM	Matching Grant	37,200	01/08/15	31/07/17	Q.J13 0000.3 009.00 M77
11	Incorporating District Cooling System in Total Site Heat Integration	Project Leader	UTM	Professional Development Research University	66,600	01/07/15	30/06/16	Q.J13 0000.2 1A2.0 2E33
12	Industrial Waste Water Minimisation Along Sungai Johor Basin	Project Leader	UTM	Flagship	35,000	01/03/15	30/06/16	Q.J13 0000.2 409.03 G13
13	Troubleshooting Of The Industrial Hot Oil Furnace And Its Auxiliary And Surge System	Project Leader	UTM	Professional Development Research University	65,000	01/09/14	31/08/15	Q.J13 0000.2 1A2.0 1E79

	Employing Fuzzy Logic							
14	Total Site Heat Integration For Continuous And Variable Supply And Demand System	Project Leader	UTM	Tier 1	55,000	01/04/14	30/06/15	Q.J13 0000.2 509.07 H35
15	Computational Fluid Dynamics Modeling Of Impinging Streams	Project Leader	UTM	Professional Development Research University	71,000	01/04/13	31/03/14	Q.J13 0000.2 1A2.0 0E42
16	Power Pinch Analysis For Optimal Design Of Hybrid Power System	Project Leader	UTM	Tier 1	115,000	01/12/12	31/12/14	Q.J13 0000.2 544.03 H44
17	Cost-Optimum Maximum Energy Recovery System Via Simultaneous Capital-Operating Cost Targets And Heat Exchanger Network Design	Project Leader	UTM	Tier 1	170,000	01/04/11	31/03/13	Q.J13 0000.2 525.00 H22
18	Fundamental Study of Phase Equilibria for Extraction of High Purity Palm Oil Using Sub-Critical R134a	Project Leader	UTM	New Academic Staff	109,300	16/05/09	15/08/10	R.J13 0000.7 725.3 P030

University Grant (Project Member)

BIL	NAME OF GRANT	ROLE	CATEGORY OF GRANT(UTM/ OTHERS)	TYPE OF GRANT	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
1	Study on Sustainability Best Practices Program at Higher Education Institutions (HEIs)	Project Member	UTM	Industry-International Incentive Grant	20,000	01/01/21	31/12/21	Q.J13 0000.3 601.02 M79
2	A Comprehensive Framework to Design and Optimize Macro-level Cogeneration in Malaysia	Project Member	UTM	UTM High Impact Research	107,000	01/01/20	30/06/23	Q.J13 0000.2 451.08 G48
3	UTM-TDR 40.4 (T2): Environmental	Project Member	UTM	UTM Transdisciplinary	40,000	01/12/18	31/05/22	Q.J13 0000.3

	Consciousness And Sustainable Development Performance Of Eco-Industrial Park In Malaysia			Research Grant				555.06 G49
4	UTM-TDR 40.1 (T1): Industrial Waste Identification And Mapping From Geospatial Technologies For Eco-Industrial Park Design	Project Member	UTM	UTM Transdisciplinary Research Grant	80,000	01/12/18	31/05/22	Q.J13 0000.3 509.05 G95
5	UTM-TDR 37.4 (T1) : Process Simulation And Optimisation For Bio-Hythane Production Incorporated With Economic And Social Analysis	Project Member	UTM	UTM Transdisciplinary Research Grant	80,000	01/12/18	30/05/21	Q.J13 0000.3 551.06 G47
6	UTM-TDR 40.3(T2): Modelling Of Eco Industrial Park Business Model	Project Member	UTM	UTM Transdisciplinary Research Grant	40,000	01/12/18	31/05/22	Q.J13 0000.3 551.05 G97
7	UTM-TRG 3.6 Auditing Processes For Energy Consumption And Savings For Utm Jb Campus – Cluster Approach	Project Member	UTM	Translational Research @Campus	94,000	01/08/18	31/01/21	R.J13 0000.7 309.4J 334
8	HIR 9.2 : Design and development of food waste to biogas converter system	Project Member	UTM	High Impact Research Grant	60,000	01/04/18	30/09/21	Q.J13 0000.2 446.04 G33
9	Simultaneous Water and Energy Minimization Considering Water Management Hierarchy	Project Member	UTM	Tier 2	20,000	01/02/18	31/01/19	Q.J13 0000.2 626.15 J58
10	Development Of Organic And Ionic Liquid Solvents For Oil Recovery From Waste Material	Project Member	UTM	COE Research Grant	50,000	01/02/18	31/12/20	Q.J13 0000.2 446.04 G20

11	Palm Oil Recovery from Spent Bleaching Earth Process for Maximum Solvent Removal and Minimum Energy Utilisation	Project Member	UTM	Tier 1	40,000	01/07/17	31/12/19	Q.J13 0000.2 508.17 H16
12	A Multi-Period Energy Conservation Strategy With Long-Term Thermal Energy Storages	Project Member	UTM	Potential Academic Staff	20,000	01/07/16	30/06/17	Q.K13 0000.2 743.02 K39
13	A Holistic Framework For Design Of Cost Effective Minimum Energy Network (CEMEN)	Project Member	UTM	Tier 1	50,000	15/11/15	14/05/18	Q.J13 0000.2 546.12 H39
14	A Tool For Predicting Refined Bleached Deodorized Palm Oil (Rbdpo) Quality Using Partial Least Squares Regression (PLSR)	Project Member	UTM	Tier 1	49,900	15/11/15	14/05/17	Q.J13 0000.2 546.12 H67
15	Holistic Resource Planning for Industrial Parks: A Waste-To-Resources Process Integration Approach	Project Member	UTM	Professional Development Research University	71,000	16/11/14	15/11/15	Q.J13 0000.2 1A2.0 2E09
16	Experimental and artificial intelligence 28aroteno study of potassium carbonate process	Project Member	UTM	Professional Development Research University	65,000	01/09/14	31/08/15	Q.J13 0000.2 1A2.0 1E87
17	Integrated palm oil industry cluster for eco-community	Project Member	UTM	Potential Academic Staff	20,000	01/06/14	31/05/15	Q.J13 0000.2 709.01 K08
18	Current Status Of Green Growth In Organisation Of Islamic Conference (OIC) Countries	Project Member	UTM	Matching Grant	84,480	01/05/14	30/04/16	Q.J13 0000.3 044.00 M20

19	A Holistic Carbon Emission Planning And Management From Stationary Point Sources	Project Member	UTM	Tier 1	55,000	01/04/14	30/06/16	Q.J13 0000.2 544.07 H45
20	An Integrated, Sustainable Palm Oil Production Supply Chain	Project Member	UTM	Tier 1	115,000	01/12/12	31/03/15	Q.J13 0000.2 544.03 H55
21	Comprehensive Health risk assessment and environmental assessment for the production of new green diesel formulation	Project Member	UTM	Flagship	155,720	01/08/11	31/07/14	Q.J13 0000.2 444.00 G55
22	Social Acceptance for Sustainable Green Diesel	Project Member	UTM	Flagship	82,000	01/08/11	31/10/14	Q.J13 0000.2 427.00 G56
23	Sub-critical carbon dioxide extraction of Pimpinella anisum L. seed: 29aroteni and optimization	Project Member	UTM	Academic Visitor	30,000	01/06/11	31/05/12	R.J13 0000.7 725.4 D042
24	Decentralized Biopower Generation Optimization for Johor Malaysia	Project Member	UTM	Tier 1	170,000	01/04/11	31/03/13	Q.J13 0000.2 525.00 H81
25	An Integrated, Resource Efficient Rice Mill Complex	Project Member	UTM	Tier 1	170,000	01/03/11	31/03/13	Q.J13 0000.2 525.01 H95

National Grant (Project Leader)

BIL	NAME OF GRANT	ROLE	CATEGORY OF GRANT(UTM/ OTHERS)	TYPE OF GRANT	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
1	Risk Assessment on Energy Systems Planning Resilience to Climate Change	Project Leader	National	FRGS	144,800	01/11/20	31/10/23	R.J13 0000.7 809.5F 376
2	Integrated Industrial Site Planning for Minimising Resource Utilisation and Pollution	Project Leader	National	FRGS	115,000	01/06/17	31/05/19	R.J13 0000.7 809.4F 918

3	Characterization study of papaya peel waste as bio-sorbent for lead (II) removal from wastewater	Project Leader	National	FRGS	86,000	01/07/14	30/06/16	R.J13 0000.7 809.4F 488
4	Fundamental Study of Phase Equilibria for Extraction of High Purity Palm Oil using Sub-Critical R134a	Project Leader	National	FRGS	50,000	14/08/09	13/02/12	R.J13 0000.7 825.3F 363
National Grant (Project Member)								
BIL	NAME OF GRANT	ROLE	CATEGORY OF GRANT(UTM/ OTHERS)	TYPE OF GRANT	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
1	Integrating Palm Oil Mill Effluent Elimination Process via Multi-Criteria Optimisation and Debottlenecking Framework	Project Member	National	FRGS	103,550	01/11/20	31/10/23	R.J13 0000.7 851.5F 388
2	An Investigation Of Using Artificial 30arotenoids30 In Smart Data Reconciliation For Energy Management And Optimisation In Chemical Industry	Project Member	National	FRGS	95,000	01/01/19	31/03/21	R.K13 0000.7 843.5F 075
3	Bioavailability and release profile of encapsulated vitamin E in simulated gastro-intestinal tract.	Project Member	National	FRGS	131,780	02/11/15	01/11/18	R.J13 0000.7 846.4F 726
4	Mathematical model for optimal palm oil waste utilisation for energy generation in a palm oilmill cluster	Project Member	National	FRGS	63,000	01/12/14	30/11/16	R.J13 0000.7 809.4F 618
5	Profiling of the release of volatile flavour compounds and the structural stability in multi-layer food	Project Member	National	FRGS	84,200	01/07/14	30/06/16	R.J13 0000.7 844.4F 447

	emulsion system containing sweet potato pectin							
6	The Solubility Of Misai Kucing Herbs In Solvents Via A Combined Experimental And Modeling Approach	Project Member	National	FRGS	94,500	16/12/13	15/06/17	R.J13 0000.7 844.4F 270
7	A New Model Based Tool For Flexible And Operable Heat Exchanger Network	Project Member	National	ERGS	46,000	15/06/12	14/06/14	R.J13 0000.7 844.4L 036
8	Optimal Audit – An Integrated Resource Conservation Software for Sustainable Development	Project Member	National	E- Sciencefund, MOSTI	106,000	2007	2009	79127
9	Development of a New Technique for Design of Cost Effective Minimum Water Network (MWN) for Urban and Industrial Systems – A Focus on Semiconductor Manufacturing	Project Member	National	E- Sciencefund, MOSTI	117,000	2006	2009	79052
10	Development of an Optimal Mass Recovery Network for Water Minimisation in a Palm Oil Mil	Project Member	National	IRPA	176,600	2004	2005	74070
Others (Project Leader)								
BIL	NAME OF GRANT	ROLE	CATEGORY OF GRANT(UTM/ OTHERS)	TYPE OF GRANT	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
1	Development Of Online System: Shipping Emissions Accounting (SEA) And Emissions Improvement Measures (EIM)	Project Leader	National	Others: Johor Port Authority	80,000	01/04/16	31/12/18	R.J13 0000.7 309.4 B226

	For Port Of Tanjung Pelepas							
2	Ship Emissions Analysis In Port Of Tanjung Pelepas	Project Leader	National	Others: Johor Port Authority	40,000	01/01/15	31/12/16	R.J13 0000.7 609.4 C068
3	Setting Up Sustainable Energy Management System for Synthomer Sdn Bhd	Project Leader	Industry	Others: Synthomer	18,000	17/02/12	16/01/13	R.J13 0000.7 644.4 C021
Others (Project Member)								
BIL	NAME OF GRANT	ROLE	CATEGORY OF GRANT(UTM/ OTHERS)	TYPE OF GRANT	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
1	Traceability Of Food Safety Hazards And Critical Point Along The Supply Chain Of Seafood Industry In Malaysia	Project Member	National	Others: Malaysia Research University Network	248,504	01/01/19	31/03/22	R.J13 0000.7 851.4L 868
2	MRUN 4.3 – Online System For Single Site And Total Site Heat And Emission Recovery Network Analysis	Project Member	National	Others: Malaysia Research University Network	110,000	01/12/18	28/02/22	R.K13 0000.7 843.4L 883
3	MRUN 4.2 – Online System For Industrial Energy And Emission Reductions	Project Member	National	Others: Malaysia Research University Network	120,000	01/12/18	28/02/22	R.J13 0000.7 808.4L 884
4	Development Of Online System: Shipping Emissions Accounting (SEA) And Emissions Improvement Measures (EIM) For Johor Port	Project Member	National	Others: Johor Port Authority	80,000	01/04/16	31/12/18	R.J13 0000.7 346.4 B228
5	Non-Shipping Emission Analysis In Johor Port	Project Member	National	Others: Johor Port Authority	85,000	01/04/16	31/12/18	R.J13 0000.7 346.4 B230

6	Non-Shipping Emission Analysis In Port Of Tanjung Pelepas	Project Member	National	Others: Johor Port Authority	85,000	01/04/16	31/12/18	R.J13 0000.7 324.4 B240
7	Ship Emissions Analysis In Johor Port	Project Member	National	Others: Johor Port Authority	35,000	01/01/15	31/12/16	R.J13 0000.7 609.4 C069
8	Establish The Accounting Method For Ship Emissions	Project Member	National	Others: Johor Port Authority	40,000	01/01/15	31/12/16	R.J13 0000.7 644.4 C071
9	Ship Emissions Analysis In Port Of Tanjung Pelepas: An Excel Tool To Account For Ship Emissions	Project Member	National	Others: Johor Port Authority	35,000	01/01/15	31/12/16	R.J13 0000.7 609.4 C070
11	Empowering Science, Technology, Engineering And Mathematics (STEM) Education To School Students Through National Science Challenge 2018 (NSC2018) Semi-Final Level	Project Member	National	Others: Akademi Sains Malaysia	23,012	09/01/18	15/08/18	S.J130 000.08 09.4Y 131
12	Analytical And Experimental Modelling Of Desolventisation System For Eco Oils	Project Member	Industry	Others: Ecooils	75,472	01/09/16	31/12/18	R.J13 0000.7 646.4 C120
13	Pembangunan Indeks Kelestarian sebagai Perancangan Transformasi Pelabuhan Hijau	Project Member	National	Others: Institut Inovasi Strategik Johor	35,500	15/07/16	14/04/17	Q.J13 0000.2 546.15 H01
International Grant								
BIL	NAME OF GRANT	ROLE	CATEGORY OF GRANT(UTM/ OTHERS)	TYPE OF GRANT	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
1	Study of papaya peel waste as adsorbent for efficient lead (II) removal from wastewater	Project Leader	International	United Nations Educational, Scientific And Cultural	93,007	30/10/14	30/11/15	R.J13 0000.7 309.4 B172

				Organization (UNESCO)				
2	Malaysia Sustainable University Campus Network / MYSUN	Project Member	International	European Union	341,033	15/01/20	14/01/23	R.J13 0000.7 301.4 B557
3	Design and optimization of modernization and efficient operation of energy supply and utilization systems using renewable energy sources and ICTs	Project Member	International	University Of Pannonia, Hungary	31,132	01/07/14	30/09/16	R.J13 0000.7 644.4 C061
4	Draft-1 of the Green Technology Blueprint for the OIC Member Countries	Project Member	International	Islamic Development Bank (IDB), Kingdom Of Saudi Arabia	211,200	01/09/13	31/12/14	R.J13 0000.7 344.4 B116

COLLABORATION / MOU

NO	NAME OF MOU	LEVEL OF MOU (NATIONAL/INTERNATIONAL)	STARTING DATE	ENDING DATE
1	Brno University of Technology, Czech Republic	International	2016	2021
2	University of Pannonia, Hungary	International	2012	2017
3	FOCUS Sdn Bhd, Kuwait	International	2013	2018
4	Malaysia Green Tech Corporation (MGTC)	National	2018	2023
5	Optimal Systems Engineering Sdn Bhd	National	2018	2023
6	Lembaga Pelabuhan Johor	National	2015	2019
7	Sterling Sdn Bhd	National	2015	2019
8	Synthomer Sdn Bhd	National	2011	2014
9	PGEO Edible Oil	National	2013	2018
10	Malaysia Green Tech Corporation (MGTC)	National	2013	2018

TEACHING ACTIVITIES

ONLINE COURSES

NO	AWARD	YEAR
1	Micro credentials course. Introduction to Energy Management Systems. VLE@Educator.	2021
2	Massive Open Online Course (MOOC). Process Integration: Pinch Analysis. https://www.openlearning.com/courses/process-integration-pinch-analysis/	2020

UNDERGRADUATE

YEAR OF SEMESTER	SEMESTER (1/2)	SUBJECT CODE	NAME OF SUBJECT	CREDIT HOUR	SECTION
2021	202020211	SKTK4834	Projek Rekabentuk Loji	4	1
2020	202020211	SKTK4153	Rekabentuk Loji	3	3
2019	201920201	SKKC4143	Rekabentuk Loji	3	3
2018	201820191	SKKC4143	Rekabentuk Loji	3	3
2018	201820191	SKKK4153	Rekabentuk Loji	3	3
2018	201720182	SKKK4183	Integrasi Proses	3	1
2017	201720181	SKKK4153	Rekabentuk Loji	3	3
2017	201620172	SKKK4183	Integrasi Proses	3	1

YEAR OF SEMESTER	SEMESTER (1/2)	SUBJECT CODE	NAME OF SUBJECT	CREDIT HOUR	SECTION
2016	201620171	SKKK4153	Rekabentuk Loji	3	3
2016	201520162	SKKK4183	Integrasi Proses	3	1
2015	201520161	SKKK4153	Rekabentuk Loji	3	3
2014	201420151	SKKK4153	Rekabentuk Loji	3	3
2013	201320141	SKF4153	Rekabentuk Loji	3	3
2012	201120122	SKKK4824	Plant Design Project	4	1
2012	201120122	SKC4193	Integrasi Proses	3	1
2012	201220131	SKF4153	Rekabentuk Loji	3	3
2011	201120121	SKF4153	Rekabentuk Loji	3	3
2010	201020111	SKF1023	Pengenalan Kepada Kejuruteraan	3	3
2010	200920102	SKF3761	Makmal Proses Pemisahan li	1	2
2010	200920102	SKF4153	Rekabentuk Loji	3	3
2010	201020111	SKF4153	Rekabentuk Loji	3	3
2009	200920101	SKF1023	Pengenalan Kepada Kejuruteraan	3	3
2009	200820092	SKF1113	Imbangan Jisim	3	3
2009	200820092	SKF4153	Rekabentuk Loji	3	3
2009	200920101	SKF4153	Rekabentuk Loji	3	3
2008	200720082	SKC3113	Kaedah Berangka Kej Kimia	3	3
2008	200720082	SKC4741	Makmal Proses Pemisahan 1	1	1
2008	200720082	SKC5183	Rekabentuk Loji	3	3
2008	200820091	SKF1023	Pengenalan Kepada Kejuruteraan	3	3
2008	200720082	SKF2133	Kaedah Berangka Kej. Kimia	3	3
2008	200720082	SKF3731	Makmal Proses Pemisahan I	1	1
2008	200720082	SKF4153	Rekabentuk Loji	3	3
2008	200820091	SKF4153	Rekabentuk Loji	3	3

YEAR OF SEMESTER	SEMESTER (1/2)	SUBJECT CODE	NAME OF SUBJECT	CREDIT HOUR	SECTION
2007	200620072	SKC5183	Rekabentuk Loji	3	3
2007	200720081	SKC5183	Rekabentuk Loji	3	3
2007	200720081	SKF4153	Rekabentuk Loji	3	3
2007	200620072	SKV1021	Lukisan Kejuruteraan	1	1

Total Credit Hour

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POSTGRADUATE

YEAR OF SEMESTER	SEMESTER (1/2)	SUBJECT CODE	NAME OF SUBJECT	CREDIT HOUR	SECTION
2021	202020212	MKKE2143	Integrasi Tenaga Dan Pemuliharaan Sumber	3	1
2021	202020212	MKKE2143	Integrasi Tenaga Dan Pemuliharaan Sumber	3	2
2020	201920202	MKKE2143	Integrasi Tenaga Dan Pemuliharaan Sumber	3	1
2019	201920201	MKKE1113	Pengurusan Mekanikal Dan Tenaga Elektrik	3	1
2019	201920201	MKKE1113	Pengurusan Mekanikal Dan Tenaga Elektrik	3	2
2019	201820192	MKKE2143	Integrasi Tenaga Dan Pemuliharaan Sumber	3	1
2019	201920201	MKKE2143	Integrasi Tenaga Dan Pemuliharaan Sumber	3	1
2019	201820192	MKKK1683	Process Integration	3	1
2018	201820191	MKKE1113	Pengurusan Mekanikal Dan Tenaga Elektrik	3	1
2018	201720182	MKKE2143	Integrasi Tenaga Dan Pemuliharaan Sumber	3	1
2017	201720181	MKKE1113	Pengurusan Mekanikal Dan Tenaga Elektrik	3	1
2017	201620172	MKKE2143	Integrasi Tenaga Dan Pemuliharaan Sumber	3	1
2017	201720181	MKKE2143	Integrasi Tenaga Dan Pemuliharaan Sumber	3	1
2016	201620171	MKKE1113	Pengurusan Mekanikal Dan Tenaga Elektrik	3	1
2016	201520162	MKKK1683	Process Integration	3	1
2015	201420153	MLTA1233	Energy Integration And Resource Management	3	1
2015	201420152	MKKK1683	Process Integration	3	1
2014	201320142	MLTA1233	Integrasi Proses Dan Penjimatan Sumber	3	1
2013	201220132	MKK1683	Process Integration	3	1
2011	201120121	MKK1180	Disertasi 1	0	1
2011	201120121	MKK1280	Disertasi 2	0	1
2011	201120121	MKK1380	Disertasi	0	1
2011	201020112	MKK1613	Analisa & Pengurusan Tenaga	3	1
2011	201020112	MKK1683	Process Integration	3	1
2010	200920102	MKK1180	Disertasi 1	0	1
2010	201020111	MKK1180	Disertasi 1	0	1
2010	200920102	MKK1280	Disertasi 2	0	1
2010	201020111	MKK1280	Disertasi 2	0	1

Total Credit Hour

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SUPERVISION

Summary

Level of Study	Main Supervisor		Co-Supervisor		Total
	On-going	Graduated	On-going	Graduated	
Postdoc		4		2	6
PhD	7	10	7	8	32
Master by Research		4	1	4	9
Master by Mixed Mode	1	11		5	17
Master by Taught Course		2			2
Total	8	31	10	17	66

POSTDOCTORAL

Main Supervisor

No	Name	Status (Completed/Ongoing)	Title	Date
1	Dr Siti Nur Hidayah Muhammad	Completed	Techno-Economic Feasibility Study of an Integrated Low Carbon Industrial Site	July 2018 – June 2020
2	Dr Liew Peng Yen	Completed	Incorporating District Cooling System in Total Site Heat Integration	July 2015-Oct 2015
3	Dr Nahid Ghasemi	Completed	Computational Fluid Dynamics Modeling of Impinging Streams	May 2013 -May 2014
4	Dr Abbas Azarpour	Completed	Experimental and artificial intelligence 39arotenoI study of potassium carbonate process	Sept 2014-Mac 2015

Co Supervisor

No	Name	Status (Graduated/Ongoing)	Title	Date
1	Dr Tohid Nejad Ghaffar Borhani	Completed	Troubleshooting of the industrial hot oil furnace and its auxiliary and surge system employing fuzzy logic	Sept 2014-July 2015
2	Dr. Nitin Dutt Chaturvedi	Completed	Holistic Resource Planning for Industrial Parks: A Waste-To-Resources Process Integration Approach	Sept 2014-Aug 2015

PHD STUDENTS

Main Supervisor

No	Name	Status (Graduated/ Ongoing)	Title	Start	End
1	Md Abu Hasan Rony	On-going	Developing Next-Gen Ship Towards Transformation To Zero-Carbon Maritime Transportation: Exploring Technological And Commercial Transition Pathways	2019	2022
2	Nur Atirah Binti Ibrahim	On-going	Risk Assessment On Energy Systems Planning Resilience To Climate Change	2019	2022
3	Siti Fatimah Binti Sa'ad	On-going	Optimal Centralised Water Exchange System In Ecoindustrial Park	2018	2021
4	Musa Lawal	On-going	Resource Integration Transportation Planning For Total Sites	2018	2021
5	Mohd Arif Bin Misrol	Viva	Optimisation Of Simultaneous Heat Water And Waste Nexus For Ecoindustrial Park	2018	2021
6	Ainur Munirah Binti Hafizan	On-going	Maximising Heat Recovery Network Under Variable Operability Conditions	2016	2021
7	Wan Norlinda Roshana Binti Mohd Nawi	Graduated	Carbon Dioxide Management For Product Supply Chain And Total Site Utilisation And Storage	2016	2019
8	Hamoud J. M. A. Alenezi	Viva	Modeling And Optimization For Operation Improvement In Alphanol Technology	2015	2020
9	Sahar Abbaszadeh	Graduated	Adsorption Of Lead Ii From Aqueous Solution Using Nanopapaya Peel	2014	2017
10	Siti Nuurul Huda Binti Mohammad Azmin	Graduated	Framework For Optimal Solvent Design For Extraction Of Highvalue Phytochemicals In Herbs	2014	2016
11	Mismisuraya Binti Meor Ahmad	Graduated	Quantitative Models For Predicting Antioxidant Capacity In Herbs Based On Molecular Structures And Compositions	2013	2019
12	Abbas Azarpour Hassankiadeh	Graduated	Dynamic Modeling Simulation And Optimization Of Hydropurification Reactor And Crude Terephthalic Acid Purification System Troubleshooting	2013	2014
13	Che Lee Pheng	Graduated	Production Decision Support System For Batch Processes	2012	2017
14	Liew Peng Yen	Graduated	Total Site Heat Integration Tools For Continuous And Variable Supply And Demand Systems	2012	2015
15	Chew Kew Hong	Graduated	Improved Total Site Heat Integration Incorporating Pressure Drop And Process Modifications	2012	2015
16	Mohammadhossein Saniedanesh	Graduated	Centralised Heavy Metal Recovery And Removal Synthesis For Industrial Wastewater	2011	2017
17	Nor Erniza Binti Mohammad Rozali	Graduated	New Power Pinch Analysis Techniques For Optimal Design Of Hybrid Power Systems	2011	2014

PhD Co Supervisor

No	Name	Status (Graduated/ Ongoing)	Title	Start	End
1	Tay Zhi Xin	On-going	A Comprehensive Framework To Design And Optimise Macrolevel Cogeneration In Malaysia	2020	2022
2	Yong Wen Ni	On-going	-	2019	2021
3	Tan Yue Dian	On-going	Optimal Design Of Palm Oil Based Complex Using Optimisation Model Based Framework	2019	2021
4	Muhammad Azfar Firdaus Bin Azlah	On-going	Malaysian Herbal Plant Recognition System Via Morphological Features And Phytochemical Composition	2018	2021
5	Xuexiu Jia (External Supervisor, Brno University of Technology)	Viva	Extended Methodology For Water Resources And Water-Related Energy Assessment Addressing Water Quality	2017	2020
6	Khairulnadzmi Bin Jamaluddin	Graduated	Total Site Energy Integration For Nuclear Power Plant Planning And Design With Trigeneration System	2017	2020
7	Lai Yee Qing	Graduated	New Graphical Heat Exchanger Network Retrofit Methods Based On Individual Stream Temperature Versus Enthalpy Plot	2017	2020
8	Joe Mammen John (External Supervisor, Cape Peninsula University of Technology, South Africa)	Ongoing	Techno-Economic Analysis Of Carbon Dioxide Capture And Utilisation Analysis For An Industrial Site With Fuel Cell Integration	2016	2020
9	Wasiu Ajibola Oladosu	Graduated	A New Algebraic Tool For Simultaneous Targeting And Design Of Mass Exchanger Network	2016	2020
10	Ahmad Zharif Salami B Mohd Taha	On-going	Mathematical Modelling And Heuristic Approaches For Bus Routing And Scheduling Problem In Multischool System	2014	2020
11	Suraya Hanim Binti Abu Bakar	Graduated	Synthesis Of Flexible And Operable Heat Exchanger Networks	2014	2016
12	Mohd Shukri Bin Mat Nor	Graduated	Computeraided Modelling For Flavonoids Solubility Prediction Using Combined Cosmors And Unifac	2013	2014
13	Mohamad Asrul Bin Mustapha	Graduated	Sustainable Green Management System And A New Green Index	2012	2018
14	Chin Hon Choong	Graduated	Social Acceptance Of Biofuel For Transportation In Peninsular Malaysia	2011	2017
15	Lim Jeng Shiun	Graduated	Integrated Supply Chain Management For Paddy	2008	2011

MASTER STUDENTS

Master by Research (Main Supervisor)

No	Name	Status (Graduated/ Ongoing)	Title	Start	End
1	Azuani Binti Musa	Graduated	Ammoniacal Nitrogen Removal From Aqueous Solution Using Activated Carbon From Papaya Peel As Adsorbent	2015	2017
2	Nabihah Othman	Graduated	Process Design Of Solvent For Palm Oil Valuable Component Extraction	2009	2013
3	Nur Syuhada Binti Abd Rahman	Graduated	Solubility Model Of Palm Oil Extraction From Palm Fruit Using Subcritical R134a	2008	2010
4	Zainatul Bahiyah Binti Handani	Graduated	Design Of Cost Effective Minimum Water Network Using Multiobjective Optimisation	2007	2010

Master by Research (Co Supervisor)

No	Name	Status (Graduated/ Ongoing)	Title	Start	End
1	Ahmad Muzammil Bin Idris	Graduated	Multiple Resources Targeting Using Water Energy Nexus Cascade Analysis And Mathematical Modelling	2018	2020
2	Tan Chuan Heng	On-going	SPHERIPOL PROCESS POLYPROPYLENE MELT FLOW RATE PREDICTION BY USING NEURAL Networks	2018	2020
3	Muhammad Nurheilmi Bin Hamsani	Graduated	Analysis For Low Temperature Heat Exchanger Network Using Exergy Problem Table Algorithm	2017	2019
4	Tri Pratiwi Handayani	Graduated	Development Of Software Modules For Economic And Technical Feasibility Assessment Of Process Plant Heat Recovery System	2008	2010
5	Azlyana Ismail	Graduated	Simultaneous Design Of Maximum Energy, Power And Water Recovery System Using Pinch Analysis	2007	2009

Master by Mixed-Mode (Main Supervisor)

No	Name	Status (Graduated/ Ongoing)	Title	Start	End
1	Ubaidullah Bin Mohamed Yusooif	Graduated	Energy Consumption Prediction	2019	2020
2	Nur Haryany Binti Arifin	On-Going	An Integrated Industrial Symbiosis Economic Analysis Framework For Low Carbon Industrial Park Planning	2019	2020
3	Lily Syafikah Binti Mansor	Graduated	Mathematical Modelling Of Simultaneous Water And Energy Minimisation Considering Water Management Hierarchy	2016	2018
4	Ainur Munirah Binti Hafizan	Graduated	Maximising Heat Recovery Network Under Variable Operability Conditions	2014	2015

No	Name	Status (Graduated/ Ongoing)	Title	Start	End
5	Ezah Binti Abdul Aziz	Graduated	Optimal Synthesis Of Small Scale Liquefied Natural Gas Value Chain	2014	2015
6	Mohammad Dehghani	Graduated	Simultaneous Design And Controllability For Maximum Water Recovery	2012	2013
7	Mohammad Reza Abbasi	Graduated	Simultaneous Minimum Water And Energy Network	2012	2013
8	Umar Isah	Graduated	A Numerical Method For Determining The Optimum Minimum Temperature Difference Of Heat Exchanger Network	2011	2012
9	Yanwarizal	Graduated	Simultaneous Targeting And Design Of Mass Recovery Network	2010	2012
10	Musa Lawal	Graduated	A New Graphical Method For Carbon Planning Management	2010	2011
11	Hazirah Binti Hafiz	Graduated	Process Integration Method Of Integrated Solar Photovoltaic Water Purification System	2019	2019
12	Mohammed Jamaladdien Abdulrahman Bukeir	Graduated	Social Acceptance Study For Solar Energy Adoption In Yemeni Household Under Compelling Circumstances	2018	2018

Master by Mixed-Mode (Co Supervisor)

No	Name	Status (Graduated/ Ongoing)	Title	Start	End
1	Umar Hayatu Shehu	Graduated	Anaerobic Digestation from Indah Water Konsortium	2011	2012
2	Chuah Wei Tze	Graduated	Process Integration Using Pinch Analysis for Trigeneration System	2010	2012
3	Munir Sadiq	Graduated	A new graphical method cost effective carbon planning management	2010	2011
4	Nabeel Kadhim Abbood	Graduated	Development of a software for simultaneous targeting and design of a heat exchanger network	2009	2010
5	Mohsen Chezghani	Graduated	A new graphical method for multiple utilities and area targeting	2011	2011

Master by TaughtCourse (Main Supervisor)

No	Name	Status (Graduated/ Ongoing)	Title	Start	End
1	Wan Fauzan Wan Fauzai	Graduated	Simultaneous Heat Exchanger And Targetting Network Design	2007	2007
	Muhammad Ikmal Bin Azman	Graduated	Four Season Hybrid Power System Targeting Using Power Pinch Analysis	2017	2017

UTM POSTGRADUATE EXAMINATION / VIVA

Summary

Role	PhD	Master	Total
External Examiner	10	3	13
Internal Examiner	10	9	19
Chairperson	13	4	17
Total	33	16	49

PHD

NO	ROLE	NAME OF STUDENT	TITLE	DATE
1	Chairperson	Nurafiqah Binti Rosman	Visible Light-Driven Ternary Heterojunction Embedded in Polymer Membranes for Ibuprofen Removal	5 July 2021
2	Chairperson	Abdulrasheed Abdulrahman A	Dry Reforming Of Methane Over Stabilized Nickel-Lanthanum Supported On Fibrous KCC-1 Catalyst	03-Oct-19
3	Chairperson	Tang Shu Hui	Removal Of Malachite Green By Textile Sludge Based Activated Carbon: Batch And Column Adsorption Study	29-Jul-19
4	Chairperson	Noor Aisyah Binti Aris	Kinetic Properties On Supercritical Carbon Dioxide Extraction Of Charantin From Momordica Charantia L	17-Apr-19
5	Chairperson	Muh. Irwan	Kesan Pelbagai Frekuensi Ultrasound Ke Atas Kadar Tindak Balas Penghasilan Biodiesel Daripada Minyak Jarak Pagar	09-Dec-19
6	Chairperson	Tang Shu Hui	Removal Of Malachite Green By Textile Sludge Based Activated Carbon: Batch And Column Adsorption Study	29-Jul-19
7	Chairperson	Muhammed Yusuf Bin Shahul Hamid	Synthesis Of Vanadium-Nickel Supported On Fibrous Silica Catalyst For Carbon Dioxide Methanation	02-May-19
8	Chairperson	Beenish Tahir	Photocatalytic Bireforming Of Methane Over Modified Graphitic Carbon Nitride With Titania Nanocomposite In Monolith Photoreactor	18-Mar-19
9	Chairperson	Liu Wen Hui	Optimal Design And Operation Of An Integrated Centralized And Decentralized Energy System	22-Jan-19
10	Chairperson	Nur Farahain Binti Khusnun	Synthesis Of Copper Oxide Supported On Carbon Nanotubes Catalyst For Photodegradation Of P-Chloroaniline	25-Jun-18
11	Chairperson	Sritharan AL Sangaran	-	17-Jul-18
12	Chairperson	Cindy Lee Ik Sing	-	20-Nov-17
13	Chairperson	Che Ku Nor Liana Bt Che Ku Hitam	-	22-Mar-17
14	Internal Examiner	Angel Mah Xin Yee	Optimization of Hydrogen Supply Network for Sustainable Development of Hydrogen Energy System	19-Aug-21
15	Internal Examiner	Muhammad Saufi bin Tarmizi	Optimal Planning of Centralized Sewage Treatment Plant for Electricity Generation	14-July-21

NO	ROLE	NAME OF STUDENT	TITLE	DATE
16	Internal Examiner	Nurul Sulaiha binti Sulaiman	Modeling and Optimization of Palm Oil Refining Process by Response Surface and Artificial Neural Network	3-Jun-21
17	Internal Examiner	Lee Ming Kwee	Spatial Planning And Optimization Of Palm Oil Mill Effluent (Pome) To Biocng For Industrial Usage	13-Aug-20
18	Internal Examiner	Nicky Rahmana Putra	Extraction And Modelling Of Catechin-Rich Peanut (Arachis Hypogea) Skin Using Modified Supercritical Carbon Dioxide	14-Nov-19
19	Internal Examiner	Hoo Poh Ying	A Spatial-Economic Optimisation Of Waste To Biomethane In Malaysia	19-Feb-19
20	Internal Examiner	Lee Ming Yang	Optimum Total Site Carbon Dioxide Emission Mitigation For Eco-Industrial Complex	04-Feb-16
21	Internal Examiner	Liew Weng Hui	Integrated Safety, Health, Environmental And Economic Assessment For Sustainable Chemical Process Design: Biodiesel Case Study	01-Feb-16
22	Internal Examiner	Hamid Kazemi Esfeh	A Computational Fluid Dynamic Framework, Modelling And Simulation For Proton Exchange Membrane Fuel Cell	05-Jan-15
23	Internal Examiner	Ho Wai Shin	Integrated Biomass And Solar Town	17-Apr-14

Master By Research

NO	ROLE	NAME OF STUDENT	TITLE	DATE
1	Chairperson	Nadzirah Binti Azmi	Techo-Economic Assessment For Compressed Biogas From Palm Oil Mill Effluent For Rural Electrification	28-Jul-20
2	Chairperson	Zhang Hao	A Sustainable Waste Water Treatment System Combining A Fixed Biofilm Reactor And A Novel Moving Bed Biofilm Reactor.	09-Jun-20
3	Chairperson	Fazilah Farhana Binti Abd Aziz	Synthesis Of Titania Supported On Fibrous ZSM-5 Catalysts For Photodegradation Of Paracetamol	03-Apr-18
4	Chairperson	Afifah Syafiqah Binti Zolkifli	Synthesis And Characterization Of Fibrous HFZSM-5 For Alkylation Of Benzene	11-Feb-18
5	Internal Examiner	Aminullah bin Mohtar	Optimisation of Palm Oil Mill Effluent Biogas for Offsite Utilisation	23-Jun 2021
6	Internal Examiner	Norhafiza Binti Kamaruddin	Integration of Organic Ranking Cycle with Industrial Utility System	25-Jan-21
7	Internal Examiner	Yusra Zaini	Solar Thermal System Synthesis and Design for Palm Kernel Oil Fractionation Process	18-Oct-20
8	Internal Examiner	Nur Syuhada' binti Mohamad Ali	Troubleshooting of Degumming and Bleaching Process in Palm Oil Refining by Using Fuzzy Expert System	15-Aug-17
9	Internal Examiner	Muhammad Zakwan bin Zaine	Sustainability Analysis and Retrofitting of Energy Efficient Distillation Columns Sequence	14-Jul-16
10	Internal Examiner	Siti Maryam binti Abu Bakar	Environmental Sustainability Index For Palm Oil Mill Industry	21-Jun-16

11	Internal Examiner	Mohamad Zulkhairi Binti Nordin	Computer Aided Sustainable Integrated Process Design and Control for Distillation Systems	15-Jun-15
12	Internal Examiner	Siti Aminah Binti Zakaria	Computer Aided Sustainable Integrated Process Design and Control for Reactor Systems	27-Apr-15
13	Internal Examiner	Menaka A/P Narayanasamy	Computational Aided Approaches for Optimal Design of Tailor Made Biodiesel	15-Mar-15

EXTERNAL POSTGRADUATE EXAMINATION / VIVA

PHD

NO	ROLE	NAME OF STUDENT	TITLE	UNIVERSITY	DATE
1	External Examiner	Rohani Mohd Zain	Phase Equilibria Measurement and Modelling of Mecaptans in Aqueous Methyl-diethanolamine	Universiti Teknologi Petronas (UTP)	7 Sept 2021
2	External Examiner	Malcom Mussen Lamoh	Optimization of Biogas Production from Palm Oil Mill Effluent (POME) using Anaerobic Reactor Operating at Mesophilic Temperature	Universiti Malaysia Sarawak (UNIMAS)	17-Jun-20
3	External Examiner	Nathan Lal	Automated Retrofit of Heat Exchanger Networks	Waikato University, New Zealand	27-Apr-20
4	External Examiner	Shahrul Azman bin Zainal Abidin	Constrained Optimization towards CAPEX Free Production Maximising for Integrated Sub-surface and Surface Operation	Universiti Kebangsaan Malaysia (UKM)	09-Jan-20
5	External Examiner	Mustakimah Mohamed	Enhancement of CO ₂ Capture Capacity Through Calcination-Carbonation Using Anadara Granosa Shell Mixed with Alkali Metals	Universiti Teknologi Petronas (UTP)	31-Jan-19
6	External Examiner	Suhaila Binti Abdullah	Pembangunan Permodelan dan Pengoptimuman Sel Fuel Ethanol Langsung	Universiti Kebangsaan Malaysia (UKM)	15-Oct-18
7	External Examiner	Badiaa Saeed Omer Babaqi	Process Integration for Maximum Yield Reformate and Energy Saving in the Continuous Catalytic Regeneration Reforming Process	Universiti Kebangsaan Malaysia (UKM)	16-Feb-18
8	External Examiner	Azlyana Binti Ismail	Synthesis and Optimisation of Direct Methanol Fuel Cell Via Cell Network	Universiti Kebangsaan Malaysia (UKM)	10-May-16
9	External Examiner	Humbul Suleman	Enhanced Semi-empirical Thermodynamic Model for Carbon Dioxide Solubility in Aqueous Alkanolamines	Universiti Teknologi Petronas (UTP)	25-Apr-16
10	External Examiner	Nazeri Abdul Rahman	Framework for sustainable biomass evaluation in Sarawak	Universiti Malaysia Sarawak (UNIMAS)	11-Feb-16

MASTER BY RESEARCH

NO	ROLE	NAME OF STUDENT	TITLE	UNIVERSITY	DATE
1	External Examiner	Shazwani Binti M Shaha	Utility Configuration Optimisation by Modelling	Universiti Teknologi Petronas (UTP)	17-Jul-14
2	External Examiner	Joe Mammen John	Retrofit of heat exchanger networks of a chemical plant using pinch analysis	Cape-Peninsula University of Technology, South Africa	25-Mar-14
3	External Examiner	Ovulandra Wirnu Widyastho	Conceptual Design of Organic Rankine Cycles Integration in Oilfields: Free Energy Exploitation From Produced Water	Universiti Teknologi Petronas (UTP)	29-Jan-13

PUBLICATIONS (Last Updated 25 Aug 2021 – Verified in RADIS)

H INDEX : 33 (Scopus)

SCOPUS ID: <https://www.scopus.com/authid/detail.uri?authorId=13608087500>

PUBLON ID: <https://publons.com/researcher/3219781/sharifah-rafidah-wan-alwi/>

ORCID ID: <https://orcid.org/0000-0003-4059-1856>

SUMMARY

Web of Science Q1 Journal – 84 Articles

Web of Science Q2 Journal – 19 Articles

Web of Science Q3 Journal – 6 Articles

Web of Science Q4 Journal – 6 Articles

Scopus/WOS Articles (No Quartile) – 101 Articles

Non-Indexed Journal – 10 Articles

Thesis – 1

Original Book – 2 Books

Edited Book – 1 Book

Book Chapter – 21

Magazine – 4

Expert Report – 14

JOURNAL

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
1	Techno-Economic Analysis Of Carbon Dioxide Capture And Utilisation Analysis For An Industrial Site With Fuel Cell Integration	Journal Of Cleaner Production	0959-6526	281		2021	9.297	WOS	ARTICLE/REVIEW	Q1	First UTM Author
2	Cost-Based Quantitative-Qualitative Water Footprint Considering Multiple Contaminants	Resources Conservation And Recycling	0921-3449	168		2021	8.086	WOS	ARTICLE/REVIEW	Q1	First UTM Author
3	Shapley-Shubik Index Incorporated Debottlenecking Framework For Sustainable Food-Energy-Water Nexus Optimised Palm Oil-Based Complex	Journal Of Cleaner Production	0959-6526	309		2021	9.297	WOS	ARTICLE/REVIEW	Q1	Co-Author
4	Centralised Water Reuse Exchange In Eco-Industrial Park Considering Wastewater Segregation	Chemical Engineering Transactions	22839216	83		2021		Scopus	ARTICLE/REVIEW		Corresponding Author
5	A Pinch-Based Multi-Energy Targeting Framework For Combined Chilling Heating Power Microgrid Of Urban-Industrial Symbiosis	Renewable And Sustainable Energy Reviews	1364-0321	150		2021	14.982	WOS	ARTICLE/REVIEW	Q1	Co-Author
6	Malaysia Scenario Of Biomass Supply Chain-Cogeneration System And Optimization Modeling Development: A Review	Renewable And Sustainable Energy Reviews	1364-0321	148		2021	14.982	WOS	ARTICLE/REVIEW	Q1	Co-Author
7	An optimal resource recovery of biogas, water regeneration, and reuse network integrating domestic and industrial sources	Journal of Cleaner Production	9596526	286		2021	9.297	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
8	Industrial symbiosis tools—A review	Journal of Cleaner Production	9596526	280		2021	9.297	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
9	Performance Of Centralised Trigeneration Plant On Sensitivity Analysis Of Total Site System	IOP Conference Series: Materials Science And Engineering	1757-8981	991		2021		Scopus	ARTICLE/REVIEW		Corresponding Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
10	An Optimal Water Regeneration, Reuse And Resource Recovery Network Integrating Domestic And Industrial Sources	IOP Conference Series: Materials Science And Engineering	17578981	991		2021		Scopus	ARTICLE/REVIEW		Corresponding Author
11	Study on impacts of multiple centralised water reuse header from consumer and operator perspectives	Journal of Sustainable Development of Energy, Water and Environment Systems	18489257	8	4	2020		WOS	ARTICLE/REVIEW		Corresponding Author
12	Design of optimal heat exchanger network with fluctuation probability using break-even analysis	Energy	3605442	212		2020	6.082	Scopus	ARTICLE/REVIEW	Q1	Corresponding Author
13	A new graphical approach for simultaneous targeting and design of mass exchange networks	Computers and Chemical Engineering	981354	142		2020	4	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
14	Water footprints and virtual water flows embodied in the power supply chain	Water (Switzerland)	20734441	12	11	2020	2.544	WOS	ARTICLE/REVIEW	Q2	First UTM Author
15	Total Site Heat and Power Integration for Locally Integrated Energy Sectors	Energy	3605442	204		2020	6.082	WOS	ARTICLE/REVIEW	Q1	Co-Author
16	Development of Numerical Trigenation System Cascade Analysis with Transmission and Storage Energy Losses Consideration	IOP Conference Series: Materials Science and Engineering	17578981	884	1	2020		Scopus	Conference Paper		Corresponding Author
17	Graphical customisation of process and utility changes for heat exchanger network retrofit using individual stream temperature versus enthalpy plot	Energy	3605442	203		2020	6.082	WOS	ARTICLE/REVIEW	Q1	Co-Author
18	Multi-objective optimal design for integrated palm oil mill complex with consideration of effluent elimination	Energy	3605442	202		2020	6.082	WOS	ARTICLE/REVIEW	Q1	Co-Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
19	Regional Water Resources Assessment using Water Scarcity Pinch Analysis	Resources, Conservation and Recycling	9213449	157		2020	8.086	WOS	ARTICLE/REVIEW	Q1	First UTM Author
20	A numerical pinch analysis methodology for optimal sizing of a centralized trigeneration system with variable energy demands	Energies	19961073	13	8	2020	2.702	WOS	ARTICLE/REVIEW	Q3	Corresponding Author
21	A new algebraic tool for simultaneous targeting and design of a mass exchange network with stream splitting for sustainable environment	Journal of Cleaner Production	9596526	249		2020	7.1	WOS	ARTICLE/REVIEW	Q1	Co-Author
22	Cost-Based Quantitative-Qualitative Water Footprint Considering Multiple Contaminants	Resources, Conservation and Recycling	9213449			2020	8.086	WOS	ARTICLE/REVIEW	Q1	First UTM Author
23	Techno-economic analysis of carbon dioxide capture and utilisation analysis for an industrial site with fuel cell integration	Journal of Cleaner Production	9596526			2020	7.1	WOS	ARTICLE/REVIEW	Q1	First UTM Author
24	Combined cooling, heating and power integration for locally integrated energy sector	Chemical Engineering Transactions	22839216	81		2020		Scopus	ARTICLE/REVIEW		Co-Author
25	Total site water main concentration selection: A case study	Chemical Engineering Transactions	22839216	81		2020		Scopus	ARTICLE/REVIEW		First UTM Author
26	Targeting anchor process via cooperative game-based optimisation approach within integrated palm oil-based complex	Chemical Engineering Transactions	22839216	81		2020		Scopus	ARTICLE/REVIEW		Co-Author
27	Regional power plan assessment accounting for environmental footprints	Chemical Engineering Transactions	22839216	81		2020		Scopus	ARTICLE/REVIEW		First UTM Author
28	Integrated evaluation framework of the cogeneration energy system via application of fuzzy P-graph	Chemical Engineering Transactions	22839216	81		2020		Scopus	ARTICLE/REVIEW		Co-Author
29	An optimal water-waste nexus for an eco-industrial park	Chemical Engineering Transactions	22839216	81		2020		Scopus	ARTICLE/REVIEW		Corresponding Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
30	Design of integrated palm oil based complex via food-energy-water nexus optimization framework	Food-Energy-Water Nexus Resilience and Sustainable Development: Decision-Making Methods, Planning, and Trade-Off Analysis				2020		Scopus	ARTICLE/REVIEW		Co-Author
31	Design of grid-tied hybrid diesel-renewable energy systems using power pinch analysis	Chemical Engineering Transactions	22839216	78		2020		Scopus	ARTICLE/REVIEW		Co-Author
32	Optimal design of integrated palm oil complex with palm oil mill effluent elimination strategy	Chemical Engineering Transactions	22839216	78		2020		Scopus	ARTICLE/REVIEW		Co-Author
33	Synthesis of optimal biogas production system from multiple sources of wastewater and organic waste	IOP Conference Series: Materials Science and Engineering	17578981	702	1	2019		Scopus	Conference Paper		Corresponding Author
34	Towards water integration in Eco-Industrial Park: An overview of water recovery from industries	IOP Conference Series: Materials Science and Engineering	17578981	702	1	2019		Scopus	Conference Paper		Corresponding Author
35	Review on techniques for plant leaf classification and recognition	Computers	2073431X	8	4	2019		WOS	ARTICLE/REVIEW		Co-Author
36	Probability-Power Pinch Analysis targeting approach for diesel/biodiesel plant integration into hybrid power systems	Energy	3605442	187		2019	6.082	WOS	ARTICLE/REVIEW	Q1	Co-Author
37	Flexible Carbon Capture and Utilization technologies in future energy systems and the utilization pathways of captured CO ₂	Renewable and Sustainable Energy Reviews	13640321	114		2019	12.11	WOS	ARTICLE/REVIEW	Q1	First UTM Author
38	Recent developments on ethylene dimerization with focus on alphasbutol optimization	International Journal of Innovative Technology and Exploring Engineering	22783075	8	10	2019		Scopus	ARTICLE/REVIEW		Corresponding Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
39	A new framework for optimisation of Pressurised Water Reactor design as a trigeneration system	IOP Conference Series: Materials Science and Engineering	17578981	555	1	2019		Scopus	Conference Paper		Corresponding Author
40	Customised retrofit of heat exchanger network combining area distribution and targeted investment	Energy	3605442	179		2019	6.082	WOS	ARTICLE/REVIEW	Q1	Co-Author
41	A numerical tool for simultaneous targeting and design of mass exchange networks	International Journal of Innovative Technology and Exploring Engineering	22783075	8	9	2019		Scopus	ARTICLE/REVIEW		Co-Author
42	Water availability footprint addressing water quality	Journal of Sustainable Development of Energy, Water and Environment Systems	18489257	7	1	2019		WOS	ARTICLE/REVIEW		First UTM Author
43	Temperature disturbance management in a heat exchanger network for maximum energy recovery considering economic analysis	Energies	19961073	12	4	2019	2.702	WOS	ARTICLE/REVIEW	Q3	Corresponding Author
44	Analyzing the energy consumption, GHG emission, and cost of seawater desalination in China	Energies	19961073	12	3	2019	2.702	WOS	ARTICLE/REVIEW	Q3	First UTM Author
45	CO2 total site planning with centralised multiple headers	Chemical Engineering Transactions	22839216	76		2019		Scopus	ARTICLE/REVIEW		Corresponding Author
46	Cost Optimisation of a Flexible Heat Exchanger Network with Fluctuation Probability using Break-Even Analysis	Chemical Engineering Transactions	22839216	76		2019		Scopus	ARTICLE/REVIEW		Corresponding Author
47	Blue water footprint of the Czech Republic	Chemical Engineering Transactions	22839216	76		2019		Scopus	ARTICLE/REVIEW		First UTM Author

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48	Heat exchanger network retrofit considering physical distance, pressure drop and available equipment space	Chemical Engineering Transactions	22839216	76		2019		Scopus	ARTICLE/REVIEW		Co-Author
49	A process integration method for total site cooling, heating and power optimisation with trigeneration systems	Energies	19961073	12	6	2019	2.702	WOS	ARTICLE/REVIEW	Q3	Corresponding Author
50	Extended electric system cascade analysis (ESCA) for optimal power system targeting considering generation flexibility and heat rate factor	Energy Procedia	18766102	158		2019		WOS	Book Chapter		Co-Author
51	Heat exchanger network synthesis considering different minimum approach temperatures	Chemical Engineering Transactions	22839216	72		2019		Scopus	ARTICLE/REVIEW		Co-Author
52	Integration of diesel plant into hybrid power system using numerical probabilistic approach	Chemical Engineering Transactions	22839216	72		2019		Scopus	ARTICLE/REVIEW		First UTM Author
53	A PLS-MGA analysis of farming characteristics on the intentions of smallholder oil palm planters to collect palm residues for biofuel production	Biomass and Bioenergy	9619534	120		2019	3.551	WOS	ARTICLE/REVIEW	Q1	Co-Author
54	Hybrid power systems design considering safety and resilience	Process Safety and Environmental Protection	9575820	120		2018	4.966	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
55	Industrial site water minimisation via one-way centralised water reuse header	Journal of Cleaner Production	9596526	200		2018	7.1	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
57	Peak-off-peak load shifting for optimal storage sizing in hybrid power systems using Power Pinch Analysis considering energy losses	Energy	3605442	156		2018	6.082	WOS	ARTICLE/REVIEW	Q1	Co-Author
58	Multi-period energy targeting for Total Site and Locally Integrated Energy Sectors with cascade Pinch Analysis	Energy	3605442	155		2018	6.082	WOS	ARTICLE/REVIEW	Q1	Co-Author

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59	Simultaneous diagnosis and retrofit of heat exchanger network via individual process stream mapping	Energy	3605442	155		2018	6.082	WOS	ARTICLE/REVIEW	Q1	Co-Author
60	Combined Pinch and exergy numerical analysis for low temperature heat exchanger network	Energy	3605442	153		2018	6.082	WOS	ARTICLE/REVIEW	Q1	Co-Author
61	Maximizing Total Site Water Reuse via a Two-Way Centralized Water Header	ACS Sustainable Chemistry and Engineering	21680485	6	2	2018	7.632	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
62	Bio-adsorbent derived from papaya peel waste and magnetic nanoparticles fabricated for lead determination	Pure and Applied Chemistry	334545	90	1	2018	1.919	WOS	ARTICLE/REVIEW	Q3	Corresponding Author
63	A new graphical approach for heat exchanger network retrofit considering capital and utility costs	23 rd International Congress of Chemical and Process Engineering, CHISA 2018 and 21 st Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction, PRES 2018		2		2018		Scopus	Conference Paper		Co-Author
64	Pinch analysis methodology for tri-generation with energy storage system design	23 rd International Congress of Chemical and Process Engineering, CHISA 2018 and 21 st Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction, PRES 2018		2		2018		Scopus	Conference Paper		Corresponding Author
65	Pinch analysis methodology for trigeneration with energy storage system design	Chemical Engineering Transactions	22839216	70		2018		Scopus	ARTICLE/REVIEW		Corresponding Author
66	Energy-emission-waste nexus of food deliveries in China	Chemical Engineering Transactions	22839216	70		2018		Scopus	ARTICLE/REVIEW		First UTM Author

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67	A new graphical approach for heat exchanger network retrofit considering capital and utility costs	Chemical Engineering Transactions	22839216	70		2018		Scopus	ARTICLE/REVIEW		Co-Author
68	Compressor shaft work targeting using new numerical exergy problem table algorithm (Ex-PTA) in sub-ambient processes	Chemical Engineering Transactions	22839216	63		2018		Scopus	ARTICLE/REVIEW		Co-Author
69	An enhanced tool for heat exchanger network retrofit towards cleaner processes	Chemical Engineering Transactions	22839216	63		2018		Scopus	ARTICLE/REVIEW		Co-Author
70	Design of solvents for palm oil recovery using computer-aided approach	Chemical Engineering Transactions	22839216	63		2018		Scopus	ARTICLE/REVIEW		Co-Author
71	Production decision support system for multi-product with multiple different size processors	Chemical Engineering Transactions	22839216	63		2018		Scopus	ARTICLE/REVIEW		Corresponding Author
72	A new quantitative overall environmental performance indicator for a wastewater treatment plant	Journal of Cleaner Production	9596526	167		2017	7.1	WOS	ARTICLE/REVIEW	Q1	Co-Author
73	Advances in Process Integration research for CO2 emission reduction – A review	Journal of Cleaner Production	9596526	167		2017	7.1	WOS	ARTICLE/REVIEW	Q1	Co-Author
74	A mathematical model for energy targeting of a batch process with flexible schedule	Journal of Cleaner Production	9596526	167		2017	7.1	WOS	ARTICLE/REVIEW	Q1	Co-Author
75	A new framework for cost-effective design of Hybrid Power Systems	Journal of Cleaner Production	9596526	166		2017	7.1	WOS	ARTICLE/REVIEW	Q1	First UTM Author
76	Supply Planning and Demand Management of Hybrid Power Systems Using Process Integration	Encyclopedia of Sustainable Technologies				2017		Book Chapter	Book Chapter		Corresponding Author
77	Sustainable Green Management System (SGMS) – An integrated approach towards organisational sustainability	Journal of Cleaner Production	9596526	146		2017	7.1	WOS	ARTICLE/REVIEW	Q1	Co-Author
78	An integrated Pinch Analysis framework for low CO2 emissions industrial site planning	Journal of Cleaner Production	9596526	146		2017	7.1	WOS	ARTICLE/REVIEW	Q1	Corresponding Author

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79	A holistic approach for design of Cost-Optimal Water Networks	Journal of Cleaner Production	9596526	146		2017	7.1	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
80	Prediction of industrial catalysts deactivation rate using first principle model and operating data	Malaysian Journal of Analytical Sciences	13942506	21	1	2017		Scopus	ARTICLE/REVIEW		Corresponding Author
81	Total Site Heat Integration planning and design for industrial, urban and renewable systems	Renewable and Sustainable Energy Reviews	13640321	68		2017	12.11	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
82	Heat exchanger network retrofit using individual stream temperature vs enthalpy plot	Chemical Engineering Transactions	22839216	61		2017		Scopus	ARTICLE/REVIEW		Co-Author
83	Total site centralised water integration for efficient industrial site water minimisation	Chemical Engineering Transactions	22839216	61		2017		Scopus	ARTICLE/REVIEW		Corresponding Author
84	Study of the effects of peak/off-peak load shifting on hybrid power system storage using Power Pinch Analysis	Chemical Engineering Transactions	22839216	61		2017		Scopus	ARTICLE/REVIEW		Co-Author
85	Optimal Design and Sizing of Integrated Centralized and Decentralized Energy Systems	Energy Procedia	18766102	105		2017		WOS	Book Chapter		Co-Author
86	A new graphical method for heat exchanger network design involving phase changes	Chemical Engineering Transactions	22839216	56		2017		Scopus	ARTICLE/REVIEW		Corresponding Author
87	A simple case study on application in synthesising a feasible heat exchanger network	Chemical Engineering Transactions	22839216	56		2017		Scopus	ARTICLE/REVIEW		Co-Author
88	Recovery of vegetable oil from spent bleaching earth: State-of-The-Art and prospect for process intensification	Chemical Engineering Transactions	22839216	56		2017		Scopus	ARTICLE/REVIEW		Co-Author
89	An industrial case study application in synthesising a feasible heat exchanger network	Chemical Engineering Transactions	22839216	56		2017		Scopus	ARTICLE/REVIEW		Co-Author
90	Quantitative structure-Activity relationship model for antioxidant	Chemical Engineering Transactions	22839216	56		2017		Scopus	ARTICLE/REVIEW		Corresponding Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
	activity of flavonoid compounds in traditional Chinese herbs										
91	A mathematical model for techno-economic evaluation of industrial wastewater sludge to resources	Chemical Engineering Transactions	22839216	56		2017		Scopus	ARTICLE/REVIEW		Corresponding Author
92	Production decision support system: Real-life emulsion plant case study	Chemical Engineering Transactions	22839216	56		2017		Scopus	ARTICLE/REVIEW		Corresponding Author
93	Sustainability assessment of a municipal sewage treatment plant using a single green performance indicator	Chemical Engineering Transactions	22839216	56		2017		Scopus	ARTICLE/REVIEW		Co-Author
94	PoPA – Sharps: A new framework for cost-effective design of hybrid power systems	Chemical Engineering Transactions	22839216	56		2017		Scopus	ARTICLE/REVIEW		First UTM Author
95	Effect of activating agents on the adsorption of ammoniacal nitrogen using activated carbon papaya peel	Chemical Engineering Transactions	22839216	56		2017		Scopus	ARTICLE/REVIEW		Corresponding Author
96	Sensitivity analysis of industrial heat exchanger network design	Chemical Engineering Transactions	22839216	56		2017		Scopus	ARTICLE/REVIEW		Co-Author
97	A generic hybrid model development for process analysis of industrial fixed-bed catalytic reactors	Chemical Engineering Research and Design	2638762	117		2017	3.35	WOS	ARTICLE/REVIEW	Q2	Co-Author
98	Process modification of Total Site Heat Integration profile for capital cost reduction	Applied Thermal Engineering	13594311	89		2017	4.725	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
99	Sizing of Hybrid Power System with varying current type using numerical probabilistic approach	Applied Energy	3062619	184		2016	8.848	WOS	ARTICLE/REVIEW	Q1	Co-Author
100	Integrating district cooling systems in Locally Integrated Energy Sectors through Total Site Heat Integration	Applied Energy	3062619	184		2016	8.848	WOS	ARTICLE/REVIEW	Q1	Co-Author
101	Power Pinch Analysis supply side management: strategy on purchasing and selling of electricity	Clean Technologies and Environmental Policy	1618954X	18	8	2016	2.429	WOS	ARTICLE/REVIEW	Q2	Co-Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
102	Process Integration for Hybrid Power System supply planning and demand management – A review	Renewable and Sustainable Energy Reviews	13640321	66		2016	12.11	WOS	ARTICLE/REVIEW	Q1	Co-Author
103	Optimal heat exchanger network synthesis with operability and safety considerations	Clean Technologies and Environmental Policy	1618954X	18	8	2016	2.429	WOS	ARTICLE/REVIEW	Q2	Corresponding Author
104	Cleaner energy planning, management and technologies: Perspectives of supply-demand side and end-of-pipe management	Journal of Cleaner Production	9596526	136		2016	7.1	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
105	A new green index as an overall quantitative green performance indicator of a facility	Clean Technologies and Environmental Policy	1618954X	18	7	2016	2.429	WOS	ARTICLE/REVIEW	Q2	Co-Author
106	Herbal processing and extraction technologies	Separation and Purification Reviews	15422119	45	4	2016	5.324	WOS	ARTICLE/REVIEW	Q1	Co-Author
107	Pinch Analysis targeting for CO2 Total Site planning	Clean Technologies and Environmental Policy	1618954X	18	7	2016	2.429	WOS	ARTICLE/REVIEW	Q2	Corresponding Author
108	A systematic technique for cost-effective CO2 emission reduction in process plants	Clean Technologies and Environmental Policy	1618954X	18	6	2016	2.429	WOS	ARTICLE/REVIEW	Q2	Corresponding Author
109	Integration of diesel plant into a hybrid power system using power pinch analysis	Applied Thermal Engineering	13594311	105		2016	4.725	WOS	ARTICLE/REVIEW	Q1	First UTM Author
110	Using Theory of Planned Behaviour to explore oil palm smallholder planters' intention to supply oil palm residues	Journal of Cleaner Production	9596526	126		2016	7.1	WOS	ARTICLE/REVIEW	Q1	Co-Author

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111	Effect of multiple water resources in a flexible-schedule batch water network	Journal of Cleaner Production	9596526	125		2016	7.1	WOS	ARTICLE/REVIEW	Q1	Co-Author
112	Treatment of lead-contaminated water using activated carbon adsorbent from locally available papaya peel biowaste	Journal of Cleaner Production	9596526	118		2016	7.1	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
113	Maximising heat recovery in batch processes via product streams storage and shifting	Journal of Cleaner Production	9596526	112		2016	7.1	WOS	ARTICLE/REVIEW	Q1	Co-Author
114	Selection of minimum temperature difference (Dtmin) for heat exchanger network synthesis based on trade-off plot	Applied Energy	3062619	162		2016	8.848	WOS	ARTICLE/REVIEW	Q1	Co-Author
115	PoPA – SHARPS: A new framework for cost-effective design of hybrid power systems	22 nd International Congress of Chemical and Process Engineering, CHISA 2016 and 19 th Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction, PRES 2016		2		2016		Scopus	Conference Paper		First UTM Author
116	Regional and total site CO2 integration considering purification and pressure drop	Chemical Engineering Transactions	22839216	52		2016		WOS	ARTICLE/REVIEW		Corresponding Author
117	Sensitivity analysis of hybrid power systems using Power Pinch Analysis considering Feed-in Tariff	Energy	3605442	116		2016	6.082	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
118	An MILP model for cost-optimal planning of an on-grid hybrid power system for an eco-industrial park	Energy	3605442	116		2016	6.082	WOS	ARTICLE/REVIEW	Q1	Co-Author
119	Simultaneous energy targeting, placement of utilities with flue gas, and design of heat recovery networks	Applied Energy	3062619	161		2016	8.848	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
120	A process integration approach for design of hybrid power systems with energy storage	Clean Technologies and	1618954X	17	7	2015	2.429	WOS	ARTICLE/REVIEW	Q2	Corresponding Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
		Environmental Policy									
121	Incorporating district cooling system in total site heat integration	Chemical Engineering Transactions	22839216	45		2015		WOS	ARTICLE/REVIEW		Corresponding Author
122	A model for the design of optimal total water network (OTWN)	Chemical Engineering Transactions	22839216	45		2015		WOS	ARTICLE/REVIEW		Corresponding Author
123	Expansion of a diesel plant into a hybrid power system using power pinch analysis	Chemical Engineering Transactions	22839216	45		2015		WOS	ARTICLE/REVIEW		First UTM Author
124	Use of pristine papaya peel to remove Pb(II) from aqueous solution	Chemical Engineering Transactions	22839216	45		2015		WOS	ARTICLE/REVIEW		Corresponding Author
125	A new green index as an overall quantitative green performance indicator of a facility	Chemical Engineering Transactions	22839216	45		2015		WOS	ARTICLE/REVIEW		Co-Author
126	A linear mathematical model to determine the minimum utility targets for a batch process	Chemical Engineering Transactions	22839216	45		2015		WOS	ARTICLE/REVIEW		Co-Author
127	A new algebraic pinch analysis tool for optimising CO ₂ capture, utilisation and storage	Chemical Engineering Transactions	22839216	45		2015		WOS	ARTICLE/REVIEW		Corresponding Author
128	Initial analysis on heat exchanger networks of fatty acid fractionation plant to optimize energy recovery and controllability	Chemical Engineering Transactions	22839216	45		2015		WOS	ARTICLE/REVIEW		Co-Author
129	CO ₂ capture with potassium carbonate solutions: A state-of-the-art review	International Journal of Greenhouse Gas Control	17505836	41		2015	3.639	WOS	ARTICLE/REVIEW	Q2	Co-Author
130	Peak-off-peak load shifting for hybrid power systems based on Power Pinch Analysis	Energy	3605442	90		2015	6.082	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
131	Inculcating sustainability among first-year engineering students using cooperative problem-based learning	Sustainability in Higher Education				2015		Scopus	ARTICLE/REVIEW		Co-Author
132	Prediction of Pd/C Catalyst Deactivation Rate and Assessment	Industrial and Engineering	8885885	54	28	2015	3.573	WOS	ARTICLE/REVIEW	Q2	Corresponding Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
	of Optimal Operating Conditions of Industrial Hydropurification Process	Chemistry Research									
133	Process modifications to maximise energy savings in total site heat integration	Applied Thermal Engineering	13594311	78		2015	4.725	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
134	Supply and demand planning and management tools toward low carbon emissions	Assessing and Measuring Environmental Impact and Sustainability				2015		Book Chapter	Book Chapter		Co-Author
135	Social acceptance for sustainable green diesel generation 2.0	Proceedings of the 26 th International Business Information Management Association Conference – Innovation Management and Sustainable Economic Competitive Advantage: From Regional Development to Global Growth, IBIMA 2015				2015		Scopus	Conference Paper		Co-Author
136	Effect of Delta Temperature Minimum Contribution in Obtaining an Operable and Flexible Heat Exchanger Network	Energy Procedia	18766102	75		2015		WOS	Book Chapter		Co-Author
137	Computer-Aided Approach for Designing Solvents Blend for Herbal Phytochemical Extraction	Computer Aided Chemical Engineering	15707946	37		2015		WOS	Book Chapter		Co-Author
138	Catalytic activity evaluation of industrial Pd/C catalyst via gray-box dynamic 62aroteni and simulation of hydropurification reactor	Applied Catalysis A: General	0926860X	489		2015	5.006	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
139	Total site heat integration considering pressure drops	Energies	19961073	8	2	2015	2.702	WOS	ARTICLE/REVIEW	Q3	Corresponding Author
140	A framework for solvent selection based on herbal extraction process design	Journal of Engineering Science and Technology	18234690	10		2015		Scopus	ARTICLE/REVIEW		Co-Author
141	Review of hepatoprotective agents in herbs	Journal of Engineering Science and Technology	18234690	10		2015		Scopus	ARTICLE/REVIEW		Corresponding Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
142	A retrofit framework for Total Site heat recovery systems	Applied Energy	3062619	135		2014	8.848	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
144	Generic carbon cascade analysis technique for carbon emission management	Applied Thermal Engineering	13594311	70	2	2014	4.725	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
145	Algorithmic targeting for Total Site Heat Integration with variable energy supply/demand	Applied Thermal Engineering	13594311	70	2	2014	4.725	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
146	Minimum water network design for fixed schedule and cyclic operation batch processes with minimum storage capacity and inter-connections	Journal of Cleaner Production	9596526	77		2014	7.1	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
147	Total Site Heat Integration incorporating the water sensible heat	Journal of Cleaner Production	9596526	77		2014	7.1	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
148	Sustainability engineering for the future	Journal of Cleaner Production	9596526	71		2014	7.1	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
149	Synthesis of a sustainable integrated rice mill complex	Journal of Cleaner Production	9596526	71		2014	7.1	WOS	ARTICLE/REVIEW	Q1	Co-Author
150	Issues of social acceptance on biofuel development	Journal of Cleaner Production	9596526	71		2014	7.1	WOS	ARTICLE/REVIEW	Q1	Co-Author
151	Optimal sizing of hybrid power systems using power pinch analysis	Journal of Cleaner Production	9596526	71		2014	7.1	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
152	Utility-HEN Grid Diagram: A tool for designing the total site heat exchanger network	21 st International Congress of Chemical and Process Engineering, CHISA 2014 and 17 th Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction, PRES 2014		4		2014		Scopus	Conference Paper		Corresponding Author
153	Design target selection for heat exchanger network synthesis based on trade-off plot	Energy Procedia	18766102	61		2014		WOS	Book Chapter		Co-Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
154	Cost-effective load shifting for hybrid power systems using power pinch analysis	Energy Procedia	18766102	61		2014		WOS	Book Chapter		Corresponding Author
155	Heat exchanger network design considering inherent safety	Energy Procedia	18766102	61		2014		WOS	Book Chapter		Corresponding Author
156	Kinetic and equilibrium study of Ni(II) sorption from aqueous solutions onto Peganum harmala-L	International Journal of Environmental Science and Technology	17351472	11	7	2014	2.54	WOS	ARTICLE/REVIEW	Q2	Co-Author
157	Recent developments in advanced process integration: Learning the lessons from industrial implementations	Applied Mechanics and Materials	16609336	625		2014		Scopus	ARTICLE/REVIEW		Co-Author
158	Targeting the maximum heat recovery for systems with heat losses and heat gains	Energy Conversion and Management	1968904	87		2014	8.208	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
159	Utility-heat exchanger grid diagram: A tool for designing the total site heat exchanger network	Chemical Engineering Transactions	22839216	39		2014		WOS	ARTICLE/REVIEW		Corresponding Author
160	A graphical approach for the planning and design of a low carbon product	Chemical Engineering Transactions	22839216	39		2014		WOS	ARTICLE/REVIEW		Corresponding Author
161	A graphical method for simultaneous targeting and design of multiple utility systems	Chemical Engineering Transactions	22839216	39		2014		WOS	ARTICLE/REVIEW		Corresponding Author
162	Process modification for capital cost reduction in total site heat integration	Chemical Engineering Transactions	22839216	39		2014		WOS	ARTICLE/REVIEW		Corresponding Author
163	Experimental study of Al ₂ O ₃ water nanofluid turbulent heat transfer enhancement in the horizontal double pipes fitted with modified twisted tapes	International Journal of Heat and Mass Transfer	179310	78		2014	4.947	WOS	ARTICLE/REVIEW	Q1	First UTM Author
164	Total Site Heat Integration Targeting Algorithm Incorporating Plant Layout Issues	Computer Aided Chemical Engineering	15707946	33		2014		WOS	Book Chapter		Corresponding Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
165	Electricity Load Reduction in Hybrid Power Systems Using Power Pinch Analysis	Computer Aided Chemical Engineering	15707946	33		2014		WOS	Book Chapter		Corresponding Author
166	Solubility parameter prediction for kacip 65aroten herb using group contribution-based models	Computer Aided Chemical Engineering	15707946	33		2014		WOS	Book Chapter		Co-Author
167	SePTA-A new numerical tool for simultaneous targeting and design of heat exchanger networks	Computers and Chemical Engineering	981354	57		2013	4	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
168	Centralised utility system planning for a total site heat integration network	Computers and Chemical Engineering	981354	57		2013	4	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
169	Water Pinch Analysis for Water Management and Minimisation: An Introduction	Handbook of Process Integration (PI): Minimisation of Energy and Water Use, Waste and Emissions				2013		WOS	Book Chapter		Corresponding Author
170	Process integration of hybrid power systems with energy losses considerations	Energy	3605442	55		2013	6.082	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
171	Process Integration techniques for optimal design of hybrid power systems	Applied Thermal Engineering	13594311	61	1	2013	4.725	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
172	A multi-period model for optimal planning of an integrated, resource-efficient rice mill	Computers and Chemical Engineering	981354	52		2013	4	WOS	ARTICLE/REVIEW	Q1	Co-Author
173	Industrial implementation issues of total site heat integration	Applied Thermal Engineering	13594311	61	1	2013	4.725	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
174	Optimal multi-site resource allocation and utility planning for integrated rice mill complex	Industrial and Engineering Chemistry Research	8885885	52	10	2013	3.573	WOS	ARTICLE/REVIEW	Q2	Co-Author
175	Heat exchanger network cost optimization considering multiple utilities and different types of heat exchangers	Computers and Chemical Engineering	981354	49		2013	4	WOS	ARTICLE/REVIEW	Q1	Corresponding Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
176	Optimisation of pumped-hydro storage system for hybrid power system using power pinch analysis	Chemical Engineering Transactions	22839216	35		2013		WOS	ARTICLE/REVIEW		Corresponding Author
177	Total site heat integration with seasonal energy availability	Chemical Engineering Transactions	22839216	35		2013		WOS	ARTICLE/REVIEW		Corresponding Author
178	Process modification potentials for total site heat integration	Chemical Engineering Transactions	22839216	35		2013		WOS	ARTICLE/REVIEW		Corresponding Author
179	New graphical tools for process changes via load shifting for hybrid power systems based on Power Pinch Analysis	Clean Technologies and Environmental Policy	1618954X	15	3	2013	2.429	WOS	ARTICLE/REVIEW	Q2	Corresponding Author
180	Flexible and operable heat exchanger networks	Chemical Engineering Transactions	22839216	32		2013		WOS	ARTICLE/REVIEW		Co-Author
181	Electricity demand estimation using an adaptive neuro-fuzzy network: A case study from the Ontario province – Canada	Energy	3605442	49	1	2013	6.082	WOS	ARTICLE/REVIEW	Q1	Co-Author
182	Holistic carbon planning for industrial parks: A waste-to-resources process integration approach	Journal of Cleaner Production	9596526	33		2012	7.1	WOS	ARTICLE/REVIEW	Q1	Co-Author
183	A systematic method for cost-effective carbon emission reduction in buildings	Journal of Applied Sciences	18125654	12	11	2012		Scopus	ARTICLE/REVIEW		Corresponding Author
184	A numerical technique for Total Site sensitivity analysis	Applied Thermal Engineering	13594311	40		2012	4.725	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
185	Design of green diesel from biofuels using computer aided technique	Computers and Chemical Engineering	981354	41		2012	4	WOS	ARTICLE/REVIEW	Q1	Co-Author
186	Optimization of thermo-alkaline disintegration of sewage sludge for enhanced biogas yield	Bioresource Technology	9608524	114		2012	7.539	WOS	ARTICLE/REVIEW	Q1	Co-Author
187	A review on utilisation of biomass from rice industry as a source of renewable energy	Renewable and Sustainable	13640321	16	5	2012	12.11	WOS	ARTICLE/REVIEW	Q1	Co-Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
		Energy Reviews									
188	A combined numerical and visualization tool for utility targeting and heat exchanger network retrofiting	Journal of Cleaner Production	9596526	23	1	2012	7.1	WOS	ARTICLE/REVIEW	Q1	Co-Author
189	Optimal design of a rice mill utility system with rice husk logistic network	Industrial and Engineering Chemistry Research	8885885	51	1	2012	3.573	WOS	ARTICLE/REVIEW	Q2	Co-Author
190	Holistic and versatile process integration framework for maximising resource efficiency	Chemical Engineering Transactions	22839216	29		2012		WOS	ARTICLE/REVIEW		Co-Author
191	Design of hybrid power systems with energy losses	Chemical Engineering Transactions	22839216	29		2012		WOS	ARTICLE/REVIEW		Corresponding Author
192	A New Tool For Simultaneous Targeting And Design Of Heat Exchanger Networks	Computer Aided Chemical Engineering	15707946	31		2012		WOS	Book Chapter		Corresponding Author
193	A Numerical Analysis for Total Site Sensitivity	Computer Aided Chemical Engineering	15707946	31		2012		WOS	Book Chapter		Corresponding Author
194	A New Method To Determine The Optimum Heat Exchanger Network Approach Temperature	Computer Aided Chemical Engineering	15707946	31		2012		WOS	Book Chapter		Corresponding Author
195	A Numerical Tool for Integrating Renewable Energy into Total Sites with Variable Supply and Demand	Computer Aided Chemical Engineering	15707946	30		2012		WOS	Book Chapter		Corresponding Author
196	A process integration targeting method for hybrid power systems	Energy	3605442	44	1	2012	6.082	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
197	Combustion studies of Refused-Derived Fuel (RDF) in Fluidized Bed (FB) system a method	2011 IEEE 1 st Conference on Clean Energy and Technology, CET 2011				2011		Scopus	Conference Paper		Co-Author
198	A new graphical approach for simultaneous targeting and design of a paper recycling network	Asia-Pacific Journal of	19322135	6	5	2011	1.06	WOS	ARTICLE/REVIEW	Q4	Corresponding Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
		Chemical Engineering									
199	Recent advances in resource conservation and planning-a review	Asia-Pacific Journal of Chemical Engineering	19322135	6	5	2011	1.06	WOS	ARTICLE/REVIEW	Q4	Co-Author
200	Optimal design of water networks involving multiple contaminants for global water operations	Asia-Pacific Journal of Chemical Engineering	19322135	6	5	2011	1.06	WOS	ARTICLE/REVIEW	Q4	Corresponding Author
201	A mixed integer linear programming (MILP) model for optimal design of water network	2011 4 th International Conference on Modeling, Simulation and Applied Optimization, ICMSAO 2011				2011		Scopus	Conference Paper		Co-Author
202	Simultaneous targeting and design for non-mass transfer based water and energy reduction	2011 4 th International Conference on Modeling, Simulation and Applied Optimization, ICMSAO 2011				2011		Scopus	Conference Paper		First UTM Author
203	A cost effective minimum water network model for intra and interplant system	2011 4 th International Conference on Modeling, Simulation and Applied Optimization, ICMSAO 2011				2011		Scopus	Conference Paper		Corresponding Author
204	A new graphical approach for simultaneous mass and energy minimisation	Applied Thermal Engineering	13594311	31	6-7	2011	4.725	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
205	STEP-A new graphical tool for simultaneous targeting and design of a heat exchanger network	Chemical Engineering Journal	13858947	162	1	2010	10.652	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
206	Holistic approach for design of minimum water networks using the mixed integer linear programming (milp) technique	Industrial and Engineering Chemistry Research	8885885	49	12	2010	3.573	WOS	ARTICLE/REVIEW	Q2	Corresponding Author
207	A new systematic method for optimal heat recovery networks design with minimum area and exergy loss	Journal of Applied Sciences	18125654	10	21	2010		Scopus	ARTICLE/REVIEW		Corresponding Author
208	Energy Efficiency Award system in Malaysia for energy sustainability	Renewable and Sustainable	13640321	14	8	2010	12.11	WOS	ARTICLE/REVIEW	Q1	Co-Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
		Energy Reviews									
209	A review of extraction technology for carotenoids and vitamin e recovery from palm oil	Journal of Applied Sciences	18125654	10	12	2010		Scopus	ARTICLE/REVIEW		Co-Author
210	A new technique for simultaneous water and energy minimisation in process plant	Chemical Engineering Research and Design	2638762	87	11	2009	3.35	WOS	ARTICLE/REVIEW	Q2	Co-Author
211	A generic graphical approach for simultaneous targeting and design of a gas network	Resources, Conservation and Recycling	9213449	53	10	2009	8.086	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
212	A holistic framework for design of cost-effective minimum water utilization network	Journal of Environmental Management	3014797	88	2	2008	4.175	WOS	ARTICLE/REVIEW	Q1	Corresponding Author
213	Generic graphical technique for simultaneous targeting and design of water networks	Industrial and Engineering Chemistry Research	8885885	47	8	2008	3.573	WOS	ARTICLE/REVIEW	Q2	Co-Author
214	Water pinch analysis evolution towards a holistic approach for water minimization	Asia-Pacific Journal of Chemical Engineering	19322135	2	6	2007	1.06	WOS	ARTICLE/REVIEW	Q4	Co-Author
215	Targeting multiple water utilities using composite curves	Industrial and Engineering Chemistry Research	8885885	46	18	2007	3.573	WOS	ARTICLE/REVIEW	Q2	Corresponding Author
216	Assess your plant's true water-savings potential	Chemical Engineering	92460	113	12	2006	0.209	WOS	Magazine	Q4	Co-Author
217	Retrofit water systems the SHARPS way	Chemical Engineering Progress	3607275	102	11	2006	0.342	WOS	Magazine	Q4	Corresponding Author
218	SHARPS: A new cost-screening technique to attain cost-effective minimum water network	AIChE Journal	11541	52	11	2006	3.519	WOS	ARTICLE/REVIEW	Q2	Co-Author
219	Water pinch analysis for an urban system: a case study on the Sultan Ismail Mosque at the Universiti Teknologi Malaysia (UTM)	Desalination	119164	194	1-3	2006	7.098	WOS	ARTICLE/REVIEW	Q1	Co-Author

No	ARTICLE TITLE	JOURNAL TITLE	ISSN	Vol.	Issues	Publication Year	IF	Type of Publication	Category of publication	Quartile Ranking	Category Author
220	Production Decision Support System for Batch Processes	Journal of Advanced Research in Applied Sciences and Engineering Technology, Penerbit Akademia Baru	2462-1943	5	1	2016		Non-Indexed Journal	ARTICLE/REVIEW		Corresponding Author
221	Holistic Water Minimisation	PERINTIS e-Journal	2232-0725	5	2	2015		Non-Indexed Journal	ARTICLE/REVIEW		Co-Author
222	Biogas Production through Co-Digestion of Palm Oil Mill Effluent with Cow Manure	Nig. J. Basic Applied Science	0794-5698	21	1	2013		Non-Indexed Journal	ARTICLE/REVIEW		Co-Author
223	Potential for Methane Production from Anaerobic Co-Digestion of Palm Oil Mill Effluent with Cow Manure	The Journal of Bioprocess Technology. Photon	6383-4392	98		2013		Non-Indexed Journal	ARTICLE/REVIEW		Co-Author
224	An Optimal Water Recovery Network Model for a Mosque	PERINTIS e-Journal	2232-0725	1		2012		Non-Indexed Journal	ARTICLE/REVIEW		Corresponding Author
225	Evaluation of Photovoltaic System Installation for a Mosque in Universiti Teknologi Malaysia.	PERINTIS e-Journal	2232-0725	1		2011		Non-Indexed Journal	ARTICLE/REVIEW		Corresponding Author
226	Maximum Water Recovery for a Series of Water Treatment Units in a Semiconductor Plant	PERINTIS e-Journal	2232-0725	1		2011		Non-Indexed Journal	ARTICLE/REVIEW		Corresponding Author
227	Optimal Design of Global Water-using Systems involving Single Contaminant	Jurnal Teknologi. Series F	2180-3722	51		2009		Non-Indexed Journal	ARTICLE/REVIEW		Corresponding Author
228	Cost-Effective Retrofit of a Palm Oil Refinery using Pinch Analysis	Jurnal Teknologi. Series E	2180-3722	51		2009		Non-Indexed Journal	ARTICLE/REVIEW		Corresponding Author
229	Systematic Design of a Maximum Water Recovery Network for an Urban System Based on Pinch Analysis	IEM Journal	0126-513X	1	67	2006		Non-Indexed Journal	ARTICLE/REVIEW		Co-Author

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- 6) Jamaluddin K., Wan Alwi S.R., Hamzah K., Abdul Manan Z., Klemes J.J., 2019. A new framework for 71arotenoids71 of Pressurised Water Reactor design as a trigeneration system. In IOP Conference Series: Materials Science and Engineering (Vol. 702, No. 1, p. 012005). IOP Publishing.
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- 8) Wan Alwi, S. R., Manan, Z. A., Water Minimisation via Integrated Planning and Management of Water Supply and Demand. 13th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES 2018), 30 September – 4 October 2018, Palermo.
- 9) Jia, X., Klemes, J. J., Sabev Varbanov, P., Wan Alwi, S. R., Overview of the Water Desalination in China: Development, Energy Demand and Emissions. 13th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES 2018), 30 September – 4 October 2018, Palermo.
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- 11) Hafizan, A. M., Wan Alwi, S. R., Abdul Manan, Z., Klemes, J. J., Temperature Disturbance Management in Heat Exchanger Network for Maximum Energy Recovery. 13th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES 2018) 30 September – 4 October 2018, Palermo.
- 12) Jamaluddin K., Wan Alwi S.R., Manan Z.A., Hamzah K., Klemes J.J., Lai Y.Q. (2018). Pinch analysis methodology for tri-generation with energy storage system design. 23rd International Congress of Chemical and Process Engineering, CHISA 2018 and 21st Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction, PRES 2018.

- 13) Choong C.H., Wai C.W., Mohammed M.A.H., Alwi S.R.W. (2015). Social acceptance for sustainable green diesel generation 2.0. Proceedings of the 26th International Business Information Management Association Conference – Innovation Management and Sustainable Economic Competitive Advantage: From Regional Development to Global Growth, IBIMA 2015.
- 14) Liu W. H., Ho W. S., Wan Alwi S. R., Hashim H., Rozali N. E. M. (2015). Stand-alone hybrid power pinch analysis (SAHPPA): targeting for system with varying current type. 2015.0143. 10th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES). 27 Sept to 2 Oct 2015. Dubrovnik, Croatia. Faculty of Mechanical Engineering and Naval Architecture, Zagreb, ISSN 1847-7178 (digital proceedings).
- 15) Peng Yen Liew, Sharifah Rafidah Wan Alwi, Zainuddin Abdul Manan, Jiří Jaromír Klemeš, Petar Sabev Varbanov. Total Site Heat Integration using Absorption Chillers for District Cooling. 2015.0207. 10th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES). 27 Sept to 2 Oct 2015. Dubrovnik, Croatia. Faculty of Mechanical Engineering and Naval Architecture, Zagreb, ISSN 1847-7178 (digital proceedings).
- 16) S. Sehnaz, S.R. Wan Alwi, J.S. Lim, Z.A Manan. (2015). A Model for Design of Cost Effective Water and Wastewater Treatment Network (CEWWTN). 2015.0257. 10th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES). 27 Sept to 2 Oct 2015. Dubrovnik, Croatia. Faculty of Mechanical Engineering and Naval Architecture, Zagreb, ISSN 1847-7178 (digital proceedings).
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- 18) Liew P.Y., Alwi S.R.W., Varbanov P.S., Manan Z.A., Klemes J.J. (2014). Utility-HEN Grid Diagram: A tool for designing the total site heat exchanger network. 21st International Congress of Chemical and Process Engineering, CHISA 2014 and 17th Conference on Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction, PRES 2014.
- 19) M. A. Mismisuraya, S. R. Wan Alwi, Chua, L.S., Mustafa, A.A. (2014). Review Of Hepatoprotective Agents In Herbs. SOMCHE & RSCE 2014. 29-30 Oct 2014, Taylor's University, Kuala Lumpur.
- 20) Sahar Abbaszadeh, Sharifah Rafidah Wan Alwi, Nahid Ghasemi, Ida Idayu Muhamad, Collin Webb (2014). Removal of Pb(II) from aqueous solution using papaya peel. SOMCHE & RSCE 2014. 29-30 Oct 2014, Taylor's University, Kuala Lumpur.
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- 22) S. R. Wan Alwi, Z. Abdul Manan*, M. Chezghani (2014). A graphical method for
- 23) N. E. Mohammad Rozali, S. R. Wan Alwi, Z. A. Manan, J. J. Klemeš, M. Y. Hassan (2014). Sensitivity analysis of hybrid power systems using power pinch analysis considering feed-in tariff. 17th Conference Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction (PRES 2014). 24 to 27 August 2014, Prague, Czech Republic.

- 24) Peng Yen Liew, Jeng Shiun Lim, Sharifah Rafidah Wan Alwi*, Zainuddin Abd Manan, Jiří Jaromír Klemeš, Petar Sabev Varbanov (2013). An Effective Framework for Total Site Heat Recovery Systems Retrofit. 8th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES 2013). 22 to 27 Sept 2013, Dubrovnik, Croatia.
- 25) Carmen Lee Kar Mun, Sharifah Rafidah Wan Alwi, Lee Kim Yau, Zainuddin A. Manan, Duncan M. Fraser (2013). Targeting Maximum Heat Recovery for Systems With Heat Losses and Heat Gains. 8th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES 2013). 22 to 27 Sept 2013, Dubrovnik, Croatia. (Won the Best Paper Award)
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- 1) Klemes, J. J., Varbanov, P. S., Wan Alwi, S. R., Manan, Z. A., Sustainable Process Integration and Intensification: Saving energy, water and resources. 2nd Edition, De Gruyter, Germany. ISBN: 978-3-11-053535-8, (2018).
- 2) Klemes, J. J., Varbanov, P. S., Wan Alwi, S. R., Manan, Z. A., Process Integration and Intensification: Saving energy and resources. De Gruyter, Germany. ISBN: 978-3-11-036824-6, (2014).

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- 1) Hashim, H., Hassim, M. H. And Wan Alwi, S. R., 2012, Efficient Sustainable Process'. UTM Penerbit. ISBN:978-983-52-0897-3.

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- 8) Mohd. Yusof, K., Wan Alwi, S. R., Sadikin, A. N., Abdul-Aziz, A. (2015). Chapter 4: Inculcating Sustainability Among First Year Engineering Students Using Cooperative Problem Based Learning. In: J. Paulo Davim. Sustainability in Higher Education. Chandos Publishing, Elsevier, UK. Page: 67-95. ISBN: 978-0-08-100367-1. DOI: 10.1016/B978-0-08-100367-1.00004-4.
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1. **Wan Alwi, S. R.** (2008). Postgraduate Chemical Engineering Programme. Postgrad Asia Life.
2. Manan, Z. A., **Wan Alwi, S. R.**, Ujang Z. (2005). A New Look at Urban Water Saving. Water 21. Febuary 2005. Pg 52.

National Magazine

1. Manan, Z. A., **Wan Alwi, S. R.** (2006). Stretching the Limits on Urban and Industrial Water Savings. Jurutera. The Monthly Bulletin of the Institution of Engineers, Malaysia. January 2006. Pg 24-27.
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- 1) Technical Report (2015). Design Gap Analysis for Fractionation & Distillation Plants Works of Evyap Sabun Malaysia Sdn Bhd, Optimal Systems Engineering Sdn Bhd. (Confidential).
- 2) Technical Report (2014). HAZOP Analysis for Evyap Sabun Palm Oil Refinery, Evyap Sabun Sdn Bhd. (Confidential).
- 3) Technical Report (2014). Cogeneration Feasibility Study for Clinical Incineration Plant, AMR Sdn Bhd. (Confidential).
- 4) Technical Report (2012). Retrofit of A Middle Disillate Refinery Plant for Utility Conservation Using Pinch Analysis, (Confidential).
- 5) Technical Report (2011). Energy minimisation using pinch analysis, PERTAMINA, Indonesia. (Confidential).
- 6) Technical Report (2009). Detailed Design of Heat Recovery System and Fuel Switching for Pantai Medivest Sdn Bhd (PMSB) Incinerator Plant (Phase 2), Pantai Medivest. (Confidential)
- 7) Technical Report (2008). Improvement of Heat Recovery System and Fuel Switching for Pantai Medivest Sdn Bhd (PMSB) Incinerator Plant (Phase 1), Pantai Medivest. (Confidential)

- 8) Technical Report (2008). Design of cogeneration system for rice mill, BERNAS. (Confidential)
- 9) Technical Report (2008). Baseline Study on Renewable Energy Awards in Malaysia. Malaysia GreenTech Corporation.
- 10) Technical Report (2007). Development of a Hazard and Operability Studies (HAZOP) Programme for Biomass-Based Power Generation System for Palm Oil Mills, Malaysia GreenTech Corporation. (Confidential)
- 11) Technical Report (2006). Retrofit for Energy Efficiency Improvement, Pan Century Oleochemical. (Confidential)
- 12) Technical Report (2006). UTM-MIMOS Water Minimisation Project, MIMOS Semiconductor Malaysia. (Confidential)
- 13) Technical Report (2006). Malaysian Industrial Energy Efficiency Improvement Project (MIEEIP) Energy Conservation Features Programme. Malaysia GreenTech Corporation.
- 14) Technical Report (2005). Design of a Solvent Recovery System, HYSPER. (Confidential)

PLENARY/CHAIRPERSON/ORAL POSTER PRESENTER/KEYNOTE ADDRESS / INVITED GUEST SPEAKER

NO	ROLE	TITLE OF PROGRAMME	DATE	LOCATION
1	Plenary Speaker	Integrated Eco-Industrial Park Planning Towards Net Zero Pathway, The 2nd International Conference on Climate Change and Ocean Renewable Energy (CCORE 2024)	6-7 November 2023	Online
2	Plenary Speaker	Centralised Large Scale Water Demand Planning and Management Across Industrial Sites. 22 nd Conference Process Integration, Modelling and Optimisation for Energy Saving and Pollution Reduction (PRES2019)	20 – 23 Oct 2019	Crete, Greece
3	Plenary Speaker	13 th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES 2018)	30 Sept – 4 Oct 2018	Palermo, Italy
4	Keynote Speaker	JEITA RENKEI Control Seminar	19 January 2024	MJIIT, UTM KL
5	Keynote Speaker	6th Regional Chemical Engineering Undergraduate Conference (RCEUC), Organised by University of Malaya, EUC and IChemE	18 Aug 2022	Online
6	Keynote Speaker	International Conference on Contests for Realization of Global Sustainability (CRGS 2022), Organised by SFU University, BC, Canada.	22-23 March 2022.	BC, Canada (Hybrid)
7	Keynote Speaker	2nd International Conference on Energy, Power and Advanced Thermodynamic Systems (EPATS) 2022, Organised by AEIC Academic Exchange Information Center	22-24 July 2022	Nanjing, China (Hybrid)
8	Keynote Speaker	2nd Convention for Promotion of Energy Sustainability Best Practices (COPE-BEST 2022)	20-22 September 2022	Online

NO	ROLE	TITLE OF PROGRAMME	DATE	LOCATION
9	Keynote Speaker	5th Sustainable Process Integration Laboratory Scientific Conference: Energy, Water, Emission & Waste in Industry and Cities	4-5 Nov 2021	Brno, Czech Republic (Hybrid)
10	Keynote Speaker	'Building Resilience via Sustainable Energy Management 4.0 (SEM 4.0)', Convention on Promotion of Energy Sustainability Best Practices (COPE-BEST 2021), Optimal Systems Engineering	28-29 July 2021	Online, Malaysia
11	Keynote Speaker	'Pinching' Eco Industrial Park: Maximising Resource Savings and Minimising waste and emissions towards SDG. Impactful Endeavour Towards Sustainability Outreach (IETSO 2020)	4-5 Dec 2020	Eugeniusz Kwiatkowski University, Gdynia, Poland (Online)
12	Keynote Speaker	'Pinching' Eco-Industrial Park: Maximising Resource Savings and Minimising Waste and Emissions. 4th Sustainable Process Integration Laboratory Scientific Conference: Energy, Water, Emission & Waste In Industry And Cities.	18 Nov – 20 Nov 2020	Brno University Of Technology, Czech Republic (Online)
13	Keynote Speaker	An Optimal Water-Waste Nexus for the Eco-Industrial Park. 23rd Conference On Process Integration, Modelling And Optimisation For Energy Saving And Pollution Reduction.	17 – 21 Aug 2020	Xi'an, China
14	Keynote Speaker	Industrial Symbiosis via Process Integration. 1 st International Conference on Water, Energy and Environment Nexus (WEEN 2019)	5 – 8 Sept 2019	Istanbul, Turkey
15	Keynote Speaker	Mathematical Modelling of Simultaneous Water and Energy Considering Water Management Hierarchy Options. 1 st International Conference on Water, Energy and Environment Nexus (WEEN 2019)	5 – 8 Sept 2019	Istanbul, Turkey
16	Keynote Speaker	Heat Exchanger Network Retrofit using Individual Stream Temperature vs Enthalpy Plot (STEP). 20th Conference on Process Integration, Modeling and Optimization for Energy Saving and Pollution Reduction (PRES 2017)	21 to 24 August 2017	Tianjin, P. R. China
17	Keynote Speaker	Process Integration for Hybrid Power System Supply Planning and Demand Management – A Review. The 7 th International Symposium on Design, Operation & Control of Chemical Processes (PSE Asia 2016)	24-27 July 2016	Tokyo, Japan
18	Keynote Speaker	Advances in Process Integration Research for the Hybrid Power System Supply Planning and Demand Management, 4th International Congress on Sustainability Science and Engineering (ICOSSE 2015)	26 – 29 May 2015	Balatonfüred, Hungary
19	Keynote Lecture	A graphical approach for the planning and design of a low carbon product. 14th Conference Process Integration, Modelling and Optimization for Energy Saving and Pollution Reduction (PRES 2013)	29 to 30 September 2013	Prague, Czech Republic
20	Keynote Lecture	Optimisation of Pumped-hydro Storage System for Hybrid Power System using Power Pinch Analysis. 13th Conference Process Integration, Modelling and Optimization for Energy Saving and Pollution Reduction (PRES 2013)	29 to 30 September 2013	Rhodes, Greece
21	Keynote Speaker	Design of Hybrid Power Systems with Energy Losses. 15th Conference Process Integration, Modelling and Optimization for Energy Saving and Pollution Reduction (PRES 2012)	26 - 29 Aug 2012	Prague, Czech Republic
22	Keynote Speaker	'Pinching' Eco-Industrial Park: Maximising Resource Savings and Minimising Waste and Emissions. 5th International Conference Of Chemical Engineering And Industrial Biotechnology	10 Oct – 11 Oct 2020	Universiti Malaysia Pahang (Online)

NO	ROLE	TITLE OF PROGRAMME	DATE	LOCATION
23	Keynote Speaker	1 st UTM Emerging Scientists Conference 2018 (UTM-ESCon2018)	2-3 May 2018	Pulai Spring Resort, Johor Bahru
24	Keynote Speaker	Expansion of a diesel plant into a hybrid power system using Power Pinch Analysis. 18th Conference Process Integration, Modeling and Optimization for Energy Saving and Pollution Reduction (PRES 2015)	24 - 27 Aug 2015	Kuching, Sarawak, Malaysia
25	Keynote Speaker	A Process Integration Targeting Method for Hybrid Power Systems, 6 th International Conference of Process Systems Engineering Asia (PSE Asia 2013)	25 to 27 June 2013	PWTC, Kuala Lumpur
26	Invited Speaker	RENKEI Control Feasibility Analysis During Energy Audit	20 to 21 Feb 2024	Online
27	Invited Speaker	Seminar Kecekapan Tenaga Sempena Mesyuarat Agung ke-6 Malaysia Association of Registered Electrical Energy Managers (MAREEM)	30 Nov 2023	Hotel De Palma, Shah Alam, Selangor
28	Invited Speaker	Karnival Minggu Sains Negara Peringkat Negeri Johor 2023	19-20 Aug 2023	Stadium Tertutup Larkin, Johor Bahru
29	Invited Speaker	Webinar Panel Session "Continuing Career Development in Oil, Gas & Mining Industry", The Institutions of Engineers, Malaysia	14 January 2023	Online
30	Invited Speaker	3rd Convention on Promotion of Energy Sustainability Best Practices 2023, Building Climate Resiliency	2-4 October 2023	Online
31	Invited Speaker	3rd ENERGISE Talk Series, Resource & Cost Efficiency through Industrial Symbiosis, COPE-BEST 2022	20 Jan 2022	Online
32	Invited Speaker	4th ENERGISE Talk Series, Stretching the Limits of Industrial Water Savings, COPE-BEST 2022	28 Feb 2022	Online
33	Invited Speaker	Career Path After PhD Workshop. YSN-ASM Chrysalis Award 2021.	30 Aug 2021	Online
34	Invited Speaker	Engagement Session, Building Institution Capacity for Industrial Symbiosis Development, SIRIM Berhad	6 Dec 2021	Tanjung Puteri Hotel, Johor Bahru
35	Forum Panel	'A Journey to Self-Actualization: Learning from Failures and Success Stories of Giants', Curtin University Malaysia and Emerald Publishing	8 Sept 2021	Online, Malaysia
36	Speaker	'Inspirational Talk', Majlis Anugerah Kualiti Fakulti Sains Kesihatan 2020, Universiti Teknologi MARA (UiTM)	27 May 2021	Online, Malaysia
37	Forum Panel	'The sky is the limit: New opportunities and prospects for young female scientists', The 2021 ICYF Young Muslim Women Virtual Summit, Islamic Cooperation Youth Forum (ICYF), Organization of Islamic-Cooperation (OIC)	6-8 April 2021	Online, Malaysia
38	Speaker	Webinar Minimise Industrial Thermal and Electrical Energy, Waste, Resources and Cost using Pinch Analysis, Oil Gas and Mining Technical Division (OGMTD), Institute of Engineers Malaysia	13 Mac 2021	Online, Malaysia
39	Invited Speaker	Sustainable Process Integration Laboratory – SPIL Scientific Conference (SPIL 2019)	2 Sept – 3 Sept 2019	Brno, Czech Republic
40	Public Lecture	Practical Implementation of Process Integration using Pinch Analysis	12 Dec 2017	University of Sumatera Utara, Indonesia
41	Forum Panel	Total Site Heat Integration. Sustainable Development of Energy, Water and Environment Systems (SDEWES) 2015 Conference	27 September to 2 October 2015	Dubrovnic, Croatia
42	Invited Speaker	Sustainable Process Integration Laboratory – SPIL Scientific Conference (SPIL 2017)	6-7 December 2017	Brno Czech Republic

NO	ROLE	TITLE OF PROGRAMME	DATE	LOCATION
43	Invited Speaker	Driving Innovation and Fostering Synergy in a University Living Lab, EduTech	8-10 Nov 2017	Suntech Convention Centre Singapore
44	Invited Speaker	6 th IUPAC Conference on Green Chemistry	4 to 8 September 2016	Venezia, Italy
45	Invited Speaker	Advances in Process Integration Research for the Hybrid Power System Supply Planning and Demand Management, CAS-TWAS Symposium on Green Technology for Sustainable Development (2015 Green Tech)	23-25 July 2015	Beijing, China
46	Invited Speaker	Green Energy Forum	29 to 30 May 2015	Veszprem, Hungary
47	Invited Speaker	Green Energy Forum	19 June 2014	Veszprem, Hungary
48	Invited Speaker	A Process Integration Targeting Method for Hybrid Power Systems. Green Energy Forum	19 June 2014	Veszprem, Hungary
49	Invited Speaker	Sustainability in the Process Industry. EnviroAsia 2011 Conference	24 Nov 2011	Singapore
50	Invited Speaker	Perintis Young Professional (PYP) E-Development Talk Series: From PhD to Professorship: Tips & Strategies for Early-Career Academics, Organised by Persatuan Saintis Muslim Malaysia.	7 May 2020	Online
51	Forum Panel	'To Empower the Nation in Science and Technology', National Science and Technology Exhibition 2017, Organised by Perdana Fellows Alumni Association (PFAA).	29 April 2017	Universiti Putra Malaysia
52	Invited Speaker	Persidangan Green Port Sempena Minggu Perlabuhan 2015, Lembaga Pelabuhan Johor	17 September 2015	Lembaga Pelabuhan Johor
53	Invited Speaker	PETRONAS Energy Day Campaign	27 November 2013	Terengganu
54	Invited Lecture	Pengintegrasian dan Pengoptimuman Proses, Fakulti Kejuruteraan, UNIMAS	27 Nov 2012, 19 September 2013, 24 to 25 April 2014, 3 May 2016.	UNIMAS, Kuching, Sarawak
55	Invited Speaker	Carbon Footprint Calculator. Seminar Nasional Teknologi Hijau. Kolej Antarabangsa Dunia Melayu Dunia Islam, Melaka International Trade Centre (MITC)	3 Nov 2011	Melaka International Trade Centre (MITC)
56	Invited Speaker	Global Warming and Carbon Footprint. CCM Chemicals Safety, Health and Environmental Week, CCM Chemicals	17-21 Oct 2011	CCM Chemicals, Pasir Gudang
57	Forum Panel	Solar Energy and Green Technology. Seminar Pendidikan Sains dan Matematik. Kementerian Pengajaran Malaysia	4 Nov 2011	Kuala Lumpur
58	Invited Speaker	Water and IBS	8 - 9 Dec 2010	Wisma IEM, Petaling Jaya
59	Invited Speaker	Taklimat Kelayakan Profesional (SKT)	2 Sept 2020	UTM
60	Invited Speaker	Kursus Online Learning Training	7 Apr 2020	UTM

NO	ROLE	TITLE OF PROGRAMME	DATE	LOCATION
61	Invited Speaker	Kursus M4E - Motivation For Junior Staff	15 June 2020	UTM
62	Invited Speaker	Kursus Kesedaran Dan Pengurusan Tenaga Di Fakulti Alam Bina Dan Ukur	28 Aug 2019	UTM
63	Invited Speaker	Talimat Kolaborasi Fakulti Kejuruteraan UTM JB- Industri Melalui Penyelia Latihan Industri	28 July 2019	UTM
64	Invited Speaker	UTM Energy Showcase - Lawatan Korporat Hospital Permai	31 July 2019	UTM
65	Invited Speaker	University-Industry Collaboration Through Industrial Training Programme	25 Apr 2019	UTM
66	Forum Panel	Empowerment through Mentorship. UTM Academic Leadership (UTMLead)	26 Feb 2019	UTM
67	Invited Speaker	'Women and Technology', Organised by Schlumberger, South East Asia	5 May 2017	UTM
68	Invited Speaker	Coffee with IEM, Institute of Engineers Malaysia, Organised by Institute of Engineers Malaysia)	13 May 2017	UTM
69	Professional Speaker	ACS Science Café Program, Organised by American Chemistry Society	22 September 2016	UTM
70	Invited Speaker	Role of Engineers in Sustainable Development, 1 st Year Student, Faculty of Electrical Engineering	16 Nov 2014	UTM
71	Invited Speaker	2 nd Knowledge Sharing, K-economy Research Alliance	31 March 2014	UTM
72	Forum Panel	Perkongsiaan Cuti Belajar, Kursus Kaedah Penyelidikan	1 Aug 2013	UTM
73	Moderator Forum	Green Technology in Addressing Global Warming Issues, Program International Student Leaders Conference 2010 (ISLC' 10)	25 Feb 2010	UTM
74	Invited Speaker	Fasilitator and Interview Panel, How to Get Yourself Employed, Program Degree ++, UTM	2007-2013. 3 to 4 times per semester	UTM
75	Forum Panel	Perkongsiaan Cuti Belajar, Kursus Kaedah Penyelidikan UTM	2007 to 2010	UTM
76	Invited Speaker	Bengkel JKB Get-Chartered	8 Mac 2012	UTM
78	Invited Speaker	Hands-on Demonstration of the Software: Water-MATRIX, Heat-MATRIX and Optimal Audit, International Summer Course, UTM -DTU	4 June 2009	UTM
79	Invited Speaker	Experience sharing in cooperative learning talk organize by Centre of Teaching and Learning, Starhill Golf Resort	22 April 2009	Starhill Golf Resort
80	Invited Speaker	Towards Sustainable Resource Conservation Through Process Integration	16 Jan 2008	UTM
81	Invited Speaker	Postgraduate Colloquium. Organised by Chemical & Biotechnology Focus Group	27 June 2005	UTM

PROFESSIONAL SERVICES

Consultancy – Refer to Consultancy Experience at Page 8

Training Organised

NO	ROLE	TITLE OF PROGRAMME	DATE	Vote Number	PTJ	TOTAL INCOME GENERATED (RM)
1	Project head	Workshop On Energy Certification Under The Aemas & Energy Comission	2020	1779	UTSB	4,100
2	Project head	Workshop On Energy Audit On Mechanical System 2/2019	2019	1495	UTSB	1,000
3	Project member	Workshop On Energy Audit On Electrical System 4/2019	2019	1500	UTSB	3,910
4	Project head	Workshop On Energy Certification Under The Aemas & Energy Commission 3/2019	2019	1499	UTSB	12,820
5	Project head	Workshop On Energy Certification Under The Aemas & Energy Commission	2019	1673	UTSB	21,000
6	Project member	Workshop On Energy Audit On Mechanical Equipment 3/2018	2018	1398	UTSB	3,000
7	Project head	Workshop On Energy Certification Under The AEMAS And Energy Commision Oct 2018	2018	1399	UTSB	19,200
8	Project member	Workshop On Energy Audit On Beyond Boiler : Optimisation On Steam System 2/2018	2018	1397	UTSB	6,800
9	Project head	Workshop On Energy Certification Under The AEMAS And Energy Commision APR 2018	2018	1338	UTSB	11,000
10	Project head	Workshop On Energy Audit Electrical	2018	1277	UTSB	4,000
11	Project head	Workshop On Energy Certification Under The Aemas And Energy Commision (Oct 2017)	2017	1275	UTSB	13,000
12	Project head	Workshop On Energy Certification Under The Aemas And Energy Commision (April 2017)	2017	1193	UTSB	20,000
13	Project Member	The 9th Regional Conference On Chemical Engineering (RCCHE 2016), The 1st Postgraduate International Symposium On Chemical & Energy Engineering (POISCHE 2016)	2016	06326	FChe/UTSB	150,000
14	Project head	Workshop On Energy Certification Under The Aemas And Energy Commision (Oct 2016)	2016	1134	UTSB	16,000
15	Project head	Workshop On Energy Audit On Mechanical Equipmet	2017	1195	UTSB	6,625
16	Project head	Workshop On Energy Certification Under The Aemas And Energy Commision	2016	1063	UTSB	16,000
17	Project Head	The 1st Process Systems And Safety Engineering Conference	2016	07420	DVCRI	49,506

NO	ROLE	TITLE OF PROGRAMME	DATE	Vote Number	PTJ	TOTAL INCOME GENERATED (RM)
18	Project head	Workshop On Energy Certification Under The Aemas And Energy Commision	2015	994	UTSB	20,000
19	Project head	In-House Training On Advance Pinch Technology For Maximising Total Site Energy And Utility Cost Savings	2015	996	UTSB	16,000
20	Project member	2nd Workshop On Probiorefine	2015	07396	DVCRI	27,219
21	Project member	Energy Audit Of Mechanical Equipment	2014	69628	DVCRI	28,000
22	Project member	The 6th International Conference Of Process Systems Engineering Asia	2013	07362	DVCRI	151,264
23	Project Head	Energy Management Training Course	2013	07372	DVCRI	117,100
24	Project head	Inherent Safety & Health In Process Industries	2013	07359	DVCRI	1,209
25	Project member	A 3 Days Workshop On 'Maximising Energy And Utility Cost Savings And Minimising Emissions In Process Industry Using Pinch Analysis'	2010	07340	DVCRI	9,591
26	Project member	A 3-Days Workshop On 'Optimization Techniques And Tools On Green Energy Technology'	2010	07351	DVCRI	10,200
27	Project Head	A 2 Days Workshop On 'HAZOP And Risk Assessment'	2010	07354	DVCRI	4,750
28	Project member	A 2 Days Workshop On Introduction To Matlab	2010	07355	DVCRI	10,220
29	Project member	Artificial Neural Network With Matlab Applications & Industrial Case Studies	2010	07358	DVCRI	1,209
30	Project member	Gams Workshop	2009	07346	DVCRI	13,156
31	Project member	Sustainability Workshop	2009	07349	DVCRI	2,040

Total Income from Training

769,919

Commercialisation (Licensing & Royalty)

NO	ROLE	NAME OF PRODUCT COMMERCIALISATION	DATE	TOTAL INCOME GENERATED (RM)
1	Co-inventor, Board of Director, Spin-off Company	Optimal Heat – Software for the Rapid and Efficient Automation of Heat Recovery in Process Plants	2014	63,426
2	Co-inventor, Board of Director, Spin-off Company	Optimal Audit – A Software for Energy, Wastewater and Gas Emission Audit and Analysis	2014	10,000
3	Co-inventor, Board of Director, Spin-off Company	Optimal Water – Software for Maximum Water and Energy Reduction in Industrial and Urban Buildings	2014	10,000
4	Co-inventor, Board of Director, Spin-off Company	e-SMART - Online Sustainable Energy Management System	2014	38,000

Entrepreneurship

NO	SPIN OFF COMPANY (UTM)	TOTAL INCOME GENERATED (RM) (individual equity value based on audited company account in 3 years)
1	Optimal Systems Engineering Sdn Bhd (Approved by UTM Top Management (JPU) on 10 November 2014)	RM100k to 120k yearly

Grant based on innovation and University Commercialisation Product

NO	NAME OF GRANT	ROLE	CATEGORY OF GRANT(UTM/ OTHERS)	TYPE OF GRANT	AMOUNT (RM)	STARTING DATE	ENDING DATE	VOTE NO
1	eSmart – Energy management system with certification	Project Leader	Commercialisation	Superb Teraju	500,000	07/16	12/18	-
2	eSmart Meter & Demonstration Site Development - Efficient, Smarter Energy Management	Project Member	Commercialisation	HIPP2 Platcom	323,633	04/15	03/16	-
3	Matrix: A Software For Energy and Water Reduction in Industry and Urban System	Project Member	National	Others: Malaysian Venture Capital	50,000	2006	2006	98245

				(MAVC AP)				
4	Matrix: A Software For Energy and Water Reduction in Industry and Urban System	Project Member	UTM	Bureau of Innovation (BIP)	40,000	2004	2008	BIP

Community and University Services

NO	ROLE	TITLE OF PROGRAMME	DATE	LEVEL	LOCATION
1	Essay Reviewer	2021 Science for Youth Global Essay Competition, Mahathir Science Award Foundation	2021	National	Online
2	Competition Advisor	National Chemical Engineering Symposium (NACES) 2021, IChemE UTM.	11 April to 21 Nov 2021	University	Online
3	Speaker	UTM Graduates Webinar: Preparing for Career After Postgraduate Study, School of Postgraduate Student, Universiti Teknologi Malaysia	8 April 2021	University	Online
4	Speaker	Research Webinar Series 3.0: Research Excellence: The Path to Professorship after PhD, Universiti Teknologi MARA	10 Feb 2021	National	Online
5	Organising Committee	2021 YSN-ASM Chrysalis Award	19 Feb 2021	National	Online
6	Technical Committee	ISI Sustainable Development Programme (ISI-SDP)	1 Feb 2021 to 31 Jan 2022	University	Universiti Teknologi Malaysia, JB
7	Chief Judge	YSN-ASM Chrysalis Award 2020	9 Jan 2021	National	Online
8	Judge	Online Chemical Engineering Challenge, Institution of Chemical Engineers, UTM Student Chapter – 19 Dec 2020	19 Dec 2020	National	Online
9	Committee	2020 Virtual National Science Challenge (VSNC), YSN-ASM – 9 July – 9 Nov 2020	9 July 2020	National	Online
10	Committee	Webinar: Sustainable Energy Management - During Covid-19 And Beyond, PROSPECT	21 May 2020	National	Online
11	Committee	Webinar: Achieve Energy Efficiency Multiple Bottom Line, PROSPECT	2 July 2020	National	Online

12	Committee	Webinar: Confront Impacts Of Covid-19 On Organisations With SEM, PROSPECT	21 May 2020	National	Online
13	Speaker	Perintis Young Professional (PYP) E-Development Talk Series: From PhD to Professorship: Tips & Strategies for Early-Career Academics, Organised by Persatuan Saintis Muslim Malaysia.	7 May 2020	National	Online
14	Judge	Love Our River Campaign Competition (LORC 2019)	18 Dec 2019	National	Universiti Teknologi Malaysia, JB
15	Committee Member	Seminar on Malaysian Skills Certificate (SKM) and Energy Efficiency Information Day, Malaysia Green Tech Corporation	25 Nov 2019	National	Double Tree Hotel, JB
16	Committee Member	'Professor with Society' Programme at Segamat, Majlis Professor Negara	28 Mac 2018	National	Segamat
17	Committee Member	Inaugural Merdeka Meetings 2017, Academy of Science Malaysia, Southern Chapter.	16 Dec 2018	National	Universiti Teknologi Malaysia, JB
18	Committee Member	Ad-Hoc Committee Members for Silicon Valley Sharing Session in National Science Challenge (NSC 2018) at Semi-Final Level, YSN-ASM.	9-15 Aug 2018	National	Universiti Teknologi Malaysia, JB
19	Speaker	Coffee with IEM, Institute of Engineers Malaysia	13 May 2017	University	Universiti Teknologi Malaysia, JB
20	Forum Panel	'Women and Technology',,, Schlumberger, South East Asia	5 May 2017	National	Universiti Teknologi Malaysia, JB
21	Forum Panel	'To Empower the Nation in Science and Technology', National Science and Technology Exhibition 2017, Perdana Fellows Alumni Association (PFAA)	29 April 2017	National	Universiti Putra Malaysia
22	Committee	'Tackling Uncertainties, Future Possibilities of Employment', Young Engineers Group, IChemE	25 March 2017	National	Universiti Teknologi Malaysia, KL
23	Committee	IChemE Question Time: The Return of the Oil & Gas Industry: When, where and How? (Organised by Young Engineers Group, IChemE)	25 March 2017	National	Universiti Teknologi Malaysia, KL
24	Programme Head	YSN-ASM Meet and Greet, RCChE 2016, Young Scientist Network, Academy of Sciences Malaysia	21-22 Nov 2016	National	Universiti Teknologi Malaysia, KL
25	Programme Head & Judge	Young Investigator Award, RCChE 2016, Young Scientist Network, Academy of Sciences Malaysia	21-22 Nov 2016	National	Universiti Teknologi Malaysia, KL

26	Professional Speaker	ACS Science Café Program, American Chemistry Society	22 September 2016	National	Universiti Teknologi Malaysia, JB
27	Judge	National Science Challenge (NSC), Academy of Sciences Malaysia	6 May 2016	National	
28	Moderator	PERINTIS Roundtable Dialogue (PRouD 2016) : “Strategic Partnership in Science, Technology and Innovation (STI)”, Malaysia Muslim Scientist Association - PERINTIS	5 March 2016	National	Universiti Kebangsaan Malaysia
29	Judge	Johor Sustainable and Low Carbon School Exhibition 2016	20 Feb 2016	National	Universiti Teknologi Malaysia, JB
30	Judge	Iskandar Malaysia Sustainable and Low Carbon School Exhibition 2015	7 Feb 2015	National	Universiti Teknologi Malaysia, JB
31	Invited Speaker	Role of Engineers in Sustainable Development, 1 st Year Student	16 Nov 2014	University	Universiti Teknologi Malaysia, JB
32	Advisor	National Chemical Engineering Symposium (NACES) 2012	2012	University	Universiti Teknologi Malaysia, JB
33	Supervisor	Summer course 2009: Sustainable Production: Improving Eco-efficiency	1-19 June 2009	University	Universiti Teknologi Malaysia, JB
34	Speaker	Hands-on Demonstration of the Software: Water-MATRIX, Heat-MATRIX and Optimal Audit, International Summer Course, UTM -DTU	4 June 2009	University	Universiti Teknologi Malaysia, JB
35	Committee	Program Khidmat Masyarakat Smart Village	Nov, Dec 2008	National	Universiti Teknologi Malaysia, JB
36	Organiser	Corporate Social Responsibility Programme with CCM Chemicals Sdn Bhd, Sekolah Menengah Kebangsaan Taman Pasir Putih	5 August 2008	National	Sekolah Menengah Kebangsaan Taman Pasir Putih
37	Committee	Chemical Engineering Carnival & Creativity and Innovation in Chemical Engineering (RICH) Competition	29 to 30 July 2008	University	Universiti Teknologi Malaysia, JB
38	Invited Speaker	‘Towards Sustainable Resource Conservation Through Process Integration’	16 Jan 2008	University	Universiti Teknologi Malaysia, JB

Endowment and Wakaf to University

NO	NAME OF ENDOWMENT AND WAKAF, GIFT	TOTAL CONTRIBUTION (RM)
1	Smart Classroom	32,500
2	Aircon	7,576
3	Esmart meter	354,490

4	Training room renovation	4,196
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INTELLECTUAL PROPERTIES (IP)

SUMMARY

IP Type	Status		Total
	Granted/ Approved	Filled	
Patent	3	7	10
Utility Innovation	2		2
Copyright	35		35
Trademark		2	2
		Total	49

Patent Granted and Filing

NO	YEAR	PATENT FILING/GRANTED	TYPE	NAME OF PATENT	Status
1	2009	MY-165312-A	Patent	A System For Facilitating Simultaneous Mass And Energy Minimization And Method Therefor	Patent Granted
2	2012	MY-186297-A	Patent	A Method Of Optimizing Efficiency Of Water Network For Batch	Patent Granted
3	2011	MY-187662-A	Patent	Method For Optimal Water Network	Patent Granted
4	2008	MY-163756-A	Utility Innovation	A Method For Obtaining A Minimum Water Network	Utility Innovation Granted
5	2011	MY-183639-A	Utility Innovation	An Energy Recovery Method Of A Heat Exchanger Network	Utility Innovation Granted
6	2019	IP/PT/2019/0665	Patent	Tri-Generation System With Integration Of Total Site System And Thermal Energy Storage	Patent Pending
7	2015	PI 2015003071	Patent	A Method Of Producing A Bio-Adsorbent Modified With Metallic Nanoparticles	Patent Pending
8	2011	PI 2012700128	Patent	A Cost Effective Heat Exchanger Network	Patent Pending
9	2009	PI 20093813	Patent	A System For Obtaining Water Network Involving Multiple Contaminant For Global Water Operations, And Method Therefor	Patent Pending
10	2009	PI 2010002202	Patent	A Method Of Optimizing Energy Recovery In Heat Exchanger Network	Patent Pending
11	2008	PI 20084792	Patent	A Method For Acquiring A Water Network With Minimum Water Targets	Patent Pending

12	2007	PI 20071813	Patent	Cascade Analysis Technique For Targeting The Minimum Resource Requirement	Patent Pending
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Copyright

No.	Year	Ref. No.	Name of Copyright	Status of Copyright
1	2024	CRLY2024J02638	Cooperative Game Theory-Based Process Impact Allocation Model	Approved
2	2023	LY2023J05840	A Graphical Method for Retrofit of a Heat Exchanger Storage Network for Non-Continuous Processes	Approved
3	2023	LY2023J05528	Energy Systems Risk Assessment Framework Towards Climate Change	Approved
4	2023	LY2023J05527	A Graphical Method for Synthesis of a Grassroot Heat Exchanger Storage Network for Non-Continuous Processes	Approved
5	2023	IP/CR/04816	Module: Introduction to Greenhouse Gas (GHG) Accounting and Reporting	Approved
6	2022	IP/CR/03764	Teaching Framework foe Verbund Plant Design Project	Approved
7	2021	IP/CR/02238	Industrial Thermal Energy Audit and Analysis (ITEA)	Approved
8	2020	IP/CR/00782	Waste 2 Wealth – Malaysia Waste Trading Website (LY2020006370)	Approved
9	2020	IP/CR/00438	Teaching Module on Total Site Heat Integration and Combined Heat and Power	Approved
10	2019	IP/CR/2019/1198	TRIGENSITE - A Software to Optimize Industrial Energy Across Multiple Site	Approved
11	2019	IP/CR/2019/0964	Smart Energy Demand Allocation Realtime (SEDAR)	Approved
12	2019	IP/CR/2019/0790	SEMS - Ship Emission Management System	Approved
13	2019	IP/CR/2019/0526	HiRECS - Heat Integration Software for Retrofit, Controllability and Safety	Approved
14	2019	IP/CR/2019/0201	Process Integration for MOOC	Approved
15	2018	IP/CR/2018/0913	Carbon Sequestration Pinch Analysis CAPA: A novel technique for targeting land-use and carbon sequestration	Approved
16	2018	IP/CR/2018/0563	SteamMAX - A Software For Optimal Design of Maximum Heat Recovery in Total Site Steam Systems - for User Manual and Coding	Approved
17	2017	IP/CR/2017/0813	Optimal Site Water Exchange - Software For Efficient Water Utilisation	Approved
18	2017	IP/CR/2017/0369	Production Decision Support System PDSS	Approved
19	2016	IP/CR/2016/2034	Ship Emissions Calculator For Port Operator	Approved
20	2016	IP/CR/2016/2033	Emissions Improvement Tool For Ship Owner	Approved

No.	Year	Ref. No.	Name of Copyright	Status of Copyright
21	2016	IP/CR/2016/2032	Ship Emissions Calculator For Ship Owner	Approved
22	2016	IP/CR/2016/2031	Emissions Improvement Tool For Port Operator	Approved
23	2015	UTM.J.14.01/27.13/1JLD104(12)	e-SMART - Online Sustainable Energy Management System	Approved
24	2015	UTM.J.14.01/27.13/1JLD99(50)	Sustainable Integrated Solvent Design Algorithm for Extraction of High-Value Phytochemicals in Herbs	Approved
25	2014	IP/CP/2014/4679	Optimal Audit-A Software for Energy, Wastewater and Gas Emission Audit and Analysis	Approved
26	2014	IP/CP/2014/4722	Optimal Heat-Software for the Rapid and Efficient Automation of Heat Recovery in Process Plants	Approved
27	2014	IP/CP/2014/4703	Optimal Water-Software for Maximum Water and Energy Reductions in Industrial and Urban Buildings	Approved
28	2014	IP/CP/2014/4725	Optimal Site- A Software for Optimal Design of Total Site Utility Systems (User Manual & Coding)	Approved
29	2013	IP/CP/2013/3768	Software for Heat of Polymerization Process (SHPP)	Approved
30	2013	UTM.J.14.01/27.13/1JLD57(70)	Teaching materials for 5ms concept	Approved
31	2013	UTM.J.14.01/27.13/1JLD57(70)	Teaching materials for Process Synthesis and Creation	Approved
32	2013	UTM.J.14.01/27.13/1JLD57(70)	Teaching materials for distillation sequence	Approved
33	2013	UTM.J.14.01/27.13/1JLD57(70)	Teaching materials for Heat Integration and Heat Exchanger	Approved
34	2013	UTM.J.14.01/27.13/1JLD57(70)	Teaching materials for Process Optimisation	Approved
35	2010	IP/CP/2010/2259	How to get Yourself Employed (HTGYE) Module	Approved